

ICAAP – Challenges and Opportunities for Slovak Commercial Banks

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Abstract

Internal Capital Assessment Process (ICAAP) is a concept introduced by Basel II regulation. The key reason for its introduction was to overcome the shortcomings of Basel I by forcing financial institutions to develop a comprehensive tailor-made risk management system as a component of Pillar 2. However, the idea of regulators also was to implement ICAAP as a consistent component of the bank's internal managerial processes (both at strategic and short-term levels). This paper focuses on identification of the level of implementation of ICAAP, challenges and opportunities of this process at main Slovak banks. Our key findings are based on analysis of results of a survey which we ran in cooperation with the Slovak Banking Association among a majority of Slovak banks (respondents represent 86% of banking sector assets). We found out that although all Slovak banks have already started with ICAAP implementation, its level is not adequate. Key drivers for ICAAP implementation are risk management and regulation but not changes of the management of the bank. ICAAP is also not part of an integrated performance measurement system at banks. The highly conservative approach of the Slovak banks towards economic capital calculation for risks identified under Pillar 2 contributes positively to banking sector stability, but it is questionable how much it has contributed to shareholders' value creation. The final conclusion is that there are more challenges and less use of opportunities by Slovak banks at the present stage of ICAAP implementation in their managerial processes.

Introduction

The bank risk management system, and financial institutions regulation, have been identified as the key issues of the last global financial crisis. However, John Hampton¹ stated that "Many business people pay lip service to Sarbanes-Oxley, Basel II, and ERM. In their hearts, they believe the processes, required by all three, were designed by bureaucrats, professors, or regulators, who do not really understand risk". In our opinion, in spite of fact that the last financial crisis discovered serious weaknesses of Basel 2, one of the positive sides of this regulation is that in addition to its intent to motivate banks to apply more sophisticated approaches for capital requirements calculation in Pillar 1, regulators also "legally" forced financial institutions to develop and introduce a comprehensive risk management system (or enterprise risk management system) through ICAAP (Internal Capital Adequacy Assessment Process) implementation as a Pillar 2 component. This system, if is fully developed and implemented, creates a reasonable framework for assessment, evaluation, and mitigation of the bank risk position commonly expressed through economic capital requirements during a crisis period, too. Pillar 2² puts pressure on commercial banks to develop a tailor-made risk management system (if they already don't have it in place) following key principles formulated by Basel 2 documents and relevant EU Directives.

However, developing a tailor-made risk management and ICAAP systems in a way that would satisfy both regulator's requirements and banks' internal managerial needs is a long-term process during which a lot of open issues should be resolved. In their issued documents, regulators only defined the principles and broad framework that banks should apply in the ICAAP process implementation. Each bank should decide independently its own internal capital assessment process and use it not only to satisfy regulator's requirements, but also as part of its operative, and strategic management processes. The ICAAP should be embedded in the institution's business and organizational processes; it is not to be regarded as an add-on that permits the bank management and supervisory bodies to "tick a box" and think that they completed the tasks of the regulator – approach that the Basel I regulation allowed. There are few books whose authors focus on looking at ICAAP from the bank management point of view

¹ Hampton, J. John: Fundamentals of Enterprise Risk Management. How top companies Assess Risk, Manage Exposures and Seize Opportunities. AMACOM 2009, p.240.

² Minimum Capital Requirements from Basel I were expanded by Basel II to include the Supervisory Review Process (Pillar 2) and the Market Discipline (Pillar 3). Pillar 2 - regulates: a/ implementation of processes for assessment of capital adequacy; b/strategies for maintaining capital levels; c/ establishment of suitable risk management systems ; d/ evaluation process by supervisory authorities; e/necessary supervisory measures (on basis of evaluation process).

as whole. Andrea Resti is one of these authors. In the Introduction to the book *Pillar II in the New Basel Accord*³, he formulated encouraging, practical thoughts on this topic. As Michael B. Cordy wrote⁴ in the Preface to this book – Andrea Resti invites bank management to embrace Pillar II as an opportunity to make strategic investments in the risk management processes and tools that can deliver value to shareholders, rather than as an exercise in regulatory compliance. In accordance with Resti’s opinion appeared in the Introduction, Pillar II is seen as a unique opportunity to narrow the gap between two different definitions of capital (regulatory, and economic), mitigating the “managerial squint” of bankers, having to keep under control two different targets at the same time: the capital constraint imposed by regulators, and the risk-taking capacity shareholders provide to the bank (and that managers are expected to reward). In addition to his first implication of the ICAAP (shareholders approach), he formulated two additional characteristics of ICAAP towards bank management as whole, as follows: 1.. ICAAP is not to be just a technical, methodological issue to be addressed mostly by the risk management and planning department. The owner of such a process should be the bank’s top management. In accordance with his opinion ICAAP would build the backbone of a modern value-based performance measurement system and 2. Pillar II and ICAAP would trigger some processes and tools which are not strictly part of the tasks imposed by Basel regulators. One, of such processes, are the capital allocation policies. Resti claims: “Through capital allocation, economic capital estimates become more useful because, when the bank’s total capital is distributed across all risk taking businesses and units it is easier to check whether each of them adequately rewards shareholders’ capital”.⁵ To look at Resti’s opinions on ICAAP from the value-based management point of view, we can say that ICAAP is one of its key components for the bank.

How involved are the Slovak banks in ICAAP implementation? What are the key challenges and opportunities that Slovak banks in this process have to cope with? Has Pillar 2/ICAAP already changed banks (particularly from the bank whole management point of view) in Slovakia? To answer these questions and to get a more complete picture of the status of ICAAP implementation in Slovakia, we have done a research with the support of the Slovak Banking Association involving key banks in Slovakia. The research is the first of its kind among Slovak banks. The results can serve to the Slovak Banking Association to identify key weaknesses in researched field and promote actions to mitigate them with shared resources.

ICAAP – Legal and Theoretical Review

The internal capital adequacy assessment process as a key component of the second pillar of the Basel 2 has its roots in *A New Capital Adequacy Framework*, released in June 2004 (Basel Committee on Banking Regulation). The key role of the Pillar 2 processes is to enhance the link between an institution’s risk profile, risk management processes, risk mitigation systems, and its capital management. Key principles and guidelines on second pillar contained in *A New Capital Adequacy Framework* had been transferred to the EU Directive (Directive 2006/48/EC). In this Directive (CRD) the following five key components can be identified⁶: 1. Supervisory Review Process (SRP)⁷. The purpose of the SRP is to ensure that banks have sufficient capital to support all material risks to which they are exposed. SRP achieves this through ongoing supervisory monitoring of banks. 2. Internal Governance⁸ aims at ensuring that an institution’s management body is explicitly and transparently responsible for its business strategy,

³ *Pillar II in the New Basel Accord. The Challenge of Economic Capital*. Edited by Andrea Resti. Inclusive Media 2008. Introduction, xxxv.

⁴ *Pillar II in the New Basel Accord. The Challenge of Economic Capital*. Edited by Andrea Resti. Inclusive Media 2008, Preface xxxi.

⁵ *Pillar II in the New Basel Accord. The Challenge of Economic Capital*. Edited by Andrea Resti. Inclusive Media 2008. Introduction, xxxv.

⁶ More details on regulatory framework see in: *Pillar II in the New Basel Accord. The Challenge of Economic Capital*. Edited by Andrea Resti. Risk Books 2008

⁷ The principles which are applied in SRP are mainly codified in Article 123, 124, 136 and annex XI of the CRD

⁸ Internal Governance is codified in Article 22 & Annex V of the CRD.

organization, and internal control. It is mainly related to setting the institution's business objectives and its appetite for risk, how the business of the institution is organized, how responsibilities and authority are allocated, how reporting lines are set up, etc. 3. Internal Capital Adequacy Assessment Process (ICAAP)⁹ is a process within the internal governance framework that ensures that the management body: a/ adequately identifies, measures, aggregates and monitors the institution's risks, b/ holds adequate internal capital in relation to the institution's risk profile, c/ uses sound risk management systems and develops them further. 4. Supervisory Review and Evaluation Processes (SREP)¹⁰. An essential element of the SREP (and of the Risk Assessment System) is the ability to assess qualitatively each type of risk and its management, within the overall context of the institution's internal governance. 5. Risk Assessment Process (RAS). RAS is the supervisor's tool for organizing the use of supervisory resources, and performing and managing the supervisory risk assessment.

The recent financial crisis also discovered Pillar 2 shortcomings. In March 2009, the Basel Committee promptly reacted and issued the document "Range of practices and issues in economic capital frameworks"¹¹ that contains ten recommendations to improve the economic capital process. In addition, in May 2009, the next document focusing on the very important ICAAP issue "stress testing" was issued: Principles of sound stress testing practices and supervision.¹² Finally, in December 2010 two principal Basel III documents have been issued:

Basel III: A global regulatory framework for more resilient banks and banking systems¹³.

Basel III: International framework for liquidity risk measurement, standards and monitoring.¹⁴

Documents issued by Basel Committee are the basis for changes in key CRDs: Proposals for a Directive of the European Parliament and of the Council amending Directives 2006/48/EC and 2006/49/EC, 2008, 2009, 2010.

During the implementation process of Basel 2 the Committee of European Banking Supervisors played a very important role and issued many guidelines that contributed to a better understanding of complex Pillar 2 issues.¹⁵

The Slovak national regulator – National Bank of Slovakia – implemented CRDs at the full extent into its legal acts and norms, too¹⁶.

There are already many books on the market that deal with the particular Pillar II or ICAAP topics either specialized on economic capital modeling or, a part of the book dealing with risk management in the financial

⁹ The ICAAP is codified in Article 123 of the CRD.

¹⁰ The SREP is codified in Article 124 x Annex XI of the CRD.

¹¹ See more: <http://www.bis.org/publ/bcbs152.htm>

¹² See more: <http://www.bis.org/publ/bcbs155.htm>

¹³ See more: <http://www.bis.org/publ/bcbs189.htm>

¹⁴ See more: <http://www.bis.org/publ/bcbs188.htm>

¹⁵ See more:

CEBS: Guidelines on the Application of the Supervisory Review Process under Pillar 2, January 2006

CEBS: Technical aspects of stress testing under the supervisory review process, December 2006

CEBS: High level principles for risk management, February 2010

CEBS: Guidelines on Stress Testing, August 2010.

¹⁶ Act No 483/2001 Coll. On Banks.

Methodological Instruction of the Financial market Supervision Section of the National Bank of Slovakia No. 1/2007 on the Internal Capital Adequacy Assessment Process for Banks.

Decree of the National Bank of Slovakia No. 13/2010 on further types of risks, on details of risk management system of a bank and a foreign bank branch and on defining a sudden and unexpected change of interest rates on the market.

Decree of the National Bank of Slovakia No. 4/2007 on banks' own funds of financing and banks' capital requirements and on investment firms' own funds of financing and investment firms' capital requirements.

Decree of the National Bank of Slovakia No. 1/2007 on disclosures by banks and branches of foreign banks.

institutions.¹⁷ However, the literature dealing with specific topics of ICAAP implementation in the management of financial institutions is still rare.

Empirical Research

The Faculty of Management of the Comenius University in Bratislava initiated a survey and prepared a questionnaire on the status of ICAAP implementation in Slovak banks. The survey was undertaken by the Slovak Banking Association. It is the first survey which was run on this topic in Slovakia. In this survey 22 respondents, members of the Committee for Regulation in Slovak Banking Association, were selected. All fully licensed banks and the most significant branches of foreign banks operating in Slovakia¹⁸ were represented. In total 14 institutions participated in the survey, representing 86% of total assets of the banking sector in Slovakia.

A structured pre-coded questionnaire (web-site application) was used. Expert survey had been organized in the last quarter of 2010.

There were forty five questions covering the following topics from bank and ICAAP areas:

Basic information about the responding company (1 question)

Basic information about the respondent (1 question)

Basic information about the ICAAP framework, and governance overview (11 questions)

ICAAP framework overview (29 questions)

Risk identification, quantification, and aggregation (5 questions)

Available financial resources (3 questions)

Stress testing (5 questions)

Use test (integration of ICAAP with related functions and processes, risk performance parameters used, etc.) (12 questions)

Disclosure and reporting (4 questions)

¹⁷ Andrea Resti: Pillar II in the New Basel Accord – The Challenge of Economic Capital, Risk Books, a Division of Incisive Financial Publishing Ltd, 2008

David P. Belmont: Value Added Risk Management in Financial Institutions – Leveraging Basel II & Risk Adjusted Performance Measurement, John Wiley & Sons (Asia) Pte Ltd, 2004

Iman van Lelyveld: Economic Capital Modelling – Concepts, Measurement and Implementation, Risk Books, a Division of Incisive Financial Publishing Ltd, 2006

Chorafas, D.M.: After Basel II. Assuring compliance and smoothing the rough edges. VRL Publishing Ltd. 2005.

¹⁸ Fourteen fully licensed banks operate in Slovakia. Additionally, 15 branches of foreign banks operate on common license. The Slovak banking sector is almost 98% owned by foreign capital. This sector is highly concentrated (more than 55% of assets are owned by the 3 largest banks). They are highly competitive, well capitalized, liquid and has very favorable liquidity ratio measured by loans/deposits (88%). Their core business activities are focused mainly in commercial banking and specialize in financing housing construction. Local banks operate mainly in Slovakia. They have operated under Basel 2 regulation since January 1, 2008.

Table 1: Key Parameters of the Top 6 Banks and Sector as of September 30, 2010

Bank	Assets	Loans	Deposits	ROA	ROE	Equity	Major shareholder
Slovenská sporiteľňa, a. s.	10 869	5 668	7 798	1,19%	16,55%	853	EGB Ceps Holding GmbH
Všeobecná úverová banka, a. s.	10 316	5 667	6 856	1,26%	13,10%	986	Intesa Sanpaolo Holding S.A.
Tatra banka, a. s.	8 488	5 367	6 622	0,93%	10,67%	761	Raiffeisen International Bank-Holding AG
Československá obchodná banka, a. s.	5 327	2 924	3 174	0,59%	5,42%	603	KBC Bank N.V.
UniCredit Bank Slovakia, a. s.	3 748	2 649	2 560	0,43%	3,59%	419	UniCredit Bank Austria AG
Dexia banka Slovensko a. s.	2 857	1 831	1 769	-0,04%	-1,29%	83	Dexia Kommunalkredit Bank AG
Sector total	56 844	32 973	37 616	0,95%	10,00%	5196	-
Share of top 6 banks on total sector	73,19%	73,11%	76,51%	-	-	71,29%	-

* Numbers in mln EUR

Documentation (1 question)

Training and awareness (2 questions)

The results have been analyzed both on the aggregated bank level and rank by size: small (5 banks), medium (5 banks) and large (4 banks)¹⁹.

A majority of respondents (43%) were ICAAP specialist, followed by risk managers (29%), financial management/accounting (14%), and others (14%).

Analysis of the Survey Results and the Key Findings

The survey results are analyzed and its key finding are presented with reference to blocks of questionnaire.

Basic information about ICAAP framework and governance overview

In this part of the survey we learn about the main reasons for ICAAP implementation, the current status of implementation, governance structure, staffing, costs spent on ICAAP and interactions with regulators (SRP) and their current and expected impact on the banks.

Almost eighty percent of respondents use ICAAP for risk management purposes. No respondents declared that ICAAP implementation afforded a competitive advantage or business benefit to them. The second most stated reason was regulatory requirements and the third overall management of the bank.

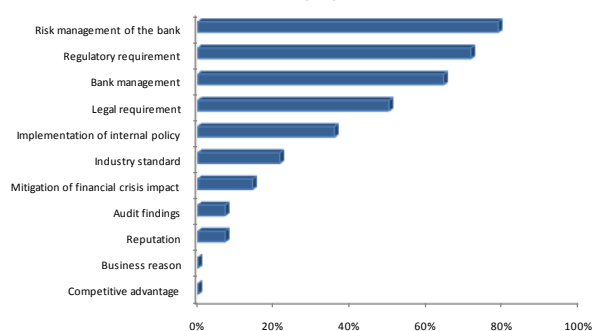
No banks has declared not to have ICAAP implemented, although 50% are still on borderline and not being fully in line with use test principles²⁰.

79% of the respondents perceived their ICAAP implementation to depend on the parent company (partly or fully). These results are then reflected and explain, the amount of investment that Slovak banks spent on ICAAP implementation. Banks spent a maximum of € 100.000, but the majority of the respondents stated it was between € 10 to 50 thousand. It is clear that in accordance with the shareholder structure (98% of the Slovak banks are owned by foreign investors) the transfer of know-how and methodology from the parent company to its subsidiary takes place.

Regarding the governance point of view ICAAP is considered to be a shared responsibility, as more than 57% of the banks have a committee for providing inputs and assistance in ICAAP implementation, evaluation and periodic revision. **Coordination is usually the responsibility of Chief Risk Officer of the bank.**

As for **staffing**, a maximum of two FTEs are allocated directly to ICAAP activities, while more than 31% of the banks do not directly allocate any resource. Furthermore, only 53% of banks did allocate other resources to the process (controlling, planning, strategy, etc.).

What were the main reasons of ICAAP implementation in your company?



¹⁹ For the purpose of this questionnaire, small banks are considered as companies with total volume of revenues €0 – 50mio, medium banks €50 – 200mio, large banks €200 mio and more.

²⁰ Use test (internal use) represents the actual usage of bank's risk management and measurement systems for internal purposes. In the Methodological Instruction of the Financial market Supervision Section of the National Bank of Slovakia No. 1/2007 on the Internal Capital Adequacy Assessment Process for Banks it is stated that: The ICAAP should be an integral part of a bank's culture, the bank's overall risk management process, and everyday business, organizational, and decision-making processes at the bank.

Regarding interactions with regulation and regulators, differences in amount of needed capital identified within ICAAP in comparison to amount identified within Pillar II (SRP) by regulators, were considered by more than 58% as of little, or no significance.. However, 42% of respondents identified them as significant.

Upcoming changes in regulation (known as Basel III), are expected by a majority to have only a partial impact on the framework. Current relationships between regulators (home-host) and their impact on the framework, is perceived neutral by almost 55%, and positive by 33%.

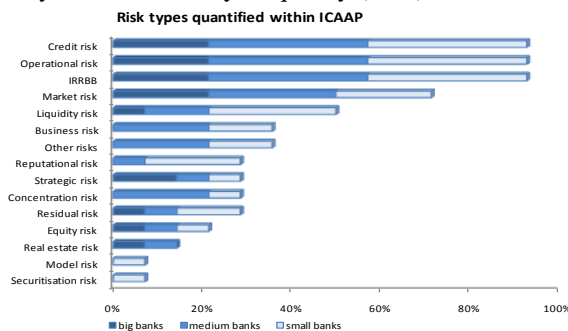
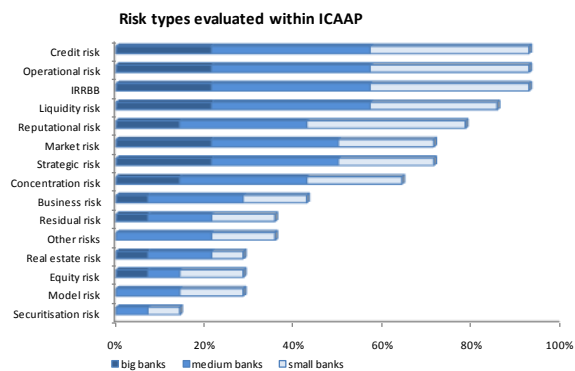
ICAAP framework overview

In this part of survey we collected and analyzed data on key ICAAP processes, economic capital, available financial resources, stress test, use test, disclosure and reporting, documentation.

Risk²¹ identification, quantification and aggregation

Regarding risk types: Almost all banks consider risks managed under Pillar I (e.g. credit, market and operational risk) within Pillar II as well. Other risks of significance are interest rate risk of banking book, liquidity risk, reputational and strategic risk. More than 64% of all banks separately evaluate concentration risk with credit risk. Other, less significant risks evaluated under ICAAP, are real estate, equity, model and business risk.

Within risk quantification (economic capital calculation), which in most cases is carried out with quarterly or even monthly frequency (38%), more than



92% of respondents stated that credit, operational and interest rate risk of banking book are considered, while almost 72% quantifies market, and 50% of banks liquidity risk. Business, strategic and reputation risk are quantified by 36% and 29% respectively. Real estate, model and securitization risk comprise the smallest share.

A majority of banks (77%) do not consider the diversification effect within the risk aggregation (total economic capital calculation). This indicates

²¹ Methodological Instruction of the Financial market Supervision Section of the National Bank of Slovakia No. 1/2007 on the Internal Capital Adequacy Assessment Process for Banks states: The classification of risk used by the bank should correspond to the bank's size, nature, scale and complexity of activities and should be used consistently in all the bank's business, activities, processes and systems. The bank should be able to identify risks and to include them in the ICAAP according to minimum to this risk classification: a/ pillar one risks (credit, market and operational), including main differences in the approach of calculating capital requirements under the first pillar and the treatment of these risks in the ICAAP b/ risks not fully captured under pillar one (in particular residual risk and securitization risk, underestimation of credit risk in using the standardized approach, underestimation of operational risk in using the basic indicator approach and the standardized approach) c/ pillar two risks, all material risks to which the bank might be exposed, particularly interest rate risk in the banking book, concentration risk, liquidity risk, reputation risk and strategic risk d/ risk resulting from external factors, in particular from the economic and business environment that were not included in the preceding categories.

that banks follow more a conservative approach in risk quantification, by using only a simple sum-up of different capital requirements calculated for each risk type, considered within ICAAP framework.

*Available Financial Resources (AFR)*²²

Progress in ICAAP implementation is evident also by the fact that a majority of banks (85%) consider, within Pillar II framework, resources which are different from regulatory capital within Pillar I, while in 81%, reconciliation of both resources is implemented.

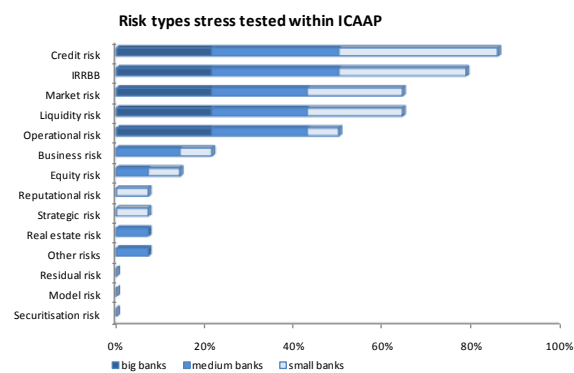
The conservative approach of the Slovak banks, under Pillar II, is visible also through the AFR calculation e.g. resources management, where hybrid capital is considered by small number of banks, and a similar conservative approach is expected in the future.

Stress testing

All banks carry out stress testing of internal and external factors. Among the most significant risks considered within the stress testing framework is the interest rate risk of banking book, market risk, liquidity, and operational risk. Less frequent is stress testing of equity, business, strategic and reputational risk. **The frequency is relatively high, ranging from quarterly to monthly.**

Stress testing of Available Financial Resources is less frequent (31%).

Only 69% of the banks uses the results of stress testing in ICAAP. This supports the already mentioned observation in the first block that **implementation of ICAAP is still under way.** It's also evident that banks put more emphasis on stress testing key risks rather than the resources they have to cover them.



Use test

Results of the use test reveal that the process of ICAAP implementation, and its usage, is just partial, rather formal, and more oriented toward risk management, as such, than on management of the bank

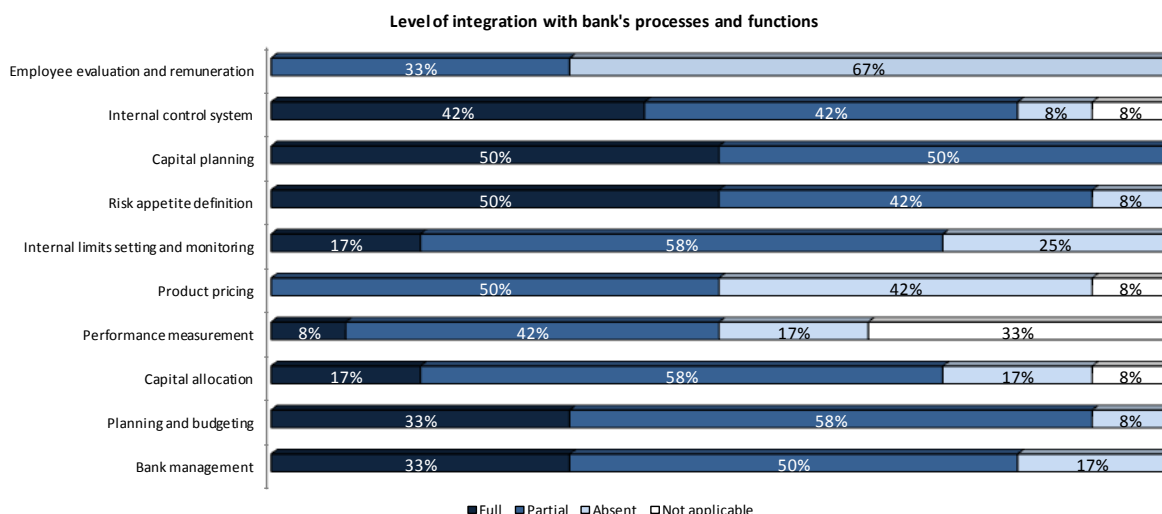
As for integrating ICAAP with various process and functions of the bank, results of the survey indicate that **it is not fully integrated with strategic management, since almost 70% of the respondents claim partial or total absence of integration.** Similar results could be seen in the integration with the planning and budgeting process, e.g. operative and short term management.

The integration with capital allocation is even rarer, where more than 80% banks stated that the integration is partial or non-existent, while allocation is predominantly done on segments, followed by less frequent allocation on products and single transactions.

An even worse situation is when the ICAAP and integrated performance measurement is considered, since only 1 bank stated a full link between ICAAP and the related performance measurement processes. The most common performance indicators used are RAROC, RORAC, and EVA, followed by less the frequent indicators such as RORAA or RAROA.

²² Available Financial Resources shall mean the capital elements that the bank feels it can use to cover Internal Capital. Internal capital is defined as total capital need for coverage of risks, the bank is exposed to at execution of its activity. It is expressed as the summary of aggregated economic capital adjusted by diversification effect and capital cushion. Capital cushion might be used to cover risks as cyclicity, model risk etc.

The integration with product pricing is similar, where only 46% of the banks have partial integration. The rest have no the integration at all.



More than 84% do not have full integration of ICAAP with internal limits setting and monitoring.

As for the integration of ICAAP with a **risk appetite definition, 46% of the banks claim full integration**, while the rest perceive partial or no integration. Similar results can be seen in integration with the **capital planning and internal control system (almost 50% full integration)**.

More than **69% of the banks do not use ICAAP in employee evaluation and remuneration.**

Disclosure and reporting, Documentation, Training and awareness

Recipients of internal ICAAP reports are usually the top and middle managers (86%), other positions (junior management, non-managers, specialists) are rarely included.

Within Pillar III²³ banks tend to disclose qualitative information (92%) to the market more often, while quantitative information is less present (33%), and as well the same fraction of banks intend to disclose quantitative information in the future.

Majority of banks (77%) disclose information about ICAAP in their annual report. The rest do not, but plan to do it.

Almost all banks have formalized their ICAAP process in their internal procedures – documentation (92%). This is also a regulatory requirement. **Almost 50% of banks do no trainings and/or workshops for their employees. Those that do so include top and middle management.** The topics covered are the results obtained during risk assessment exercises, methodology overview and identification of weak points that should be addressed by process improvements.

Conclusion

²³ According to CEBS: Revised Guidelines on Supervisory Disclosure, supervisory disclosure is defined as a comprehensive policy of transparency. Its aim is to make information related to prudential supervision available in a timely manner to all interested parties, including credit institutions, investment firms, other market participants, other supervisors, and consumers. The framework for supervisory disclosure is meant only to provide information. It is not meant to limit in any way the ability of individual national supervisors to act in a flexible, timely and independent manner, when required.

The Internal Capital Adequacy Assessment Process (ICAAP), if implemented in line with the original regulator's intentions, belongs to the most challenging areas in current banking practice. In our research we desired to get answers to the following questions:

How have the Slovak banks come in ICAAP implementation? What are the key challenges and opportunities that Slovak banks in this process have to cope with? Has Pillar 2/ICAAP already changed banks (particularly from the whole bank management point of view) in Slovakia?

Based on a survey in which 14 banks representing 86% of the total assets of the Slovak banking sector participated, we can make the following conclusions from which answers to our questions can be derived:

a/ All Slovak banks have already started with ICAAP implementation. The level of implementation can be considered as inadequate, although ICAAP as such represents a unique system adding visible value to the risk management of each institution. In this process, Slovak banks are very much dependent on their parent companies – which are foreign banks – both as far as investment costs, and know-how sharing, are considered.

b/ The key drivers for ICAAP implementation are risk management and regulation; and not changing the management of the bank as whole – either general or strategic management. In spite of the fact that ICAAP is primarily considered as a system influencing risk management, there still are challenging areas that deserve particular attentions such as limit setting, monitoring, and risk appetite definition.

c/ The results further confirmed that the level of implementation is rather formal, and ICAAP is not a significant part of the risk-based decision making process in any of the following areas: planning and budgeting, capital allocation, capital planning. The most severe situation is in applying ICAAP as an integrate part of performance measurement (only one bank claimed full integration). A very similar situation is also in the product pricing area and in employee evaluation and remuneration.

d/ Based on the previous findings we can conclude that Slovak banks haven't seen Pillar II/ ICAAP as a significant opportunity to make strategic investment in the risk-management process and use tools that can deliver value to shareholders. Rather it is seen as an exercise in regulatory compliance. The conservative approach of the Slovak banks to economic capital calculation (lower level of diversification and aggregation of capital, stress testing frequency etc.) is definitely positive for the banking system stability, but should be further studied from the evaluated perspective of value-based management. The conservative approach is also apparent in the banks' considerable effort to quantify economic capital for risk types which are difficult to quantify – such as liquidity risk, even reputational risk etc. Another dimension of the conservative approach can be the willingness to share/disclose quantitative and qualitative information to the market. Banks are not willing to share quantitative information, only qualitative.

e/ Prevailing regulatory requirements approach to ICAAP implementation contributes positively to banking system stability. It controls minimum capital requirements as stated by regulator within SRP for the banks in accordance with their risk profile and forces them to adjust their risk profile to their level of available financial resources.

Our findings show that there are still more challenges and underused opportunities particularly from the shareholders' value-based management perspective. However, further research needs to be done to draw conclusion what is best for shareholders; very conservative banks and a stable system, or an aggressive approach to ICAAP.

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