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Individual Projections of Capital Requirements and Hungarian (Smaller) Credit Institutions

Theses of the PhD dissertation

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1. Importance and Timeliness of the Topic

The new capital requirements of credit institutions were finalized in the framework of international recommendations (accords) by the Basel Committee of Bank Supervision (BCBS) under name Basel II in 2004. Consequently, the European Union prepared its own rule along Basel II in the form of directives, namely directives 2006/48/EC and 2006/49/EC together[1], the figures of which show that they were accepted and issued in 2006 (June, 2006). Since directives do not automatically enter into force in the member states, it had to be built into the domestic laws of the member states. The obligatory starting date of the application of these laws was January, 2008, therefore it can be seen that this cardinally new directive is still in its initial phase.

The directives have renewed the risk calculation method(s) of credit institutions and investment firms and the determination of capital requirements totally and placed these methods on a completely new basis. If the transition periods and that incentives were built in for movement towards advanced methods – that have complex and time demanding requirements – are considered, the already passed period makes it possible to present the survey of only initial effects and consequences. It is to be noted that the effects of the economic and financial crisis of the past few years that affected this area as well have to be taken into consideration during the investigation.

2. Aims of Research, Hypotheses

As an employee of the Financial Regulation Department of the former Ministry of Finance, presently Ministry for National Economy, I had the possibility to take part in the work of the European Commission and European Council. I could actively participate in sessions and negotiations, in the framework of which directives were accepted for the new capital requirements after the principles and aims had been collected in a proposal. Based on the unique experience I gained in these forums the aim of my research is to reveal the anomalies, the contradictions and impossibility of the real, overall application of these directives supposed to replace all other methods in this field.

1 Directive 2006/48/EC of the European Parliament and of the Council relating to the taking up and pursuit of the business of credit institutions (June 14, 2006), and Directive 2006/49/EC of the European Parliament and of the Council on the capital adequacy of investment firms and credit institutions (June 14, 2006).

Several high level papers, publications and analyses are available in this field both in Hungary and internationally. I compose my dissertation and make my statements along a unique path of thoughts in the knowledge of publications that give a general overview or detail specific aspects deeply. In my dissertation I have chosen a field to be investigated that makes important, new and determining statements possible. An aim was set in my dissertation that requires the investigation of not a narrow field but a complex examination for which knowledge and analysis of theory and practice, the thorough comprehension of the multiplicity of regulation and analytical view are all needed. I do not deal with modeling and portfolio interpretation problems or mistakes in my dissertation since several studies, dissertations were published and investigations were already made in that field. My aim is to map the global characteristic into domestic environment regarding bank capital requirement regulation.

Some principles to my dissertation:

Credit institutions and other financial institutions actively participate in economy, and act in the given economic, financial operational and regulation environment. The new regulation enters into force for organizations operating in an existing environment (economy, related regulations, common law etc.), therefore involves advantages, disadvantages and challenges.

Economies are different country by country regarding credit institutions, institutional structures, institutional systems, institutional emphasis and sizes. Size, system of activities, economic structure, characteristics of financing all reflect a unique structure from the aspect of institutions.

Financial institutions do not only have individual challenges and strategies but are also determined concerning their size, characteristics, typical services provided by them, geographical location and typical customers as well.

Credit institutions have to be regulated in order to strengthen consumer protection, to realize the effects of the monetary regulations, to establish the framework of competition, and to maintain trust and safety.

3. Methodology, Preliminaries and Sources

Regulations and the extent of control has always been the object of discussion and research. *Decressin* (2007.) for example details that a uniform regulation of the financial sector is not only advantageous for the sector but also enhances economic growth by strengthening the links of the financial markets to the markets of other sectors (financing, operation, efficiency improvement). The privilege of uniformity and liberalization has come to the front in the past few decades, however the voice of critics is not more quiet. From this aspect *Giannetti* (2006.) states regarding liberalization that cost reductions, limited pricing are real advantages, however the unique characteristics of credit institutions does not allow the legislator to act only along these principles. Great information asymmetry is typical in case of credit institutions, meaning that out of the set of information available for credit institutions only a small part is accessible for the participants of the market. However, *Hellmann et al.* (2000.) states also that liberalization strengthens competition, but competition erodes profit expectations, and striving for profit as an institutional basic principle leads to the fact that moral hazard[2] comes into front. *VanHoose* (2007.) describes that the emerging moral hazard and its possible spreading or its limited spreading in case of capital requirements have an impact on the selection of bank capital elements, and even on the whole accounting balance. An important statement of *Hellmann et al.* (2000.) is that both economists and politicians are right when they say that the capital requirements for banks are essential. However, it can only be verified by further statements that capital requirements alone are not enough but adequate, efficient, supervisory control by an authority is also necessary. This concept is a part of the principles and idea of Basel II and was analyzed by *VanHoose* (2007.) who revealed that by the end of 90s analysts, legislators and politicians all became aware of the fact that banks totally exploited regulation deficiencies. *VanHoose* (2007.) sees the solution, i.e. improvement of control and transparency in the pillar system of Basel II and he finds this as the greatest advantage in the development of bank regulations.

Uniform capital requirements for banks are the foot-stone of the European Union and competition; however, *Shrieves et al.* (2010.) showed that the integration level of European bank markets is lower due to the other environmental, regulation and share-stock markets. A stricter capital requirements integration results in the reduction of the playfield of banks along the otherwise static and stabile environmental characteristics. This might also affect financing (capital market and money market) solutions as well in the long run.

It has to be noted that in case Thesis 1 is used in institutional size the frequently mentioned uniformity is basically damaged during the application of methodology in practice,

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[2] The discussion of moral hazard is a part of the interest of several authors, out of whom *VanHoose* (2007.), *Nier – Baumann* (2006.) expect the strengthening of capital requirement regulation from it. *Giannetti* (2006.) examined the automatic connection of information asymmetry and moral hazard and looked for a reduction possibility driven by the need for safety.

since the internal rating based method can only be applied by the larger credit institutions at member state level. However, a significant decrease in capital requirements (that is not balanced by the introduction of operational risk) can only be achieved with methods based on internal rating. The disadvantageous situation of smaller credit institutions was analyzed by *Antao - Lacerda* (2011.) who also described that the introduction of internal rating based evaluation requires such high cost that only significantly capitalized institutions can afford the cost level and are able to build the costs into the prices. A newer projection of the difference between the larger and smaller credit institutions emerges due to the determination of the methodology that can be chosen within given limits. *Antao - Lacerda* (2011.) continues this path of ideas until the consequences. Since methodology is given, the different elements of the portfolio appear in a more or less concentrated way. Capital requirement methodology influences pricing to a great extent, hence larger banks – that apply internal rating based methodology – can offer a more favorable construction for those who need high sum financing, and therefore small sum exposure is present in a more concentrated way in the portfolio of smaller credit institutions. *Antao - Lacerda* (2011.) verifies this way that the further development possibilities and fields of credit institutions are also limited. *Hakenes – Schnabel* (2011.) even states that the methodology cannot be chosen freely but is already determined by the size of the institution. *Dick* (2007.) also examined this issue and found significant differences between large banks and smaller credit institutions. His data apply to American credit institutions due to the location of the investigation; however, can be used as a signal. The investigations of *Dick* (2007.) revealed that in case of smaller credit institutions 8% of the corporate credits and 17% of agricultural credits are small value, while in case of large banks these ratios are 0.3% and 5%, respectively. According to *Hakenes – Schnabel* (2011.) retail credit is present in a high ratio due to pricing reasons at smaller credit institutions that apply the standardized approach. Consequently, the composition of portfolios also shows disproportion accordingly in case of the credit institutions applying different methods.

Related to Thesis 2 it has to be noted that the deficiencies and oddness of the regulation are said to be part of everyday life, the necessary bad element and might even be present only "for the sake of annoyance". This statement cannot be accepted at all along the laws and regulations of a given field. The greatest contra opinion regarding society, regulation, efficiency and rationality point of view is that an actual economic and regulation state that results in higher cost, worse efficiency and irrationality at the level of society and individuals cannot and should not be accepted either socially or as a regulation. *Shrieves et al.*

(2010.) drew the attention to the fact that national regulation is constant and fundamental regarding its values and framework. The regulation initiatives of the Union are sometimes created in a way that the wider environment of regulations is not considered. The national, fundamental regulations are linked to several other regulations due their characteristics, and not only one – in this case capital requirements –, therefore the possibility of their modification potential is quite limited. Since accounting rules are strongly connected to capital requirements, the opinion of *Decamps et al*. (2004.) is worth considering. Both *Decamps et al*. (2004.) and their follower *VanHoose* (2007.) drew our attention to the necessity of linking accounting and capital requirements and harmonizing those. The harmonization of evaluation itself should be solved regarding market and book value. *Decamps et al*. (2004.) analyzed bank cases as representative samples and revealed that an illiquid but solvent bank has to face stricter supervision due to the lack of harmonization between accounting and capital requirement rules and that does not improve its state (and its potential for restoration) but even deteriorates it and makes the re-achievement of liquidity expectations (regulatory minimum) even more difficult.

In 2009 *A. Turner* (2009.) – president of the British Financial Services Authority – collected the development fields and main aims[3] of actual bank regulations in 5 points in the framework of Turner Report[4]. The fourth point emphasized that more attention has to be paid to bank accounting and its details. His overview report highlights the challenges and contradictions of prudential consolidation, one of which is the disharmony among the accounting regulations in the member states presented in the comparison of the accounting and prudential regulation.

Thesis 3 states that some institutions are not motivated by the classical institution operation principles and profit maximization, but are driven by serving market nieches, and geographical locations that are not covered by other institutions. Due to the geographical segmentation of the financial sector these market gaps are characteristics of smaller communities. I have already stated earlier in my dissertation that usually cooperative banks operate in smaller communities. Since these areas are restricted considering customers, transaction needs and demands, usual efficiency and size economy principles cannot be realized under these circumstances. Quality analysis by *Dick* (2007.) details that narrower markets mean different demands regarding service quality level, and therefore different

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[3] For further details of the analysis see *Zsolnai* (2009.).
[4] Turner Report has been issued in several forms and developed versions. Its summaries and investigation results are available under different names, such as*:* Turner (2009.), The *Turner Review* (2009.) *The Turner Review Conference* (2009.), *Turner Review Press Conference* (2009.), *FSA* (2009.)

supply as well. *Dick* (2007.) experienced in his investigation that larger markets mean higher service level.

As it can be seen, literature in this field is quite wide. Since the valid regulation and its documentation are only a few years old, the publications are also gradual in their depth, prevision, assessment and forecast. I interpreted all these references considering the status at the time they were written. Processing related references and highlighting the related points is an integrated part of my dissertation. I presented both Hungarian and international literature related to this field. The primary sources are sources of law, international and Hungarian statistical data and data series are built into my dissertation and are interpreted as well. The following grouping was applied in case of references and primary sources:

— International, EU and Hungarian sources of law

— International, EU and Hungarian statistical data (regular reports, thematic statistics, financial reports, data of publication, edited and summarized statistical data series and publications)

— Books, papers, dissertations and studies

— Internal analytical, decision preparation studies and data

Since I had the possibility to take part in the relevant EU negotiations from 2004, the impressions, corridor debates, discussions, exchange of professional experience were all included in my dissertation as an overall experience but not in a separable way. In 2006 I also spent almost three months at the HM Treasury (Ministry of Finance), Great Britain, where I got acquainted with the regulation and the work of the supervisory authority. In London I took part in the negotiations with the main characters of the sector and this way broadened my view and institutional knowledge.

I took a great part in the preparation of the Hungarian laws and decrees, and during the work I could get to know and get acquainted with the system aspects, terminology and point of view of the other co-departments (accounting, economic policy, tax) of the Ministry of Finance. I was also in direct contact with the employees and experts of the Hungarian Financial Supervisory Authority (PSZÁF), Magyar Nemzeti Bank (National Bank of Hungary) and the advocacy organizations during the preparation of the Hungarian laws and decrees. In this framework I discussed, negotiated, consulted directly with bank and cooperative bank experts and evaluated situations, regulations, practical aspects and solution methods with them several times.

Cooperative banks had fundamental handicaps (available human resources, financial resources, proportionally higher costs and preparation effort demand etc.) in the preparation phase because of size economy and their area perspectives, therefore I held a series of conferences in order to aid their preparation work. At these conferences I had the possibility to get to know the problem areas deeply in debates, discussions and brain storming and to find solution proposals in the legal framework and project legal acts to practice in order to find their application areas. These were fundamental points of the research, analysis and my work that resulted in forming my theses.

In my dissertation I make my statements regarding individual data, tendencies, sizes and characteristics. In case of data connected directly to capital requirements there are two sources of mistakes. Firstly, only a little time has passed since the introduction, therefore only the initial phase of tendencies can be examined and that is influenced by the costs of preparation and transition times significantly. On the other hand, in 2007 and 2008 economic and financial crisis had an impact on Hungary as well, and this effect has to be taken into consideration in the analyses. Finally, it is not the mistake of the data series but I had to examine the economic, financial and institutional characteristics, situations and processes in a wider time frame in order to remain consequent.

There are and will be several fields that can be researched in this topic. In my dissertation that belongs to this Summary of Theses I examined a unit that can be surveyed in reality and can be handled as a system regarding its size, characteristic and interactions in the field of credit risk and internal capital adequacy assessment process in case of Hungarian credit institutions.

4. Structure of the Dissertation and Scientific Results

My dissertation consists of three main parts. In the first part, I find it important to present the necessary, essence, system and connection points of banking regulation, with the help of which I reveal the main elements by systematizing the essential frames of banking regulation and by underlining how they relate to my dissertation. These credit institutions, as organizations aiming at profit maximizing in a general sense, serve society and economy and make them function. Banks the operation of which is dangerous or at least hazardous have to be subjected to special regulation principles or partial rules. In my dissertation I present the background principles and historical evolution of capital requirements having recent impacts with respect to competition, uniformity and integration.

The second part details the concept, structure and essential parts of the new capital requirement directive serving as a basis for my dissertation. I lay emphasis on directives that constitute the basis of my dissertation.

The third part relates to the effects and risks of capital requirements, and involves the deep analysis and detailed survey. In this part, I divide the analysis based two main aspects: interpretation and handling of the new capital requirements on the Hungarian and on the international-EU level. It is essential to present the affected institutions, the size and the background so that processes and events can be interpreted. Since the levels of the new capital requirements appear in three dimensions – international, EU and Hungarian, transitions and adaptations, i.e. transpositions are presented with respect to these three categories, and contradictions, anomalies and disharmonies are also presented accordingly. Since several elements appear here that require individual interpretation, background and direct knowledge, these are also described in the dissertation.

The dimensions of regulation can only be interpreted if the most typical tendencies and characteristics of financial institution and market background, and of the related client demand appear. Systematizing and presenting supportive data of geographical differences and differences in characteristic allows the interpretation and verification of my theses.

On the basis of the data, facts, thoughts and hypotheses presented in my dissertation, I formulated and verified the following theses.

5. Theses

I determined three main thesis units during the verification of which I sometimes used more dimensions.

Thesis 1:

The capital requirements of credit risk have been erroneous because the actual deepness of the regulation and its effort to reach an unreasonable uniformity distort. As a consequence, the regulation can achieve its aim with its content in case of certain banks (internationally active banks); however, it cannot fulfill its role and is costly in the case of the other credit institutions.

(Related own publications: S1, S2, S3, S4 and S5)

The new capital requirements of credit risk replace a nearly twenty-year-old regulation. Completely new regulation principles with new concept, structure, principles and methods were introduced. This regulation form was finalized on an international level as a result of 5 years of preparatory work in the form of a recommendation (Basel II). This regulation was also formulated by the European Union as a directive. In the EU, the uniformity and harmonized nature of the regulation should be a basic prerequisite for the sake of competition, comparableness and single market for services. However, the member states of the EU are very different with respect to their money market history, characteristics, magnitude and credit institution structure. The related EU directive refers to this fact in its preamble; however, this principle is not considered in detail in the regulatory part.

The fundamental contradiction between the international recommendation (Basel II) and the EU directive lies in their scope. The international recommendation applies to internationally active banks whereas the EU directive to all credit institutions and to (in addition) all investment firms.

In my dissertation I examined that countries, economies, markets and institutional structures having different regulations, practices, money market and institutions in terms of conceptuality and economic policy are affected, and therefore standardization can only be realized with deficiencies and anomalies. These anomalies result in an apparent uniformity. Every member state reinterprets the regulations or treats them flexibly according to its own specificities, and integrates the flexibility really present in the EU regulation completely into its own laws. As a consequence, the 27 member states implement this directive larded with numerous discretions (but the number is decreasing now), e.g. members states' decision right or decision right of supervisory authorities, according to their aims, economy and market.

Since the economies and economic policies of member states are different, financial institutions, possibilities, typical transactions and organizational frameworks of the given country are different and the credit institutions operate in these differences. The forced push back of differences and their consideration as real facts results in erroneous processes. The differences make this combination of uniformity and deepness of regulation impossible.

It is necessary to examine the distorting effects of anomalies and uniformity in an institutional aspect. When analyzing institutional indexes, I realized that small credit institutions have their own specificities in terms of activity, customers and they have their own sector or regional determination. The development of the portfolios in this direction and the realization of individual risk structure strengthen the differences between institution categories, i.e. smaller and internationally active credit institutions, and hence results in the distortion of the uniform regulation. As a consequence, a regulation tailored to an international credit institution is not able to provide a diversified and appropriately systematized image when applied to a smaller institution limited in its location of operation, customers and transactions. In my dissertation I point out that concentration in case of smaller credit institutions presents not only differences in scale but also differences in characteristic and interpretation. I confirm by my analyses that not taking into consideration these differences results in the elimination of the applied regulation in some of its parts because of their nature.

Thesis 2:

Hungarian regulation related to the EU uniform capital requirement rules of credit institutions does not fit from social point of view – sometimes for rational reasons – and that decreases the efficiency of the overall regulation and the operation of banks. This phenomenon should be taken into consideration in the EU regulation.

(Related own publications: S1, S3 and S5)

On the basis of the differentiated common rules and community rules and because of the relatedness of co-regulations there are many differences among member states with respect to the regulation of capital requirement. Community regulations determine the specificities of a country themselves, however there are unregulated or discretionally regulated issues in some areas of common politics. Therefore a new regulation inserted into the existing regulation environment always has to face national and local regulation problems different in every country.

National regulations often have not only EU-relatedness but are also fundamental regulations, thus they have wider scope or they aim at regulating fundamentally other fields. As a consequence, the problems of regulation fitting – if coherence is not an issue – in case two regulation fields (with the same level of law) encounter turn out mainly in practice. Both the perception and handling of these are more difficult. External relatedness and cost effects greatly influence whether a regulation fitting problem concerning a narrow scope is handled on a national level or not. In my investigations I concluded that in case of regulations that are derived from common and community regulations EU legislation should absolutely consider the differences in national regulations. However, with respect to background regulations in case of the specific regional regulations the EU should pay more attention, otherwise the original aim of the regulation, i.e. uniformity and the enhancement of competition cannot be realized. Competition situation obviously gets worse due to the lack of fitting background regulations since the application area is constrained, comparability damages and supplementary costs (covers cannot be taken into consideration, higher exposure weight etc.) arise at credit institutions, and therefore efficiency deteriorates on an institutional level.

The unchangeability of these rules has numerous political, common law related, logical and other factors. These elements cannot be supported by general logic in many cases; however, if light is not shed on their unchangeability, or if it is not observed or accepted as a fact, one could deduce erroneous conclusions.

The problems of fitting with respect to Hungary appear in the following highlighted fields: difficulties due to the lack of accounting, civil code, land registry regulation and of authentic registries.

Thesis 3:

Smaller Hungarian credit institutions (typically cooperative banks) does not rely on classical bank business and motivation, that is why their functioning as a bank is less developed. Therefore they operate with higher available capital instead of more modern capital security solutions, and thus their efficiency is worse.

(Related own publications: S1 and S5)

The second pillar of capital requirement regulation can be divided into two parts essentially, but from another aspect into four ones. On the one hand, the internal capital adequacy evaluation process and the supervisory monitoring together complete the pillar in its aim and function. On the other hand, credit institution task and supervisory task should be interpreted in more aspects. Credit institution's task should be interpreted by evaluating the adequate capital level in an active cooperation with the supervisory authority by joining in the discussion, negotiation and authorization process as early as possible. The same applies to the supervisory side, meaning that the pillar does not only have to follow and monitor capital situation and capital strategy but also make supervisory steps and reactions as early as possible. Supplementary capital requirements representing the most significant, new type responsibility appears as a novelty in the regulation and is also part of the same pillar.

Independently of the positive or negative effects a modification in the regulation has on the institution, it always means steps and changes from the point of view of the given institute. If a change is favorable, development and shifting towards change is more motivated. On the one hand, the obligation to comply with laws, and on the other hand the decrease in capital requirements (cost efficiency) serves as an incentive for credit institutions and their human resources to act.

Smaller credit institutions use the standardized approach to determine their credit risk and these institutions apply the simplest methodology to evaluate and measure their internal risks in the framework of the internal capital adequacy assessment process. The reason for this is not the eventual lack of cost efficiency at all because this is not even true, but a constrain to comply with laws, the lack of necessary internal motivation and eventually, the lack of appropriate available human resources that is sophisticated enough.

In my thesis, I highlight the fact that in case of smaller credit institutions the internal of the second pillar is a counterexample of cost efficiency. I have already presented and supported the fact that credit institutions are significantly different in their activity, customers, scale, and the deepness of infrastructure in my first thesis. Internal capital adequacy assessment processes used by now proved already in practice that smaller credit institutions use the simplest available methods, in other words, they “manually” comply with this obligation, in reality only on a formal level.

In the internal capital adequacy assessment process risks not treated or not completely covered by the first pillar or originating from external factors that are environmental factors are analyzed. In case of smaller credit institutions, risks appearing partially in the first pillar are atypical. Most of the risks not regulated and measured in the first pillar are also not characteristic and not determining in their scale (compared to the institution). Actual, new risk elements and correlations are not really revealed. Concentration risk (limited typical transactions, limited customers, and strong geographical orientation) has the real importance, however it could only be interpreted on the level and scale of individual credit institutions and that requires more sophisticated methods. More developed calculation methods would determine probability, scale and frequency, and thus the extent of risk completeness more precisely and would not only give a strong upper estimation. Higher capital requirement demands higher available capital and that decreases the efficiency of institutions.

With respect to Theses 1 and 3, it could be a possible solution that smaller credit institutions determine their aims, tasks, assess their risks and strengthen their organizations in terms of human resources, infrastructure, IT and other developments in groups created according to geographical location, sector division and other factors. Presently, the directive does not prohibit these possibilities; however, banking secret and business secret set up a boundary and partially prestige pushes it into the background. The essence is that not big groups should be formed and not formal integration should take place, but tasks, resources, knowledge and costs should be shared informally with the aim of uniformity, based on the principles of democracy.

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