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# International Capital Requirements in Banks and Insurance Companies
(BASEL III and SOLVENCY II)

*Nowadays banking and insurance have become more complex business and in purpose to limit or mitigate risks in banking and insurance sector, as well as to insure the soundness of financial institutions, supervisors used to employee various prudential approaches and rules. Since the supervisory resources are scarse and approach "one-size-fits-all" did not worked well, risk –based approach become more important. In recent article are analyzed international supervisory approaches for banks and insurance companies- BASEL III and SOLVENCY II, also existed prudential regulations in Georgia and compliance with international requirements. Article suggests that besides some obstacles it is nessesary for Georgian financial sector to expand and be more compliant with international standards, namely, financial institutions must have some capital buffers which could be used to cover losses during financial short come. Reforms should be done gradually and high attention must be paid to insurance sector.*

*Keywords: Banking and Insurance supervision, capital requirements, Basel III, Solvency II, risk based approach*

*Introduction*

In order to limit or mitigate risks in the banking and insurance sector, as well as to insure the soundness of financial institutions, supervisors used to employ various prudential approaches and rules. Today banking and insurance have become more complex businesses. Financial groups have diverse business and risk management models. Meanwhile supervisory resources, including staff, are scarce and need to be developed as effectively and efficiently as possible. Due to these reasons, supervisors started to adopt the so-called risk-based supervision model. This approach entails a departure from "one-size-fits-all" requirements that are applied uniformly to all banks and insurers regardless of their size and risk profile. An important focus in a risk-based approach is the potential impact that a bank or insurer's failure would have on the financial system. It is evident that the failure of a larger institution is likely to have a greater impact on the whole system; however, according to the risk-based approach, the failure of even small institutions should be also analyzed, because this type of failure may also undermine and harm the reputation of the whole system.

In this article international supervisory approaches for banks and insurance companies- BASEL III and SOLVENCY II, are analyzed as well as existing prudential regulations in Georgia, the compliance with international requirements, and the challenges faced by the Georgian financial sector in order to meet the aforementioned international requirements.

*Main Principles of Risk Based Supervision*

The risk-based supervisory framework involves the following elements:

Identifying significant operations- at this stage supervisory judgment is needed to determine the materiality of a bank or insurer's activities. Significant operations can be determined from various sources, such as

internal and external financial reporting, organization charts and strategic business plans.

Risk identification and assessment-risk identification take place at two levels: sector-wide risks and risks affecting individual firms;

Risk management, control and mitigants-this involves examining the firm's management structure, policies and procedures, systems and controls and then assessing how individual risks are managed, controlled and mitigated. Typically, risk management/control functions, which vary based on the size and complexity of a financial group, can be categorized as follows: risk management processes, compliance, internal audit, senior management oversight and board of directors oversight, risk mitigation;

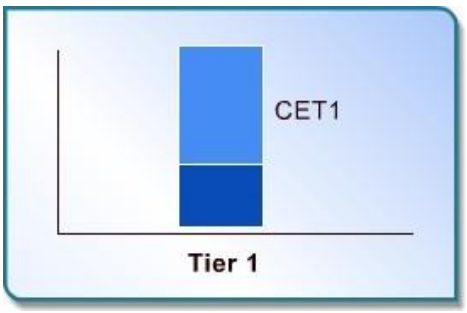
Net risk- the aggregate level of inherent risk offset by the aggregate quality of risk management; the net risk assessment for individual activities can be supplemented by an evaluation of the direction of net risk to provide a forward-looking view.

Overall assessment- once the assessment of inherent risks, the quality of risk management and the resulting net risk evaluation for each significant activity is complete, an overall or composite rating can be determined for the bank or insurer.

*Regulation of International Banking Supervision- Basel III accord- General Overview*

In general, the main difference between supervisory and accounting capital (assets-liabilities) is that the supervisory capital must have loss absorption ability. Quite often accounting capital is a base for supervisory one with necessary adjustments. Under Basel III regulations, Tier I capital consists of the following components: common shares issued by banks that meet the common equity criteria, retained earnings, stock surplus resulting from eligible common shares, accumulated other comprehensive income and other disclosed reserves, common shares issued by consolidated subsidiaries by

banks and held by third parties (minority interest) that meet specified criteria, regulatory adjustments applied to Tire 1 capital. To be classified as common equity, an instrument will have to satisfy 14 criteria. These criteria seek to ensure that, regardless of its legal form, the instrument can fully, immediately and unconditionally absorb the losses. Basel III introduced a new minimum capital requirement –the minimum Common Equity Tier 1 (CET 1). This ratio relates items qualifying as common equity, net supervisory adjustments to risk weighted assets. The minimum level of this ratio is 4.5% since 2015 and total Tier 1 capital is 8% of risk weighted assets instead of 4%.




According to Basel III, resecuritizations are to receive higher risk weights than other secured exposure. Securitization is the financial practice of pooling various types of contractual debt such as residential mortgages, commercial mortgages, auto loans or credit card debt obligations or other non-debt assets which generate receivables and selling their related cash flows to third party investors as securities, which may be described as bonds, pass-through securities, or collateralized debt obligations (CDOs). Investors are repaid from the principal and interest cash flows collected from the underlying debt and redistributed through the capital structure of the new financing. Securities backed by mortgage receivables are called mortgage-backed securities (MBS), while those backed by other types of receivables are asset-backed securities (ABS). This is because they have a higher risk profile and accordingly they have higher risk weights.

Under Basel III changes have been made towards market risk procedures, since many banks have suffered losses from market risk during financial

crises. Banks determined their capital charges through their internal systems, which have to calculate a stressed Value-at Risk (VaR) capital charge; the purpose is to reflect market losses under a stressed situation. Such banks also must determine an additional capital charge –the incremental risk charge (IRC). IRC captures default risk and credit migration risk at a one-year horizon. Banks must use the charges determined for banking book securitizations to calculate the capital requirements for specific risk on their net traded securitization positions.

Basel III enhanced requirements towards counterparty credit risk, namely, to address general wrong-way risk, the effective expected positive exposure (effective EPE) must be based on stressed parameters. Banks must also identify and monitor the specific wrong-way risk with each legal entity to which they are exposed. To mitigate systemic risk, certain asset correlation factors used in determining credit risk capital requirements for IRB banks have been increased by 25%.

The committee introduced standardized capital requirements for credit value's change and these enhanced requirements apply to credit spread changes. Under Basel III the value of each derivative instrument must change upon changes of the base asset. To measure this change, banks must use the risk neutral asset's price; the change itself is called the credit value change.

Basel III reforms introduced a leverage ratio relating regulatory capital to a gross exposure measure, which is calculated on a quarterly basis. The leverage ratio is intended to constrain the build-up of leverage in the banking sector and reinforce the risk-based requirements with a simple, non-risk measure that establishes backstop.

Basel III introduced the Capital Conservation Buffer and the countercyclical buffer. The capital Conservation Buffer (CCB) corresponds to 2.5% of risk weighed assets and comes in addition to the CET ratio's minimum requirements. The buffer size started at 0.625% on January 1, 2016 and will grow to 2.5% by January 1, 2019, increasing by 0,625% each year. The

countercyclical buffer aims to ensure that banks' capital levels take account of the macroeconomic environment in which they are operating. The size of the aggregate buffer will vary between 0 and 2.5% of risk weighed assets. Under this regime, national authorities will monitor credit growth in their respective jurisdictions. If they determine that it is excessive and poses risks to the banking sector, they will have to decide if they want to activate the countercyclical buffer and, if so, to what level. They will also be responsible for releasing the buffer (that is, setting the requirement back to zero) when the credit cycle turns.

Below is the summary of Basel III reforms and their implementation

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | As of January 1, 2019 |
|---|---|---|---|---|---|---|---|---|---|
| Leverage ratio | Supervisory Monitoring | | Parallel run until 1 January, 2017 Disclosure as of January 1, 2015 | | | | | Pillar 1 Migration | |
| Minimum Common Equity Ratio (CET 1) | | | 3.5% | 4.0% | 4.5% | 4.5% | 4.5% | 4.5% | 4.5% |
| Capital Conservation-on Buffer (CC Buffer) | | | | | | 0.625 % | 1.25 % | 1.875 % | 2.60 % |
| CET 1+CC Buffer | | | 3.5% | 4.0% | 4.5% | 5.125 % | 5.75 % | 6.375 % | 7% |
| Phase – in od deductions from CET1 (including threshold deductions) | | | | 20% | 40% | 60% | 80% | 100% | 100 % |
| Minimum Tier 1 Capital ratio | | | 4.5% | 5.5% | 6.0% | 6.0% | 6.0% | 6.0% | 6.0% |
| Minimum Total Capital Ratio (TC Ratio) | | | 8.% | 8.% | 8.% | 8.% | 8.% | 8.% | 8.% |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TC Ratio+CC Buffer | | | 8.% | 8.% | 8.% | 8.625 % | 9.25 % | 9.875 % | 10.5 % |
| Countercyclical Buffer | | | | | | Range of 0%-2.5% of common equity Implemented according to national circumstances | | | |
| Additional Loss Absorbing-cy for Internationally active banks | | | | | | Range 1% to 2.5% (empty bucket at 3.5%)Composition determined by indicator-based approach | | | |

*Financial Stability in Insurance Companies - Solvency Introduction*

Recently the activities of insurance companies and insurance groups have increasingly crossed national and sector boundaries and therefore this industry plays crucial roles in both domestic and global economies. It is important that insurance companies remain in sound financial condition in order to ensure the smooth functioning of insurance markets and the protection of policyholders.

An essential element in assessing the financial soundness of an insurer is the level of its capital relative to its risk profile. In other words, its capital adequacy. Capital adequacy refers to the extent to which an insurer has sufficient capital recourses to meet its regulatory capital requirements. Another critical element is the adequacy of provisions for claims that are expected to be made. Provisions may be known as insurance liabilities, actuarial liabilities, technical provisions, etc. In this they are mainly referred to as technical provisions. Solvency refers to the ability of an insurer to meet its obligations to policyholders when they fall due. It is a broader concept than capital adequacy. Solvency covers not only capital adequacy but also other aspects such as technical provisions, enterprise risk management, supervisory review and supervisory reporting.

Technical provisions and capital adequacy are very much interrelated. To be solvent, an insurer must have sufficient assets to cover its liabilities including

technical provisions. Technical provisions represent the funds needed to meet expected losses. In addition, an insurer should also have sufficient capital resources to cover its regulatory capital requirements. Regulatory capital requirements are intended to cope with unexpected losses. For a capital instrument to be considered as solvency indicator it is necessary to have less subordination and priority. Additionally, it should be available to absorb losses without any conditions.

*Supervisory Regime Solvency II- Overview, Basic Principles*

Solvency II is a risk-based approach intended to align capital requirements to the risks faced by insurers. Solvency II is intended to reflect the economic risks that insurers face by taking into account both asset-side and liability-side risks, as well as the interactions within and between such risks. Solvency II has a three-pillar structure:

Pillar 1 focuses on the quantitative aspects of solvency and how to calculate the capital requirements.

Pillar 2 focuses on qualitative measures (including the supervisory review process) and allow for additional capital requirements to supplement those calculated under Pillar 1.

Pillar 3 consists of disclosure requirements.

Requirements of Solvency II enhance the protection of policyholders and beneficiaries, as well as improve the financial conditions of insurers and reinsurers. The implementation of Solvency II is also intended to improve risk management at insurance firms and to increase transparency.

Supervisory regime Solvency II introduced broad guiding principles that are intended to enhance the approach to group supervision and solvency; namely: a.) proportionality - the group solvency calculation takes into account the proportional share held by the parent in its related undertakings; b.) elimination of double use of funds - the double use of own funds (also known

as double gearing) eligible for the Solvency Capital Requirement (SCR) calculation among the different insurers in the group is not allowed; c.) elimination of intra-group creation of capital - when calculating group solvency, no account can be taken of anyone's own funds eligible for the SCR arising out of reciprocal financing between the insurer and a related entity, parent or another related entity of the parent.

Solvency II requires that insurers hold capital not only against insurance risks but also against: 1.) market risk, the risk that insurers' investments decline in value; 2.) credit risk, the risk that third parties do not repay their debts; 3.) operational risk, the risk of systems breaking down or malpractice.

The valuation approach for all assets and liabilities outlined in Solvency II is based on the fair value concepts set out by the International Accounting Standards Board (IASB). In particular, assets are valued at the amount for which they could be exchanged between knowledgeable willing parties in an arm's length transaction; liabilities are valued at the amount for which they could be transferred or settled between knowledgeable willing parties in an arm's length transaction; however, when valuing liabilities, no adjustment is made to take into account the insurer's own credit standing. The technical provisions are based on their current exit value, which reflects the amount an insurer would expect to have to pay if it immediately transferred its rights and obligations under its insurance contracts to another insurer. The calculation of technical provisions must be market-consistent. Insurer-specific information is used in the calculation of technical provisions as that information enables insurers to better capture the characteristics of the underlying insurance portfolio. Market-consistency means that the calculation of technical provisions should make use of, and be consistent with, information provided by the financial markets and available data on insurance technical risks. The value of technical provisions is to be equal to the sum of the best estimate and risk margin.

There are two main approaches to calculate solvency capital requirements: 1.) The Standard Approach (SA) is a set of one-size-fits-all formulae that can be applied by all insurers, irrespective of their size, portfolio mix and geographical location; 2.) The Internal Model Approach (IMA) reflects an insurer's own risk profile and may be used provided supervisory approval is given. Not all insurers have sophisticated internal models that can be used to calculate their solvency capital requirements with the reliability required by supervisors. Since small and medium-sized firms may have difficulty absorbing the costs of building such models, the Solvency II framework provides the SA, which is intended to achieve similar results to those that result from implementing the IMA. The Standard Approach covers the spectrum of significant risks faces by insurers for each risk type. The capital requirements for each type risk (except operational risk) are calculated with each module calibrated to the one year 99.5% VaR level. The results are aggregated with diversification effects and a separate charge for operational risk is added. Adjustments for the loss-absorbing capacity of technical provisions and deferred taxes may be made to arrive at the total Solvency Capital Requirements. As we noted above, insurers may use the Internal Model Approach to calculate their Solvency Capital Requirements. The mentioned purpose model should be a VaR model with a confidence level of 99.5% or higher with a one-year time horizon and be approved by the supervisor. For two years after receiving supervisory approval to use the Internal Model Approach, insurers will be expected to also calculate the Solvency Capital Requirements using the Standard Approach. This will permit insurers and supervisors to compare the results between the two calculation methods. The Framework Directive sets out a number of conditions for supervisory approval of an insurer's use of the Internal Model Approach. Namely, an insurer must demonstrate that the model passes a use test, which requires that the model is embedded within a system of governance, a key tool in decision-making processes and updated regularly to reflect the insurer's risk profile. The insurer's internal model must meet quality standards related to the accuracy and appropriateness of the underlying data; how

diversification effects are taken into account within risk categories, as well as across risk categories; its ability to rank risk and its coverage of all material risks. The validation process should include an analysis of the stability of the internal model and test the sensitivity of the results of the internal model to changes in key underlying assumptions.

Under Pillar 2, supervisory authorities will review and evaluate the strategies, processes and reporting procedures established by insurers to comply with the Framework Directive and assess the capacity of an insurer's governance system to identify, assess and manage the risks and potential risks it faces as a business. Pillar 2 is intended to encourage insurers to improve their risk management systems and their effectiveness in identifying, monitoring and managing their risks. An insurer's risk management system should reflect its business model and risk profile.

Pillar 3 requires an insurer to disclose, annually, essential information relative to its solvency and financial condition. Before publication, the annual report must be approved by the insurer's administrative or management body.

### *Prudential Regulations in Georgian Banking and Insurance sector (Compliance with International Norms)*

International institutions (The World Bank, IMF) periodically make financial stability assessments of the Georgian Financial system. Based on these recommendations supervisory authorities introduce new norms or update existed ones. The latest assessment was made in December of 2014 by the International Monetary Fund (IMF). According to latest Financial Sector Assessment Program (FSAP) there are essential improvements in banking supervision, namely regarding Basel Core principles implementation. The FSAP mission concluded that by introducing important reforms and maintaining a conservative approach, the NBG had implemented a comprehensive, advanced, and risk-based supervisory framework, which

provides for the early identification of risks and the most efficient allocation of resources. According to the requirements of National Bank of Georgia Commercial banks should: a.) evaluate the risk level which is acceptable for them, the so-called risk "appetite" which will be considered for supervision policy; b.) maintain an adequate internal model for own capital and liquidity assessment (the ICAAP -Internal Capital Adequacy Assessment Process). For now there are no explicit rules for the evaluation of such models; c) maintain forward-looking stress tests and analyze results;

In 2014, the components of Pillars I and II of the capital adequacy framework, which are based on Basel II/III, were fully launched. Updated capital is one of the adequacy requirements introduced for the minimum level of a banks' own funds: Core tier I capital should be a minimum 7% of risk weighed assets, the Tier I capital ratio is 8.5% and regulatory capital should be 10.5% of risk weighed assets. These regulatory requirements are rather more conservative than international standards (see above table regarding Basel III implementation dates). According to Basel II/III pillar 2 requirements, the National Bank of Georgia adopted instructions on capital requirements for concentration risk coverage. Under this regulation, banks should have capital for sector and geographical concentrations, as well as for other types.

In 2014 the Rule on the General Risk Assessment Program (GRAPE) also came into force. GRAPE's objective is to formalize the risk-based supervisory process of commercial banks. This document describes the various components of the continuous cycle of risk-based supervision and outlines the responsible structural units. GRAPE incorporates the stages of risk identification, analysis and assessment during different phases, periodic summary assessments and supervisory actions. The internal capital adequacy assessment and stress tests of pillar II are integral parts of this program. In accordance with the Basel III Pillar 2 requirements, the National Bank of Georgia has paid a significant amount of attention to financial instrument impairment methods and risk disclosure qualities. For these reasons, NBG has enhanced their cooperation with external auditors, and has also continued

working on the transition of commercial banks' regulatory reporting requirements to the International Financial Reporting Standards (IFRS). This initiative will ensure that the continuous regulatory reporting by commercial banks is based on the European Union reporting form (FINREP) prepared in accordance with IFRS. This will contribute to enhancing transparency and efficiency, and any double reporting burden will be avoided. Since 2014 there has been regulation on capital requirements for operational risk in accordance with Basel II standards.

FSAP made recommendations to introduce a Liquidity Coverage Ratio according to Basel III requirements and Contra Cyclical Capital Buffer for systematically important banks, as well as enhance requirements for information disclosure.

We should point out that the same FSAP paid very little attention to the supervision of insurance companies; however, there is a real reason for this. In the insurance sector no achievements have been made since the previous assessment: namely, no improvements in licensing criteria, which was supposed to have minimum requirements for management fit and proper; all foreign insurers were supposed to have minimum characteristics of financial strength, as well as supervisors which have the ability to make re-insurance program corrections, etc.

Unlike banking sector, there are almost no prudential regulations for the insurance sector. According to existing laws the only requirement is for minimum capital- life insurance 2,200,000 GEL, non-life insurance 2,000,000 GEL and re-insurance 2,200,000 GEL (until December 31, 2016 these were 1,500,000 GEL; 1,000,000 GEL and 1,500,000 GEL accordingly). The capital requirement is the same for all insurers and does not take into account the risk profile of insurance companies. From 2017 there will be new requirements on supervisory capital and solvency; (today supervision authorities have adopted some projects for regulatory changes).

Supervisory capital is defined as a guarantee on the financial soundness of insurer, which at every stage of insurance activity should be more than the minimum capital and solvency indicators. The definition of supervisory capital is quite simple and unambiguous: actually this is its own capital according to IFRS minus some corrections (such as: intangible assets, term proportion of investments in subsidiaries, deferred assets and liabilities, etc.). The main idea of corrections is that an insurer must have sufficient cash and assets, which are easily convertible into cash in purpose to cover expected or unexpected losses. These requirements are mostly in accordance with international capital requirements. According to new regulation, the project solvency indicator should be calculated by two methods: solvency is based either on incurred losses or the written premium (the maximum is taken for solvency), in case the insurer has only existed less than 3 years, than only a written premium method will be used. The idea behind this is that for the period of less than 3 years, the insurer will not able to determine the adequate conclusion on losses. In a written premium method, brute premiums will be used not net one, also in some cases this indicator is multiplied by 1.5 (which increases capital requirements); usually these are made for riskier contracts, for instance insurance of air-line or maritime transportation responsibilities, etc. For calculations of solvency requirements based on incurred losses, an average of three years worth of losses is considered, corrections are made with the same logic as in the case of written premiums.

According to updated projects, supervisory capital and solvency requirements will be unique for every insurer and this means that there will be no difference for capital requirements based on internal risk assessment models or risk profile, in accordance to the international Solvency II requirements. The year of 2017 will be somewhat of a transition year, since the capital injections should be made step-by-step during the whole year.

As we see from the above discussion, the banking sector is in much better shape in terms of compliance with international requirements when compared to insurance business. There have been many reforms done in

banking supervisions which are in compliance with Basel II/III requirements, but only minimum capital requirements will be active from the coming year in the insurance sector. International experience does show that banking and insurance regulations are quite similar in structure and in context.

There are some particular issues in the Georgian financial sector which somehow explain such differences: in Georgia, the insurance sector is less developed; the main demand is for medical insurance, which is not a profitable sector. Like in the banking sector, in the insurance sphere the dominant asset owners are insurance companies affiliated with large banks. There is a restriction for banks regarding non-banking activities, but in reality, banks which hold insurance companies, nowadays have the same new owner, so banks and insurance companies are under the same "umbrella". This has caused quite an unequal situation in terms of capital: actually, almost all insurance companies, except affiliated ones with large commercial banks, will need quite huge capital injection to meet new capital requirements. At the same time, there is no problem of capital in banking sector – according to assessments from every international organization. The banking sector in Georgia is quite well capitalized. Due to mentioned reasons managers of insurance companies argue, that these new regulations are in favor of large institutions and will result in decrease of small and medium size insurers. According to them these requirements need to be introduced only after the introduction of obligatory insurance for some insurance lines. We also must take into consideration the fact that changes in the insurance sector are very sensitive, since insurance is quite well-connected with other industries. For instance, it is very important to develop proper insurance schemes for the agricultural sector, since it is one of the priorities for the Georgian economy.

*Conclusion*

Despite the above-mentioned obstacles, it is necessary for the Georgian financial sector to expand and be more compliant with international standards. For this purpose, as well as for consumer protection purposes, financial institutions must have buffer capital which can be used to cover losses in case of financial shortcomings. The international supervisory framework tends to be harmonized; Basel III and Solvency II are quite similar: requirements of minimum capital, supervisory review process and

transparency which improves market discipline. This process is not surprising, since the business of financial institutions has become quite complex and global. In previous years, we faced almost the same process in banking sector: consolidation of banks occurred as the requirements for minimum chartered capital increased; however, this did happen gradually. If we look closely at the international supervision framework, we observe that reforms are usually made gradually. This should be necessary in Georgia too, particularly in the insurance sector. Usually financial institutions differ from each other in terms of market share, risk profile and their role in whole financial system. Due to these reasons, it is more reasonable to have prudential requirements based on such approach, and this all the more supports the claim that risk based supervision is more rational and flexible.

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