

Model for the Assessment of the Effectiveness of the Banking Supervision Activity

Nicolae DARDAC

Bucharest Academy of Economic Studies
nicolae.dardac@fin.ase.ro

Elena GEORGESCU

Bucharest Academy of Economic Studies
elena.georgescu@bnr.ro

Abstract. *The financial crisis has revealed a series of weaknesses and gaps of the supervision of the financial system. The conclusions of the different reports aiming to discover the causes of the crisis, that were prepared by organizations and authorities with prerogatives in this field, were followed by the initiative of reforming the architecture of the supervision at the EU level and of reviewing the regulatory framework related to the areas for which significant vulnerabilities had been identified. In order to avoid repeating such episodes, which represent a peril for the maintenance of the financial stability, the completion of these steps is required, through the efforts of the national supervisory authorities, which have to contribute to the enhancement of the effectiveness of their activity. Thus, the rigorous assessment of the supervisory activity's effectiveness becomes necessary, which represents, in our opinion, a precondition for adopting those strategic decisions which would lead to the achievement of the desired objective, that is, to ensuring the stability of the financial system.*

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JEL Codes: G21, G28.

REL Codes: 11B, 11C.

1. Effectiveness versus efficiency in the banking supervisory activity

The crisis triggered in 2007, whose effects can still be felt up to the present time, has revealed important vulnerability sources of the global financial system and which, once triggered, have endangered not only its proper functioning, but also its stability.

At the same time, the present financial crisis has proven that the classic measures used by the public authorities in order to prevent or minimize its effects were neither sufficient, nor effective enough, demanding the adopting of a new set of measures, much more profound and comprehensive, through which the dimension of the targeted area could be extended and the good practices rules and techniques used for this purpose could contribute to the enhancement of the convergence of the supervisory practices.

The regulatory and banking supervision framework which existed when the crisis was triggered could not ensure the strength and health of the credit institutions at a level that would not endanger its financial stability. Thus, the relevant authorities started a series of reforms through which the entire prudential regulatory framework was revised and the entire financial market supervisory architecture at the EU level, was reconfigured.

Therefore, the question is how effective is the supervision of the financial sector in a country and, respectively, at the EU level?

In the specialized literature, the concept of „*effectiveness*”⁽¹⁾ is defined as “*the fulfillment degree of the objectives scheduled for each of the activities and the report between the designed effect and the actual result of the respective activity*”. Based on the analysis of the specialized studies performed at the EU structures level⁽²⁾, in the context of the present financial crisis, we have identified an extension of this definition, so that the phrase „*effectiveness*” would represent “*reaching an optimum report between the speed of adopting decisions and their quality*”.

We appreciate that the significance of the “*effectiveness*” concept becomes more comprehensive when it is analyzed in relation with another concept, which is „*efficiency*”⁽³⁾, defined as representing “*the maximization of the results of an action in relation with the resources used*”.

Considering this reality, the mechanism for the assessment of the effectiveness and efficiency of the supervisory activity which we are proposing is based on the evaluation of the risks, as a systematic study of all the aspects susceptible of generating undesired events, of the means for eliminating them, as well as of the prevention or protective measures applicable for controlling these risks.

2. Presentation of the constitutive elements of the model: the pillars of the model

Starting from the approaches offered by the specialized literature regarding the concept of effectiveness, we will attempt in the present paper to design a *model for the assessment* of the effectiveness and efficiency of the activity carried out by the supervisory authority, respectively the National Bank of Romania.

The proposed model will lean on the tools used, in the present time, for the carrying on of the supervisory act, from which: some are direct (the assessment system for the banking institutions – CAAMPL, the risks matrix and the early warning system); others are indirect and within their structure we can find the stress tests; and will follow the way in which these tools intervene in the process of the supervisory act

The constitutive elements of the model are as follows:

Pillar 1

- *The Uniform Banking Rating System – CAAMPL* – is based on the reports sent periodically to the National Bank of Romania by the credit institutions and the methodology used for assessment implies *ex post* diagnostic of the credit institutions by attributing ratings for each of them. The system ensures the delimitation of the strong banks from the ones with less strong or those that finds themselves in difficulty and allows the steering of the workforce towards the areas that show the greatest vulnerabilities. In order to establish the ratings, the six components of the system are assessed on a 1 to 5 scale, so that 1 represents the highest level while 5 is the lowest. Two of the components, respectively *the ownership quality* and *the management*, represent the qualitative elements, assessed during the on-site examinations, the other four (quantitative), which are: *capital adequacy*, *asset quality*, *profitability* and *liquidity* being assessed based on a series of indicators, for which there are established five value ranges (starting from the international standards, adapted to the specific conditions of the Romanian economy) and five correspondent ratings. From the aggregation of the individual rating of the six components, results the composed rating, while mentioning that if at least one of the components received the rating 5, the composite rating can not be a superior one, respectively 1 or 2. The ratings of the CAAMPL components are periodically updated on the occasion of the on-site visits performed at the credit institutions. Based on the aggregated data of the economical-financial and prudential banking indicators, a composite rating for the banking system is established.

Pillar 2

▪ *The risk matrix* contains a structuring of the risk elements, divided into two categories, respectively activity risks (inherent risks of the banking operations) and control risks (the risks of the bank's internal control system regarding its capacity for diminishing inherent risks) assessed in the context of grouping the risk elements in: significant business units – MBU and significant support units – MSU. Attributing the ratings correspondent to the significant business/support units for each risk is based on a scale which contains the levels: low (L), medium-low (ML), medium (M), medium-high (MH) and high (H), the classification of the risks in one of the five categories mentioned above being based on two factors which are: the probability that the risk would materialize itself and the impact on the bank in case it would happen. The finality of the assessment process based on the risk matrix, made, in a first stage, at the *off-site* level, is marked by the identification of the risk areas. These represent the starting point in the assessments performed through *on-site* evaluation, which lead to the drafting of a new matrix, thus resulting an updated version of the significant risks to which the credit institution is exposed, the new scenery containing the areas which need the supervisory authority's attention.

Pillar 3

▪ *The early warning system (EWS)* ensures the enhancement of the effectiveness of the supervisory act by completing the ex post analysis, made with the aid of the CAAMPL rating system, with foreseeing systems which offer, *ex ante*, clues about potential problems which might be confronted by these. Such an early warning tool which combines the elements of the qualitative analysis with those of the quantitative analysis, is used as we are showing both at system level, as well as peer group and individual;

▪ *The macro-economic stress testing model* represents an indirect tool for the micro-prudential supervision and the most important tool for the macro-prudential supervision (Melecky, Pruteanu-Podpiera, 2010), which allows the calculating of the simultaneous impact of the macro-economical shocks on the credit institutions' solvability, at an individual level, using different risk factors.

Running this model allows the estimation of recapitalization costs for each credit institution and the use of the results obtained at the micro-prudential supervisory activity's level confirm the accuracy of the warning signals of the imminent tendency of capital erosion, generated by the early warning system and, thus, of the necessity of capital infusions identified by the supervisory authority.

In addition to the tools presented above, the model we are proposing is completed, in order to assess the efficiency of the supervisory activity, with the analysis made on the palette of intervention tools, specified through Law no. 312/ 2004 – The Bylaw of the National Bank of Romania and synthesized in a *decisional matrix for remedial progressive actions*. This ensures the respecting of the basic principles regarding the use of these tools, which are: progressiveness, proportionality and dissuasive.

3. The integrated approach to the supervisory tools – means of assessment of the effectiveness of the supervisory activity

The proposed model is based, as presented above, on three pillars, which are: Pillar 1 (The Uniform Banking Rating System – CAAMPL); Pillar 2 (Risk matrix) and Pillar 3 (Early warning system).

Once the minimal constitutive components of the model for assessment have been described, in a second stage, it is necessary to present the elements that could contribute to their improvement, respectively:

Pillar 1

▪ In relation to the Uniform Banking Rating System – CAAMPL, the process for determining the given scoring and based on it, of the a rating attributed to each component, can be improved, while taking into consideration the following:

a) the differentiation of the value scales attributed to the indicators used for determining the scoring by adjusting the scales specific for the CAAMPL components, in the case of systemic important credit institutions, given the share held by their assets in the banking system's total assets and their role in the financial stability at the system level, as opposed to the ranges in which the same indicators can be bordered, for the banks from the *peer-group* of the medium and small sized banks.

b) the completion of the mandate of the supervisory authorities with an European dimension, associated to the supervision of the cross-border banking groups, will imply a better coordination of the attempted activities, but also some potential negative externalities, as a result of consulting, prior to adopting a decision, with the other supervisory authorities, in this case with the supervisory authority from the country of origin, in order to avoid certain consequences which would have an impact on the financial stability at the EU level.

Pillar 2

▪ Referring to the second component of the proposed model – the risk matrix, the novelty items target:

- the conceptual modification of the nature of the data base, which represents the starting point in the assessment made based on the risk matrix, by applying some qualitative filters for components C – Capital adequacy and L – Liquidity (for all credit institutions), synthesizing the result of the supervisory authority's assessment regarding the completeness and effectiveness of the stress test exercises run by it, which will further adjust the result of the assessment of these components, obtained after the application of the quantitative filter (for the systemically important banks), respectively of the initial rating (for the medium and small size banks) from Pillar 1.

In our opinion, the stress tests should become an integrated part of each credit institution's governance and risk management culture, which by reporting to the „*Principle for Sound Stress Testing and Supervision*”⁽⁴⁾ and the 17 *Principles*⁽⁵⁾ issued in 2008 by the Basel Committee on Banking Supervision (in a form revised after the ones issued in the year 2000), ensures a robust and comprehensive frame of appreciation of the two components mentioned above, respectively capital adequacy and liquidity.

- the completion of the risks diagnostic result which needs special attention, obtained from the risk matrix with the presentation of the trend attached to these risks. We are considering the introduction of a new dimension, respectively the identification of the risks' tendency, which would complete the magnitude of the assessed risks with a dynamic component, determined based on the evaluation of the business strategies elaborated by the bank, on the risk profile and on the risk appetite, while taking into consideration the reaction of the bank's management to the different interventions of the supervisory authority monitored at off-site level.

Pillar 3

▪ Regarding the third component of the model, the early warning system, our proposition targets:

- the implementation of the monitoring, within it, of an expert alarm system, targeting the analysis of the evolution of a group of dedicated indicators consisting in: *the level of past due and doubtful claims (gross)*, in correlation with *the level of provisions, of the profitability and of the capital adequacy indicators*, which must be a signaling factor for the imminent tendency of depreciation of the solvency ratio

and thus of the peril of it not fitting into the minimum limit regulated at 8% or in the limit specifically established by the supervisory authority.

- taking into account, as a strengthening factor for the assessments made within the micro-prudential supervision, of the results of the stress tests made at the macro-economic level, which represent an indirect tool of the micro-prudential supervision.

In the respect of this proposition, one must highlight that one of the lessons which must be learnt as a result of the financial crisis is that macro-prudential supervision⁽⁶⁾ can not achieve its objective unless it interacts with the micro-prudential supervision, while the latter can not contribute to ensuring the financial stability without considering, accordingly, the macro-economic evolutions.

Aside from the propositions presented above, aiming the modification of the direct and indirect supervisory tools, for the purpose of designing the model, we are considering a new approach of the intervention tools used by the National Bank of Romania, respectively this time as a mean for consolidating the result of the effectiveness assessment, through the analysis of the supervisory activity, in relation with the resources used (the manner of exercising the statutory prerogatives reported to the magnitude of the identified deficiencies/dysfunctions).

In consideration of our proposal, it must be underlined that one of the lessons that must be learnt from the financial crisis is that the macro-prudential supervision can not achieve its goal unless it interacts with the micro-prudential supervision, while the latter can not contribute to the maintenance of the financial stability without taking into account, accordingly, the macro-economic evolutions. Therefore, the use of the stress tests results at macro-economic level in order to complete the analysis made in the current micro-prudential supervisory activity is a priority for the improvement of the prudential supervision as a whole.

4. The mechanism for assessing the effectiveness of the prudential banking supervision activity

In the scope of running the proposed mechanism a data base was simulated, consisting in a certain number of credit institutions with a certain structure⁽⁷⁾ that respects the real case, afferent to each of the analyzed time periods⁽⁸⁾. In order to simplify the presentation and also to facilitate the follow up of the assessment model's development, we will select two credit institutions, one of them being systemically important, hereinafter known as

Bank 1, and the other bank from the medium and small sized banks' category, hereinafter known as Bank 2.

Thus, the analysis made within pillar 1, while taking into account its amendments described above, respectively the application of the quantitative filter⁽⁹⁾ will lead, in the case of Bank 1, to the modification of the ratings obtained in the initial CAAMPL system, as follows:

- for component A – Asset quality, from 4 to 5;
- for component P – Profitability from 3 to 4;
- for component L – Liquidity from 3 to 4.

For the other components, the ratings remain unchanged, respectively:

- for component C – Capital adequacy 2;
- for component A – Ownership 1;
- for component M – Management 2.

Onwards, within pillar 2, the ratings afferent to the development of the prior stage are influenced on components C – Capital adequacy and L – Liquidity with the two qualitative filters, as well as with the results of the off-site and on-site analysis, in the context of running the risks matrix for the other components.

This stage is finalized, in the case of the banks in discussion, with the signaling of a rising tendency of the credit and liquidity risk exposure, even if the rating obtained by cumulating the result of the prior assessments is maintained. Associated to its significance, the rating thus obtained represents a diagnosis element of the risks' magnitude and is underlying the establishment of a formula for the intervention of the supervisory authority, also sustained by the result from the application of the early warning system, as well as that of the stress tests exercises, both carried on within pillar 3.

Thus, the utilization of these two supervisory tools has confirmed the manifestation of the rising tendency of the credit risk, as it was identified while running the risk matrix within pillar 2, and also indicated the existence of a capital erosion phenomenon and the need of an intervention of the supervisory authority.

The proposed model for the assessment of the effectiveness implies the analysis of the mean of exercising the statutory prerogatives of the supervisory authority, in the context of using the *decision matrix for progressive enforcement actions*, which functions based on the principle of a gradually approach adapted to the severity of the identified risks.

More exactly, in the case of Bank 1, the intervention materialized in:

- imposing certain measures which would lead to reducing the risk of focusing the financing sources and to improving the structure of these

sources, on maturities, while aiming at obtaining a better correlation between them and the financing needs;

- imposing a measure which would allow a closer monitoring of the evolution of the solvability indicator, by reporting monthly as opposed to quarterly, frequency which was imposed by the regulatory framework, corroborated with a measure for maintaining a minimum level of 10% for the solvability indicator, superior to the minimum regulated limit. This measure offered the credit institution flexibility in adopting those solutions which would ensure the compliance to the supervisory authority's requirement, which could be accomplished either: by improving the structure of the weighted assets, depending on the risk, either - by adopting measures for rising the equity level, for the two components: level 1 equity (eg.: capital infusions) or level 2 equity (eg.: contracting subordinate loans, ensuring efficiency at the holdings portfolio's level, etc.)

The result of covering the stages described above ensures the data base for which the criteria for the assessment of the supervisory activity's effectiveness are applicable.

Therefore, by applying a first criteria, at individual level, afferent to this bank of systemic importance, it was revealed that it did not fit into the rating class 5. The assessment of the effectiveness is completed by the analysis of the steps taken by the supervisory authority, thus concluding that none of the measures imposed by it was contested by the NBR Board. The opportunity for applying the imposed measures was also shown by the fact that they have achieved the expected effect, the dysfunctions recorded on the liquidity component and the adopted measures leading to an improvement of the rating from 4 to 3, and those which targeted the limitation of the effects of the capital erosion tendency were materialized in the maintaining of a rating 2, afferent to the component C – Capital adequacy.

In the context of the proposed model, the above mentioned prove that, in the case of Bank 1, the activity carried on by the supervisory authority can be considered to have accomplished the effectiveness criteria.

This conclusion is completed, according to the proposed model, by the second dimension afferent to the assessment of the supervisory activity, respectively the *efficiency* which, in the case of the analyzed bank, is highlighted by the imposed measures which were in line with the three principles applicable to the intervention tools, respectively to be proportionate, dissuasive and effective, thus proving the *maximization of the results from the activity in relation to the resources used*.

In the case of Bank 2 – from the medium and small sized banks' category – selected in order to highlight the functioning of the proposed model, one will follow the same stages as those in Bank 1' case, with the following amendments:

Afferent to Pillar 1, there were no modifications recorded regarding the rating on components as opposed to the initial system, since in this bank's case, the quantitative filter is not applicable.

Regarding Pillar 2, from the application of the qualitative filters on components C – Capital adequacy and, respectively, L – Liquidity, one could conclude the deterioration with one class, of the initial rating attributed to component C, which became 4 as opposed to 3, and the maintaining of the same rating for component L, respectively 2.

These ratings were sustained by both the assessment based on the risk matrix, following the analysis realized within the on-site and off-site supervisory activity, as well as on the tools presented within Pillar 3.

As opposed to the magnitude of the thus identified risks, in specially on component C – Capital adequacy, aside from the measures adopted in the case of Bank 1, for Bank 2, an intervention was necessary, which would produce immediate effects, respectively a capital infusion in a well established time frame.

The data base thus obtained allowed, within the designed model, the assessment of the effectiveness of the supervisory activity. Thus, in this bank's case, none of the measures imposed by the supervisory authority was contested by the NBR Board. The opportunity for applying the imposed measures was also shown by the fact that they have achieved the expected effect, meaning the dysfunctions recorded on component C – Capital adequacy and the adopted measures lead to improving the rating from 4 to 3.

In the context of the proposed model, the above mentioned prove that also, in the case of Bank 2, the activity carried on by the supervisory authority can be considered to have accomplished the effectiveness criteria. As in the case of the other analyzed bank, it resulted that the imposed measures were in line with the three principles applicable to the intervention tools, respectively to be proportionate, dissuasive and effective, thus proving the *maximization of the results from the activity in relation to the resources used* and also the efficiency of the carried on activity.

For the assessment of the overall *effectiveness* of the activity carried on by the supervisory authority, respectively by the National Bank of Romania, the proposed model was run for the data base presented at the beginning of the chapter, thus allowing to obtain a composed rating at the system level and on its composing elements for which there are applicable the same conditions as in

the case of the two presented banks, with the addition of another criteria, respectively not recording a depreciation of more than two classes of the attributed rating. The model thus allows the identification of the answer to the question of whether „*what was done is what had to be done*” or if “*the adopted measures were implemented accordingly*”, respectively if the actual result obtained from their implementation has reached the projected effect or if the mandate assumed by the National Bank of Romania was achieved.

Also, the model allows the completion of this dimension with the one regarding the analysis of the supervisory activity’s *efficiency*, which offers an answer to the question of whether “*the adopted measures were implemented accordingly*”. For this case, one must use the same methodology presented for the two analyzed credit institutions.

Conclusions

We consider that the proposed model provides a coherent framework where the direct and indirect supervisory tools are gathered and geared into a mechanism which offers the possibility to assess the effectiveness and the efficiency of the banking supervisory activity.

In the light of designing the model, the analysis of the manner in which the palette of the intervention tools are to be used related to the dimension of the identified risks, which is reflected in the aggregate rating at the system level and on its components, brings an important contribution to the finality of the effectiveness assessment process.

Within the EU post crisis initiatives, which were adopted in order to eliminate the weaknesses and dysfunctions that posed a threat for the stability of the EU member states’ financial systems, we appreciate that elaboration of the model we have proposed within the present study represents a fundamental stage of the process for the assessment of the effectiveness and efficiency of the supervisory activity, which began at the national supervisory authority’s level, in order to take decisions which would ensure the viability and functioning of the banking system.

Notes

⁽¹⁾ See Regulation No. 18/2009 on governance arrangements of the credit institutions, internal capital adequacy assessment process and the conditions for outsourcing their activities, subsequently amended by Regulation No. 1/2010, art. 2, par. (2), y.

- (2) According to European Commission, „*Communication from the Commission- From financial crisis to recovery - A European framework for action*” Bruxelles, 29.10.2008/COM (2008)706 final.
- (3) According to Regulation No. 18/2009 on governance arrangements of the credit institutions, internal capital adequacy assessment process and the conditions for outsourcing their activities, subsequently amended by Regulation No. 1/2010, art. 2, par. (2), z.
- (4) See Basel Committee on Banking Supervision, „*Principle for Sound Stress Testing and Supervision*”, January 2009.
- (5) See Basel Committee on Banking Supervision – „*Principles for Sound Liquidity Risk Management and Supervision*”, September 2008.
- (6) In accordance with FSI World, Issue 32, “*Achieving Good Regulatory Outcomes: The Way Forward*”, November 2010.
- (7) Structure based on the distribution on the three bank categories in regards to their dimension: large, medium and small sized banks.
- (8) In the case of the presented example, the analysis was made for the year 2009.
- (9) Afferent to Pillar 1, given the fact that the second proposed filter, respectively completing the mandate of the supervisory authorities with an European dimension, including by taking into account the prerogatives of the European Banking Authority, has not yet been exercised.

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