Task setting

Aim of the project

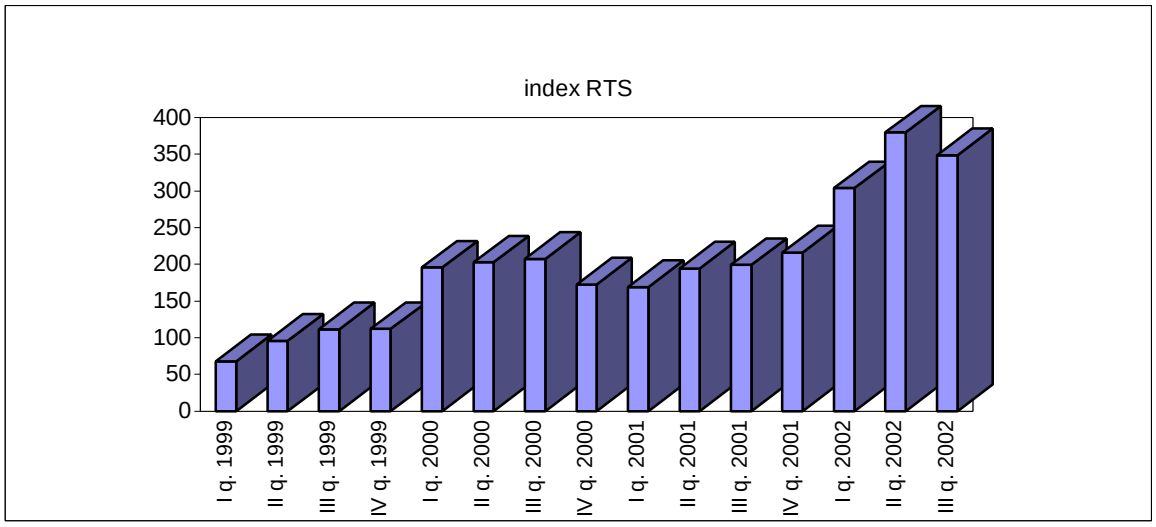
This project aims at estimating the impact of quality of corporate governance on market value of russian companies and at finding the most important components of this relationship. This research is based on data which contains information on more than 40 largest Russian companies during the period from 1999 till 2002.

This is a very opportune challenge since the interest to corporate governance problems grows all around the world including Russia. At the moment several indirect confirmations underpin corporate governance – market value relationship. These evidences are based on cross-countries comparisons and investor polls, use of potential capitalization or market to book value ratio. The research based on rather long time interval, firm's financial and macroeconomic data could provide convincing convinced evidence of the corporate governance – market value relationship.

Introduction

Since recently corporate governance problems attract special attention. Sequence of scandalous bankruptcies (Enron, WorldCom, Anderson) led to changes in listing and financial accounts requirements. In Russia Federal Commission on Securities Markets the Corporate Governance Code has been developed, many companies adopted its own codes, implemented international accounting standards and disclosed ownership information.

Positive trends in corporate governance in Russia take place in favorable macroeconomic conditions. Stable political situation and high oil prices permit Russian financial market to recover after crash in 1998.



What are the reasons for a four-year Russian financial market growth? Why have some companies got in value more than 10 times, while the others stayed at the same level? The difference is partially due to the difference in financial results. Sales growth and cost reduction obviously led to market value increase. However, that is not enough to explain the difference in capitalization growth. Another reason is associated with changes in companies' corporate governance practices. Investors are ready to pay more for shares of transparent companies who take care of their reputation and reduce management power by effective board of directors.

In this research we are trying to show that the second component of market value growth really exists, taking into account financial fundamentals and market dynamics.

Testable hypothesis

Carrying out this research we can test the following hypotheses:

Hypothesis 1 (main). *The market value of companies positively depends on the quality of corporate governance.*

Significant variation in corporate governance practices during last years allows to test this hypothesis using panel regressions with fixed effects.

Hypothesis 2. *Good corporate governance positively affects companies' market value regardless of industry characteristics, companies' size and ownership structure.*

If this hypothesis is not rejected then policy recommendations concerning growth in companies' value can be simple and universal, and acceptable by various companies.

Hypothesis 3. *Among various dimensions of corporate governance share dilution, asset stripping, transfer pricing and bankruptcy risk components reduce companies' value significantly more than lack of disclosure and transparency, limits on foreign ownership or poor management attitude towards shareholders.*

Detailed information on groups of corporate governance risks permits to find risks that influence companies' value more than others do. We highlight share dilution, asset stripping, transfer pricing and bankruptcy risk components because they directly increase the probability of profit expropriation by majority of shareholders and management team.

Literature review

Corporate governance is associated with agency problems, which rise separation everywhere between ownership and control. Owners must be sure that managers will return some profits to them and will not invest it in bad projects. According to Shleifer and Vishny [9], successful corporate governance system should combine legal protection of investors with an important role for large investors. By this classification, corporate governance system in Russia with limited legal protection of investors and a majority of firms insider dominated with little external financing - is far from perfect.

There exist several reasons for the poor quality of corporate governance in Russia. The first is rapid insider privatization. The hopes of privatization supporters that it would give profit incentives and lead to an increase in firms' performance did not come true. Instead of this privatization in Russia led to massive self-dealing by managers and controlling shareholders [5]. Black et al argue that in the absence of mature institutions that can control self dealing privatization could not be successful.

The corrupt environment is another reason for poor corporate governance quality in Russia. Lambert-Mogiliansky et al [7] argue that the regional divisions of arbitrage courts are corrupt and that governors in

alliance with top managers of big industrial enterprises use bankruptcy institutions as a mechanism for expropriation of outside investors and the federal government. Moreover, bankruptcy law does not stimulate managers to restructure enterprises but may prevent restructuring.

Fox and Heller [6] design a topology of consequences of bad corporate governance to the real economy using Russian examples. Similar to the others, Fox and Heller could see insider dominance as a main source of corporate governance failures that are classified and supported by numerous confirmations from the Russian economy.

Radygin and Entov [2,3] examine a complex system of institutional corporate governance problems in Russia. Most attention is devoted to protection of property rights. This problem probably is the most important in Russia up to now.

On the other hand there are several positive trends in corporate governance in Russia. As survey of Russian enterprises shows [1], many managers understand necessity of corporate governance practices improvement, believe that it could attract investment in Russian industry and ready to disclose information about correspondence of their activity and recommendations of the Code prepared by FCSM.

Since Rajan and Zingales' seminal paper on financial dependence and growth [8] it has been widely accepted that successful development is virtually impossible in the absence of developed capital markets. Relatively small share of the market capitalization of all Russian listed companies in GDP indicates high financial dependence preventing economic growth.

Many investment companies are ready to pay premium for good corporate governance. For example recent poll of more than 200 investment companies in 31 countries by McKinsey [10] indicates that investors are ready to pay more for shares of transparent companies, that use international financial standards. The size of this premium varies from 10-15% in USA and West Europe to 40% in Russia.

Black [2] find that companies' market value to potential capitalization ratios depend crucially on the quality of corporate governance. Using corporate governance rankings, Black predicts 700-fold increase in firm value due to a worst to best governance improvement. Therefore, one can relatively easy develop financial market, through a determined effort to improve corporate governance practices.

This direction of research seems fruitful and worth further efforts. One should check Black's results using a bigger sample (Black used a sample of 21 companies) and a different technique of econometric analysis (panel data instead of cross section regressions). This will allow us to get rid of vague concept of potential capitalization and make sure that variation in companies' values is due to variation in quality of corporate governance not to financial or other hidden characteristics.

Methodology

In our research we plan to test above-mentioned hypotheses on firm-level data, using panel data regressions with fixed effects. Dependent variable is a logarithm of companies' market value. Independent variables are divided into three groups:

a) Variables describing quality of corporate governance (rankings developed by Brunswick and Vasiliev)

b) Financial fundamentals extracted from yearly financial reports (logarithm of sales and profitability)

c) Logarithm of RTS index that describes the state of Russian financial market

Data sources

We plan to use the following sources of information:

1. *Russian Trading System (RTS)* provides information about trades on shares of Russian companies listed. Using information about prices of common and privileged stock RTS calculates market capitalization for every listed company every trading day. RTS index is calculated on the basis of prices of the most liquid Russian shares.

2. Companies' charters describing quality of corporate governance are constructed regularly for biggest Russian companies since 1999 by different consulting and investment firms (e.g. Brunswick Warburg, Troika Dialog, CORE rating etc). In this project we use ranking developed by Brunswick Warburg Investment Company and ranking developed by Dmitry Vasiliev's Institute of Corporate Law and Governance (ICLG).

The first ranking covers 22 companies since 1999 till 2001 and contains up to four observations for each company. The second one covers 40 companies since 2000 till 2002 and contains up to five observations for each company. Comparative analysis of these rankings is given bellow; the very rankings are in the appendix.

3. Companies' quarterly reports from disclosure program provided by the Federal Commission for Securities Markets (FCSM) contains information about ownership structure, companies' size, profit and capital structure. At the first stage of the project we use data only about sales and profit from yearly reports; we construct two fundamental financial variables: logarithm of sales as a measure of firm's size and profit to sales ratio as an efficiency proxy.

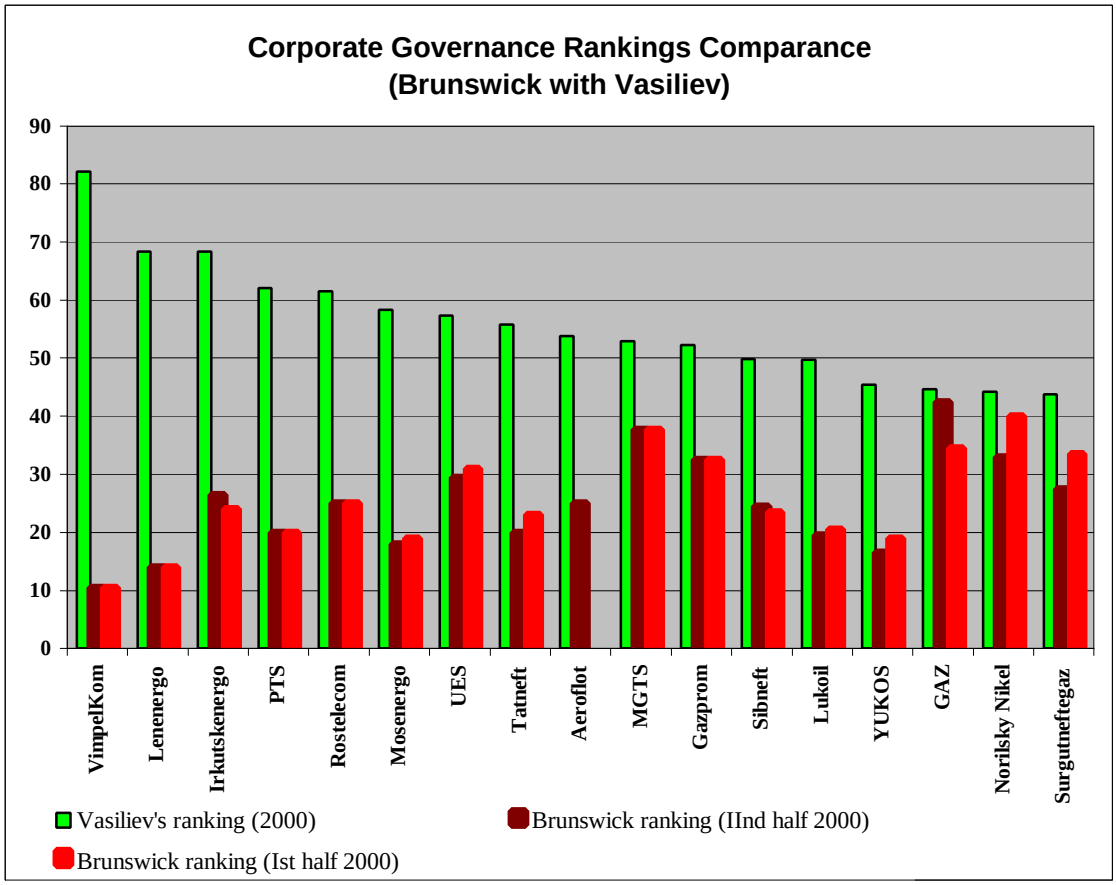
Corporate governance rankings methodology and their comparative analysis

Although corporate governance rankings developed by Brunswick and by ICLG have much in common they also have some significant differences. Vasiliev's ranking is measured in the CORE-rating scale and varies from CORE-100 (the highest ranking) to CORE-0 (enterprise-bankrupt, the lowest ranking). The following three groups of data are used to calculate the ranking: public information (obligatory to disclosure), other information disclosed by a firm and opinions of securities market analysts. Companies' analysis includes transparency and information disclosure, capital structure, corporate governance structure, stated shareholders rights and companies' regulation documents.

Brunswick constructs its rankings by summing up different real and potential risks associated with corporate governance (see table 1). Bigger ranking is associated with higher risks. Companies with ranking lower than 17 are comparatively secure, companies with ranking higher than 35 are extremely risky.

Table 1. Elements of Corporate Governance Risk (developed by the Brunswick Warburg).

Risk category	Maximum weight
Disclosure and Transparency	14
Dilution Through Share Issuance	13
Asset Stripping and Transfer Pricing	10
Dilution Through Merger and Restructuring	10
Bankruptcy	12
Limits on Foreign Ownership	3
Initiatives in Corporate Governance Sphere	9
Registrar Affiliated w. Company	1
Total	**72**



As one can see from the graph the rankings are strongly correlated: companies with high Vasiliev's ranking have low Brunswik ranking and visa versa. In year 2000 VimpelKom and Lenenergo have been the best companies in both rankings; while GAZ, Norilsky Nikel and Surgutneftegaz have been the worst. The biggest discrepancies connected with oil companies: Tatneft, Lukoil and Yukos had low Vasiliev's rankings, and relatively low risk according to Brunswick.

The model

The simplest form of econometric model is as follows:

$$Log(Market\ Value_{it}) = C_i + C_k r^k_{it} + C_s log(sales_{it}) + C_p profitability_{it}$$

$$+ C_{IRTS} log(Index\_RTS)_t + ?_{it}$$

where t stands for different moments of time (a quarter is the smallest time interval), i corresponds to company's number, k = {rv, rb} – indicator of one or another corporate governance ranking (Vasiliev's ranking or ranking developed by Brunswick).

Coefficients C_k are of the main interest of our research. It is easy to interpret them: a unity change in k-rating value leads to (1+ C_k)-times change in company's value. Coefficients C_s and C_p reflects influence of financial fundamentals. Coefficients C_i accumulate other constant characteristics and are eliminated by panel regressions with fixed effects.

Preliminary results

Available data allow estimating the model. Results are presented in table 2. For each ranking we test two specifications: with financial fundamentals and without them. If corporate governance rankings reflect financial fundamentals then including financial fundamentals into regressions would lead to significant changes in corporate governance rankings coefficients. Absence of such changes suggests that quality of corporate governance and financial results reflect different sides of companies' activities and have different effect on companies' market value.

All statistically significant coefficients have predictable sign. Improvements in quality of corporate governance or in financial results as well as market growth lead to increase in companies' market value. The estimates of corporate governance rankings coefficients (around 0.02) correspond to 37% increase in companies' value due to 15 points ranking increase. Such changes in rankings can be described as company's transition from companies with "poor" quality of corporate governance to an "average" quality. Such changes are really feasible: during year and a half Vasiliev's ranking for Norilsky Nikel grew on 15 points; during half an year period Vasiliev's ranking for Uralsvyazinform drop on 14 points; Brunswick ranking for Yukos grew on 28 (!) points. Even with the highest estimates of financial fundamentals one can achieve the same growth in value by more than twice sales growth or 35% increase in profitability. Therefore increase in financial

results demands more efforts compared to corporate governance practices improvement leading to the same value growth.

Table 2. Regression analysis results (dependent variable – logarithm of firms market value, panel regressions with fixed effect)

	(1)	(2)	(3)	(4)	(5)	(6)
Vasiliev's Ranking	0.024**	0.021**				
Brunswick Ranking			-0.020**	-0.021*		
Composite Ranking*					0.020**	0.011*
Log. Sales		0.278*		-0.059		0.299**
Profitability		1.025*		0.127		0.741**
Log. Index RTS	0.646**	0.568**	1.017**	0.953**	1.051**	0.771**
# of observations	246	246	166	166	310	310
# of firms	30	30	17	17	32	32
R^2	0.19	0.25	0.54	0.54	0.43	0.49

* significance 5%; ** significance 1%

In order to increase number of observation we constructed composite corporate governance ranking (cg). This ranking is equal to Vasilev's ranking (cg=rv) if Brunswick ranking is unavailable, to modified Brunswick ranking (cg=100(1-rb/72)) if Vasiliev's ranking is unavailable, and to an average of Vasilev's ranking and modified Brunswick ranking if both rankings are available. As before corporate governance practices improvements increase companies' market value, result is statistically and economically significant and robust to financial fundamentals including.

All our results are preliminary and should be additionally tested. There are still many problems in this research to overcome. Some of them are already taken into consideration in this proposal; others will be done while working on the project. Obviously, capital gains should be taken into account. We plan to extend the list of financial controls, as well as to reduce time interval in financial figures (from year to half or to quarter). Industry belonging can be important due to macroeconomic shocks that influence different industries. One of the main questions in this project is the problem of endogeneity of corporate governance rankings. While number of observations is growing it will be possible to use the lags of rankings as instruments to current rankings. So we plan to solve this problem using instrumental variable regressions. Also we are going to

develop the theoretical model that explains (not postulates!) corporate governance – market value relationship, using game theory and asymmetric information models.

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Appendix

Table 3. Corporate governance rankings (developed by the Brunswick Warburg).

	Observation period	2001	II half 2000	I half 2000	1999
	Date of the ranking release	13.03 2002	26.04 2001	17.11 2000	17.05 2000
1	VimpelKom	10.5	10.5	10.5	12.5
2	Lenenergo	16.3	14	14	13.5
3	UralMash-Izhora	13	16.5		
4	MTS	14	16	16	
5	Lukoil	17.5	19.5	20.5	17
6	Baltika	19.5	18	18	19.5
7	SUN - Interbrew	16.5	19	19	23
8	Mosenergo	21.5	18	19	23
9	PTS	23.5	20	20	19
10	Severstal	21			
11	Tatneft	19	20	23	26
12	Rostelecom	22	25	25	22
13	Sibneft	24	24.5	23.5	24
14	Irkutskenergo	30.5	26.5	24	16
15	Aeroflot	27	25		
16	YUKOS		16.5	19	44.5
17	UES	28	29.5	31	26
18	Surgutneftegaz	25	27.5	33.5	34
19	Norilsky Nikel	22	33	40	35.5
20	Gazprom	31.5	32.5	32.5	36.5
21	GAZ		42.5	34.5	26.5
22	MGTS	35.8	37.8	37.75	37

Table 4. Corporate governance rankings (developed by ICLG).

	Observation period	II q. 2002	I q. 2002	II half 2001	I half 2001	2000
	Date of the ranking release	10.07. 2002	10.04. 2002	15.01. 2002	20.09. 2001	11.03. 2001
1	VimpelKom	81.14	83.89	83.3	83.3	82.12
2	MTS	71.91	71.91	75.05		
3	GUM	67.78	67.39	64.64	67.39	71.51
4	UES	66.01	63.85	63.46	62.08	57.37
5	TZUM	62.67	62.28	58.74		
6	PTS	62.67	59.92	59.33	63.65	62.08
7	Tulenergo	62.28				
8	Rostovelektrosvayz	62.28	64.83	59.72	60.12	59.92
9	Mosenergo	61.49	57.96	61.89	57.96	58.35
10	Lenenergo	61.3	62.67	63.06	64.05	68.37
11	Kuzbassenergo	59.33	55.4	55.4	52.65	59.14
12	Norilsky Nikel	59.33	51.47			44.2
13	Sverdlovenergo	58.55	55.99			
14	Volgogradenergo	58.15				
15	Sibneft	57.76	56.78	55.6	57.17	49.9
16	Stavropolenergo	56.78				
17	Baskirenergo	56.78	56.58	55.01		
18	MGTS	56.39	52.85	51.87	54.22	52.85
19	TNK	55.99				
20	Irkutskenergo	55.99	55.21	52.85	50.49	68.37
21	Lukoil	55.8	50.29	48.13	44.4	49.71
22	Gazprom	55.8	56.39	55.01	54.03	52.26
23	Slavneft-Megionneftegaz	54.81	53.44	51.67		
24	YUKOS	54.42	48.33	46.76	45.78	45.38
25	Rostelecom	54.42	57.96	56.58	56.39	61.49
26	Severstal	53.24	52.26	53.24	51.87	50.88
27	Red October	53.24	52.06	51.87	51.87	60.31
28	Samaraenergo	52.06				
29	Kubanelektrosvayz	51.47	44.6	49.51	45.38	49.71
30	Aeroflot	50.88	46.56	42.63	43.03	53.83
31	Nizhegorodsvyazinform	49.9				
32	Voronezsvyazinform	48.92	49.12			
33	Rosneft-Sahalinmorneftegaz	48.53	47.15	44.01		
34	Uralsvyazinform	48.13	52.26	52.06	44.4	58.35
35	Bashinformsvyaz	46.76	54.81	50.88	51.87	54.22
36	Tatneft	42.44	42.44	44.4	45.97	55.8
37	Surgutneftegaz	41.06	44.2	48.13	47.74	43.81
38	GAZ	40.47	40.47	38.31	36.94	44.6
39	Rosneft-Purneftegaz	38.9	41.45	42.24		
40	Avtovaz	36.54	40.08			