

«It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence.»  
*Nobel Laureate Ken Arrow<sup>1</sup>*

## Corporate Governance Determinants: The Firm-Level Evidence from Transitional Country, Ukraine<sup>\*,2</sup>

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**ABSTRACT.** This paper attempts to empirically investigate the determinants of choices of corporate governance practices by corporations in a transition market. The study offers firm-level evidence benefiting from unique financial and governance data on Ukraine. In particular, we analyze the factors that affect overall level as well as individual elements of corporate governance. We consider such governance elements as shareholder rights, transparency, board independence, chairman independence and ownership. Overall we found that regulatory, industry and firm level factors are important, which is consistent with previous literature for other countries. Combining our results with the results of Zheka (2006)<sup>3</sup> we conclude that it is possible for the government to implement and enforce better corporate governance practices in the economy that would make Ukrainian enterprises more attractive for foreign investment.

**KEY WORDS.** corporate governance, shareholder rights, transparency, information disclosure, board, ownership, ownership structure, transition, trust, ethnic diversity, religion, political diversity.

### Introduction

This paper studies the determinants of corporate governance practices at firms in a transitional country, Ukraine. We use indices of corporate governance constructed in Zheka (2006) study on impact of corporate governance on firm performance. Zheka (2006) finds strong evidence that corporate govern-

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<sup>1</sup> Arrow, Kenneth, 1975, «Gifts and Exchanges», in *Altruism, Morality and Economic Theory*, edited by Edmund Phelps, New York: Russel Sage Foundation, pp. 13—28.

<sup>2</sup> The work on this paper was supported by an individual fellowship grant for young scientists Nr 04-83-3366 from the INTAS.

<sup>3</sup> Zheka V. Corporate Governance and Firms' Performance in Ukraine (March 2006). *CERT Discussion Paper*, DP06/05, Available at SSRN: <http://ssrn.com/abstract=877913>.

ance quality predicts enterprise performance. This effect is economically considerable: one-point-increase in overall level of corporate governance quality, *UCGI*, predicts a half-percent-increase in net revenues; and a worst to best change in corporate governance predicts a roughly 40%-increase in firm's net revenues. The coefficient for corporate governance is highly significant in ordinary least squares and remains strong in instrumental variable (IV) analysis, in panel regressions (both fixed effects (FE) and random effects (RE)), and in both panel FE IV and RE IV analysis. From policy perspective this provides great incentives for firms in transition countries (at least in Ukraine) to improve their corporate governance practices.

But the following question arises: What affects firms' corporate governance choices? This issue is especially relevant since firms in Ukraine as well as in other former Soviet Union (FSU) countries do not exhibit high standards of corporate governance even though it is shown that they would indeed benefit from practicing better governance. This suggests that there could be other factors affecting firms' decision whether or not to practice good corporate governance. In this paper we analyze the relative importance of a number of factors in predicting firms' level of corporate governance choices. Importantly, in contrast to other studies we empirically investigate how 'trust' factors, such as political diversity, religion, and ethnic diversity affect corporate governance. Among other determinants that we analyze are industry, region and firm-level specific factors. We relate all these factors to *overall index* of corporate governance quality as well as to the *sub-indices* of corporate governance: Shareholder Rights, Transparency/Disclosure, Board Independence, Board Procedure and Ownership Structure.

The paper contributes to the corporate governance determinants literature. We are aware of five contemporaneous studies investigating determinants of corporate governance. Two, by Gillan, Hartzell and Starks (2004)<sup>4</sup> and Black, Jang and Kim (2005)<sup>5</sup>, represent country case studies of US and Korean firms respectively. The other three, by Durnev and Kim (2004)<sup>6</sup>, Klapper and Love (2003)<sup>7</sup> and Doidge, Karolyi and Stulz (2004)<sup>8</sup> are multi-country studies of firms' governance determinants primarily in emerging markets. In contrast, this paper offers in-depth evidence for transitional country, Ukraine<sup>9</sup>.

<sup>4</sup> Gillan, Stuart L., Jay C. Hartzell, and Laura T. Starks, 2003, «Explaining Corporate Governance: Boards, Bylaws, and Charter Provisions.» Working paper.

<sup>5</sup> Black, B., Jang, H. and Kim, W. (2005) Predicting firms' corporate governance choices: Evidence from Korea. Forthcoming, *Journal of Corporate Finance*.

<sup>6</sup> Durnev, A., and E. Han Kim, 2004, «To Steal or Not to Steal: Firm Attributes, Legal Environment, and Valuation», forthcoming in *Journal of Finance*.

<sup>7</sup> Klapper, Leora F. and Inessa Love, 2003, «Corporate Governance, Investor Protection and Performance in Emerging Markets.» *Journal of Corporate Finance*, forthcoming, available at <http://ssrn.com/abstract=303979>

<sup>8</sup> Doidge, Craig Andrew, Karolyi, George Andrew and Stulz, René M., «Why are Foreign Firms Listed in the U.S. Worth More?» (September 2001). Dice Center Working Paper No. 2001-16. <http://ssrn.com/abstract=285337>

<sup>9</sup> We are aware about two other empirical studies on corporate governance in Ukraine:

Ukraine has a number of advantages that make it an important transition market to study. First, changes, including changes in corporate governance, occur at a much more attractive speed than in developed countries, in particular, due to mass privatization and rapid development of 'young' corporate sector that did not exist for about 70 years of soviet regime. Second, the available data covers not only the largest public firms but also small and medium enterprises, in fact more than 75 % of universe of (open) joint-stock companies in Ukraine. In contrast to other studies we estimate the determinants of corporate governance also for small firms that are not interested in entering international capital markets (at least in the short and middle perspective). Thus we look at corporate governance choices not only as performance-optimizing decisions but also as cultural phenomena. Third, the *UCGI* index strongly predicts firms' performance both statistically and economically.

This paper proceeds as follows. In part 2 we give an overview of recent related literature. In part 3 we discuss our data, corporate governance measures and other important variables. In part 4 we present our estimation results. And in part 5 we conclude with potential policy implications from our study.

## 2. Related Literature

The literature on determinants of corporate governance choices is currently fast growing and while many studies address *overall* corporate governance level across countries (e.g. Durnev and Kim, 2004; Gillan, Hartzell and Starks, 2003; Klapper and Love, 2002; Roe, 2003<sup>10</sup>; Thomas, 2004<sup>11</sup>; and numerous papers by LaPorta, Lopez-de-Silanes, Shleifer and Vishny, e.g. 1997<sup>12</sup>, 1998<sup>13</sup>) much less research is devoted to particular country case study (e.g. Black, Jang and Kim, 2005). In addition, a significant research is done to analyze the determinants of some particular element of corporate governance, e.g. Raheja (2005)<sup>14</sup>, Lehn, Patro, and Zhao (2003)<sup>15</sup>, Erickson, Park, Reising

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Zelenyuk, V., Zhaka, V., 2006, «Corporate Governance and Firms' Efficiency: the Case of Transitional Country, Ukraine», *Journal of Productivity Analysis*, V.25, Numbers ½, 143-169.

Zhaka, V., 2005, «Corporate Governance, Ownership Structure and Technical Efficiency: the Case of Ukraine,» abridged version of EERC MA Thesis (2003) published in *Journal of Managerial and Decision Economics*, Vol. 26, Issue 7, pp. 451-460

<sup>10</sup> Roe, Mark J., 2003, «Political Determinants of Corporate Governance», Oxford University Press, <http://ssrn.com/abstract=472366>

<sup>11</sup> Thomas, Randall S., «The Increasing Role of Empirical Research in Corporate Law Scholarship: A Review of Mark Roe, The Political Determinants of Corporate Governance: Political Context, Corporate Impact», *Georgetown Law Journal*, Vol. 92, p. 981, 2004 <http://ssrn.com/abstract=655781>

<sup>12</sup> La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert Vishny, 1997, «Legal Determinants of External Finance», *Journal of Finance*, vol. 52, pp. 1131-1150.

<sup>13</sup> La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert Vishny, 1998, «Law and Finance», *Journal of Political Economy*, vol. 106, pp. 1113-1155.

<sup>14</sup> Raheja, Charu G., 2005, Determinants of board size and composition: A theory of corporate boards, *Journal of Financial and Quantitative Analysis* 40(2), pp. 283-306.

and Shin (2003)<sup>16</sup>, Hermalin and Weisbach (2003)<sup>17</sup> study the determinants of various board arrangements (size, independence, CEO/Chairman issue); Berglof and Pajuste (2005)<sup>18</sup>, Aksu and Kosedag (2005)<sup>19</sup> analyze the determinants of transparency and disclosure.

Little research is done on transition and developing countries. Durnev and Kim (2004) in multi-country study use corporate governance rankings of Credit Lyonnais Securities Asia (CLSA) and Standard and Poor's for 853 firms from 23 developing countries and 6 firms from 4 transitional economies: Russia, Poland, Hungary and Czech Republic. They find that greater growth opportunities, greater needs for external financing and more concentrated cash flow rights predict higher quality of governance and disclosure. Klapper and Love (2003) investigate corporate governance rankings of CLSA for 495 firms from 14 emerging markets and find four important corporate governance determinants: growth prospects, tangibility of assets, performance and firm size. Klapper and Love conclude that firms can partially compensate for poor country corporate governance by raising their own standards of corporate governance practices; however, from the other side, firms' ability to improve their governance is limited by weak legal environments.

Aksu and Kosedag (2005) investigate the determinants of transparency/disclosure for a set of 52 largest firms at Istanbul Stock Exchange and find that firm size, financial performance and market-to-book equity are the best predictors of the variation in transparency/disclosure.

Black, Jang and Kim (2005) use the Korean corporate governance index (from their prior research on relation of corporate governance to firms' performance) to investigate the determinants of corporate governance choices for a set of listed companies. Their main findings are that regulatory factors, industry specifics and firm size are important. Other firm specific factors are less important. They conclude that many Korean firms do not choose their governance practices in order to maximize share price.

Gillan et al (2003) use the Standard and Poor's Supercomposite 1,500 companies and other large, publicly-traded companies (in total 2,300 firms, 4 years) and hypothesize that firms choose governance practices based on cost/benefit tradeoff. The authors find that industry and firm effects are important implying that governance structures are indeed a function of the expected costs and benefits of different mechanisms. They find that industry specifics are a dominated factor in explaining variation in overall gov-

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<sup>15</sup> Lehn, K., S. Patro, and M. Zhao, 2003, «Determinants of the Size and Structure of Corporate Boards: 1935-2000,» Working Paper.

<sup>16</sup> Erickson, John, Yun W. Park, Joe Reising and Hyun-Han Shin, 2003, «Board of Directors as an Endogenously Determined Institution and Firm Value: The Canadian Evidence,» Working Paper.

<sup>17</sup> Hermalin, Benjamin E., and Michael S. Weisbach, 2003, Boards of directors as an endogenously determined institution: A survey of the economic evidence, *Economic Policy Review* 9, 7-26.

<sup>18</sup> Berglof, E. and Pajuste, A., 2005, «What do firms disclose and why? Enforcing corporate governance and transparency in Central and Eastern Europe», Working paper, Stockholm School of Economics.

<sup>19</sup> Aksu, M., Kosedag, A., 2005, «Transparency and Disclosure Scores and Their Determinants in the Istanbul Stock Exchange», Working paper.

ernance structure. Their other result is that board indices are negatively correlated with shareholder indices implying that viewing separate sub-index or only overall index may mask important relations between governance mechanisms and features of contracting environment.

In this paper we use *UCGI* index developed by Zheka (2006) which proved to be a highly significant causal predictor of firm performance; the causality is tested in both fixed effects and instrumental variable framework. This approach is similar to Black et al (2005) who also build governance index, *KCGI*, for Korean listed companies. In contrast, as argued in Black et al, other studies use available multi-country indices (Durnev and Kim, 2004; and Klapper and Love, 2003), the governance index of *CLSA* and disclosure index of *S&P's*, which have important weaknesses. The *CLSA* index is partly based on subjective views of analysts that could be biased by their knowledge of stock returns; and *S&P* index covers only disclosure and transparency elements of corporate governance. In addition, both are much weaker predictors of corporate governance and do not check for causality of governance effects.

Other differences and extensions of our paper from the available literature are as follows. First, we study a large sample of Ukrainian public firms (more than 75% of universe) covering both small and large firms and, importantly, both listed and not listed companies. While all other studies use large listed companies including Black et al (e.g. they use listed Korean companies with a mean of book value of assets at roughly USD 1,748 million and minimum at USD 10 million). However theory and empirical evidence suggest that firms of different size make different governance choices.

Second, to our knowledge this is the first attempt to produce in-depth empirical evidence for the determinants of firms' corporate governance choices for *transitional* country, in particular one of the *fSU* countries. Other research is based on either developed or developing economies and we do not know other studies on *fSU* countries. Third, in contrast to previous literature we explore the effects of social trust factors on firm level corporate governance quality. In particular, we add such regional explanatory variables as political diversity, religion and ethnic diversity, which proved to be important predictors of trust.

The trust literature is relatively young field in economics and has been growing rapidly during the last years especially boosted by study of R. Putnam (1993)<sup>20</sup> where he showed how the concept of social capital can be used in quantitative analysis of different economic and social issues. More recent literature (Uslaner, 2002<sup>21</sup>) started distinguishing different elements of Putnam's social capital, in particular stressing the role of social trust. Substantial recent literature established a significant relation between social trust and

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<sup>20</sup> Putnam, R., 1993, *Making Democracy Work. Civic Traditions in Modern Italy*. Princeton, NJ: Princeton University Press.

<sup>21</sup> Uslaner, Eric M., 2002, *The Moral Foundations of Trust*, Cambridge (UK): Cambridge University Press.

many other economic phenomena, such as economic growth, the rule of law and overall governance, corruption, education, etc. (see Bjornskov, 2005<sup>22</sup> for more detailed references).

On the other side there is literature that treats trust as an alternative strategy to resolve the agency problems that occur within the firm. Chami and Fullenkamp (2002)<sup>23</sup> develop a model of trust and show how trust resolves the agency problems of corporate governance and increases firm efficiency. As Chami and Fullenkamp (2002) cite, in 1975 Nobel Laureate Ken Arrow wrote «It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence.» Interestingly, Arrow cites mutual confidence, trust, and not technology, natural resources, or some other input as being essential to the development of an economy. Fukuyama (1995<sup>24</sup>, 2000<sup>25</sup>) has argued that trust improves the performance of all institutions in a society, including businesses. La Porta et al (1997, 1998) has found that trust promotes cooperation in large organizations. Importantly, the paper by Chami and Fullenkamp (2002) as well as the findings of other researchers suggest that building trust into the culture of economic and government institutions is an important and productive approach at the micro level.

In this framework we propose to use the determinants of trust as explanatory variables for corporate governance quality at a firm level; thus, hypothesizing that level of trust in a region is an important determinant of corporate governance choices of firms in that region. In particular, this idea was inspired by working paper of Christian Bjornskov (2005) who discusses among the determinants of trust and explains the effects of such factors as political diversity, religion and ethnic diversity.

### 3. Data and Corporate Governance Measures

The sample and data sources are described in Zheka (2006). Here we provide only a short summary. Our firm data come from the annual financial statements of Ukrainian open joint-stock companies available at *Istock* database of *PFTS* — First Trading Stock System (<http://www.istock.com.ua>). For the empirical investigation we use the dataset of 18170 observations on joint-stock companies in total, in particular 7817 firms in 2000, 5869 in 2001 and 4484 in 2002.

The sample covers about 76% of universe of (open) joint-stock companies in Ukraine. The descriptions and descriptive statistics of available data in-

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<sup>22</sup> Bjornskov, Christian, 2005, «The Determinants of Trust,» Ratio Institute Working Paper.

<sup>23</sup> Chami, R. and C. Fullenkamp, 2002, «Trust as a Means of Improving Corporate Governance and Efficiency,» IMF Working Paper, WP/02/33.

<sup>24</sup> Fukuyama, F., 1995, *Trust*, New York: Free Press.

<sup>25</sup> Fukuyama, F., 2000, «Social Capital and Civil Society,» IMF Working Paper, WP/00/74.

cluding corporate governance variables are provided in Tables 1 and 2. The mean of firm's output in the sample is about UAH 20 million and varies in the interval from UAH 5,000 to about UAH 27 billion.

Table 1

**Descriptive Statistics for Elements and Indices of Corporate Governance**

This table summarizes information on the firms' corporate governance variables available to us. Each element other than the board independence and private ownership is a 0-1 dummy variable that indicates presence of a particular governance element at a firm. Board independence and private ownership are continues 0-1 variables.

Elements of corporate governance	Number of observations	Mean	Standard Deviation	Min	Max
Overall level of corporate governance quality, <i>UCGI</i>	10153	65.40	13.411	20	96.66
I. Sub-index of Shareholder Rights	18170	10.57	3.7421	0	20
1. Shareholder registrar: independent	18170	.9511	.2155	0	1
2. Regularity of general shareholder meetings	18170	.6145	.4867	0	1
3. Extra shareholder meeting and its attendance	18170	.0200	.1401	0	1
II. Sub-index of Transparency	18170	11.63	2.4264	0	20
1. Presence of nominal shareholding at a company	18170	.9420	.2337	0	1
2. Company's website	18170	.0002	.0128	0	1
3. Timeliness of publication of annual financial statements	18170	.8797	.3253	0	1
4. Publication of information by an enterprise about its registrar in annual financial statements	18170	.6774	.4675	0	1
5. Publication of information by an enterprise about its auditor in annual financial statements	18170	.0335	.1799	0	1
6. Company's auditor	18170	.9587	.1989	0	1
III. Sub-index of Board Structure	10654	10.62	7.5218	0	20
1. Proportion of unemployed directors	10654	.5311	.3760	0	1
IV. Sub-index of Board Procedure	11273	15.39	6.0365	0	20
1. Non-employment of Chairman	11273	.5971	.4905	0	1
2. CEO/Chairman	11774	.9440	.2298	0	1
IV. Sub-index of Ownership	18170	16.38	5.0116	0	20

Elements of corporate governance	Number of observations	Mean	Standard Deviation	Min	Max
1. Sum of shares of all private owners	18170	.8955	.2403	0	1
2. Share of the largest shareholder	18170	.7445	.4361	0	1

**Note:** own calculations based on data from the OJSCs' annual reports available at PFTS *Istock* database.

Table 1 provides a list of corporate governance elements that are available to us and their descriptive statistics. The detailed explanations on the choice of particular corporate governance sub-indices and individual elements are provided in Zheka (2006). Each element other than the board independence and private ownership is a 0-1 dummy variable that indicates presence of a particular governance element at a firm. Board independence and private ownership are continuous 0-1 variables.

Table 2

### Descriptive Statistics for Other Variables

Variable	Obs.	Mean	Standard-Deviation	Min	Max
Political Diversity	18170	.1558	.0644	.0381	.2498
Religious Factor	18170	1117	599.0504	402	2813
Ethnic Diversity	18170	.1310	.0777	.0215	.2453
Method of privatization by sale of shares	18170	.6039	.4891	0	1
Method of privatization by repurchase after leasing	18170	.0120	.1089	0	1
<i>Output variable</i>					
Net Total Revenue, thousands of UAH	18170	20200	331000	5	26900000
<i>Input variables</i>					
Fixed Assets, thousands of UAH	18168	12600	78000	0.100	4390000
Employment, workers	18170	352	1788.355	3	126052
<i>Regional dummies</i>					
West (region)	18170	0.20	0.40	0	1
East (region)	18170	0.28	0.45	0	1
Center (region)	18170	0.34	0.48	0	1
South (region)	18170	0.17	0.37	0	1
<i>Industry dummies (by first digit)</i>					
Services	18170	.1193	.3241707	0	1
Health and Tourism	18170	.0041	.063689	0	1
Utilities	18170	.0147	.1205522	0	1
Agriculture	18170	.1205	.3255873	0	1





(5) Boardprocedureindex	<b>0.78</b>	<b>0.03</b>	<b>-0.03</b>	<b>0.68</b>	1.00								
	(0.00)	(0.00)	(0.00)	(0.00)									
(6) Ownershipindex	<b>0.20</b>	0.01	<b>0.03</b>	<b>-0.17</b>	<b>-0.14</b>	1.00							
	(0.00)	(0.08)	(0.00)	(0.00)	(0.00)								
(7) Religion	<b>0.05</b>	<b>0.08</b>	<b>0.09</b>	0.01	0.01	<b>0.02</b>	1.00						
	(0.00)	(0.00)	(0.00)	(0.47)	(0.56)	(0.01)							
(8) Ethnicity	<b>0.04</b>	-0.00	<b>-0.04</b>	<b>0.07</b>	<b>0.03</b>	<b>-0.07</b>	<b>-0.44</b>	1.00					
	(0.00)	(0.52)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)						
(9) Political Diversity	<b>-0.04</b>	-0.01	-0.00	<b>-0.02</b>	<b>-0.02</b>	<b>0.03</b>	<b>-0.53</b>	<b>0.17</b>	1.00				
	(0.00)	(0.21)	(0.73)	(0.04)	(0.01)	(0.00)	(0.00)	(0.00)					
(10) Ln(output)	<b>0.09</b>	<b>0.06</b>	<b>0.15</b>	<b>0.10</b>	0.01	<b>-0.05</b>	<b>0.03</b>	<b>0.08</b>	<b>-0.03</b>	1.00			
	(0.00)	(0.00)	(0.00)	(0.00)	(0.14)	(0.00)	(0.00)	(0.00)	(0.00)				
(11) Ln(labor)	0.01	<b>0.02</b>	<b>0.08</b>	0.01	<b>-0.04</b>	<b>-0.02</b>	0.01	<b>0.06</b>	<b>-0.06</b>	<b>0.78</b>	1.00		
	(0.43)	(0.00)	(0.00)	(0.16)	(0.00)	(0.00)	(0.47)	(0.00)	(0.00)	(0.00)			
(12) Ln(capital)	<b>0.10</b>	<b>0.03</b>	<b>0.10</b>	<b>0.13</b>	<b>0.05</b>	<b>-0.07</b>	<b>-0.02</b>	<b>0.11</b>	-0.01	<b>0.65</b>	<b>0.77</b>	1.00	
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.25)	(0.00)	(0.00)		

**Note:** own calculations based on data from the OJSCs' annual reports available at PFTS *Istock* database.

We define *overall* Corporate Governance Index (*UCGI*) as the sum of the sub-indices. Thus it has a value between 0 and 100, with better governed firms having higher scores. Its value for each corporation allows judging about the extent the firm adheres to local (and some international) standards of corporate governance; though our goal is not to consider particular case but rather an overall tendency in the population.

Table 3 provides a correlation table for *UCGI*, each sub-index and some other selected variables. Majority of coefficients for corporate governance index and sub-indices (9 out of 15) are positive and significant. The correlation coefficients between Ownership Sub-index and two board sub-indices are negative and significant, implying that there is a negative association between independence of boards (and chairmen) and private dispersed ownership. This implies the ability of state as well as large shareholders to have their representatives in corporate boards. On the other hand this is consistent with agency problems associated with dispersed ownership in weak legal environment.

#### 4. Estimation Results

In this part we present our estimation results for the predictors of firms' corporate governance choices in Ukraine. We use overall level and separate elements of corporate governance (*UCGI*, Sub-index of Shareholder Rights, Sub-index of Transparency, Sub-index of Board Procedure, Sub-index of Board Process and Sub-index of Ownership) as a dependant variable. The OLS results with robust standard errors are presented in Table 4.

*A. Regulatory Factors*

In this section we discuss and present the results for the corporate governance factors that often are impacted by state policies. The goal of state interference in this context might be to indirectly achieve better governance practices in a corporate sector. We investigate the effects of such regulatory factors as ownership structure characteristics, size of a company, social trust and methods of privatization.

Table 4

## Estimation Results

Ordinary least squares regressions with robust standard errors of *UCGI* or the individual governance element on regulatory, industry and firm-level factors. \*, \*\*, \*\*\* respectively indicate significance levels at 10%, 5%, and 1% levels. Number of observations and R-sq are shown for each regression.

Regressors	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent Variable:					
	UCGI	Shareholder Rights	Transparency	Board Structure	Board Procedure	Ownership
Ownership by:						
— Banks	0.1485*** (8.23)	0.0265*** (5.21)	0.0083*** (2.97)	0.0922*** (9.94)	0.0700*** (9.06)	-0.0542*** (7.63)
— Foreign Organizations	0.1241*** (8.82)	0.0188*** (5.67)	0.0125*** (5.47)	0.1056*** (14.86)	0.0460*** (6.59)	-0.0518*** (11.12)
— Investment Companies	0.1492*** (5.47)	0.0089 (1.55)	0.0145*** (4.14)	0.0832*** (5.44)	0.0524*** (4.86)	0.0201** (2.22)
— Joint Companies	0.0836* (1.83)	0.0161 (1.21)	0.0197*** (3.91)	0.0830*** (3.64)	0.0672*** (3.90)	-0.0609*** (4.26)
— Offshore Companies	0.1729*** (12.99)	0.0251*** (7.04)	0.0070*** (2.92)	0.1089*** (17.28)	0.0575*** (10.39)	-0.0105* (1.84)
— Domestic Organizations	0.1178*** (21.07)	0.0188*** (11.96)	0.0094*** (10.21)	0.0853*** (23.68)	0.0527*** (17.42)	-0.0481*** (29.84)
— Managers	0.0572*** (9.60)	0.0134*** (9.27)	0.0144*** (16.34)	0.0330*** (9.87)	0.0247*** (8.79)	-0.0159*** (8.37)
— Individuals	0.0839 (1.32)	-0.0430* (1.77)	-0.0691*** (2.70)	0.1089** (2.48)	0.0770*** (3.51)	0.0395* (1.79)

— State Organizations		−0.0130***	−0.0076***	0.0658***	0.0399***	
		(4.09)	(3.04)	(6.46)	(3.90)	
— Local Authorities		0.0022	0.0053	0.0543***	0.0430***	
		(0.35)	(1.31)	(4.10)	(3.73)	
— 'Nominal' Shareholders		0.0227***		0.0965***	0.0487***	−0.0463***
		(5.01)		(11.01)	(5.74)	(8.31)
— State		−0.0059***	−0.0068***	0.0626***	0.0473***	
		(2.99)	(5.32)	(13.28)	(11.91)	
Ownership Concentration	−0.0932***	−0.0099***	−0.0048***	−0.0054	−0.0011	
	(16.06)	(5.43)	(4.39)	(1.24)	(0.30)	
Ln(Total Assets)	1.9084***	−0.0317	0.0063	1.2844***	0.3343***	−0.4014***
	(7.70)	(0.77)	(0.23)	(10.18)	(3.14)	(6.51)
Log(Capital)	0.0236	0.0005	0.0880***	−0.1822*	0.0647	0.0294
	(0.11)	(0.01)	(3.55)	(1.68)	(0.72)	(0.52)
Log(трудо́ві ресурси)	−1.7883***	0.0884***	0.1072***	−1.2914***	−0.7751***	0.2509***
	(10.49)	(2.59)	(4.93)	(14.55)	(11.02)	(5.18)
Constant	39.2583***	1.9303***	6.4650***	1.8306	12.6239***	24.6493***
	(15.50)	(3.49)	(18.47)	(1.37)	(11.59)	(32.43)
Observations	10152	18168	18168	10653	11272	18168
Adj. R-squared	0.13	0.10	0.13	0.19	0.11	0.11

Note: own calculations based on data from the OJSCs' annual reports available at PFTS *Istock* database.

## Estimation Results (cont.)

	(1)	(1)	(3)	(5)	(6)	(7)
	UCGI	Shareholder Rights	Transparency	Board Structure	Board Procedure	Ownership
Religion Factor	0.0005	0.0005***	0.0003***	-0.0001	-0.0002	0.0005***
	(1.51)	(7.84)	(6.14)	(0.34)	(1.20)	(5.99)
Political Diversity	-7.9990***	1.8520***	0.4944	-1.5999	-3.9743***	5.3474***
	(3.13)	(3.36)	(1.36)	(1.17)	(3.41)	(6.92)
Ethnic Diversity	14.5570***	-0.1847	-1.5174***	6.9848***	1.4898	-3.3017***
	(5.01)	(0.30)	(4.03)	(4.53)	(1.18)	(4.12)
Privatization by:						
- Sale of Shares	2.8912**	0.5303*	0.2499	-0.2934	0.7175	0.7304**
	(2.17)	(1.94)	(1.48)	(0.42)	(1.25)	(2.12)
- Leasing Repurch	2.3721*	-0.1122	-0.1934	-0.1474	0.7775	-0.2730
	(1.77)	(0.41)	(1.13)	(0.21)	(1.34)	(0.78)
Services	-0.2619	6.7633***	2.6504***	-5.2481***	-1.4928***	-3.5733***
	(0.25)	(24.68)	(16.96)	(9.75)	(3.46)	(9.27)
Health, Tourism	0.4724	6.7549***	2.7473***	-6.7650***	-1.8253*	-4.4996***
	(0.22)	(12.89)	(7.81)	(5.16)	(1.82)	(6.39)
Utilities	3.4668**	7.7699***	3.1113***	-4.4701***	-0.6367	-3.7010***
	(2.25)	(22.32)	(14.72)	(5.61)	(0.92)	(7.42)

Agriculture	-2.8472***	6.8309***	2.4220***	-6.8347***	-1.9481***	-3.2849***
	(2.72)	(24.85)	(15.47)	(12.76)	(4.45)	(8.48)
Communications	10.6797***	6.1542***	1.9413***	0.1238	2.8223***	-4.5655***
	(4.48)	(12.46)	(6.26)	(0.06)	(3.41)	(5.90)
Construction	-4.1178***	6.4679***	2.3587***	-6.8746***	-2.6588***	-3.4931***
	(3.87)	(23.43)	(14.96)	(12.63)	(5.98)	(9.04)
Culture	23.7803***	7.2040***	1.3984*	6.4875***	4.7863***	-3.9450***
	(20.36)	(8.97)	(1.95)	(10.75)	(9.80)	(2.81)
Education	3.7985***	4.6124***	1.8032***	-4.8614***	-1.2577	-4.9375***
	(3.36)	(4.15)	(3.03)	(8.49)	(0.35)	(3.77)
Finance	2.6534	6.4951***	3.8321***	-3.1819***	-2.6348	-3.2456***
	(0.65)	(13.92)	(13.80)	(2.68)	(1.02)	(5.28)
Forestry	-10.5268***	8.2205*	-3.1589	-9.8107***	-17.8253***	0.0684
	(9.09)	(1.83)	(0.72)	(16.22)	(34.19)	(0.06)
Industry	-0.8094	6.8550***	2.4827***	-5.5663***	-1.3679***	-3.8270***
	(0.81)	(25.73)	(16.58)	(10.95)	(3.27)	(10.18)
Science	0.1543	6.6537***	2.4419***	-5.2951***	-1.4231***	-4.5467***
	(0.12)	(21.02)	(12.67)	(7.75)	(2.58)	(10.12)
State Bodies	0.0000	7.8766***	2.9560***	0.0000	0.0000	-6.4419***
	(.)	(9.74)	(2.98)	(.)	(.)	(5.55)
Trade	0.2183	6.9156***	2.8019***	-5.4748***	-1.2454***	-3.7030***
	(0.19)	(23.77)	(16.73)	(9.30)	(2.64)	(9.13)

	(1)	(1)	(3)	(5)	(6)	(7)
	UCGI	Shareholder Rights	Transparency	Board Structure	Board Procedure	Ownership
Transport	-3.3319***	6.8486***	2.7053***	-7.3924***	-2.8277***	-3.4642***
	(3.17)	(24.79)	(17.18)	(13.72)	(6.38)	(8.96)
Western Region	1.1529	-0.2112	-0.5336***	1.0728***	-0.1037	-0.0519
	(1.64)	(1.40)	(5.65)	(2.81)	(0.34)	(0.26)
Eastern Region	-0.4498	-0.1658*	-0.2921***	-0.0812	-0.4709**	0.3272***
	(1.08)	(1.92)	(5.05)	(0.37)	(2.55)	(2.76)
Central Region	1.1573**	-0.6835***	-0.2968***	0.9909***	0.2758	-0.0542
	(2.06)	(5.95)	(4.00)	(3.31)	(1.15)	(0.36)
Year 2001	3.0774***	1.6531***	0.8596***	0.2166	0.1583	-0.1897**
	(10.49)	(26.85)	(21.08)	(1.40)	(1.24)	(2.31)
Year 2002	2.4336***	1.3085***	1.2572***	0.2421	0.0543	-0.5892***
	(7.37)	(18.77)	(29.99)	(1.39)	(0.38)	(6.27)

**Note:** own calculations based on data from the OJSCs' annual reports available at PFTS *Istock* database.



### *Ownership structure*

We possess full information on the shareholders with at least 5% share stake, and full information (including shareholdings below 5%) on shareholders that are part of management and/or board of a company. To construct ownership variables we sum up the shares of each group of shareholders defined by their identity. We distinguish the owners by their identity as follows: banks, investment companies, joint companies, offshore companies, foreign companies, local authorities, domestic organizations, state organizations, state (represented by State Property Fund, and central government bodies), ‘nominal’ shareholders, individuals, and managers and board directors. We also include proxy for ownership concentration: the share of the largest shareholder, which is to disentangle the effects from a change in the extent different owners are represented in ownership and the change in ownership concentration effect. Variables of state (including state organizations and local authorities) or ‘nominal’ ownership are only included in the estimations if they are not accounted for in corporate governance variable.

Overall the evidence is as follows. Ownership by banks, foreign organizations, offshore companies, domestic organizations, managers, ‘nominal’ shareholders is found to improve all aspects of firms’ corporate governance except the ownership characteristics. Ownership rights in such firms tend to be more concentrated which is however consistent with the desire of these shareholders to increase their control over the companies they own.

Ownership by individuals, state organizations and state bodies are found to have detrimental effects on shareholder rights and information disclosure of firms. At the same time their impact on board arrangements is positive. Ownership concentration is found to have negative effect on overall governance level, shareholder rights and disclosure.

Increase in the ownership share of each identity group brings more independence to the boards, which is consistent with common sense implying that the owners get more ability to have their representatives at the boards.

*Banks.* Banks ownership is found to be a strong predictor of corporate governance practices; its coefficient for *UCGI* is positive and highly significant at 0.1485 ( $z=8.23$ ) in our base regression (Column 1). Banks ownership is a strong predictor of corporate governance practices for all sub-indices. It improves all aspects of governance except the ownership characteristics of governance.

*Foreign Organizations.* Foreign ownership appears to be positive and highly significant determinant of *UCGI* at 0.1241 ( $z=8.82$ ) in our base specification. Foreign ownership is positively and highly significantly related to all corporate governance sub-indices, supporting the hypothesis that foreign investors bring better standards of corporate governance from their countries on average.

*Investment Companies.* The coefficient for *UCGI* is positive and highly significant at 0.1492 ( $z=5.47$ ). The effect on board and its chairman independence and ownership is highly significant and positive, while it is not significant for shareholder rights. Only this type of owners is found to enhance dispersed ownership.

*Joint Companies.* The *UCGI* coefficient is marginally significant in our base regression at 0.0836 ( $z=1.83$ ). The effects on transparency and board arrangements are positive and highly significant; the effect on shareholder rights is not significant and the effect on ownership characteristics is negative.

*Offshore Companies.* The *UCGI* coefficient is positive and highly significant at 0.1729 ( $z=12.99$ ) in our base specification. All other effects (except on the ownership) are positive and highly significant as well.

*Domestic organizations.* This group of owners mainly consists of other domestic enterprises. The coefficient is positive and highly significant at 0.1178 ( $z=21.07$ ) in our base regression. All other effects (except on the ownership) are positive and highly significant as well.

*Managers.* Ownership by executive managers and board directors is also found to have positive and highly significant effect on governance at 0.0572 ( $z=9.60$ ) in our base specification. All other effects (except on the ownership) are positive and highly significant as well.

*Individuals.* Effect of individuals ownership on *UCGI* is not significant at 0.0935 ( $z=1.51$ ) in our regression. Interestingly, the coefficient for level of transparency is highly significant at -0.0691 ( $z=2.70$ ) implying that individual owners have detrimental effect on company's information disclosure, which might indicate on the increase in the agency problems. Coefficient for shareholder rights is marginally significant at -0.0430 ( $z=1.77$ ), which again indicates on a negative impact on shareholder rights. The effects on board arrangements and ownership are positive. Overall these results are consistent with situation in Ukraine when often few individuals (members of one family clan) capture most of the power at the firm and consequently expropriate rights of other shareholders, for example, through share dilution and freeze-outs that is often accompanied with information concealing (from other shareholders about new share issues, place and time of next shareholder meetings etc.) and violation of rights of other shareholders.

*State Organizations.* Ownership by state organizations has a highly significant negative impact on shareholder rights and transparency, which is consistent with agency problems of state ownership, while the effect on board and chairman independence is positive since they usually include their representatives who do not work at other positions at the company.

*Local Authorities.* Overall the impact of local authorities' ownership is significant and positive only on board arrangements that imply the ability of local authorities to appoint their representatives while the coefficients in regressions for shareholder rights and transparency are not significant.

*State.* This group of owners includes State Property Fund and other central government bodies. State ownership has highly significant coefficients in all regressions that are negative for shareholder rights and transparency levels while positive for board arrangements.

*Nominal.* ‘Nominal’ shareholders are found to have highly significant positive effect on shareholder rights and board arrangements; and highly significant negative effect on ownership variable.

*Concentration of Ownership.* Interestingly, ownership concentration is found to have negative and highly significant effect on governance, which is consistent with theoretical expectation. On the one side it is expected that in a weak legal environment large owners will tend to expropriate the right of other shareholders and stakeholders. On the other side they need less governance and protection of their rights because large shareholders themselves are able to more effectively exercise control and defend their rights. The *UCGI* coefficient is highly significant at  $-0.0932$  ( $z=16.06$ ). The coefficients for shareholder rights and transparency are highly significant at  $-0.0099$  ( $z=5.43$ ) and  $-0.0048$  ( $z=4.39$ ) respectively. The effects on board arrangements are not found to be significant.

*Method of Privatization.* The significant part of firms in our sample were privatized by one of the two methods. One method is a sale of shares of public company (about 60% of the sample). Another one is a repurchase of company’s assets after leasing (1% of the sample). The other 39% might be either new companies or they initially were privatized not as public companies and then changed the form of their organization to a public company. Overall the first method, the sale of shares, appears to have more positive effect on subsequent corporate governance practices than the second method. Though we cannot claim about the positive impact from privatization on governance since we do not address a selection problem (possibility that companies with better financial and governance performance were privatized first) in this paper.

*Sale of Shares.* This method has significant positive coefficient in *UCGI* regression at  $2.8912$  ( $z=2.17$ ) that implies positive association with enterprise corporate governance practices and in ownership regression at  $0.7304$  ( $z=2.12$ ). The coefficient is also marginally significant in shareholder rights regression at  $0.5303$  ( $z=1.94$ ).

*Repurchase of the Assets after Leasing.* This variable is only marginally significant and positive in *UCGI* regression and not significant in all others. This indicates on the possibility of positive association between the privatization method and overall corporate governance practices. The low significance of the variable might also be explained by its insufficient variation since few companies in our sample were privatized by this method.

#### *Social Trust Factors*

We expect social trust factors to be significant determinants of the corporate governance practices by providing more confidence and better relation-

ship, understanding to corporate relations. For example, managers will disclose more information about a firm if they believe that the disclosed information will not be used against the company. Or, the managers might be ready to disclose more information on problems a company face if they trust the investors do not leave a company.

We adopt the ideas in the Bjornskov (2005) paper to our case and use regional variation (and time variation for religion) to construct three proxies for regional level of trust in the following fashion. Ukraine has 25 geographical regions. First, political factor is the probability that two randomly chosen people in particular region voted for different candidates during the last round of recent presidential elections in 2004<sup>26</sup>. Second, religion proxy is the number of Christian communities of all denominations across regions and years<sup>27</sup>. Third, ethnic diversity is the probability that two randomly chosen people from a region are of different nationality<sup>28</sup>. Overall the estimation results show that social trust is a significant predictor of corporate governance.

*Religion.* Number of churches is found to have highly significant positive effect on shareholder rights, transparency and ownership. The impact is reasonably strong economically, e.g. increase in 1,000 Christian communities in the region implies about 2.5%-improvement in average index of firms' shareholder rights and 1.5%-improvement in transparency and information disclosure index in that region.

*Political Diversity.* Political factor has a highly significant negative effect on overall level of corporate governance index, *UCGI* at -7.9990 ( $z=3.13$ ) and board procedure index at -3.9743 ( $z=3.41$ ). The effect on shareholder rights and ownership is highly significant and positive at 1.8520 ( $z=3.36$ ) and 5.3474 (6.92) respectively.

*Ethnic Diversity.* Ethnic Diversity is found to have a negative effect on transparency and ownership at -1.5174 ( $z=4.03$ ) and -3.3017 ( $z=4.12$ ) respectively. We also found that ethnic diversity has positive association with *UCGI* and board structure index. It is contrary to what we expected and might be explained perhaps by an omitted variable problem: we might not account for the other variable that correlates both with ethnic diversity and corporate governance, for example some specifics of different nationalities (e.g. positive impact of different cultures, traditions, and may be as a result useful ideas) that positively contribute to corporate governance practices.

### B. Industry, Region and Year Factors

Consistently with previous literature we found that industry specifics are an important factor in predicting corporate governance: most of the industry coefficients are highly significant although with different signs. Companies in such sectors as Utilities, Communications, Culture and Edu-

<sup>26</sup> Source: official government website of Central Election Committee, <http://www.cvk.gov.ua>

<sup>27</sup> Source: official statistics, <http://www.risu.org.ua/eng/resources/statistics/>

<sup>28</sup> Source: official statistics of Ukrainian State Statistics Committee, <http://www.ukrstat.gov.ua>.

cation exhibit higher standards of overall corporate governance practices on average while companies in Agriculture, Construction, Forestry and Transport sectors are characterized with significantly lower standards of governance.

To estimate regional differences in the average level of corporate governance we include four dummies, dividing companies into four groups defined by the region's location in the west, east, center and south of Ukraine. We use south as a base in our regressions. We found significantly higher standards of overall corporate governance in the center, perhaps because of more independent boards. A relatively higher levels of corporate governance in the center might be explained by the territorial nearness to the central regulating government bodies as well as location in the most developed (in many respects: economic, cultural, social etc) region of Ukraine. At the same time firms exhibit lower standards of shareholder rights and transparency in this region. More independent boards are also found in the west of Ukraine.

The *UCGI* coefficients for years 2001 and 2002 are highly significant and positive at 3.0774 ( $z=10.49$ ) and at 2.4336 ( $z=7.37$ ) suggesting considerable changes in corporate governance practices over time. We observe a significant improvement of corporate governance in 2001.

#### *C. Firm-Level Factors*

We estimate the effects of other firm factors that are often used in the literature on determinants of corporate governance. We investigate the effects of firm size, level of capital (fixed assets) and level of labor (number of workers) in logarithmic form.

*Firm size.* Assets size is significantly and positively related to the level of corporate governance quality with the coefficient of *UCGI* at 1.9084 ( $z=7.70$ ). This is consistent with our expectation because it implies that the higher size of firm is associated with better governance. Larger firms are interested in better governance because of number of reasons, e.g. they tend to require more external capital, face harsher competition, etc. The size of assets is significant positive predictor of the board and its chairman independence at 1.2844 ( $z=10.18$ ) and 0.3343 ( $z=3.14$ ) respectively. At the same time larger firms tend to have more concentrated ownership.

*Capital.* Capital is not significantly associated with *UCGI* in our regression however it is positively related to transparency levels, which is consistent with higher levels of capital receiving more shareholders' control. The level of capital is also marginally significant and negatively related to board independence.

*Labor.* Levels of labor are negatively and highly significantly related to overall corporate governance at -1.7883 ( $z=10.49$ ), implying that increase in the number of workers by 1% is associated with about 1.78 points decline in our *UCGI*. This might be explained by the relation between the number of workers and the complexity of corporate relationships, especially if workers become involved as shareholders. Levels of labor are the powerful predictor

of all corporate governance elements, although the direction of influence is different. It has positive effects on shareholder rights, transparency and ownership, and negative impacts on board independence at the board and chairman independence.

## 5. Conclusions and Policy Implications

This paper attempts to empirically investigate the determinants of choices of corporate governance practices by corporations in a transition market. The study offers firm-level evidence benefiting from unique financial and governance data on Ukraine. In particular, we analyze the factors that affect overall level as well as individual elements of corporate governance. We consider such governance elements as shareholder rights, transparency, board independence, chairman independence and ownership. Overall we found that regulatory, industry and firm level factors are important, which is consistent with previous literature for other countries.

Ownership by banks, foreign organizations, offshore companies, domestic organizations, managers, 'nominal' shareholders is found to improve all aspects of firms' corporate governance except ownership characteristics. Ownership rights in such firms tend to be more concentrated which is however consistent with the desire of these shareholders to increase their control over the companies they own.

Ownership by individuals, state organizations and state bodies are found to have detrimental effects on shareholder rights and information disclosure of firms. At the same time their impact on board arrangements is positive.

Ownership concentration is found to have negative effect on overall governance level, shareholder rights and disclosure.

Both methods, the sale of shares and repurchase of assets after leasing, appear to have positive association with corporate governance practices though the first method has more significant coefficients.

The estimation results show that social trust is a significant predictor of corporate governance. The impact of religion, number of Christian communities in the region, is significant both statistically and economically; while the effects of political and ethnic diversity are controversial.

Consistently with previous literature we found that industry specifics are an important factor in predicting corporate governance: most of the industry coefficients are highly significant although with different signs. Companies in such sectors as Utilities, Communications, Culture and Education exhibit higher standards of overall corporate governance practices on average while companies in Agriculture, Construction, Forestry and Transport sectors are characterized with significantly lower standards.

We found significantly higher standards of overall governance in the central regions of Ukraine (that includes Kyiv). This might be explained by the territorial nearness to the central regulating government bodies as well as location in the most developed (in many respects: economic, cultural, social etc) area of Ukraine. At the same time firms exhibit lower standards of shareholder rights and transparency in this region. More independent boards are also found in the western regions of Ukraine.

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