

RISK MANAGEMENT, CORPORATE GOVERNANCE AND INVESTMENT BANKING: THE ROLE OF CHIEF RISK OFFICER

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Abstract

This paper focuses on the defining the role of CRO in corporate governance and to show the interrelation between the way of CRO subordination and performance of investment bank. The sample consists of observations over a period of 2011 for 29 biggest investment banks (by amount of assets) implementing world-wide investment activity. The banks are originated in the USA (8), Eastern Europe (14), China (2), Japan (2), Canada (2), and Australia (1). With the aim to evaluate and compare financial performance of selected banks the construction of synthetic key performance indicator (SKPI) is worked out. The empirical analysis of risk management in the research is based on two different groups of factors, which could be used to evaluate the effectiveness of risk management in this sphere: analysis of CRO impact - Risk Management Committee factors and CRO factors, and Evaluation of Financial Performance. Results show that the CRO presence in investment banks effect positively on the financial performance.

Keywords: Risk Governance, Investment Banking, Chief Risk Officer, Risk Management Committee

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1. Introduction

After recent events of global financial crisis and further recession bank boards became more disturbed about the risk governance issues. The lesson was learned that timely risk oversight and measures to its minimization would lead to stability of a bank. That's why the foundation and ensuring of effective functioning of Risk Management Committee in bank is one of the primary goals in this context.

According to Basel Committee recommendations for enhancing corporate governance practice updated in 2010 Risk Management Committee in the lead with Chief Risk Officer (CRO) is responsible for organizing of risk management system, introduction of bank overall risk governance strategy and control of its adherence. These Principles also state that to achieve higher efficiency CRO as a senior executive should have independence.

Let's have a look on how it is realized in today's banks. First of all, some banks (especially in countries with weak or transforming banking systems) don't have special committee to deal with risks at corporate governance level. According to statistical data, in such cases risk governance is delivered to Audit Committee or CEO as one of numerous tasks.

Secondly, we must underline that in most of banks CRO is usually subordinate to CEO, in other cases – to other chief executive (e.g. CFO). To some extension it lengthens a period of reporting and, as a result, of decision-making. Such subordination models can also bring to information asymmetry and to some degree commit the principle of independence. According to recent corporate governance practice in banks CRO may also subordinate straightly to Board. This model of reporting may help to avoid drawbacks mentioned above and to enhance risk governance in the banking institution.

In the context of risk governance one must define obvious difference between its implementation in commercial and investment banks which is explained by the distinctions in their activity. Specific character of investment banking lies down in absence of cash deposits; in selling securities to entities or to the government; in matching sellers and buyers of securities; advising about mergers and acquisitions. The other peculiarity of investment banks is that it doesn't realize lending activities, so their risk tolerance level is higher versus commercial banks. Investment banks serve clients who already may have huge amounts of capital as a rule, while commercial banks (especially retail-oriented) may cater for consumer categories that need the seed capital or need

to maintain routine necessities. That explains the total opposite interests among these types of banking.

Summarizing we must note that commercial and investing activity must be distinguished due to specificity of the last.

We must also underline that the problem of liquidity is urgent especially for investment banks. According to new Basel recommendations it is expected to form more reserve buffers to maintain banking activity: it is supposed to direct all retained profits to insure risks by force of risk-weighted asset generation. In this case the problems with liquidity may rise in investment banks due to absence of deposits and incomes from crediting. The effective risk governance may become the way of problem-solving. The idea of distinguishing commercial and investment banking has been suggested in Glass-Steagall Act (1933), Gramm-Leach-Bliley Act (1999), Vickers Report (2010), Volcker Rule (2012). The recommendation to separate high-risk (proprietary trading of securities and derivatives) and classical banking activities is also stated by the High-level Expert Group to reduce possible risks, both local and systemic¹⁵.

The aim of the investigation is to define the role of CRO in corporate governance and to show the interrelation between the way of CRO subordination and performance of investment bank. As noticed above these problems are urgent nowadays, that totally explains the actuality of this research.

2. Literature Review

The special role and relationship between the CRO, risk governance and bank has been highlighted in the business newspapers (Dan Borge, 2010¹⁶; Eric Holmquist, 2011¹⁷; James Lam, 1997¹⁸), in various reports (Protiviti Inc, 2011¹⁹; Charles R. Lee and Prakash Shimpi, 2005²⁰; Risk Reward Limited, 2010²¹, Barclays PLC Annual Report, 2010²²). The main idea of this articles and reviews is that by

committing to employing a chief risk officer, the bank creates one central, highly qualified individual that can develop a solid risk framework and assist management in ensuring that it is consistently utilized. As a result, this has a profound impact on reducing losses and preserving capital and shareholder equity.

Nowadays between modern scientists and economists there are several views on the importance and accountability of the CRO. In many instances, the CRO reports to the CFO or CEO, and some CROs have a direct reporting line to the board of directors.

Our study complements Shane Phillips (2011) who examined the CRO's duties and claimed that CRO must be able to discuss market trends in depth, able to stave off downside exposures early on and help course correct the organizations position. The best CROs have the pulse of the market and are able to stay clear of bubbles before they burst. Moreover, they must possess a deep understanding of their clients' counterparty risk and are able to identify secondary risks in a jiffy. This sometimes means changing strategy mid-stride and can often find them locking horns with business heads.

According to Anette Mikes (2008)²³ distinguish the role of the CRO depending on the type of risk governance function an organization adopts. In this case, the author highlights four types of risk function such as: "compliance champion" - the risk function is focused on delivering compliance with pressing; "modelling expert - the risk function is focused on highly sophisticated risk modelling, and delivering the most advanced measurement and compliance options from the regulatory menu; "strategic adviser" - senior risk officers gain board-level visibility and influence predominantly as a result of the amount of knowledge they command of the business, and experience of what can go wrong; and "strategic controller" - having built sophisticated firm-wide risk models, capable of giving an aggregate view of the financial risks, the risk function enables the company to operate a formal risk-adjusted performance management system.

Vincent Aebi, Gabriele Sabato, and Markus Schmid (2011)²⁴ dedicated to this issue more comprehensive analysis of the influence of the "risk governance" on the banks' performance. Their findings indicate that banks, in which the CRO reports directly to the board of directors, perform significantly better in the financial crisis while banks in which the CRO reports to the CEO perform significantly worse than other banks in our sample. In

¹⁵ Liikanen, E. (2012) High-level Expert Group on reforming the structure of the EU banking sector

¹⁶ Dan Borge (2010) Don't Bank Too Much on the Chief Risk Officer. U.S. Banker; Jun 2010, Vol. 120 Issue 6, p38

¹⁷ Eric Holmquist (2011) The Evolving Role of the Chief Risk Officer. ERM Advantages - <http://ermadvantage.com/2011/11/01/evolving-role-of-the-cro/>

¹⁸ "Emergence of the Chief Risk Officer," by James C. Lam and Brian M. Kawamoto, Risk Management, September 1997, pp. 30-35.

¹⁹ Board Risk Oversight – A Protiviti Survey Commissioned by COSO (2011). Protiviti Inc. - [http://commerce.depaul.edu/sev/docs/2011/4-](http://commerce.depaul.edu/sev/docs/2011/4-DePaul_COSO_Forum_Board_Risk_Oversight.pdf)

[DePaul_COSO_Forum_Board_Risk_Oversight.pdf](http://commerce.depaul.edu/sev/docs/2011/4-DePaul_COSO_Forum_Board_Risk_Oversight.pdf)

²⁰ Charles R. Lee and Prakash Shimpi, 2005. Risk Management Magazine, September 2005 issue, pages 34-38.

²¹ Basel III and the Challenges to Bank IT. Risk Reward Limited, 2010 - <http://www.riskrewardlimited.com/admin/pdf/Global%20Risk%20Update%20April%202012.pdf>

²² Barclays Bank PLC Annual report 2010 (2011) - http://reports.barclays.com/ar10/files/Annual_Report_2010.pdf

²³ Mikes, Anette, Risk Management and Calculative Cultures (June 1, 2008). Available at SSRN: <http://ssrn.com/abstract=1138636> or <http://dx.doi.org/10.2139/ssrn.1138636>

²⁴ Schmid, Markus M., Sabato, Gabriele and Aebi, Vincent, Risk Management, Corporate Governance, and Bank Performance in the Financial Crisis (October 11, 2011). Available at SSRN: <http://ssrn.com/abstract=1942896> or <http://dx.doi.org/10.2139/ssrn.1942896>

fact, the main reason for such results, they explain by the conflict of interests, which appears between the CEO and CRO, when one reports to the other. To be more specific, they emphasize that the CEOs' main interest is to maximize growth in sales, assets, and profits – possibly both in the shareholders' as well as his own interest as growth helps to maximize the value of the personal remuneration package as well as prestige and power (e.g., managerial empire building). Hence, the assessment and treatment of risk might be a lower priority for a CEO. Their research underlines the necessity of having CEO and CRO at the same level, ideally both reporting to the board of directors.

Moreover, the burning problems of risk governance are being actively considered by the members of the Basel Committee on Banking Supervision and there recommendations were presented in the Third Basel Accord (Basel III). The most important issues according risk governance have been implemented in the following recommendations about the increase of requirements for risk governance: banks need to hold 4.5 % of common equity in comparison of 2% in Basel II and 6% of Tier I capital of risk-weighted assets (RWA) in comparison of 4% in Basel II. Basel III offers additional mandatory capital conservation buffer of 2.5% and discretionary countercyclical buffer, which allows national regulators to require up to another 2.5% of capital during periods of high credit growth. In addition, Basel III introduces a minimum 3% leverage ratio and two required liquidity ratios (Basel Committee on Banking Supervision, 2010).

3. Legislative framework

The crisis has denied a number of stereotypes, which existed in the theory and practice of corporate governance recently. Banks continue to face challenges in their activities which are not adequately settled by corporate law.

Risk minimizing issue is one of the most significant tasks in terms of global financial market vulnerability. CRO position is one of the most effective components of the quality risk management system, which plays an important role in the decision making process.

Below it's considered how the responsibilities and requirements for the CRO defined in the principles, codes and rules of corporate governance, which are recognized as the major in the field. For convenience, they're divided into four main groups (all acts included are in the table 1, Appendix A).

International Corporate Governance Principles analyzed include 3 main documents: OECD Corporate Governance principles, ICSGN Statement on Global Corporate Governance Principles and Euroshareholders Corporate Governance Guidelines. The first one is mostly devoted to protecting shareholders rights and identifying Board of Directors functions. Risk management issue is mentioned as a

necessity to conduct the external audit. In the ICSGN CG Principles the requirements to board structure and key committees (including audit committee) are established in the 5-th section, but there are no words according to CRO and risk governance. Euroshareholders Corporate Governance Guidelines focuses on requirements to non-executive and independent directors, board structure and information disclosure.

The next distinguished group of regulative documents is Basic Corporate Governance Codes. It includes «The Combined Code on Corporate Governance», «German Corporate Governance Code», «The UK Corporate Governance Code». The first one focuses on audit committees and auditors requirements, functions and responsibilities. In the section devoted to Internal Control issues it's mentioned that «The board should, at least annually, conduct a review ... The review should cover all material controls, including financial, operational and compliance controls and risk management systems»²⁵. German CG Code establish some rules for Supervisory Board structure including audit committee: «The Supervisory Board shall set up an Audit Committee which, in particular, handles issues of accounting, risk governance and compliance, the necessary independence required of the auditor, the issuing of the audit mandate to the auditor, the determination of auditing focal points and the fee agreement»²⁶. So it combines the risk governance and audit functions. In the UK CG Code the section C is devoted to «Risk Management and Internal Control». It states that «the board is responsible for determining the nature and extent of the significant risks it is willing to take in achieving its strategic objectives. The board should maintain sound risk governance and internal control systems»²⁷ and identify the role, functions and responsibilities of audit committee.

Basic reports in Corporate Governance include a lot of published papers in different regulation issues: «The Modern Corporation and Private Property», "Report of the National Commission on Fraudulent Financial Reporting", "Cadbury Report. The Financial Aspects of Corporate Governance", "King Report on Corporate Governance", "Rutteman Report on Internal Control and Financial Reporting", "Greenbury Report on Directors Remuneration", "Vienot Report. The Boards of Directors of Listed Companies in France", "Peter's Report. Recommendations on Corporate Governance in the Netherlands", "Hampel Report on Corporate Governance", "Turnbull Guidance on Internal Control", and etc. Among them the Smith Report should be mentioned since it is connected to audit committee's responsibility. It states that one of audit committee's function is «to review the company's

²⁵ Section 1, C, The Combined Code on Corporate Governance, 2003.

²⁶ Section 5.3.2 German Corporate Governance Code

²⁷ UK CG Code

internal financial control system and, unless addressed by a separate risk committee or by the board itself, risk management systems”²⁸. It states that executives are responsible for the identification, assessment, management and monitoring of risk, for developing, operating and monitoring the system of internal control and for providing assurance to the board that it has done so²⁹. The role, responsibility and requirements to CRO are not mentioned. The Turnbull Report pays a lot of attention to the risk management issues. It identifies the components of internal control system and stages of assessing the effectiveness of the company's risk and control processes, role of Board of directors, Managers and Auditors³⁰. But all issues connected to risk manager's appointment requirements are not considered, and it did not require, the board to express an opinion on the effectiveness of the system.

One of the most important reports in to corporate governance in banking is David Walker's one (2009). It includes recommendations on board size, composition and qualification, functioning of the board and evaluation of performance, the role of institutional shareholders, remuneration and governance of risk. The last one contains requirements for FTSE 100-listed bank or Life Insurance Company to establish a board risk committee separately from the audit committee, with the chief risk officer reporting in to the committee as well as the chief executive. In addition, the risk committee should be chaired by a non-executive director, who should carry out a due diligence appraisal of any strategic transaction as a matter of good practice³¹.

Specific International Banking Regulation Rules are issued by Basel Committee. They consists of set of Basel requirements on capital adequacy, liquidities normative and corporate governance standards issued in 1988, 2006, 2009, 2010 and 2011 (Appendix A).

The Basel recommendations are an attempt to provide the appropriate system of internal control using the capital adequacy requirement as the main tool but looking back at the events of financial crises (2008) we could identify the lack of risk governance requirements as one of investment banking collapse reasons. The differences in the risk weighted assets calculations across banks and countries caused to overstatement of capital adequacy ratio. As a result the mortgage crises began in 2007. If we compare Basel II and III (2010) requirements the main changes are the following:

- improving the quality, transparency and sustainability capital requirements with restrictions for first Tier and commissioning of the new concept of "Common Equity Tier 1";

- increasing demand for capital coverage of risk. Committee proposed to strengthen the capital adequacy requirements for counterparty credit risk arising from derivatives, repurchase agreements and financing activities related operations with securities;
- implementing leverage as a supplement to an approach that takes into account the level of risk in the capital adequacy ratio in the Basel II;
- implementing minimum limits for liquidity ratio to short-term and long-term requirements;
- creating capital buffers to ensure the formation of capital reserves in good times which could be used during a crisis.

It should be mentioned there were no requirements for corporate governance in the Basel I and II recommendations before crisis. But the one of documents which included to Basel III issued in 2010 pays a lot of attention to corporate governance in banking that illustrated even in the title – Basel Principles for Enhancing Corporate Governance. The principle 6 is devoted to the problem of risk managing. It determines the components of risk management, requirements to CRO, scope of responsibilities, stature and independence of the risk management function, resources for internal control and requirements to personnel qualifications.

According to Principles, the role of the CRO should be distinct from other executive functions and business line responsibilities, and there generally should be no “dual hatting”. Formal reporting lines may vary across banks, but regardless of these reporting lines, the independence of the CRO is paramount. While the CRO may report to the CEO or other senior management, the CRO should also report and have direct access to the board and its risk committee without impediment³² [sec 3, p.6].

Basel recommendations form the regulative framework for all commercial banks. But investment banks provide a specific range of services (table 1), and all of them are followed by high risks both banking (internal) and external. That's why some rules could play the specific role for their performance. One of the most important issues is risk weighted assets.

²⁸ Section 2.1, Smith Report

²⁹ Section 5.7. Smith Report

³⁰ Turnbull report

³¹ Walker report

³² Section 3, p.6. Basel Principles for Enhancing Corporate Governance.

Table 1. Overview of financial services in investment banks

No	Service type	Service content
1	Investment banking	Underwriting for public authorities, local authorities, corporations, M&A service, investment consulting
2	Brokerage	The stock market, stock market fixed-rate, mortgage market and the real estate market, commodity market.
3	Investment Management Services	Creating and managing various types of funds, asset management for the population, trust management for investors
4	Services	Credit support to investors, credit support of issuers, foreign exchange transactions, clearing and settlement, insurance, analytical support

According to Basel II investment banks had relatively lower RWAs densities comparing to retail banks because of large trading portfolio which characterized by lower risk weights than for banking book assets. But Basel III increased the requirements for market risks estimation that could lead to improving the RWAs of investment banks.

One more factor which influence the risk management in investment banks is the portfolio maturity: the longer dated assets mean higher risk weight because of greater uncertainty in possible losses. As investment banks have long-term assets as they have the reason for raising the risks weight. Also the capital adequacy ratio declining is expected because of changing in capital structure requirements (privileged shares are excluded from common equity, subordinated debt divided by category, additional (CET1) level allocated in the structure of capital).

Taking into considerations all issues above it could be assumed that rising of risk weighted assets theoretically could lead to declining the ROA and ROE ratio. Simultaneously, strengthening the risk management system through risk recovery ratios in investment banks will not allow improving the process of decision making significantly. That's why other tools (like the adequate, strong and clear requirements to corporate governance system at all) are more appropriate for safety business activity. One of the most significant ones the CRO could be.

So, looking through basic legislation in Corporate Governance devoted to internal control issue (Appendix A, table 1) it could be made some conclusions: the risk management issues was not under active discussion since 2002; the main attention in legislation paid at audit committees requirements and internal control system (without specifying); financial crises in 2008 stimulated the development of risk governance; the CRO responsibilities, role, accountability and appointment requirements are not determined clearly.

4. Research framework

4.1. Sample

At the date there is a trend to elimination of borders between investment banks and commercial banks, because banking activity is becoming more universal. A lot of financial organizations are permitted to serve banking classical and investment products.

Legislation looks at the issue from another point of view and defines investment bank as a bank that assists in increasing capital by performing intermediary operations between the issuer of securities and investors, in particular underwriting, facilitating mergers and acquisitions, corporate restructuring, brokerage, market making, trading of derivative, foreign exchange, equity securities etc.

The issue is that there are no accurate criteria, for example, volume of assets in investing operations; share of incomes from investment products in net revenue; absence of deposit services and total domination of investment services. In this response one can affirm the existence of the problem of working out the features of investment banks and separating them from commercial ones.

Nowadays the bank is considered as investment in case if it positions itself as investment bank, assisting in mergers and acquisitions procedures, offering underwriting and advising services, trading of derivatives, equity securities and conducting other investment products. On the base of analysis it is proposed to divide banks conducting investment operations into three categories:

- 1) investments banks – those that implement investment operations only;
- 2) universal banks that implement both operations specific for commercial (taking deposits, giving loans) and investment banking. These are usually big banks with investment banking divisions;
- 3) parent universal banks that offer commercial products and have special investment affiliate that often operates with separate balance.

Aiming to get an image on the point Tables 2 and 3 presents the summary of unit weight of investment operations revenue in bank's net revenue.

Table 2. Unit weight of investment operations in net revenue of largest banks (by volume of assets)

№	Bank	Country of origin	Unit weight of investment operations in bank net revenue, %
1.	Macquarie Group Limited	Australia	88,6
2.	Deutsche Bank	Germany	85,5
3.	Banca Monte dei Paschi di Siena S.p.A.	Italy	80,8
4.	Credit Suisse	Switzerland	46,9
5.	ABN AMRO Bank N.V.	Netherlands	43,9
6.	Wells Fargo & Company	USA	42,8
7.	China Construction Bank Corporation	China	40,2
8.	Nomura	Japan	34,9
9.	J.P. Morgan Chase	USA	32,5
10.	HSBC	UK	32,2
11.	Citi	USA	29,7
12.	Crédit Agricole S.A.	France	29
13.	The Royal Bank of Scotland Group plc	UK	25,6
14.	Commerzbank AG	Germany	23,5
15.	Mitsubishi UFJ Financial Group	Japan	23,5
16.	BNP Paribas	France	22,9
17.	Société Générale S.A.	France	22,2
18.	Lloyds Banking Group plc	UK	19,2
19.	M&T Bank	USA	19
20.	BB&T Corporation	USA	16,9
21.	Bank of China Limited	China	13,6
22.	Santander	Spain	10,2

Note: Calculated on the base of banks' annual reports (2011)

Table 3. Investment banking affiliates of largest banks (by volume of assets)

№	Investment banking affiliate	Parent bank	Total assets, bln USD	Country of origin
	Barclays Capital	Barclays	2508.0	UK
	Merrill Lynch	Bank of America	2129.0	USA
	UBS Investment Bank	UBS	1607.0	Switzerland
	Goldman Sachs	Goldman Sachs	923.2	USA
	RBC Capital Markets	Royal Bank of Canada	798.5	Canada
	Morgan Stanley	Morgan Stanley	749.9	USA
	BMO Capital Markets	Bank of Montreal	477.0	Canada

Note: Calculated on the base of banks' annual reports (2011)

The sample consists of observations for 29 biggest banks (by volume of assets) implementing world-wide investment activity. The banks are originated in USA (8), Eastern Europe (14), China (2), Japan (2), Canada (2), and Australia (1) (Table 1 and 2). Figures 1 and 2 demonstrate the geographic spread of peer group. We selected the institutions which are covered in Morgan Stanley Research Report³³ and Accenture Report³⁴ as representative examples of investment banking business in up-to-

date conditions. The advantage of the sample is banks' domination on the world investment banking market both in developed countries and emerging countries.

³³ Morgan Stanley Research "Wholesale & Investment Banking Outlook" (March, 2011)

³⁴ Emerging Markets. The opportunities for investment banks (2012)

Figure 1. Geographic spread of peer group

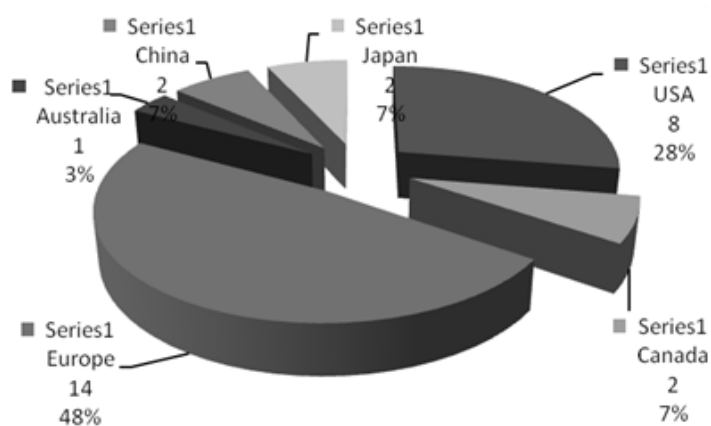
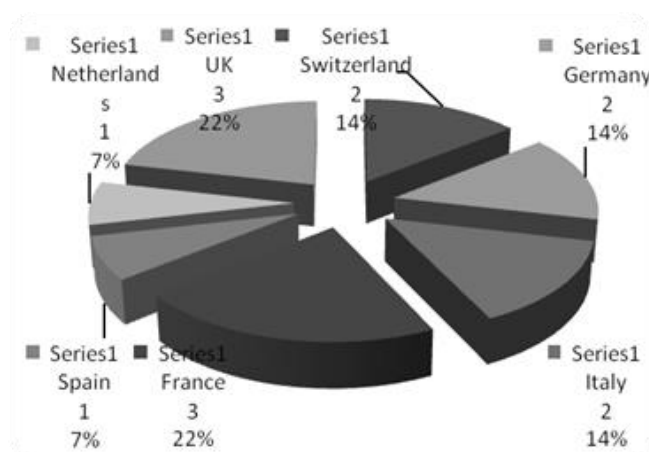


Figure 2. Geographic spread of European banks of peer group



The researched time period covers one-year term (2011).

The data about risk governance structure and character in observed banks is originally collected from annual financial reports, corporate governance reports and other official presented information on the date of the end 2011. In this research, we use survey data for Chief Risk Officer (CRO) and Risk Management Committee (RMC). In the context of investigation of CRO role we took into account the following factors: presence of CRO or similar executive; CRO subordination; CRO terms of reference; qualification; access to the Board of Directors; CRO independence. We also hand-collect data concerning presence of Risk Management Committees in banks and investigated their types, depending on dealing with all or only with certain bank risks. In some investigated banks there is no Risk Committee, in this case risk management function is delegated to Audit Committee which also has been researched.

4.2. Methodological approach and financial performance variables description

The main aim of the following article is to identify the exclusive role of Risk Management Committee in part of the Chief Risk Officer Independence in the sphere of modern investment banking. This problem has found the special relevance during and after economic collapse, which have run down the financial market in 2008.

The empirical analysis of risk governance in investment banking is based on two different groups of factors, which could be used to evaluate the effectiveness of risk governance in this sphere: internal and external factors (figure 3).

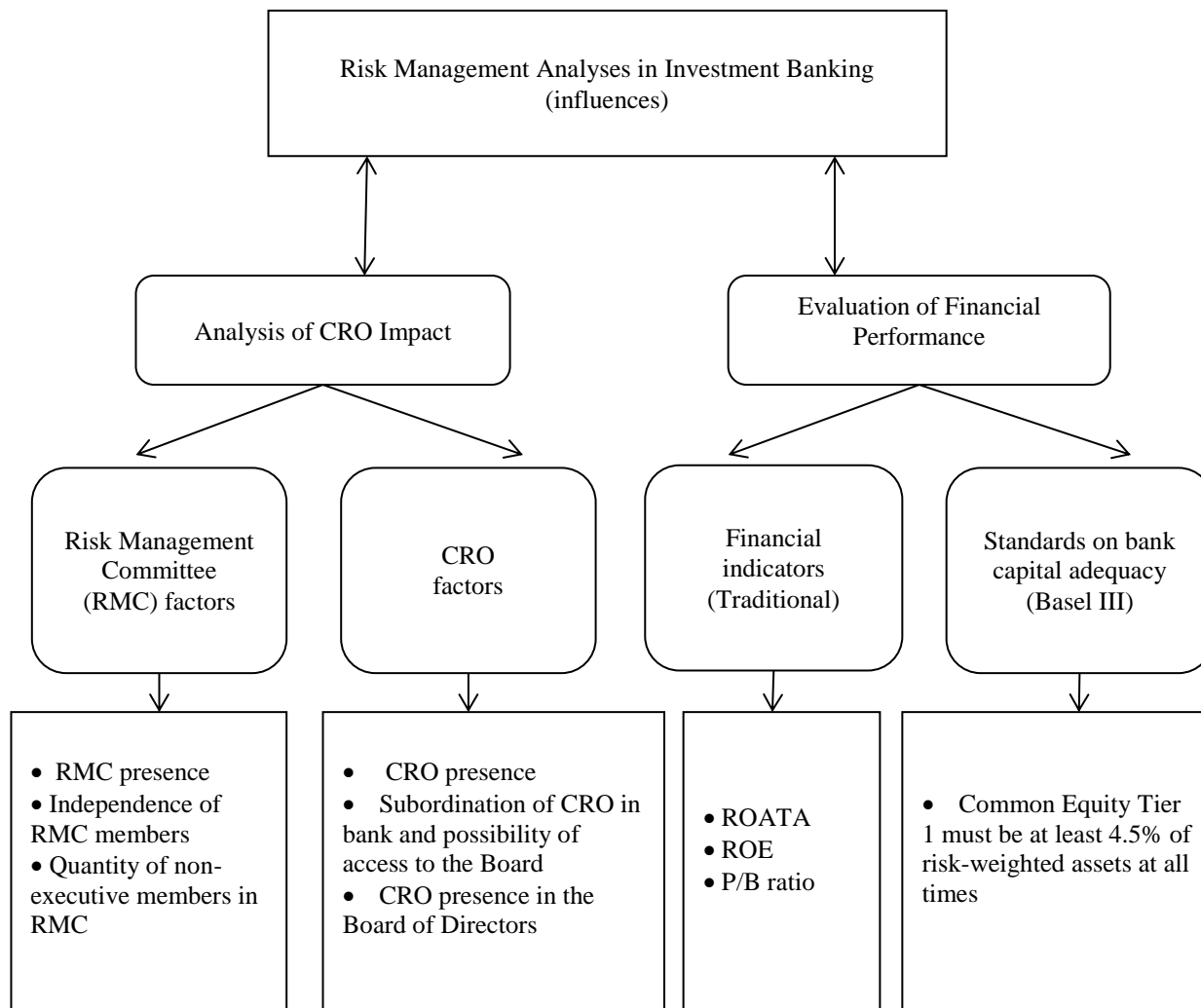
The most significant impact on the investment banks' performance in our calculations is given to the adequacy of bank capital standards according to the Basel III recommendations about the measures of Common Equity Tier 1. The fact is connected with the extremely high risk taking by investment banks during their operation activity. That's why the high measures of Common Equity Tier 1 shows the ability of investment bank to cover risky assets and to be

stable during the crisis, what is particularly important after the financial crisis of 2008-2009.

The null hypothesis of this paper is that observed Basel III recommendations will present significant

decrease of the main bank performance factors, such as ROATA and ROE, which will have the negative influence on the general financial performance of investment banking activity.

Figure 3. The main factors which influence on the investment banks` performance in case of risk governance



Traditional performance measures are cognate to those applied in classic banking industry, including return on average tangible assets (ROATA – Net Income/Tangible Average Assets; Tangible Assets are Total Assets minus Intangible Assets, for instance, Goodwill, Brands, and intellectual capital such as trademarks, patents, copyrights, etc.) and return on equity (ROE) being the most broadly used. As well, we have included to this group the typically important factor as Price to Book Ratio, the main aim is to compare a company`s book value to its current market price. Book value is an accounting term denoting the portion of the company held by the shareholders at accounting value (not market value). In other words, book value is the company`s total tangible assets less its total liabilities.

As a result, we assume that recommendations regarding Basel III standards about capital adequacy will negatively influence on the effectiveness of

selected financial indicators (especially ROATA and ROE), in particular at high investment banks` risk assets covering, which represent the bulk of the assets structure, the figures of ROATA and ROE cannot be high enough that affect the entire operations of these financial intermediaries.

Among the wide range of investment banks` performance measures by theorists and practitioners alike, a differentiation can be made between traditional financial factors and corporate governance evaluation in the part of the CRO role. Both the financial indicators and the CRO role in the investment banking are choice variables that result to maximizing investment banks performance and establishment of banks` stability.

CRO role in the corporate governance process is used as a metric for assessing the effectiveness of corporate governance because it is frequent and

observable risk management performance in investment banking.

4.3. Risk Governance Variables

In this research we collected data concerning features of Risk Committees and CRO as the main subjects of risk governance at senior level.

The first collected variable is Risk Management Committee presence. Due to high riskiness of investment banking if the bank has special Executive Committee it enables more effective risk governance. It also promotes to develop overall risk management strategy within the bank and to account integral image. In majority of investigated banks overall RMC³⁵ functions which conducts with the main types of bank risks, particularly market, credit and operational ones. In individual banks (ABN AMRO Bank N.V., Crédit Agricole S.A., Société Générale S.A., M&T Bank) the duties of risk governance are delegated to Audit Committee³⁶. In Banca Monte dei Paschi di Siena S.p.A. these functions are executed by Internal Control Committee.

The second variable is independence of Risk Committee members. New York Stock Exchange Listed Company Manual and other applicable law determine independence requirements that are the following³⁷:

- all loans, deposit, investment, fiduciary, or other relationships with the bank or any of its subsidiaries are conducted in the ordinary way without preferential;
- has no material relationship with the bank or any of its subsidiaries;
- employee of the bank or a director whose immediate family member is an executive officer of this bank or any of its subsidiaries is not independent until three years after the end of such employment relationship. Employment as an interim Chairman or CEO does not disqualify a director from being considered independent following such employment;
- person who receives, or whose immediate family member receives, more than \$120,000 per year in direct compensation from the bank or any of its subsidiaries, other than director and committee fees and pension or other forms of deferred compensation for prior service (provided such compensation is not contingent in any way on continued service), is not independent until three years after he/she ceases

to receive more than \$120,000 per year in such compensation etc.

In researched sample (excluded banks that don't have special committee for risk governance) in 17 banks the members are independent. In individual organizations (Santander Group, Bank of China Limited, Crédit Agricole S.A., Société Générale S.A. and Macquarie Group Limited) only half or less of committee members meet specified requirement. In other cases corporate governance codes don't make this term.

The third characteristic is definition whether members of Risk Committee are executive. The research showed that in most of banks the committee is formed by all non-executive Board of Directors members; in half executive and non-executive; or only executives.

The other subgroup applies to CRO presence and characteristics. Thus, the fourth variable is presence of an official responsible for risk governance organizing in bank. These duties according to Basel Recommendations advisable should be carried out by CRO as it is implemented in selected set of banks. Bank of America Merrill Lynch, M&T Bank, Banca Monte dei Paschi di Siena S.p.A., Bank of China Limited, Grupo Santander don't have clear distinction of risk governance duties to definite executive. Title "Chairman Credit Policy Committee" may also stand for CRO (e.g. Citi).

The fifth variable is subordination of CRO in bank, which also includes the possibility of CRO access to the Board. Their partnership intends to:

- understand the role of the Board in risk governance;
- appoint more risk professionals on bank Boards;
- ensure an effective Risk Committee of the Board;
- enhance the independence of the risk function;
- integrate board oversight of strategy and risk governance;
- establish mutually supportive working relationship of the CRO and Board of Directors, free access to relevant information and data

By this criterion one can distinguish three group of banks:

1st – CRO reports to the CEO (9),

2d - CRO reports to the other chief executive, for example Chief Financial Officer or a President (2),

3d - CRO reports directly to the Board (15).

In most of the sample CRO have direct access to the Board of Directors in connection with informing and advising concerning further bank risk strategy. While the CRO may report to the CEO or other senior management, the CRO should also report and have direct access to the board and its risk committee without impediment.

The sixth variable implies CRO presence in the Board of Directors. In four selected banks CRO is a member of the Board, while in some institutions they represented by Executive Board deputies (Credit

³⁵ It also entitled as Internal Control, Risk Management and Compliance Committee; Board Risk Committee; Risk Policy Committee; Enterprise Risk Committee; Risk management and Finance Committee; Executive and Risk management committee, but the obligations are similar

³⁶ In individual banks they are titled as Internal Control Committee; Audit & Risk committee; Audit, Internal Control and Risk Committee

³⁷ NYSE Listed Company Manual, 303A.02 Independence Tests

Suisse) or Supervisory Board (Commerzbank AG). In individual banks Chief Risk Officer doesn't refer to governance level, but to management, that testifies practically about absence of official responsible for risk governance in bank.

5. Calculations and results interpretation

With the aim to evaluate and compare financial performance of selected banks the construction of synthetic key performance indicator (SKPI) is worked out. The analysis of financial performance is based on weighted four variables: common equity Tier 1 (CET 1), return on equity (ROE), return on average tangible assets (ROATA) and price to book ratio (P/B). The weight of each measure has been calculated using the first formula of Fishburn (1970) due to the fact that

$$SKPI_n = CET1_n \times 0,4 + ROE_n \times 0,3 + ROATA_n \times 0,2 + P/B_n \times 0,1 \quad (2)$$

where:

n – banks under research ($n = 1 \dots 29$).

The results of calculations are presented in Appendix 2 (table 1). Investigated banks are ranked

selected indicators are subject to a number of priorities that form the descending arithmetic sequence:

$$r_i = \frac{2 \cdot (N - j + 1)}{N \cdot (N + 1)} \quad (1)$$

where:

r_i – weight of the i variable of bank's financial performance,

N – total number of selected variables of bank's financial performance,

j – priority level of the variable characterizing bank's financial performance.

SKPI is calculated by the following formula:

by the level of their synthetic key performance indicator and divided into 5 tiers (Table 4).

Table 4. Performance tiers of investment banks' sample

Tier 1 ($\geq 0,2$)	Tier 2 ($0,15-0,2$)	Tier 3 ($0,1-0,15$)	Tier 4 ($0,05-0,1$)	Tier 5 ($\leq 0,05$)
1. RBC 2. Bank of Montreal	1.1. Bank of China Limited 1.2. Wells Fargo & Company 2.1. China Construction Bank Corporation 2.2. BB&T Corporation 2.3. M&T Bank 2.4. HSBC	1.1. Citi 1.2. J.P. Morgan 2. UBS 3.1. Santander Group 3.2. Goldman Sachs 4.1. Credit Suisse 4.2. BNP Paribas 4.3. Macquarie Group Limited 4.4. Deutsche Bank	1.1. The Royal Bank of Scotland Group plc 1.2. Nomura Group 1.3. Mitsubishi UFJ Financial Group, Inc. 1.4. Lloyds Banking Group plc 1.5. Morgan Stanley 1.6. Bank of America Merrill Lynch 1.7. Barclays 2.1. Commerzbank AG 2.2. Société Générale S.A. 3. ABN AMRO Bank N.V. 4. Crédit Agricole S.A.	1. Banca Monte dei Paschi di Siena S.p.A.

The first one consists of banks where SKPI is more than 0,21. It includes 2 banks and both of them are Canadian. This phenomenon is connected with high level of B/P ratio, and it's not unexpected. The World Economic Forum's Global Competitiveness Report rated Canada's banking system as the most sound in the world³⁸. Besides, Canadian banks are recognized as the most successful and stable in the world by Bloomberg Markets³⁹. Experts believe that the main

reason of Canadian lending institutions success is the natural conservatism inherent in this country – significant capital adequacy ratio, conservative culture of borrowing and strong financial supervision by a single regulator - Office of the Superintendent of Financial Institutions(OSFI). In spite of relatively low tier 1 capital ratio investors estimate Canadian banks as perspective for lending. Therefore OSFI pursues moderate policy of Basel 3 requirements.

The second tier includes 6 banks with SKPI value 0,15-0,2. All banks in this group are characterized as well performed. But there is a difference between European, American and Chinese

³⁸ Klaus Schwab. World Economic Forum, the Global Competitiveness Report 2012-2013. Available at: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf

³⁹ Robert S. Dieterich. Most Influential 50 in 2012 Shows Turmoil: Bloomberg Markets. Available at:

<http://www.bloomberg.com/news/2012-09-04/most-influential-50-in-2012-shows-turmoil-bloomberg-markets.html>

banks. If the first ones are characterized by higher score of B/P ratio the second ones have much higher CET 1 indicator. It could be explained by the strong policy of Chinese government in banking regulation as all banks are state owned and therefore they are easier to adjust. On the one hand it constrains growth of market value, and on the other one it means higher requirements to banking. Besides, China, of all countries, was adamant that its 16 largest banks will implement Basel III recommendations in time – till January 1, 2013. Also, after reports from the U.S. to postpone the introduction of Basel, in the official press in China it was reported intention to introduce Basel rules without delay – on 1 January.

Tier 3 combines European, Australian and American banks with SKPI value from 0,1 to 0,15. The intermediate level of ratios characterizes the majority of banks, but Macquarie group limited is the exception because of high level of CET 1 and low B/P ratio. It could be explained by following issues. The Australian banking sector in 2008 was not under crisis pressure (strong banking supervision and distance), the finance sector continued to growth in 2011, so commercial banks had no losses. But the banking

sector in Australia is much concentrated; the major players are 4 banks: ANZ, Commonwealth Bank (CBA), National Australia Bank (NAB) and Westpac. The Macquarie group limited credit ratings are not high enough to compete with leaders.

Tier 4 includes 11 banks with SKPI value from 0,5 to 0,1. The most interesting in these group Japanese banks are. They're characterized by high enough CET 1 (Nomura group is the leader at all) and B/P ratios but ROE is lower. It could be a consequence of the earthquake in Japan in 2011, which was reflected in reduction of performance indicators. So it could be assumed that Japanese banks will be exceptions in their group in our research.

Tier 5 consists of banks with SKPI value less than 0,05. It includes only one bank – Banca Monte dei Paschi di Siena S.p.A. It has the worse result at all that could be explained as aftermath of some scandals connected to detection of corruptions schemes.

Let's have an overview of correlation between corporate governance and financial performance on the base defined variables. The tire spread of the *first variable* - RMC presence – is presented on the Table 5.

Table 5. Risk Management Committee or Audit Committee presence in the bank versus performance

<i>Tier 1</i> ($\geq 0,2$)	<i>Tier 2</i> ($0,15-0,2$)	<i>Tier 3</i> ($0,1-0,15$)	<i>Tier 4</i> ($0,05-0,1$)	<i>Tier 5</i> ($\leq 0,05$)
1. RBC 2. Bank of Montreal	1.1. Bank of China Limited 1.2. Wells Fargo & Company 2.1. China Construction Bank Corporation 2.2. BB&T Corporation 2.3. M&T Bank 2.4. HSBC	1.1. Citi 1.2. J.P. Morgan 2. UBS 3.1. Santander Group 3.2. Goldman Sachs 4.1. Credit Suisse 4.2. BNP Paribas 4.3. Macquarie Group Limited 4.4. Deutsche Bank	1.1. The Royal Bank of Scotland Group plc. 1.2. Nomura Group 1.3. Mitsubishi UFJ Financial Group, Inc. 1.4. Lloyds Banking Group plc. 1.5. Morgan Stanley 1.6. Bank of America Merrill Lynch 1.7. Barclays 2.1. Commerzbank AG 2.2. Société Générale S.A. 3. ABN AMRO Bank N.V 4. Crédit Agricole S.A.	1. Banca Monte dei Paschi di Siena S.p.A.

where: - **banks that have overall RMC**
- only Audit Committee in the bank

As Table 5 states Risk Committees are more prevalent among top tires (Chinese bank is treated as an exception as mentioned above), while worst-performing banks have only Audit Committees. On this base conclusion concerning certain interdependence between financial performance of investment banks and Risk Management Committee can be made. In this light the analysis of other characteristic of RMC should be carried out.

According to independence of risk management committee member's criteria (table 6) investigated banks were divided in 4 groups: ones which require all members in RMC are independent; majority of members (more than a half of total quantity) should be independent; the number of independent directors is less than 50% of committee; and ones which have no requirements for independent directors quantity.

Table 6. Requirements to Independence of RMC members

<i>Tier 1</i> ($\geq 0,2$)	<i>Tier 2*</i> (0,15-0,2)	<i>Tier 3¹⁰</i> (0,1-0,15)	<i>Tier 4¹⁰</i> (0,05-0,1)	<i>Tier 5¹⁰</i> ($\leq 0,05$)
1. RBC 2. Bank of Montreal	1.2. Wells Fargo & Company 2.1. China Construction Bank Corporation 2.2 BB&T Corporation 2.4 HSBC	1.1 Citi 1.2. J.P. Morgan 2. UBS 3.2. Goldman Sachs 4.1. Credit Suisse 4.4. Deutsche Bank	1.1. The Royal Bank of Scotland Group plc 1.2. Nomura Group 1.4. Lloyds Banking Group plc** 1.5. Morgan Stanley 1.6. Bank of America Merrill Lynch 1.7. Barclays 2.1. Commerzbank AG	

where: - **all members in RMC are independent;**
- *the majority of members (more than a half of total quantity) are independent;*
- the number of independent directors is less than 50% committee;
- there are no requirements for independent directors quantity.

* some banks were excluded because of RMC absence

** it requires to contact board secretariat for getting information

It was found that worse-performed banks tend to have no requirements or non-clear requirements to independence of RMC members. The leaders are Canadian ones; American and European banks are equal in this issue and take the next position. All included Japanese banks have no requirements for RMC member's independence.

The quantity of non-executive members in RMC criteria allows to combine investigated banks in 4 groups too: all members are non-executive; the majority of members (more than a half of total quantity) are non-executive; the number of non-executive directors is less than 50% of committee; and ones have no requirements of non-executive directors quantity (table 7).

Table 7. Requirements to Quantity of non-executive members in RMC

<i>Tier 1</i> ($\geq 0,2$)	<i>Tier 2¹⁰</i> (0,15-0,2)	<i>Tier 3¹⁰</i> (0,1-0,15)	<i>Tier 4¹⁰</i> (0,05-0,1)	<i>Tier 5¹⁰</i> ($\leq 0,05$)
1. RBC 2. Bank of Montreal	1.2. Wells Fargo & Company 2.1. China Construction Bank Corporation 2.2 BB&T Corporation 2.4 HSBC	1.1 Citi 1.2. J.P. Morgan 2. UBS 3.2. Goldman Sachs 4.1. Credit Suisse 4.4. Deutsche Bank	1.1. The Royal Bank of Scotland Group plc 1.2. Nomura Group 1.4. Lloyds Banking Group plc** 1.5. Morgan Stanley 1.6. Bank of America Merrill Lynch 1.7. Barclays (at list 2) 2.1. Commerzbank AG	

where: - **all members in RMC are non-executive;**
- *the majority of members (more than a half of total quantity) are non-executive;*
- the number of non-executive directors is less than 50% of committee;
- there are no requirements for non-executive directors quantity.

** some banks were excluded because of RMC absence

The tendencies characterized the bank similar to this one: the worse performed banks have diversification according to previous criteria are fewer requirements. Canadian banks require all

members are non-executive, American and European ones are less strong in general; and Japanese ones have no requirements. But it should be mentioned some banks which have strong independence

requirements have no requirements of non-executives directors' quantity.

The data on *the last three variables*, devoted to CRO presence and its subordination in the bank, is shown on the Tables 8 and Table 9.

Table 8. CRO presence in the bank versus performance

<i>Tier 1</i> ($\geq 0,2$)	<i>Tier 2</i> ($0,15-0,2$)	<i>Tier 3</i> ($0,1-0,15$)	<i>Tier 4</i> ($0,05-0,1$)	<i>Tier 5</i> ($\leq 0,05$)
1. RBC 2. Bank of Montreal	1.1. Bank of China Limited 1.2. Wells Fargo & Company 2.1. China Construction Bank Corporation 2.2. BB&T Corporation 2.3. M&T Bank 2.4. HSBC	1.1. Citi 1.2. J.P. Morgan 2. UBS 3.1. Santander Group 3.2. Goldman Sachs 4.1. Credit Suisse 4.2. BNP Paribas 4.3. Macquarie Group Limited 4.4. Deutsche Bank	1.1. The Royal Bank of Scotland Group plc. 1.2. Nomura Group 1.3. Mitsubishi UFJ Financial Group, Inc. 1.4. Lloyds Banking Group plc 1.5. Morgan Stanley 1.6. Bank of America Merrill Lynch 1.7. Barclays 2.1. Commerzbank AG 2.2. Société Générale S.A. 3. ABN AMRO Bank N.V 4. Crédit Agricole S.A.	1. Banca Monte dei Paschi di Siena S.p.A.

where: - **CRO is present in bank**

- absence if risk governance responsible officer

- *presence of other risk governance responsible officer*

Obtained results evidence that CRO is present almost in all observed banks that conduct investment operations. Taking to an account the fact that Wells Fargo & Company has been refinanced by state and Chinese banks are state-owned, the following conclusion can be made: almost in all banks with high level of SKPI there is an officer responsible for risk governance – CRO. In the worst-performing banks

(Crédit Agricole S.A., Banca Monte dei Paschi di Siena S.p.A.) there is no such executive that can be one of the reasons of financial troubles. The possibility of CRO access to the Board and its subordination, which is presented on the Table 9, showed that it isn't found the correlation between this criteria and the financial performance of the bank.

Table 9. CRO presence in the Board of Directors and CRO subordination in the bank

<i>Tier 1</i> ($\geq 0,2$)	<i>Tier 2</i> ($0,15-0,2$)	<i>Tier 3</i> ($0,1-0,15$)	<i>Tier 4</i> ($0,05-0,1$)	<i>Tier 5</i> ($\leq 0,05$)
1. RBC 2. Bank of Montreal	1.1. Wells Fargo & Company 2.1. China Construction Bank Corporation 2.2. BB&T Corporation 2.3. HSBC	1.1. Citi 1.2. J.P. Morgan 2. UBS 3.1. Santander Group 3.2. Goldman Sachs 4.1. Credit Suisse 4.3. Macquarie Group Limited 4.4. Deutsche Bank	1.1. The Royal Bank of Scotland Group plc. 1.2. Nomura Group 1.3. Mitsubishi UFJ Financial Group, Inc. 1.4. Lloyds Banking Group plc 1.5. Morgan Stanley 1.6. Barclays 2.1. Commerzbank AG 2.2. Société Générale S.A. 3. ABN AMRO Bank N.V 4. Crédit Agricole S.A.	

where: - **CRO is present in the Board of Directors**

- CRO is absent in the Board of Directors

- **CRO reports to the CEO**

- *CRO reports to the other chief executive, for example Chief Financial Officer or a President*

- **CRO reports directly to the Board**

Conclusions

In this paper, we investigate the influence of risk governance, in particular of the CRO role, on the investment banks' performance during the post-crisis period of 2011. We supplement the financial variables with the analysis of impact of CRO variables such as CRO presence in investment bank, his/her subordination and possibility of access to the Board, and CRO presence in the Board of Directors.

The most important outcome of our research is that investment banks which have special Risk Committee perform better after financial crisis than banks only with Audit Committee. With that the analysis of independence of Risk Management

Committee shows that RMC with fewer requirements perform significantly worse than other investment banks in the sample. To sum up, investment banks with Chief Risk Officer (as separate position) got high level of SKPI, consequently, perform better.

Therefore, we can conclude that the RMC presence in general and the CRO in particular effect positively on the financial performance of investment banks.

The results of our paper can serve as a basis for further research; in consequence, we can get more fundamental findings, using another sample of investment banks.

Appendix A

Table A 1. Internal Control Issue in CG regulative framework

Year	Codes and Principles	CRO	Audit Function	Risk Management function
International CG Principles				
1999	Euroshareholders Corporate Governance Guidelines	-	-	-
2004	OECD CG Principles	-	External auditors	-
2005	ICSGN Statement on Global Corporate Governance Principles	-	External auditors, Audit committee, requirements to non-executives and independent directors	-
Corporate Governance Codes				
2008	The Combined Code on Corporate Governance	-	Audit committee, requirements to the members of Audit Committee, auditors responsibility and functions	-
2009	German Corporate Governance Code	-	Audit committee, requirements to the members of Audit Committee	-
2010	The UK Corporate Governance Code	-	Audit committee, requirements to the members of Audit Committee, auditors responsibility and functions	Board of Directors responsibility for sound risk management system
Some Reports in Corporate Governance				
2003	Smith Report, UK	-	Audit committee, requirements to the members of Audit Committee, auditors responsibility and functions	The risk committee mentioned as one of alternatives, but there are no requirements
2005	Turnbull Report, UK	-	-	Internal control system, assessing risks and company performance, role of the Board of Directors
2009	Walker Report	Board risk committee should be established separately from the audit committee, with the chief risk officer reporting in to the committee as well as the chief executive. CRO should have a direct access to the chairmen of the committee. He couldn't be removed without prior agreement of the board	-	+

Specific Banking Regulation Rules				
1988	Basel I	-	-	+
Jun 2006	Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework - Comprehensive Version	-	-	+
Apr 2009	FSF Principles for Sound Compensation Practices	-	+	+
Jul 2009	Enhancements to the Basel II framework	-	-	+
Jul 2009	Revisions to the Basel II market risk framework - final version	-	-	+
Jul 2009	Guidelines for computing capital for incremental risk in the trading book - final version	-	-	+
Aug 2010	Proposal to ensure the loss absorbency of regulatory capital at the point of non-viability - consultative document	-	-	+
2010	Basel Principles for Enhancing Corporate Governance	CRO (or equivalents) responsibility, independent requirements, risk management function	Audit committee or equivalent	Risk management system, risk committee responsibility, the role and responsibility of Board of Directors, personnel qualifications
Dec 2010	Results of the comprehensive quantitative impact study	-	-	+
Dec 2010	Guidance for national authorities operating the countercyclical capital buffer	-	-	+
Dec 2010	Basel III: International framework for liquidity risk measurement, standards and monitoring	-	-	+
Dec 2010	Capitalisation of bank exposures to central counterparties - consultative document	-	-	+
Jan 2011	Final elements of the reforms to raise the quality of regulatory capital issued by the Basel Committee	-	+	+
May 2011	Range of Methodologies for Risk and Performance Alignment	-	+	+

	of Remuneration			
Jun 2011	Basel III: A global regulatory framework for more resilient banks and banking systems - revised version June 2011	-	+	+
Jul 2011	Basel III definition of capital - Frequently asked questions	-	-	+
Jul 2011	Global systemically important banks: Assessment methodology and the additional loss absorbency requirement - consultative document	-	-	+
Jul 2011	Pillar 3 disclosure requirements for remuneration	-	+	+
Jul 2011	Basel III framework for liquidity - Frequently asked questions	-	-	+

Appendix B

Table B 1. Value of financial indicators and synthetic key performance indicator for selected banks in 2011

#	Financial institution	ROE, %	ROATA, %	P/B	CET1	SKPI
Tier 1 ($\geq 0,2$)						
	RBC	12,90	0,71	1,79	8,30	0,25
	Bank of Montreal	15,30	0,74	1,47	6,00	0,22
Tier 2 (0,15-0,2)						
	Bank of China Limited	18,27	1,19	0,85	10,40	0,18
	Wells Fargo & Company	11,93	0,46	1,08	7,80	0,18
	China Construction Bank Corporation	22,51	1,40	0,48	11,40	0,16
	BB&T Corporation	7,49	0,91	1,00	9,70	0,16
	M&T Bank	6,12	1,18	1,14	7,15	0,16
	HSBC	10,90	0,81	0,82	10,10	0,16
Tier 3 (0,1-0,15)						
	Citi	6,30	0,55	0,92	7,90	0,14
	J.P. Morgan	11,00	0,84	0,72	7,90	0,14
	UBS	8,50	0,39	0,68	8,80	0,13
	Santander Group	7,14	0,52	0,58	8,00	0,11
	Goldman Sachs	3,70	0,27	0,66	8,00	0,11
	Credit Suisse	6,00	0,19	0,61	6,30	0,10
	BNP Paribas	8,80	0,24	0,42	8,50	0,10
	Macquarie Group Limited	8,80	0,59	0,28	11,80	0,10
	Deutsche Bank	8,20	0,20	0,45	7,00	0,10
Tier 4 (0,05-0,1)						
	The Royal Bank of Scotland Group plc	10,50	0,81	0,15	11,10	0,09
	Nomura Group	1,40	0,08	0,36	13,00	0,09
	Mitsubishi UFJ Financial Group, Inc.	4,63	0,29	0,41	8,90	0,09
	Lloyds Banking Group plc	6,99	0,71	0,36	7,70	0,09
	Morgan Stanley	3,90	0,75	0,43	7,90	0,09
	Bank of America Merrill Lynch	4,00	0,74	0,42	7,80	0,09
	Barclays	5,80	0,28	0,33	8,50	0,09
	Commerzbank AG	2,20	0,19	0,29	12,20	0,08
	Société Générale S.A.	3,10	0,20	0,38	9,00	0,08
	ABN AMRO Bank N.V.	7,80	0,26	0,00	10,60	0,07
	Crédit Agricole S.A.	-3,30	-0,25	0,30	8,60	0,05
Tier 5 ($\leq 0,05$)						
	Banca Monte dei Paschi di Siena S.p.A.	-33,56	1,56	0,20	9,20	-0,04