UKRAINIAN BANKING SYSTEM UNDER REVIEW. INTERACTION BETWEEN CORPORATE GOVERNANCE AND BANK PERFORMANCE: STAKES ON OWNERSHIP TYPE?

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Abstract

The aim of this paper is to investigate the link between ownership type of the bank and its corporate governance and to find an empirical background for the hypothesis about relationships between corporate governance effectiveness and bank's performance. The article also covers some theoretical backgrounds concerning regulation in banking sphere.
The results of the study reveal that there is direct relationship between ownership type and corporate governance, while, on the contrary, there is no link between corporate governance and bank performance. Study findings provide the math-based recommendations to the national regulator about capital requirements.

Keywords: financial crisis, banking sector, corporate governance, ownership, bank performance, regulation in the banking sphere, ROE, ROA, ESP, LDR, capital.

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1. Introduction

Generally, corporate governance is defined as a system for directing and controlling the activities of corporations. Corporate governance defines how investors oversee the activities of management, and how management is liable to investors for the company's performance. Good corporate governance allows investors to be confident that their investment is used prudently by management in order to improve the company's financial and business performance and, as a result, to create shareholder value.

However, good corporate governance is not limited to relations between investors and management. What is really important is that the concept of corporate governance involves the protection of and cooperation with various stakeholders who have a legitimate interest in the company's performance, such as employees, consumers, creditors, the government, publicity, and so on. No doubt, that a company cannot exist outside the society in which it operates, and its ultimate success depends on the individual input of each stakeholder.

Therefore, the essence of corporate governance may be described as a system of relations between the company's owners, management, and other stakeholders aimed at ensuring the sustainable performance of the company and a balance of influences and interests of the parties to corporate relations[6].

While no universal model of corporate governance exists in the world, there are generally accepted principles, or standards, of good corporate governance that may be applied within a wide range of legal, economic, and political contexts. International standards of corporate governance appeared primarily as a result of heightened public interest in corporate governance generated by the globalization of financial markets and the liberalization of capital flows. International standards of corporate governance came about as a broad response to scandals in the world's financial community and as a desire to stabilize financial markets.

It's evident enough nowadays that banks have a key role in any economy. They mobilize funds, allocate capital and play a decisive role in the corporate governance of other firms. All these

[6] Ukrainian Corporate Governance Principles, http://www.ecgi.org/codes/documents/ukraine_cg_en.pdf

factors mean that, when banks are efficient, they stimulate productivity growth and the prosperity of the whole economy, which even adds up to their importance. Therefore, the good corporate governance in banks has a vital impact not only on private, but also public affairs.

The bank corporate governance is a complex framework. This governance framework encompasses a bank's shareholders, its managers, employees, and the board of directors. Moreover, banks operate under a unique system of public oversight in the form of bank supervisors and a comprehensive body of banking laws and regulations. The interaction between all of these elements determines how well the performance of the bank will satisfy the desires of its shareholders, while also complying with public objectives. For investors and regulators, this bank corporate governance framework is thus of critical importance in terms of bank's success and its daily operations.

While the governance by bank shareholders and directors has always been treated as important issue, this topic has drawn increased attention in recent years. Among the reasons for this interest are banking deregulation and a rising role for market discipline and governance; substantial banking consolidation and resulting changes in the management, board, and ownership structure of many financial organizations; and a movement in many foreign countries from state-owned banking systems to a greater private ownership and control. Another factor for such an attention is recent corporate scandals, such as Enron, Tyco and WorldCom, and the ensuing passage of the Sarbanes-Oxley Act of 2002, with its provisions aimed at improving corporate disclosures, increasing managerial responsibility and involvement, and tightening board oversight.

However, in spite of all the attention paid to the subject, a range of opinions on what would constitute a good governance system in a bank or any other corporation still exists. In addition, a number of the bank corporate governance researches focus on a single aspect of governance, for example the role of directors or that of shareholders, while omitting other factors and interactions that may be important within this governance framework.

Such elements as managers and their ownership incentives, directors and their monitoring role, all the key policymakers/owners and the amount of wealth they have concentrated in the bank, and deposit insurance incentives and regulatory discipline – have a key influence on the governance framework at banks. As a result, the concept of corporate governance in a certain way might determine bank's performance.

The banking sector in Ukraine has experienced rapid growth in recent years. Amidst this rapid growth, the issue of corporate governance has received considerable attention among bankers and policymakers. Moreover, foreign ownership is increasing rapidly in the country, affecting the practice of corporate governance.

This paper explores the link between ownership, corporate governance and bank performance using data about 43 banks in Ukraine during 2006 - 2009.

2. Literature review

The concept of corporate governance grows from well-known principal-agent problem between management of the company and its finance providers. According to classical definition by Shleifer and Vishny (1999), corporate governance refers to the "ways in which suppliers of finance to corporations assure themselves of getting a return on their investment". A quick glance at Adam Smith's Wealth of Nations demonstrates that the concept of corporate governance was understood as early as the eighteenth century, even though the phrase was not in use. Smith states, "the directors of companies, being managers of other people's money than their own, it cannot well be expected that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own." The idea of corporate governance was further developed in the Berle-Means (1932) paradigm of the separation of shareholders' ownership and management's control in the corporation.

There is a wide range of literature on corporate governance, its theory and practice, but what stands to be a popular and up-to-date topic nowadays is the correlation between corporate governance and performance of the institution. There are numerous researches that provide both theoretical and empirical evidence to link the governance of the corporation to its performance. One of the essential findings concerning this issue is related to the board of directors. The board of directors is known as one of the most important instruments to solve the corporate governance problem (Jensen, 1993), since it is the body primarily used by other stakeholders to monitor management. Hermalin and Weisbach (1998) construct a model that examines the determinants of board composition as a bargaining process between the existing directors and the CEO over the incorporation of new members on the board. A more recent study by Rhoades et. al (2001) conducted a meta-analysis of 22 samples and found a weak but significant relationship between leadership structure and firm performance.

A well functioning financial system is the key to economic prosperity; hence the corporate governance within banks, the main "actors" of the

financial system, and its impact on the performance has been already explored by several authors.

Shabnam Mohamad Mokhtar et al. (2009) examined the relationship between corporate governance and company performance in Malaysia. Peong Kwee Kim and Devinaga Rasiah (2010)[7] continue their study and explore the differences between two types of banking ownership – the private domestic-owned banks and the foreign-owned banks in terms of relationship between corporate governance and bank performance. They found out that foreign-owned banks in Malaysia were implementing good corporate governance and had higher advantage of increasing their performance in the pre Asian financial crisis. The findings also confirmed that private domestically owned banks are good at implementing corporate governance in the post crisis.

A significant research has focused on the effect of ownership on performance, with a number of studies examining bank privatizations (Clarke, Cull and Shirley, 2005). A separate strand of literature examines foreign ownership and foreign entry and their impact on performance (Clarke, Cull, Martinez Peria and Sanchez, 2003). A discussion of specifics of corporate governance in financial institutions is presented in Levine (2004) and Macey and O'Hara (2003).

Ukraine is the country with transition economy, which leads to certain differences from the international corporate governance practices. In transition countries corporate environment is characterized by weak legal institutions and high ownership concentration (Biletsky et al., 2001, Guriev et al., 2004, CEFIR and IET, 2006, and IFC, 2003 and 2005). A survey of recent empirical literature on the topic of governance in banking with the specific focus on Russia and Eastern Europe can be found in Vernikov (2007). Inessa Love and Andrei Rachinsky (2007) present evidence on the relationship between ownership, corporate governance and operating performance in banks using a sample of 107 banks in Russia and 50 banks in Ukraine surveyed by International Financial Corporation in 2003-2006. In 2005 and 2006 Zheka studied effect of corporate governance on firm`s performance in Ukraine, using wide sample of about five thousand companies and constructing own index for corporate governance.

However, the examination of correlation between banks' corporate governance and performance with the special attention paid to the crisis changes, which is included in this study, hasn't been presented yet.

3. Banking System of Ukraine: ownership structure and performance outlook

The banking system of Ukraine was founded after the adoption of the Banks and Banking Activity Act by the Verkhovna Rada of Ukraine in March 1991. It is a two-level system and consists of the National Bank of Ukraine and banks of various types and forms of ownership.

As of January 1, 2010 there are 195 registered banks in Ukraine. The number of banks which have licenses for performance of banking operations is 175, including 53 with the participation of foreign capital, 20 of which are 100% foreign capital ones. Moreover, it could be seen from the Table 1 that the share of foreign capital in the Ukrainian banking system is experiencing the increasing trend and as of January 2010 equals almost 40%.

[7] The model was used as a sample for Ukraine

Table 1. Banking structure of Ukraine in dynamics

No.	*Indicators*	*Date*						
		January 1, 2005	January 1, 2006	January 1, 2007	January 1, 2008	January 1, 2009	2010	
							January 1	December 1
1.	**Number of registered banks**	181	186	193	198	198	197	195
2.	Excluded from the State Bank Register	4	1	6	1	7	6	5
3.	**Number of banks under liquidation**	20	20	19	19	13	14	19
4.	**Number of banks that have licenses for performance of banking operations**	160	165	170	175	184	182	175
4.1	Of which: banks with participation of foreign capital	19	23	35	47	53	51	53
4.1.1	including with 100% foreign capital	7	9	13	17	17	18	20
5.	Share of foreign capital in the authorized capital of banks, %	9.6	19.5	27.6	35.0	36.7	35.8	39.1

Source: The National Bank of Ukraine

The impact of the global economic crisis was not particularly visible in the Ukrainian banking sector prior to 4th quarter 2008 as such the data as of 1 October 2008 may be viewed as the 'pre-crisis' benchmark date (Table 2).

As of 1 January 2010 total assets of the Ukrainian banking system contracted by 30% in US$ terms compared to a pre-crisis level as of 1 October 2008 primarily due to several reasons. First of all it's a devaluation of national currency. Almost 60% devaluation of Ukrainian national currency against US$ in 4th quarter 2008 significantly affected the country's banking sector.

Table 2. Ukraine's banking sector: main indicators

In US$ m	**October 1, 2008**	**Change**	**October 1, 2009**	**Change**	**October 1, 2010**
Total assets	155,433	-23%	119,187	-8%	109,386
Corporate loans, gross	75,225	-19%	60,870	1%	61,267
Retail loans, gross	42,108	-18%	34,602	-15%	29,291
Corporate customer funds	40,615	-30%	28,367	-40%	17,044
Retail customer funds	42,556	-35%	27,840	-4%	26,743
Equity	18,957	-19%	15,349	-2%	15,054

Source: The National Bank of Ukraine

Another reason is the reasonable slow-down of the economy. The regulatory restrictions on lending activities also influenced the outcome. In late 2008 – early 2009 the National Bank of Ukraine imposed restrictions on bank lending which were, in particular, aimed at limiting lending in foreign currencies. Recognition of significant loan losses resulting in capital adequacy compliance risk (effective LLP rate increased from 4.2% as at 1 October 2008 to 14.8% as of 1 January 2010, see Table 3). The Ukrainian

banking sector suffered from customer funds net outflow in 4th quarter 2008 – 2009 and many banks faced liquidity problems. The National Bank of Ukraine responded with the prohibition of early withdrawal of retail deposits (cancelled in May 2009).

Table 3. Top 20 Ukrainian banks in the context of crisis

No.	Name	Ownership	Country of parent	Total assets as of October 1, 2008 in US$ mln	Effective total LLP, % October 1, 2008	Total assets as of October 1, 2010 in US$ mln	Effective total LLP, % October 1, 2010
1	Privatbank	Domestic-private	Ukraine	15,101	7.9	10,778	17.8
2	Oshchadbank	State-owned	Ukraine	5,239	3.0	7,505	6.4
3	Ukreximbank	State-owned	Ukraine	7,141	2.7	7,163	8.9
4	Raiffeisenbank Aval	Raiffeisen International	Austria	10,812	5.1	6,769	19.7
5	UkrSibbank	BNP Paribas Group	France	8,936	4.0	5,804	14.8
6	Ukrsotsbank	Unicredit Group	Italy	7,972	2.9	5,467	11.1
7	Prominvestbank	Vnesheconombank	Russia	5,688	4.2	3,812	20.1
8	OTP Bank	OTP Group	Hungary	5,083	3.9	3,681	12.6
9	VTB Bank	Vneshtorgbank	Russia	4,211	2.0	3,604	8.5
10	Alfa Bank	Alfa Group	Russia	4,824	4.9	3,593	17.0
11	Nadra	Domestic-private	Ukraine	5,387	3.4	3,112	12.5
12	Finance and Credit	Domestic-private	Ukraine	3,421	3.4	2,437	7.7
13	Forum	Commerzbank AG	Germany	3,402	3.3	2,436	9.9
14	FUIB	Domestic-private	Ukraine	3,630	4.1	2,179	18.9
15	Rodovid	State-owned (recapitalised)	Ukraine	2,750	1.0	2,123	45.0
16	Brokbusinessbank	Domestic-private	Ukraine	2,806	3.6	2,024	6.1
17	Swedbank	Swedbank	Sweden	2,565	4.9	1,735	38.4
18	Kreditprombank	Domestic-private	Ukraine	2,911	3.3	1,700	11.9
19	Ukrgazbank	State-owned (recapitalised)	Ukraine	2,791	3.9	1,514	45.9
20	Pivdenny	Domestic-private	Ukraine	1,899.0	3.1	1,340	6.4
	TOP 20			**106,568**	**4.3**	**78,778**	**15.0**
	Other			48,865	4.0	30,608	14.1
	TOTAL			**155,433**	**4.2**	**109,386**	**14.8**

Source: The National Bank of Ukraine

The National Bank of Ukraine introduced temporary administration for 13 banks by the end of 2009 (including three out of top 20). 14 banks were in the process of liquidation as of 1 January 2010. Pushed by the IMF and the World Bank, the Ukrainian banking regulator required all banks to increase their regulatory capital based on results of a "stresstesting". In addition, the government initiated a recapitalisation of three troubled banks, transferred to state ownership by the end of 2009.

Ukraine's banking sector remains highly concentrated with the top 20 banks representing approximately 72% of total assets of all Ukrainian banks as of 1 January 2010 (Table 3). Nine out of the top 20 banks were foreign-owned (47% of total assets of the top 20 banks). Comparing to other East-European countries, the West-European ownership of Ukrainian banks exceeds only the levels of Russia and Kazakhstan (Figure 1).

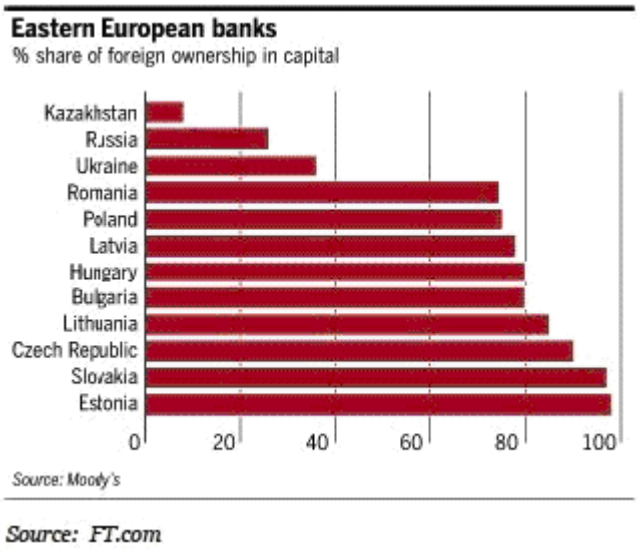

Figure 1. Western European Ownership of Eastern European Banks

Net assets of most of the Ukrainian banks, acquired in 2005-2008 (see Table 4), fell significantly in the 4th quarter 2008 - 2009 (on average by over 30%). M&A activity in the banking sector of Ukraine peaked in 2005-2007, when largest EU banking groups, attracted by a fast growth prospective, particularly in the retail segment, rushed for large banks with wide branch networks. Some unsuccessful bidders remained so desperate to buy, that they continued to fight for smaller banks, when the most lucrative sizable targets had already been acquired. A number of bank acquisition tenders boasted three to four competing bidders and equity multiples skyrocketed from three to four in 2005-2006 to five to six times equity in 2007-2008.

As a result, foreign investors often turned the blind eye to significant risks and control weaknesses of acquired banks, which unfortunately were exposed when the financial crisis hit the country. By the end of 2008, when it became apparent that most of banks require significant capital injections to maintain prudential compliance, many foreign investors would regret their decisions to enter the Ukrainian market.

The last pre-crisis banking M&A deal was signed in February 2008 with a record equity multiple of approximately 5.2, when Intesa SanPaolo acquired Pravex bank. Few banking M&A transactions transpired since the Intesa deal, only with distressed institutions with multiples ranging from roughly one time equity and below. Such low bank equity valuations (which attracted little demand from investors anyway) were stipulated by significant capital injections required from the new shareholders to maintain capital adequacy and liquidity compliance. For example, when Russian Vnesheconombank acquired Prominvestbank in January 2009, the latter was under a temporary administration, and the new shareholder had to increase the bank's capital by over US$ 600 million (compared to the deal value of approximately US$ 163 million). That was by far the largest post-crisis banking M&A deal in Ukraine[8].

[8] http://worldfinancereview.com/may2010/mergersandacquisitionsinukrainesbanking.html

Table 4. Banking M&A deals in Ukraine during 2005-2009

Bank	Completion Date	Acquirer Country	Acquirer Name	Stake Acquired	Deal Value, US$ mln	Net assets as of October 1, 2008, US$ mln	Net assets as of October 1, 2010, US$ mln
1.Prominvestbank	Jan 09	Russia	Vnesheconombank	75,0%	163	741	703
2.Autozazbank	May 08	Cyprus	Bank of Cyprus Group	95,0%	76	27	77
3.Pravex Bank	Feb 08	Italy	Bank Intesa Sanpaolo	100,0%	750	171	149
4.Bank Factorial (currently SEB Bank)	Nov 07	Sweden	SEB	97,3%	117	57	53
5.Bank Forum	Sep 07	Germany	Commerzbank	60,0%	600	395	234
6.Ukrsotsbank	Jul 07	Italy	UniCredit Bank	94,2%	2200	761	755
7.International Commercial Bank (currently Piraeus Bank)	May 07	Greece	Piraeus Bank	99,6%	75	97	37
8.Universal Development and Partnership Bank (BG Bank)	Mar 07	Georgia	The Bank of Georgia	88,9%	74	34	35
9.Morskoy Transportnyy Bank (MTB)	Mar 07	Greece	Marfin Popular Bank	99,2%	137	34	64
10.TAS Kommerzbank (Swedbank)	Feb 07	Sweden	Swedbank	100,0%	735	300	229
11.Prestige Bank (currently Erste Bank)	Jan 07	Austria	Erste Bank	100,0%	104	282	127
12.Prykarpattya Bank (currently Plus Bank)	Dec 06	Poland	Getin Holding	81,9%	20	34	23
13.Electron Bank (currently Volksbank)	Dec 06	Austria	Volksbank International	98,0%	71	71	27
14.HVB Ukraine (currently Unicredit bank)	Sep 06	Italy	UniCredit Bank	100,0%	105	168	104
15.AIS Bank (currently Russian Standard Bank)	Aug 06	Russia	Russian Standard Bank	100,0%	12	9	6
16.Universal Bank	Jul 06	Greece	EFG Eurobank	99,3%	50	107	105
17.Raiffeisenbank Ukraine (currently OTP Bank)	Jun 06	Hungary	OTP Bank	100,0%	780	363	356
18.Index Bank	May 06	France	Credit Agricole	98,0%	260	83	31
19.NRB Ukraine (currently Sberbank)	Feb 06	Russia	Sberbank of Russia	100,0%	150	217	133
20.Mriya Bank (currently VTB)	Jan 06	Russia	Vneshtorgbank	50,0%	70	484	407
21.UkrSibbank	Dec 05	France	BNP Paribas	51,0%	400	989	614
22.Aval Bank (currently Raiffeisen Bank Aval)	Oct 05	Austria	Raiffeisen International	93,5%	1000	1178	665

Source: "World Finance Review" - May 2010

Generally, the trend of the financial performance of banks in Ukraine could be seen from the Figure 2. Indeed, the banking sector ended the year of 2009 with huge losses, especially comparing to the previous years, when there was a significant and stable increase in banks' profits.

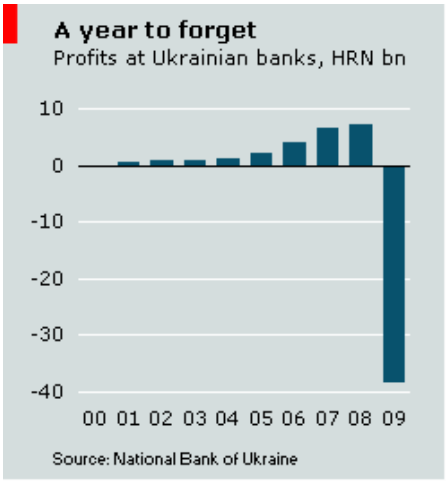

Figure 2. Profits at Ukrainian banks (2000-2009)

4. Corporate governance concept in Ukraine

Corporate governance is an extremely new concept in Ukraine. Corporate governance in Ukraine has been developed mostly on the basis of acts, presidential decrees, and Ukrainian State Commission on Securities and Stock Market regulations and rulings. The primary sources are the Civil and Commercial Codes (2003), acts "On Business Companies" (1991),"On Securities and Stock Exchange" (1991),"On State Regulation of the Securities Market in Ukraine" (1996),"On the National Depository System and Peculiarities of Electronic Circulation of Securities in Ukraine" (1997). Current Ukrainian legislation contains a number of provisions that constitute a good start in establishing effective corporate governance practices. However, the law gives preference to the legal form and ignores the substance. There are a number of loopholes that might prevent corporate stakeholders from effective protections. For example, due to flaws in the Ukrainian judicial system and the civil and labor laws, there are no adequate mechanisms on holding officers and directors of stock companies responsible for causing harm to the company.

The gaps in the Ukrainian legislation are likely to appear because of several factors: the Ukrainian stock market has not been sufficiently developed, and circulation of securities occurs in negligible volume. More than two-thirds of all Ukrainian stock companies were established in the form of closed stock companies, shares of which, in accordance with Article 25 of the Act of Ukraine On Economic Companies, cannot be bought and sold in the market. Stock company charters often stipulate that a shareholder who wants to sell his shares offer them to the company or other shareholders first, and then only if the company or other shareholders expressly refuse the shares, can the shareholder sell to outsiders. In addition to the above-mentioned weaknesses, the appearance of big strategic investors in the Ukrainian market forms a new need to implement corporate governance principles. International creditors often require, in addition to paying off past debts and as a condition of the loan, that corporations improve their governance structures. However, this is only done on an individual basis through private agreements, and does not affect state-wide legislation.

The banking sector is actually further developed than the general business sector. The concept of corporate governance in Ukrainian banks in fact got reflected in national legislation as well. The main documents on regulations that form the idea of concept of corporate governance in banks and contain information on setting corporate governing bodies in the bank are: the Civil Code of Ukraine, Banks and Banking Activity Act, Joint Stock Companies Act. All of the above mentioned documents do not contradict each other in a question of procedure of the governance formation. Shareholders are identified as these participants. Thus, employees won't participate in the corporate governance. Obviously, Ukrainian banks use the monistic concept of corporate governance[9], which is schematically described in Figure 3.

[9] Kostyuk A. 2010

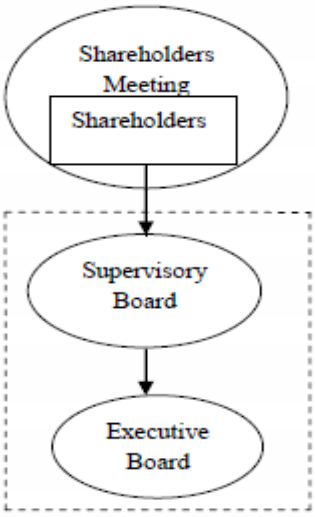

Figure 3. Monistic Concept of Corporate Governance in Ukraine

In fact, the issue of corporate governance continues to attract considerable attention in various national and international forums. In particular, the Organization for Economic Co-operation and Development (OECD) issued a revised version of corporate governance principles in 2004. Recent events, such as the Enron and Parmalat scandals, and other noisy failures, have put corporate governance on the front pages of major newspapers. At the same time, recent developments in corporate governance are based on a firm foundation of more than a century of studies on this issue by academics in both law and economics in the United States and other Western countries. Obviously, without this fundamental knowledge the whole idea of modern corporate governance would be hard to understand. Current Ukrainian problems in this area stem from large cultural hurdles and misunderstanding of corporate governance issues not only by managers and directors, but also by legislators, lawyers, shareholders, and the general public.

Currently the main deficiencies of Ukrainian bank corporate governance legislation are:

1. Excessive shareholder authority;
2. Unclear structure and responsibilities of the bank governance bodies such as the supervisory board, management board, and revision commission;
3. Lack of supervisory board committees;
4. Absence of requirements for the internal structure of supervisory boards.

Today, a large number of countries are making a concerted effort to improve corporate governance at the national level. One way to achieve this goal is through the introduction of national principles (codes) of corporate governance. Ukraine is not an exception in this.

In December 2003 the Ukrainian Securities Commission issued its own non mandatory corporate governance principles for JSCs, which are based on the OECD Principles of Corporate Governance (among other international codes). The process of developing Ukraine's Principles was initiated and financed by ten Ukrainian companies, each of whom has declared its recognition of the Principles. It is, however, important to note that the implementation of these Principles is not a mandatory requirement for Ukrainian companies. There is no requirement, for example, for companies listed on Ukraine's two main stock exchanges to comply with the Principles (this is in contrast to the position in the UK, where UK incorporated companies listed on the London Stock Exchange are subject to the Combined Code on Corporate Governance albeit on a 'comply or explain' basis, rather than the 'comply or be punished' basis used in the United States). In practice, the fact that adoption of the Principles is not mandatory means that only a limited number of Ukrainian companies have declared recognition of the Principles.

This limited adoption of the Principles among Ukrainian companies exists despite a significant number of companies having responded to the IFC/Corporate Development Project's 2004 survey stating that, in their view, the adoption of international best practices in corporate governance is a priority activity for the management of their company, with over 40 per cent of respondents saying that they believed that adoption would increase company profits. However, the number of companies who implemented the national or their own internal codes is still very small.

The purpose of the Principles of Corporate Governance of Ukraine is to lay down the principles and recommendations, based on international best practices of corporate governance and tailored to Ukraine’s needs and experience, which are necessary for the development of good corporate governance in Ukraine. Corporate

governance is important for all types of companies and critical for corporations. This is due to the need to separate ownership from management and to ensure the protection of investor rights in a situation where the company is owned by one group of people and managed by another.

These Principles of Corporate Governance are intended for open joint stock companies traded on the stock market. The document also provides universal principles and recommendations for the efficient management of a company. Its provisions may be applied to other types of companies insofar as it is allowed by legislation governing their activity.

Even though, in 2004, the European Bank for Reconstruction and Development's Corporate Governance Sector Assessment measured Ukrainian corporate governance legislation to be in 'very low compliance' with the OECD's Principles of Corporate Governance, there is, however, no doubt that in recent years efforts have been made in a number of sectors in Ukraine to develop a corporate governance framework, and to promote awareness of, and compliance with, this framework.

While steps have been taken, however, to alter the legislative and regulatory landscapes to improve the corporate governance framework in practice, the implementation by Ukrainian companies of these measures to increase transparency and diversification of corporate culture has not yet occurred across the broader Ukrainian corporate landscape. There has been no wholesale acceptance by Ukrainian JSCs of the concept of, or need for, good corporate governance. In general, the corporate governance practices adopted by Ukrainian companies fail to mirror the high levels set by certain other more developed European market economies or the United States.

As a general note, although it is a key principle of international corporate governance that all shareholders in the same class should be treated equally, the Ukrainian legal system, being a civil law regime, does not acknowledge the concept of 'equitable treatment' or 'equitable rights' as these may be understood and implemented by common law systems. While shareholders may seek recourse from the courts in respect of alleged violations of their shareholder rights, Ukrainian courts are unlikely to consider an action brought by a group of shareholders alleging that, for example, the company's Supervisory Council has acted inequitably (although within the strict limits of the law) towards the claimants as against a larger group of shareholders.

Since the financial crisis hit Ukraine in autumn 2008 and destabilised the business, especially the banking sector, Ukrainian banks have struggled to survive and many have been placed in temporary administration by the National Bank of Ukraine. Simultaneously, in order to support the banking system and save it from collapse, the state worked out a rescue package one of which elements includes state capitalisation of banks in need of urgent financial assistance. These anti-crisis measures introduced in Ukrainian banks had a great impact on the practice of corporate governance.

For example, some banks with the temporary administration introduced by the National Bank of Ukraine during 2009-10, had an adverse effect on the overall transparency index (calculated in Joint Research of the Financial Initiatives Agency and Standard & Poor's). As a result of their financial difficulties, these banks did not have a full corporate governance system and did not provide the full disclosures essential for investors[10]. Indeed, out of that sample only one bank in three prepared an annual report and made it publicly available.

Moreover, introducing temporary administrations within the banks' corporate governance influenced a lot the implementation of CSR concept there. As a result of CSR concept transformation in Ukrainian banks the relations concerning information disclosure are formed only by two sides – National Bank of Ukraine and temporary administrator reporting to it as well, which is not relevant to CSR principle stating that all of the stakeholders have the right to get the disclosed information.

5. Bank's profitability and its relation to the some of the corporate governance effectiveness criteria: Empirical Research

Given the crucial importance of the financial intermediation role of banks in an economy (global or any national one in particular), the public and the markets have a high degree of sensitivity to any difficulties potentially arising from any corporate governance shortcomings in banks. Corporate governance is thus of great relevance both to individual banking organizations, to the national financial markets and to the international financial system as a whole.[11]

It seems to be obvious – there is a strong connection between effectiveness of the corporate governance and profitability of the bank. However, under different circumstances profitability could be more influenced by factors that have no strong connection to the corporate governance. This part of the paper aims to check the hypothesis about the connection between the level of the bank's

10 Joint Research of the Financial Initiatives Agency and Standard & Poor's Transparency and Disclosure by Ukrainian Banks 2010: Decline in Transparency amid Financial Difficulties and Flawed Disclosure Infrastructure

11 Principles for enhancing corporate governance - consultative document. http://www.bis.org/publ/bcbs168.pdf

corporate governance and bank's performance. It also pays attention to the question what factors could be used as the criteria of the corporate governance effectiveness, the question which is especially important when it comes to different groups of stakeholders – from shareholders and investors to customers etc.

The corporate governance effectiveness criteria could be identified from corporate governance practices. The connection between them is shown in the following scheme (see figure 4).

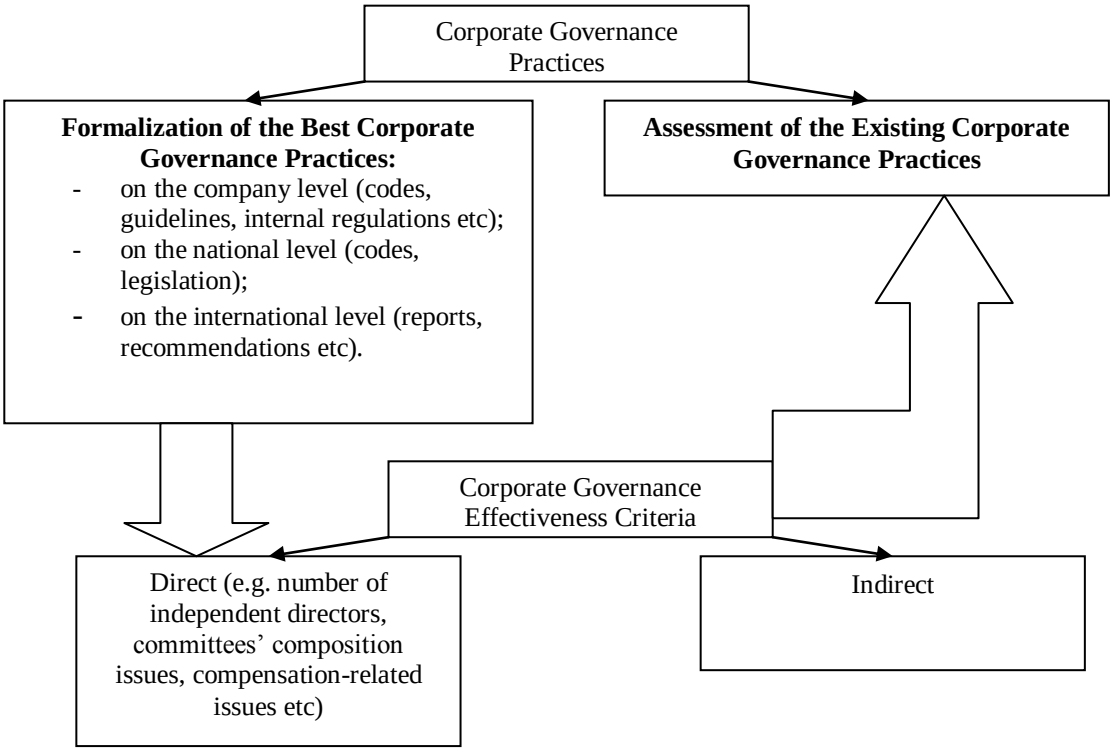

Figure 4. The Connection between Corporate Governance Practices and Effectiveness Criteria

Formalization of the best corporate governance practices serves as a background for the determination of the most essential elements to become the common practices or to be the source for regulation in this sphere.

Identification of the corporate governance effectiveness criteria is essential stage from both theoretical and practical points of view. Identified criteria serve as a background for the regulation on all stages – from internal corporate codes to national codes and international recommendations. The following scheme is to show the mutual influence of the banks' fulfillment of the criteria and regulation (see figure 5).

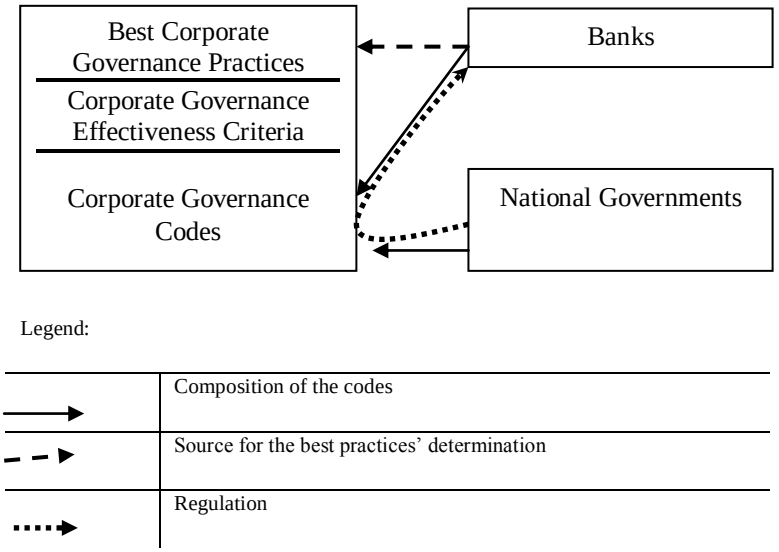

Figure 5. Formalization-regulation cycle

As a common practice, only direct criteria (see Table 5) are used for regulation purposes as the link between them and effectiveness of the corporate governance is obvious – the direct criteria are the essentials of the best practices. Usually these indicators are specific enough to be used only for corporate governance effectiveness assessment.

Table 5. Direct criteria for the corporate governance evaluation

Issue	Criteria
Board practices	Number of directors, proportion of the non-independent and independent directors, presence of the executive directors, number of committees and specific requirement for their composition etc.
Compensation	Structure of the compensation package, compensation dependence on performance, long-term compensation schemes etc.
Disclosure and transparency	Level and frequency of disclosure etc.
Risk management	Specific body in the over-all management structure and specific requirement for its composition etc.
Corporate governance structure	Complexity and limpidity of the corporate structure etc.

However, there also might be indirect indicators of the corporate governance effectiveness (see Table 6). Indirect criteria are easy to understand when answering the following questions – What are different stakeholders looking for? What do they expect from management? What figures are they going to look at first of all?

Table 6. Indirect criteria for the corporate governance evaluation for different stakeholders' groups

Stakeholders' group	Criteria
Shareholders	Earnings per share, capitalized value etc.
Customers/investors	Loan to deposit ratio, crediting and deposit rates etc.
Government	Criteria formulated in the legislation
Suppliers and partners	Credit rating, liquidity, cash position, paying capacity etc.
Society	Number of people employed by the organization, corporate social responsibly indicators etc.

5.1 Hypotheses

The correlation between performance of the bank and indirect effectiveness criteria is taken as supposition by stakeholders when assessing bank's performance. And it sounds logical. However is that really this way? For the purpose of this part of research we will check the correlation between indirect corporate governance effectiveness criteria and performance indicators.

H1: Profit per share as an indirect criterion of the corporate governance effectiveness (stakeholders' group – customers/investors) could be used also as an indicator of the bank's performance.

H2: Loan to deposit ratio as an indirect criterion of the corporate governance effectiveness (stakeholders' group - shareholders) could be used also as an indicator of the bank's performance.

5.2 Empirical material

5.2.1 Data

For the purpose of this part of research 20 Ukrainian biggest banks in terms of assets (as for Jan 1, 2010; about 73% of the Ukrainian banking system) were under consideration (see Table 7).

Table 7. 20 Biggest Ukrainian Banks in terms of assets

№	Bank	Assets (million UAH)	Specific weight (%)
1	Privatbank	85991,17	10,374
2	Oshadbank	60755,8	7,329
3	Ukreximbank	58484,78	7,055
4	Raiffeisen Bank Aval	54033,64	6,518
5	UkrSibbank	45321,47	5,467
6	UkrSotsbank	43656,46	5,267
7	OTP Bank	29763,61	3,591
8	VTB Bank	28687,75	3,461
9	Alfa-Bank	27483,17	3,315
10	Nadra	24748,8	2,986
11	Finance and Credit	19205,08	2,317
12	Forum	18660,05	2,251
13	PUMB	17508,72	2,112
14	Rodovid Bank	16027,47	1,933
15	Brokbusinessbank	14581,86	1,759
16	Swedbank	13694,02	1,652
17	Creditpromnbank	13270,45	1,601

table 7 continued

18	Ukrgasbank	12130,78	1,463
19	Erste Bank	10504,21	1,267
20	Pivdennyi	10013,2	1,208

Source: http://www.bankstore.com.ua

The following indicators were calculated and used:

- ***ROA (as an indicator of the bank's performance):***

$$ROA = \frac{Net\ Income}{Average\ Total\ Assets}$$

The return on assets formula, sometimes abbreviated as ROA, is a company's net income divided by its average of total assets. The return on assets formula looks at the ability of a company to utilize its assets to gain a net profit. [12] ROA is used as a bank's performance indicator for the purpose of the following research.[6]

- Loan to Deposit Ratio (as an indirect indicator of the corporate governance effectiveness):

$$Loan\ to\ Deposit\ Ratio = \frac{Loans}{Deposits}$$

The formula for the loan to deposit ratio is exactly as its name implies, loans divided by deposits. [6]

The loan to deposit ratio is used to calculate a lending institution's ability to cover withdrawals made by its customers. A lending institution that accepts deposits must have a certain measure of liquidity to maintain its normal daily operations. Loans given to its customers are mostly not considered liquid meaning that they are investments over a longer period of time. Although a bank will keep a certain level of mandatory reserves, they may also choose to keep a percentage of their non-lending investing in short term securities to ensure that any monies needed can be accessed in the short term. [6]

Loans in the numerator of the formula are investments or assets for a bank. Deposits in the denominator of the formula can be considered the same as debt as the individual depositors are essentially granting monies to the bank with a return equal to the deposit rates and that can be called upon at any time. In these respects, the loan to deposit ratio is similar to a liquidity ratio and debt ratio. [6]

The loan to deposit ratio can be used by investors and internally by the company to determine the financial institutions short term viability. Although many depositors may not be as concerned when a financial institution is insured, the loan to deposit ratio may be used to ensure that any money needed is immediately available. Banking insurance companies may also find this ratio or some variation of it of use when underwriting the policy to determine insurability. [13]

Customers and investors, taken all mentioned above, could use Loan to Deposit Ratio as an indicator of the corporate governance effectiveness as basically management is responsible for policy in this sphere. [6]

- ***Earnings per share (as an indirect indicator of the corporate governance effectiveness):***

$$EPS = \frac{Net\ Income}{Weighted\ Avg\ Outstanding\ Shares}$$

The formula for earnings per share, or EPS, is a company's net income expressed on a per share basis. It is important to note that the earnings per share formula only references common stock and any preferred stock dividends is subtracted from the net income, if applicable. However EPS could be used by the shareholders as first indicator to consider while assessing corporate management. [6]

5.2.2 Descriptive statistics

This study uses data collected from the official annual reports of the 20 biggest Ukrainian banks for 5 years from 2006 till 2010. Table 8 reports the descriptive statistics of the variables used in study. The table reports Max, Min and Average values, Mean and Mode, Standard deviation and the curvature characteristics of the distribution of each variable of 100 observations in the pooled series

[12] http://www.financeformulas.net/Loan-to-Deposit-Ratio.html

[13] http://www.financeformulas.net/Loan-to-Deposit-Ratio.html

Table 8. Descriptive Statistics

	ROA	Loan to Deposit Ratio	EPS
Observations	100	98	100
Max	0,76	57,46508996	292093,79
Min	0	0,648967998	-224800
Range	0,76	56,81612196	516893,79
Average	0,104897959	2,432372495	11333,27516
Mean	0,055	1,610142648	21
Mode	0	-	0
Std. Dev.	0,139581443	5,698665782	60871,17553
Kurtosis	8,320847278	92,30336221	14,94644073
Skewness	2,502400195	9,485153969	2,337594307

Range and standard deviation clearly indicate the widespread character of variables.

5.2.3 Unexpected findings about Loan to Deposit Ratio

At the preparation stage of the study we faced notable figures – the value of the Loan to Deposit Ratio in Ukrainian banks were many times higher that theoretical optimum is required (see Table 9).

Table 9. Loan to Deposit Ratio for the 20 Biggest Ukrainian Banks (2006-2010, %)

№	Bank	2010	2009	2008	2007	2006
1	Privatbank	124,811	123,4318	121,8289	113,9245	120,6417
2	Oshadbank	202,4619	292,6277	76,09239	76,54041	76,80864
3	Ukreximbank	201,038	229,1067	197,0086	195,1937	181,4201
4	Raiffeisen Bank Aval	141,4617	192,864	174,7487	134,148	123,5217
5	UkrSibbank	226,1827	283,8431	293,749	301,5454	280,6498
6	UkrSotsbank	285,927	291,8837	160,8927	123,2715	120,587
7	OTP Bank	102,1895	103,2463	231,5335	243,7717	215,3013
8	VTB Bank	391,2713	520,0318	231,1103	121,2417	113,047
9	Alfa-Bank	155,5091	143,6723	248,4867	171,8328	212,7494
10	Nadra	185,658	188,8604	146,8009	157,3852	155,0405
11	Finance and Credit	202,4384	174,8609	148,2321	134,9669	125,5427
12	Forum	188,6231	229,877	163,6677	142,5628	141,9393
13	PUMB	200,2143	249,3856	190,2144	218,8433	173,6813
14	Rodovid Bank	64,8968	190,8668	157,5586	161,1359	150,8032
15	Brokbusinessbank	143,0141	142,8397	158,4118	131,6858	121,0585
16	Swedbank	268,2287	300,1574	208,9403	125,6301	125,8847
17	Creditpromnbank	174,6676	169,607	174,4556	149,4766	138,738
18	Ukrgasbank	194,6107	151,3899	158,3847	133,1074	134,2749
19	Erste Bank	436,6423	803,4898	5746,509	-	-
20	Pivdennyi	127,3561	143,9372	132,9905	111,4016	113,0973

Average loan to deposit ratio	*243,2372*

The key issue about banks liquidity is money multiplier.14 When a loan to deposit ratio is below 100% a money multiplier (MM) is expressed by a formula:

$$MM = 1/(1-LTD)$$

where LTD is loan to deposit ratio expressed in decimal terms.

The loan to deposit ratio can fluctuate: i.e. if LTD is 50% then MM is 2, if LTD is 75% then MM is 4, if LTD is 90% then is 10, if LTD is 99% then MM is 100.

Ultimately, if loan to deposit ratio is always kept below 100% then, at any one time, the ratio of total loans to total deposits on the books gives an average loan to deposit ratio (ALTD). This average may be done for a particular bank or for a group of banks or for entire economy. A money multiplier calculated on the basis of such average,

$$MM = 1/(1-ALTD),$$

is a measure of a particular bank's liquidity, a group of banks liquidity or entire economy liquidity position. A bank's CEO can look at such figure and have an immediate good idea about the liquidity of his bank. The liquidity of the banking system could be estimated from the average value of the ratio.

Therefore if loan to deposit ratio is below 100%, the lower the loan to deposit ratio, the lower the money multiplier, the higher the "stickiness" of funds and the lower the liquidity risk. A ratio of total loans to total deposits gives a money multiplier at any one time and a good idea about underlying liquidity risk. Then a consideration can be given to "stickiness" of individual financial products (from current accounts to long term investments such as pensions).

When a loan to deposit ratio (LTD) is above (or equal) 100%, money multiplier (MM) is infinite.3 If LTD is above 100%, then the financial system becomes a classic example of a pyramid scheme.

Therefore in terms of liquidity if at any one time a ratio of total loans to total deposits is taken (which is higher than one) – per bank, a group of banks or entire financial system - it does not give any idea about the prevailing money multiplier as, unlike when loan to deposit ratio is below 100%, it also depends on a number of deposit – loan cycles and loan to deposit ratio of each of them. Therefore a bank's CEO or State Government or Central Bank do not have an idea about the liquidity based on total loans to total deposits ratio.

It follows that if loan to deposit ratio is above (or equal) 100%, the higher the loan to deposit ratio, the faster the money multiplier growth. However, in any event, the liquidity risk is 100% in a finite time.

It is a question when (in a finite time) and in which part of the system the liquidity crunch starts. This depends on various factors such as access to information or sophistication of depositors/investors in particular financial products who realise first that £1 real cash cannot cover ever growing, and without a limit, banks balance sheets and decide to withdraw their funding first.

Therefore it is not surprising at all, in the context of the financial crisis, that Ukrainian banking system has been having hard times. The issue needs to be analysed deeper diving consideration to the state regulation and risk management (e.g. assets management, bank's credit policy and bad debts management in particular) in order to make conclusions on the subject (see next section for some more details).

5.2.4 Study results

Main study finding are as following:

- Loan to Deposit Ratio calculated for the top-20 biggest Ukrainian banks indicates the enormous liquidity risk. Consequently, it indicates problems with risk management that Ukrainian banks have. The deeper analysis of the issue is needed in order to estimate the current threats and possible scenarios.

- Correlation ratio between ROA and Loan to Deposit Ratio is -0,10107 that represents quite slight inverse relation between these two indicators. **H2 was not confirmed:** Loan to deposit ratio as an indirect criterion of the corporate governance effectiveness (stakeholders' group - shareholders) could NOT be used also as an indicator of the bank's performance.

- Correlation ratio between ROA and EPS is 0,185275 that indicates absence of the substantial relation between net income per share and bank's performance indicator. **H1 was not confirmed:** Profit per share as an indirect criterion of the corporate governance effectiveness (stakeholders' group – customers/investors) could NOT be used also as an indicator of the bank's performance.

[14] http://gregpytel.blogspot.com/2009/09/loan-to-deposit-ratio-and-banks_02.html

- The model for ROA prediction from Loan to Deposit Ration and EPS is very weak (see Table 10) and shows that the selected indirect criteria of the corporate governance effectiveness could hardly be used for ROA estimation. Equally checking the criteria of the corporate governance effectiveness is not the best way to assess and to predict bank's performance. Other factors should be considered when building the math model to describe the relation between indicators of the corporate governance in the bank and bank's performance (see next sections of the article).

Table 10. Result for the ROA, Loan to Deposit Ratio and EPS Linear Regression

	Coefficients	*Mean-square error*	*t-statistics*
Y=ROA	0,106964073 (constant)	0,015376358	6,956398634
Variable X1 = Loan to Deposit Ratio	-0,002391087	0,002463881	-0,97045546
Variable X2 = EPS	4,56701E-07	2,70225E-07	1,690080034
Linear regression			
R^2	0,039106068		
Standard error	0,138257746		
Observations	100		

5.3 Conclusions and Further Research

In this section we investigated the role of the corporate governance effectiveness criteria, their types and link with bank's performance indicator. We tried to execute empirical tests in order to discover the existence of the statistically significant link between bank's performance and corporate governance effectiveness. We used ROA for measuring bank's performance, EPS and Loan to Deposit Ratio as indirect indicators of corporate governance effectiveness for customers and shareholders respectively. Even though the relation between mentioned above indicators seems to be logical, at the present study no empirical evidence was found. The empirical data didn't confirmed hypotheses of the study – the conclusion about ROA value could hardly be made with EPS and Loan to Deposit Ratio. However, we would like to point out that the following results represent Ukrainian banking system and could be differentiated in different countries (see Literature Review).

6. Quality of corporate governance and its impact on banks performance in Ukraine: Empirical Research

In the first step of the empirical analysis, we tried to measure the interaction between different regulatory variables. We came to the conclusion that the proposed number of variables is insufficient. Therefore, within the second stage we will extend the number of variables and their quality, using the model proposed by Peong Kwee Kim and Devinaga Rasiah (2010).

6.1 The Type of Bank Ownership as a Key Determinant of Corporate Governance

The type of bank ownership (such as privately domestic-owned banks (private-owned banks), state-owned banks, and foreign-owned banks) influences organisational culture, including relationships and behavior of different stakeholders. That leads to execution of different approaches to risk-management and managing bank performance.

H3: There is a positive relationship between type of bank ownership and corporate governance.

Relationship between Corporate Governance and Bank Performance

The main role of bank managers is to fulfill shareholders' expectations, among them to maximise return on shareholders investment (actually good bank performance). The role of bank managers, while representing bank owners' interests, is to implement the policy that includes bank's risk-taking strategy (usually the risks bank faces are higher than socially expected and this strategy leads to higher rate of return). Besides representation of the shareholders' interests, managers as separate agents could represent interests of different stakeholders groups and even have their own aims. Managers have the possibility to redistribute the profit of the bank in order to increase their own incentives and compensation (Jensen 1986; Murphy 1985). While doing so, they shrink not only shareholders' profit but also profit

planned to be used for CSR purposes. However, they could possibly restrain their expropriating behavior if the level of bankruptcy risk is beyond their control. Agency theory suggests the firms to involve managers into compensation schemes with options that give the right to buy a number of share on a discounted price, so to make them insiders. This mechanism shifts the conflict of interests towards owners/managers and public/depositors. Regulator protects the public interest by issuing rules to force owners and managers of the bank to obey them. This situation leads each party towards "prisoners' dilemma". Agency mechanism could not solve the multi-conflict sufficiently. It needs willingness from each party to change their perspective and to concern the other party's interests. In this perspective, they should focus on optimal result rather than maximum result due to other party's constraint.

All parties (stakeholders) expect the bank to represent their interests in the long-term perspective. The banks should be considered not only as financial intermediaries but also as interest intermediaries. Banks that successfully fulfill all stakeholders' interests usually have good corporate governance. As the interest of owners is to earn better return on their investment (equity), they will attempt to implement better corporate governance. Based on this argument, the hypothesis 4 can be stated as follows:

H4: Better corporate governance will lead to better bank performance.

The Sensitivity of Model Relationships on Type of Bank Ownership

The two hypotheses represent the test that will help to indicate whether bank implements good corporate governance or not. However, confirming the hypothesis 3 is not sufficient to conclude that bank has a good corporate governance practice. It requires further analysis and investigation to meet a sufficient condition (stated below) to conclude that corporate governance could balance interests of different parties. Managers and owners of bank who show efforts and intention to implement good corporate governance will increase their credibility in the market.

Agency theory suggests that conflict of interests can be reduced if owners have enough power to control the operations of the bank. Power of owners depends on their stakes. Higher power of control commonly appears in privately or closely owned banks compared to widely owned banks. In many developing countries there are a lot of state-owned banks. State-owned bank represents perfect type of widely owned bank (considering agency theory). The principals (public) have no power to control the agents. Other types of ownership commonly found in developing countries are foreign-owned banks and joint-venture-owned banks. Previous studies found that foreign-owned banks outperform domestic-owned banks in developing countries (Goldberg, Dages, and Kinney 2000; and Havrylchyk 2003). The results suggest that reputable foreign-owned banks may be able to implement better corporate governance than domestic-owned banks do.

In Ukraine the type of ownerships can be classified into three major groups: private domestic-owned banks, state-owned banks, and foreign-owned banks. Private domestic-owned banks could be described as the ones where the major proportion of ownerships is concentrated among small numbers of controlling shareholders. State-owned banks represent perfectly dispersed ownership. The principals (citizens) have less power to control the banks, thus controlling ownership of the banks fully come from the agents. Foreign-owned banks (excluded joint-venture-owned banks) are controlled by more dispersed ownership than domestic ownership. DeAngelo (1985), and Zingales (1994) suggest that major controlling shareholders lead the owners to expropriating the assets of banks to maximise their interests. Thus, foreign-owned banks may implement good corporate governance better than domestic-owned banks.

Theoretically, major controlling shareholders maximise their interests by expropriating operating assets of banks. Hence, domestic-owned banks may have potential problem with implementing good corporate governance. However, state-owned banks could be in the centre of the conflict of interests especially when it comes to multi-agents. There are three perspectives that can explain the relationship between the role of state-owned banks and their performance. Political perspective suggests that state-owned companies may be intervened by the regime to increase their popularity and political voting (Shapiro and Willig 1990; Shleifer and Vishny 1994). Agency perspective suggests that state-owned banks have no principals who have enough power to control the banks. Social welfare perspective suggests that state-owned companies serve special mission and support government policy. It seems that state-owned banks have more problems with implementation of good corporate governance than domestic owned banks do. It supports the argument that state-owned banks underperform domestic-owned banks (Bonin et al. 2003; Cornett, Guo, Khaksari, and Tehranian 2000).

Furthermore, foreign-owned banks have different characteristics from domestic-owned banks due to different organizational cultures of the banks themselves, rules and regulations in the original countries. The foreign-owned banks may have long-time experience in legal enforcement and

banking supervision that leads to implementing better practices of corporate governance. They also have advantages in technology used, services provided, innovation implemented, and experience gained. Different researches indicated that different types of ownership may have different intentions and mechanisms for implementing good corporate governance. Foreign-owned banks implement good corporate governance better than domestic-owned and state-owned banks. Thus, hypothesis 5a and 5b can be stated as follows:

H5a: Relationship between corporate governance and bank performance is more sensitive for foreign-owned banks than for private domestic-owned banks.

H5b: Relationship between corporate governance and bank performance is more sensitive for private domestic-owned banks than for state-owned banks.

6.2 Data and Samples

This research uses secondary data as the main data to measure and analyse the practices of corporate governance and performance in the Ukrainian banking system. The study employs the annual reports and financial statements of twenty private domestically-owned banks, twenty foreign-owned banks and three state-owned banks in Ukraine, as the sources of samples data for the sample period from 2006 to 2009, as well as and other materials from the National Bank of Ukraine. The idea behind the empirical analysis of this research is to analyse the effectiveness of corporate governance practices in domestically owned banks and foreign-owned banks and state-owned banks in the pre crisis (from 2006 to 2007 period), and during crisis (from 2008 to 2009 period). Thus, this research selects the sample period from 2006 to 2009 in order to find the trends in the pre- and during-crisis. Thus, the research sample in the study represents approximately 25 percent out of a total 175 commercial banks in Ukraine, which hold 79,09% assets of the banking system. Furthermore, this research focuses only on the annual reports, balance sheets, and profit and loss accounts in their annual reports. The details on research sample in this research are as follows:

Table 11. The banks included in the empirical study

Commercial Banks	Ownership Structure	Variables To Seek In Annual Report (2006-2009)
A Private Domestically owned Banks		
PRIVATBANK	Private Domestically owned Banks	• Percentage of shares in shareholders • Loans and advances • Total equity • Loan loss and provision • Net profit for the year • Fixed assets • Share capital
"FINANSI TA CREDIT"	Private Domestically owned Banks	
PERSHIY UKR.MIZHNARODNY BANK	Private Domestically owned Banks	
BROKBIZNESBANK	Private Domestically owned Banks	
DELTA BANK	Private Domestically owned Banks	
"PIVDENNIY"	Private Domestically owned Banks	
DONGORBANK	Private Domestically owned Banks	
KHRESCHATYK	Private Domestically owned Banks	
"FINANSOVA INITSIATIVA"	Private Domestically owned Banks	
BANK CREDIT DNIPRO	Private Domestically owned Banks	
EXPRESS-BANK	Private Domestically owned Banks	
INDUSTRIALBANK	Private Domestically owned Banks	
"KLIRINGOVIY DIM"	Private Domestically owned Banks	
"TAVRIKA"	Private Domestically owned Banks	
"KYIV"	Private Domestically owned Banks	
ACTIVE BANK	Private Domestically owned Banks	
UKRINBANK	Private Domestically owned Banks	
EKSPOBANK	Private Domestically owned Banks	
"DIAMANT"	Private Domestically owned Banks	
"HATSIONALNI INVESTITSII"	Private Domestically owned Banks	

table 11 continued

B. Foreign-owned Banks		
RAIFFEISEN BANK AVAL	Joint Stock Connected Ownership	• Percentage of shares in shareholders • Loans and advances • Total equity • Loan loss and provision • Net profit for the year • Fixed assets • Share capital
UKRSIBBANK	Joint Stock Connected Ownership	
UKRSOTSBANK	Joint Stock Connected Ownership	
PROMINVESTBANK	Joint Stock Connected Ownership	
ALFA-BANK	Joint Stock Connected Ownership	
OTP BANK	Joint Stock Connected Ownership	
NADRA	Joint Stock Connected Ownership	
BANK FORUM	Joint Stock Connected Ownership	
SEB BANK	Joint Stock Connected Ownership	
KREDITPROMBANK	Joint Stock Connected Ownership	
IHG BANK OF UKRAINE	Joint Stock Connected Ownership	
UNIKREDIT BANK	Joint Stock Connected Ownership	
PROCREDIT BANK	Joint Stock Connected Ownership	
PRAVEX-BANK	Joint Stock Connected Ownership	
KREDOBANK	Joint Stock Connected Ownership	
BTA BANK	Joint Stock Connected Ownership	
SITIBANK	Joint Stock Connected Ownership	
BM BANK	Joint Stock Connected Ownership	
KIÏVSKA RUSSIA	Joint Stock Connected Ownership	
BANK RENAISSANCE CAPITAL	Joint Stock Connected Ownership	
C. State-owned banks		
UKREKSIMBANK	Government Connected Ownership	• Percentage of shares in shareholders • Loans and advances • Total equity • Loan loss and provision • Net profit for the year • Fixed assets • Share capital
OSCHADBANK	Government Connected Ownership	
UKRGAZBANK	Government Connected Ownership	

6.3 Operational Definition and Measurement of Variables

The performance of the bank and corporate governance are pretty difficult concepts in terms of defining and measuring. This study concerns two concepts: corporate governance and bank performance. This section attempts to convert these concepts into specific variables that can be defined and measured operationally. This study employs some relevant variables to describe each concept.

Proxy Variable for Bank Performance

Bank performance has been defined as the final result of an activity, and the appropriate measure selected to assess corporate performance depends on the type of organization which is to be evaluated, so that the objectives of the research will be achieved through that evaluation. Good bank performance is one of the shareholder's interests. This study employs one proxy for bank performance - return on shareholder's investment, called return on equity (ROE). This variable equation can be calculated as follows:

$$ROE = \frac{Earnings}{Common\ Equity}$$

Proxy Variables for Corporate Governance

Corporate governance (CG) consists of external corporate governance and internal corporate governance that represents public's interest, employee's interest, and owner's interest. External corporate governance is defined as a mechanism, which appeals to the government responsibility to control the operations of bank through prevailing bank regulation. Bank's health could be defined from some financial ratios (Supriyatna et al. 2007).

Capital adequacy ratio (CAR) is capital divided by risk-weighted average assets. Capital included in the CAR comprises main capital and

secondary capital. National Bank of Ukraine determines that banks should reserve minimum level of CAR (at the moment 10%). The CAR value represents the degree of bank's obedience to the rules that serve and protect the public interest. Larger CAR value represents higher banks' sensitivity towards public interest. Konishi and Yasuda (2004) find that the implementation of the capital adequacy requirement reduces risk-taking of commercial banks. Thus, this ratio represents a good proxy for the implementation of good corporate governance mechanism. This study also considers some financial ratios that are related to the CAR. Supriyatna (2006) develops model to get composite value of corporate governance effectiveness based on the bank ownership. He uses six exogenous variables which are also relevant to assess corporate governance: capital ratio (CR), cash claim on central bank (CCC), secondary reserve ratio (SRR), loan to deposits ratio (LDR), loan loss provisioning (LLP) and fixed assets and inventories to capital (FAI). We used the model assuming the calculation of the variable using the following formula:

$$CR = \frac{LLP + Equity}{Total\ Loan}$$

Type of Bank Ownership

Types of bank ownership consist of foreign-owned banks, joint venture-owned banks, private domestic-owned banks, and state-owned banks. This study uses two complexes of variables to identify three different types of bank ownership (domestically owned banks, foreign owned banks and state owned banks).

6.4 Regression Model

This study uses simultaneous equation model. The coefficient parameters will be estimated using generalised method of moment (GMM). This technique is useful to eliminate the econometric assumption problem. The regression model of Kwee Kim, Devinaga Rasiah (2010) mentioned above, the simultaneous equation model is computed by two exogenous variables of external governance, ownership structure variables for private domestically owned banks and foreign-owned banks (internal governance), and bank performance variable. The simultaneous equation model can be formulated in this research as follows:

$$\mathbf{CAR_D = \alpha\ 1 + \beta 1\ CR + \beta 2\ FAI + \varepsilon 1} \quad \mathbf{(1)} \quad \mathbf{ROE_D = \alpha\ 1 + \beta 1\ CAR_D + \varepsilon 2}$$

$$\mathbf{CAR_F = \alpha\ 1 + \beta 1\ CR + \beta 2\ FAI + \beta 3\ OWN_F + \varepsilon 1} \quad \mathbf{(2)} \quad \mathbf{ROE_F = \alpha\ 1 + \beta 1\ CAR_F + \varepsilon 2}$$

$$\mathbf{CAR_S = \alpha\ 1 + \beta 1\ CR + \beta 2\ FAI + \beta 3\ OWN_S + \varepsilon 1} \quad \mathbf{(3)} \quad \mathbf{ROE_S = \alpha\ 1 + \beta 1\ CAR_S + \varepsilon 2}$$

Descriptions of simultaneous equation model are given below:

CR = Capital ratio
FAI = Fixed asset and inventory
CAR = Capital adequacy ratio
OWN = Ownership structure
ROE = Return on equity
F, D, S – means the type of bank (**F**oreign, **D**omestic and **S**tate owned banks respectively)

Data Analysis Method

This research uses two types of data analysis methods to analyse the sample data. The two types of methods are: descriptive and inferential statistical analysis, and regression model analysis. These techniques are used to test the hypotheses, solve research questions, and achieve goals and objectives of the study. Moreover they also could be used to examine the relationships among the governance mechanisms and performance of selected domestically owned banks, state owned banks and foreign-owned banks, and this research uses the simultaneous method as a method to analyse the selected sample data. This research attempts to determine which types of bank ownership differ significantly on the practices of corporate governance executed and on bank performance before and during financial crisis.

The descriptive statistics examines the mean and standard deviation of regression variables. The regression results report the simultaneous equation model by using a general method of moment technique for private domestically owned banks, foreign-owned banks and state-owned banks. This research measures the appropriateness to fit the regression model for ROE and CAR using the r squared (R^2) value. R^2 represents the proportion of variation of the dependent variable, accounted for by the independent variables in the regression model. The highest R^2 value indicates the strong predictability of a regression model. The lowest R^2 value shows the weak predictability of a regression model. This research also observes significant p-value and t-test of the regression model in order to determine the significance tests of the regression coefficients.

We use inferential statistics to make inferences or judgments about reality on the basis of a research sample (Zikmud 2003). In addition, the Statistical Packages for Social Sciences (SPSS 19.0) software was used to analyse the data.

6.5 Findings

Table 12 reports samples' mean and standard deviation of regression variables. Panel A in the table exhibits instrument variables of domestically owned banks. The table shows that private domestically-owned banks have the lowest ROE during 2006-2008, in 2009 this indicator increased, but was negative. All banks have mean CAR more than minimum requirement of 10% determined by central bank. But in the same time, domestically-owned banks had the lowest CAR in 2009. The highest CAR during the World financial crisis was typical for state-owned banks. 2006-2009 are characterized by falling value of FAI and in 2009 it reached its minimum value for all banks.

Panel B presents descriptive statistic of instrument variables of foreign-owned banks. The table shows that foreign-owned banks have the higher bank performance comparing to the other types of banks before crisis. However, this variable had negative tendency to decrease during period considered (2006-2009). FAI slowly increased during 2006-2009. CAR slowly decreased during 2006-2008, and in 2009 this variable increased sharply.

Panel C presents statistic descriptive of instrument variables of state-owned banks. The panel shows that state-owned banks had the highest ROE during crisis, while foreign owned-banks have the highest ROE before crisis. State-owned banks have gradual growth throughout studied period (2006-2009) and showed highest value during last two years. In addition, state-owned banks had the highest value of instrument variables in 2009.

Table 12. Descriptive Statistics for banks before and during Crisis

Variables Year	2006		2007		2008		2009	
	Mean	Std. deviation	Mean	Std. deviation	Mean	Std. deviation	Mean	Std. deviation
A Domestically-owned Banks								
Capital Adequacy Ratio (CAR)	14,77	4,98	13,53	6,48	15,54	9,20	19,12	12,17
Fixed Assets and Inventories to Capital Ratio (FAI)	0,42	0,28	0,39	0,32	0,36	0,24	0,32	0,18
Capital Ratio (CR)	4,59	2,00	4,16	1,72	5,60	2,68	13,37	14,72
Return on Equity (ROE)	19,00	14,06	15,72	14,18	12,24	12,10	-7,67	24,04
B. Foreign-owned Banks								
Capital Adequacy Ratio (CAR)	16,30	13,13	14,94	4,74	5,49	3,51	25,22	21,71
Fixed Assets and Inventories to Capital Ratio (FAI)	0,36	0,27	0,41	0,38	0,60	1,31	0,75	1,04
Capital Ratio (CR)	3,69	2,57	3,33	2,23	5,49	3,51	13,58	6,86
Return on Equity (ROE)	34,65	37,03	26,61	50,51	15,63	47,84	-22,13	56,67
Foreignownership (OWNF)	76,16	35,60	78,35	33,54	83,85	27,90	86,44	22,84
C. State-owned banks								
Capital Adequacy Ratio (CAR)	12,88	1,53	13,22	1,68	25,19	11,94	35,37	0,85
Fixed Assets and Inventories to Capital Ratio (FAI)	2,02	2,22	0,66	0,22	0,30	0,29	2,92	4,56
Capital Ratio (CR)	5,13	2,67	3,99	1,02	3,77	1,20	20,57	21,99
Return on Equity (ROE)	21,95	18,85	24,05	9,02	18,91	14,80	39,12	63,32
Stateownership (OWNS)	95,91	4,09	95,91	4,09	95,91	4,09	95,91	4,09

Notes: *The table presents sample means and standard deviations (SD) of regression variables. Variables used in this study for three types of ownership banks. Those are represented by two endogenous variables: capital adequacy ratio (CAR), proxy for corporate governance – CG), and return on equity (ROE, proxy*

for bank performance – BP). Exogenous variables are: capital ratio (CR), Fixed asset and inventory capital (FAI), Ownership structure (OWN). The descriptive statistics are based on panel data of annual financial reports 2006-2009.

In general, the descriptive statistics indicate that state-owned banks attempt to be more concerned about implementing good corporate governance practices than other banks do. Indeed, they have ability to control their risk management in order to perform well. The findings suggest that state-owned banks have better ability to integrate the corporate governance and the bank performance. Despite their performance in time of crisis, foreign-owned bank have higher return on equity before crisis than the other types of banks do.

The next section of this research provides further investigation of interrelationship between corporate governance and bank performance. The analysis focuses on the sensitivity of these interrelationships on different types of bank ownership.

6.6 Regression Results

The regression results are divided into three categories. The first category is regression results for domestically owned banks. The second category is regression results for foreign-owned banks. The third category is regression results for state-owned banks.

Regression Results For Private Domestic-owned Banks

The model is estimated by generalized method of moment (GMM) in a system of simultaneous equations. The simultaneous regression model of corporate governance and bank performance for private domestically owned banks are presented as follows:

1) $CAR_D = \alpha\ 1 + \beta 1\ CR + \beta 2\ FAI + \varepsilon 1$
2) $ROE_D = \alpha\ 1 + \beta 1\ CAR_D + \varepsilon 2$

Table 13 shows the regression analysis for corporate governance before and during crisis for private domestically owned banks in Ukraine. The variables involved in the corporate governance estimation for private domestically owned banks are capital ratio (CR), fixed assets and inventories to capital ratio (FAI).

Table 13. Regression Results for Corporate Governance in Private Domestically owned Banks before and during Crisis

	Private Domestic-owned Banks Capital Adequacy Ratio (CAR)					
	Before Crisis			During Crisis		
Variables	Coefficients	t-value	p-value	Coefficients	t-value	p-value
Constant	17,706	7,896	0,000	16,142	5,813	0,000
Capital ratio (CR)	-0,407	-0,936	0,355	0,336	2,662	0,011
Fixed Assets and Inventories to Capital ratio (FAI)	-1,994	-0,744	0,462	-1,605	-0,235	0,815
Goodness of Fit:						
R^2	0,041			0,161		
Adjusted R^2	-0,011			0,116		
F value	46,265			3,857		

The first equation uses CAR (capital adequacy ratio) as the endogenous variable. This variable represents the main proxy for corporate governance (CG), the second equation uses ROE (return on equity) as the endogenous variable. This variable represents the main proxy for bank performance. The first equation estimates three coefficients of parameters of corporate governance variables. Three variables represent capital and asset ratios as instrument variables to control the bank in maintaining their corporate governance.

The table shows that capital ratio (CR) and Fixed Assets and Inventories to Capital ratio (FAI) had negative effect on CAR in pre crisis period, while capital ratio (CR) during crisis had positive effect on CAR. However, only one variable had significant effect on CAR at 5% level of alpha, this is capital ratio (CR) during crisis. The table shows that proposed variables had insignificant effect on CAR.

The first equation provides composite index of corporate governance. In general, the results provide bad estimation of coefficients of parameters and relatively low R^2 of 4,10% and 16,10% respectively before and during crisis. Low R^2 value indicates the weak predictability of a regression model. Therefore, adjusted R^2 for this equation is -1,1% and 11,6% before and during crisis respectively. The first equation in Table 8 can be expressed as follows:

Pre-crisis:
CAR_D = 17,706 – 0,407 CR – 1,994 FAI
t (7,896) (-0,936) (-0,744)

During crisis:
CAR_D = 16,142 + 0,336 CR – 1,605 FAI
t (5,813) (2,662) (-0,235)

The regression analysis for corporate governance in domestically owned banks has F value before and during crisis of 46,265 and 3,857 resp. Moreover, the results of regression model of bank performance for domestically owned banks in the pre- and post-crisis are presented in table 14.

Table 14. Regression Results for Corporate Governance and Bank Performance in Private Domestically owned Banks before and during Crisis

Variables	Private Domestic-owned Banks Bank Performance (ROE)					
	Before Crisis			During Crisis		
	Coefficients	t-value	p-value	Coefficients	t-value	p-value
Constant	28,756	4,105	0,000	18,637	2,573	0,014
Capital Adequacy Ratio (CAR)	-0,754	-1,710	0,095	-0,870	-2,508	0,017
Goodness of Fit:						
R2	0,071			0,142		
Adjusted R2	0,047			0,119		
F value	9,50			1,70		

From the empirical analysis of table 9, the model illustrates that before and during crisis, the goodness of fit for R^2 for private domestically owned banks is 7,10% and 14,2%. Estimation of coefficient of parameters and t-test are illustrated in regression model as follows:

Pre crisis:
ROE_D = 28,756 – 0,754 CAR_D
t (4,105) (-1,710)

During crisis:
ROE_D = 18,637 – 0,870 CAR_D
t (2,573) (-2,508)

The results shows corporate governance (CAR) has insignificant effect on bank performance (ROE) at five percents level of alpha. CAR also has negative relationship with bank performance (ROE). Therefore, there is unintentional assumption that the normative regulation of the National Bank of Ukraine has a slight negative impact on the profitability of the bank. Adjusted R^2 for this model is 0,047 and 0,119 before and during crisis. F value of this model in domestically owned banks is 9,50 and 1,70 before and during crisis.

Regression Results For Foreign-owned Banks

For foreign-owned banks, the regression model of corporate governance and bank ownership are also estimated by generalized method of moment (GMM) in a system of simultaneous equations. The simultaneous regression model of corporate governance and bank performance for domestic-owned banks are shown as follows:

1) $CAR_F = \alpha\ 1 + \beta 1\ CR + \beta 2\ FAI + \beta 3\ OWN_F + \varepsilon 1$

2) $ROE_F = \alpha\ 1 + \beta 1\ CARF + \varepsilon 2$

Table 15. Regression Results for Corporate Governance in Foreign-owned Banks Before and During Crisis

Variables	Foreing-owned Banks Capital Adequacy Ratio (CAR)					
	Before Crisis			During Crisis		
	Coefficients	t-value	p-value	Coefficients	t-value	p-value
Constant	11,481	2,036	0,049	25,101	1,901	0,065
Capital ratio (CR)	1,166	1,942	0,060	0,093	0,181	0,857
Fixed Assets and Inventories to Capital ratio (FAI)	-8,366	-1,671	0,103	-5,434	-1,810	0,079
Foreing ownership (OWNF)	0,042	0,894	0,377	0,009	0,062	0,951
Goodness of Fit:						
R2	0,246			0,084		
Adjusted R2	0,184			0,008		
F value	0,016			0,360		

Table 15 states that foreign-owned banks have positive capital ratio and foreign ownership effects CAR before and during crisis. However, fixed assets and inventories to capital ratio has negative relationship with CAR. There is no clear relationship between capital, fixed assets and inventories to capital and ownership structure towards corporate governance. The goodness of fit of R^2 in this model before crisis is 24,60 percentages and 8,4 % - during crisis. R^2 represents the proportion of variation of the dependent variable, accounted for by the independent variables in the regression model. The low R^2 value indicates the weak predictability of a regression model. In addition, foreign-owned banks have adjusted R^2 and F value which are 18,40 percentages and 1,60 before crisis and 0,8 percentages and 36,00 during crisis. The estimation of coefficient of parameters and t-test are presented in the equation below:

Pre-crisis:

$$CAR_F = 11{,}481 + 1{,}166\ CR - 8{,}366\ FAI + 0{,}042\ OWN_F$$
$$t \quad (2{,}036) \quad (1{,}942) \quad (-1{,}671) \quad (0{,}894)$$

During crisis:

$$CAR_F = 25{,}101 + 0{,}093\ CR - 5{,}434\ FAI + 0{,}009\ OWN_F$$
$$t \quad (1{,}901) \quad (0{,}181) \quad (-1{,}810) \quad (0{,}062)$$

In addition, the results of regression model of bank performance for foreign-owned banks in the pre and during crisis are presented in table 16. Table 16 shows the empirical regression results for the relationship between corporate governance and bank performance in foreign-owned banks.

Table 16. Regression Results for Corporate Governance and Bank Performance in Foreign-owned Banks before and during Crisis

Variables	Foreing-owned Banks Bank Performance (ROE)					
	Before Crisis			During Crisis		
	Coefficients	t-value	p-value	Coefficients	t-value	p-value
Constant	25,556	1,914	0,063	-14,744	-1,162	0,252
Capital Adequacy Ratio (CAR)	0,325	0,447	0,658	0,499	1,240	0,223
Goodness of Fit:						
R2	0,005			0,039		
Adjusted R2	-0,021			0,014		
F value	0,658			0,223		

In table 16, the model illustrates before crisis and during crisis figures, the goodness of fit of R^2 in foreign-owned banks is 0,50 and 3,90 percents. It indicates that this model has a weak predictability of a regression model. The results of this model provide estimation of coefficient of parameters and t-test. It can be expressed as below:

Pre-crisis:
$ROE_F = 25,556 + 0,325\ CAR_F$
t (1,914) (0,447)

During crisis:
$ROE_F = -14,744 + 0,499\ CAR_F$
t (-1,162) (1,240)

The results show that corporate governance (CAR) has no significant effect on bank performance (ROE) at five percents level of alpha. CAR also has positive relationship with bank performance (ROE). Foreign-owned banks have adjusted R^2 and F value of this model which are -0,021 and 65,80 percents before crisis and 0,014 and 22,3 percents during crisis.

Regression Results For State-owned Banks

For state-owned banks, the regression model of corporate governance and bank ownership are also estimated by generalised method of moment (GMM), in a system of simultaneous equations. The simultaneous regression model of corporate governance and bank performance for state-owned banks are shown as follows

1) $CAR_S = \alpha\ 1 + \beta 1\ CR + \beta 2\ FAI + \beta 3\ OWN_S + \varepsilon 1$
2) $ROE_S = \alpha\ 1 + \beta 1\ CAR_S + \varepsilon 2$

Table 17. Regression Results for Corporate Governance in State-owned Banks before and during Crisis

Variables	State-owned Banks Capital Adequacy Ratio (CAR)					
	Before Crisis			During Crisis		
	Coefficients	t-value	p-value	Coefficients	t-value	p-value
Constant	-68,377	-1,023	0,414	105,222	0,615	0,601
Capital ratio (CR)	-3,008	-1,769	0,219	-1,954	-0,483	0,677
Fixed Assets and Inventories to Capital ratio (FAI)	-3,475	-1,301	0,323	7,664	0,344	0,763
State ownership (OWN_S)	1,145	1,684	0,234	-0,866	-0,474	0,682
Goodness of Fit:						
R^2	0,883			0,399		
Adjusted R^2	0,707			-0,503		
F value	0,170			0,748		

Table 17 states that state-owned banks have positive capital ratio and foreign ownership effects on CAR before and during crisis. However, fixed assets and inventories to capital ratio has negative relationship with CAR. There is no clear relationship between capital, fixed assets and inventories to capital and ownership structure towards corporate governance. R^2 = 24,60% before crisis (8,40 during crisis) suggests that changes in the dependent variable are difficult to explain (included in the model explanatory variables – CAR, FAI, OWN_S). The significance of F value allows checking the significance of the regression equation for the experimental data, i.e. to determine whether a mathematical model expresses the relationship between variables. It also shows that the quantity of the explanatory variables was insufficient to describe the dependent variable. The estimation of coefficient of parameters and t-test are presented in the equation below:

Pre-crisis:
$CAR_S = -68,377 – 3,008CR – 3,475\ FAI + 1,145\ OWN_S$
t (-1,023) (-1,769) (-1,301) (1,684)

During crisis:
$CAR_S = 105,222 – 1,954\ CR + 7,664\ FAI – 0,866\ OWN_S$
t (0,615) (-0,483) (0,344) (-0,474)

In addition, the results of regression model of bank performance for state-owned banks before and during crisis are presented in table 18. Table 18 shows the empirical regression results for the relationship between corporate governance and bank performance in state-owned banks.

Table 18. Regression Results for Corporate Governance and Bank Performance in State-owned Banks before and during Crisis

Variables	State-owned Banks Bank Performance (ROE)					
	Before Crisis			During Crisis		
	Coefficients	t-value	p-value	Coefficients	t-value	p-value
Constant	14,193	11,215	0,000	26,743	5,211	0,006
Capital Adequacy Ratio (CAR)	-0,050	-1,024	0,364	0,330	1,031	0,361
Goodness of Fit:						
R2	0,208			0,210		
Adjusted R2	0,010			0,012		
F value	0,364			0,361		

In table 18, the model illustrates before crisis and during crisis, the goodness of fit of R^2 in state-owned banks is 20,80 and 21,10 percents. It indicates that this model before and during crisis has a weak predictability of a regression model. The results of this model provide estimation of coefficient of parameters and t-test. It can be expressed as below:

Pre crisis:
$ROE_F = 14{,}193 - 0{,}05\ CAR_F$
t (11,215) (-1,024)

During crisis:
$ROE_F = 26{,}743 + 0{,}330\ CAR_F$
t (5,211) (1,031)

The results shows corporate governance (CAR) has no significant effect on bank performance (ROE) at five percents level of alpha. CAR also has positive relationship with bank performance (ROE). Foreign-owned banks have adjusted R^2 and F value of this model which are 0,010 and 36,40 percents in pre-crisis and 0,012 and 36,1 percents during crisis.

6.7 Implication

The research shows failure included in the equation of the explanatory variables (one or several) to describe the dependent variable. Also, the question arises about multicollinearity of the model variables: the inclusion of factors with high multicollinearity can lead to unintended consequences – it could lead to the unreliability of estimated regression coefficients and the system of normal equations not being reliable. In addition, if there is high correlation coefficient among the factors, it is impossible to determine their effect on the isolated score index and the parameters of the regression equations are hard to interpret.

Subsequent content analysis will address the question of whether to include in a model of factors based on assumptions of economic theory. Meaningful analysis solves the problem of establishing the links between the phenomena.

7. Conclusion

Our paper brings to light the importance of corporate governance before and during financial crisis. We use a comprehensive dataset on 43 banks, including 20 foreign-owned banks (representing 15 countries), that were at the center of the crisis. Our results show that bank corporate governance is important as poor corporate governance may result in bank failures thus endangering the stability of the financial system. Furthermore, poor corporate governance may lead to the lack of market confidence in the bank's ability to manage its assets, which in turn might trigger bank runs or liquidity crisis[15] (Basel Committee on Banking Supervision, 2006). Hence, the issue of regulation is especially important in the context of banks. In addition, bank operations are less transparent, the range of stakeholders affected by the operations is wider and the different characteristics of traditional and non-traditional banking operations impose challenges on bank corporate governance. Thus these four elements make bank corporate governance different from the corporate governance in other companies. The government regulates deposit insurance and the implicit guarantee that large banks will be bailed-out by the government to ensure financial system stability, which reduces the efficiency of corporate governance mechanisms. In addition to reducing the incentives for depositors to monitor the bank, deposit insurance also encourages banks to take on more risk.

Presented model attempts to explain the effect of external forces on corporate governance and bank performance. These external factors are represented by composite value of capital ratio and type of bank ownership. Higher composite value

[15] Basel Committee on Banking Supervision (2003), Overview of the new Basel Capital Accord, Consultative document

indicates higher obedience of the bank towards the rules. The objective of the rules is to protect public and minority interests. Higher banks' capabilities of meeting the regulation are expected to lead to better bank performance.

Different types of bank ownership may have different intention in implementing good corporate governance. These differences lead to different effect of corporate governance on risk management and bank performance. Wider spread of differences indicates wider gap in implementing good corporate governance practices among the different types of bank ownership. Descriptive statistics showed that the best owner of the bank capital is the state, even during the crisis, as was proved by the growth trend of the financial performance of the state-owned banks.

Study recommended by Peong Kwee Kim and Devinaga Rasiah (2010) provides a new approach to explaining corporate governance. The model consists of two constructs, namely corporate governance and bank performance. The model also includes type of bank ownership firstly, as conceptual definition of variables and secondly, as operational definition. The model suggests that implementing good corporate governance occurs when there are interrelationships between the two constructs.

The model uses simultaneous equation model, while the coefficients of parameters are estimated by generalised method of moment. The results can be concluded as follows:

1. Type of banks ownership has insignificant effect on corporate governance.
2. There is insignificant relationship between corporate governance and bank performance.
3. Corporate governance has nonlinear effect on bank performance.
4. Relationship between corporate governance and bank performance isn't sensitive to different types of bank ownership.
5. Model does not take into account all factors affecting the relationship between the corporative governance and bank performance and the sensitiveness to the type of bank ownerships.

Moreover, the results obtained in the study on relationship between the indirect corporate governance effectiveness criterion for customers/investors – Loan to Deposit Ratio – and the indicator of bank's performance – ROA – are quite similar to the results obtained in the study on relationship between the indirect corporate governance effectiveness criterion for shareholders – Earnings Per Share – and ROA (see section 5). In particular, the correlation between two pairs of indicators mentioned above is slight: -0,10107 and 0,185275 respectively. However, in contrast to direct relationship between earnings per share and ROA, the relationship between loan to deposit ratio and ROA is indirect. Such findings demolished hypotheses stated in the study.

This study also examined the possibility of ROA estimation via historical values of two indirect corporate governance effectiveness indicators – Loan to Deposit Ratio and EPS. The obtained findings show the absence of both indicators' influence on ROA. Consequently, the model that considers only these two factors (Loan to Deposit Ratio and EPS) turns out to be unreliable. Therefore, there's a need to extend this model through inclusion of other factors (not necessarily corporate governance effectiveness indicators). Shocking findings concerning unexpectedly high Loan to Deposit Ratio in Ukrainian banking system came to surface. They could be used as a springboard for further researches.

Important regulatory functions of the Government and National Bank of Ukraine during the financial crisis in Ukraine will need to develop mechanisms for restructuring and improving the liquidity of banking institutions. Banking institutions should have sufficient capital to maintain solvency, improving the reliability of the bank and to run a successful banking business. Supervisors are to ensure the stability of the banking system installed (and later change) as for domestic banks and for banks with foreign capital, the minimum requirements for the sufficiency of capital adequacy ratio, which should reflect the risks of banking activities. However, our analysis indicates that further increase of the capital adequacy standard will reduce the profitability of Ukrainian banks as they will have to redirect their profit in order to fulfill the new regulation terms. In addition, more than 35% of all banking institutions are unprofitable today. Therefore, in the case of such a trend of increasing requirements in the banking system banking collapses occurring in the future three years is inevitable.

It can be concluded that such an authoritarian management of the National Bank of Ukraine is not a "regulation of nowadays." Since, as shown by data from studies in Ukraine, there are no banks, such major and independent, able to perform in new regulation framework without any negative impact on its profitability.

Our initial results confirm the existence of a significant nation impact. The existence of the national effect is explainable by economic and political situation in Ukraine, as well as by the other factors. Indeed, the principles of the best corporate governance are implemented in Ukraine with certain national peculiarities. Ukraine has historically followed the Basel's law for corporate governance, which provided the framework for the development of our own corporate governance laws and acts during the last decades.

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