National Research University Higher School of Economics

Shabalin Pavel Grigorievich

THE DETERMINANTS OF THE PRICE DIFFERENCE BETWEEN SHARES WITH DIFFERENT VOTING RIGHTS

PhD Dissertation Summary
for the purpose of obtaining
Philosophy Doctor in Economics HSE

Academic Supervisor:
Teplova T.V., PhD, Professor

JEL: G32, G34, G38

Moscow – 2018

Motivation. The deviation from «one share – one vote» rule is one of the control enhancing mechanisms in a company and it is widely used both in developed and emerging markets. Shares with multiple voting rights, shares with restricted voting rights and shares without voting rights are possible deviations from «one share – one vote» rule. The United States, France, Sweden and Canada are the main markets of dual-class shares with a total capitalization of $5 trillion. The dual-class share structure is mostly employed in the high-tech sector (Google, Facebook, Linkedin, Trip Advisor), but it is also widely used by «mature» companies (Ford, Berkshire Hathaway).

Regulation of the issuance and prevalence of dual-class shares differ across countries significantly. The United States is the most loyal jurisdiction, while the most stringent legal restrictions are set in Israel. Nevertheless, in recent years financial regulators and stock exchanges are competing for issuers, providing more flexibility in the use of the dual-class share structures, which facilitates dissemination of these instruments in the financial market.

There is a running debate on the efficiency of dual-class share structure at major corporate governance centers – Harvard and Stanford Universities [Bebchuk, Kastiel, 2017; Winden, 2017].

«Control premium» can be defined as the price difference between common and preference shares («voting premium», «spread» terms are also employed in this research). In this research we have used preferred shares instead of nonvoting stocks in order to estimate control premium for several reasons. First, the research is conducting in countries (Brazil, Germany, Russia and South Korea) where the issuance of multiple voting shares is prohibited. Second, due to legal restrictions for issuance of common stocks with different voting rights preferred shares are widely used in those countries. Third, dividends on preferred shares depends on company income and therefore are not fixed in those countries. Therefore, the properties of such preference shares are very close to ones of common stocks apart from the right to vote. In other words, such preference shares should be treated as common stocks without voting rights. Preference shares without voting rights but with dividend

privileges are very special in dual-class share structures classification[1]. Quantitative research devoted to the estimation of the factors affecting the price difference between share classes plays a significant role in the research field in recent years.

Brief literature review. The protection of minority shareholders depends on the efficiency of corporate governance [La Porta et al., 2000]. The control premium arises due to the lack of protection of minority shareholder rights. The theoretical model implies that voting premium depends on the size of private benefits of control and control contest probability in a company [Rydqvist 1987; Zingales 1995]. The law protection of minority shareholders is also important. The better minority shareholders rights are protected by law the higher the price minority shareholders are willing to pay for a stock of the company [La Porta et al., 2002]. Thus, the likelihood of expropriation of non-voting minority shareholders depends on the level of corporate governance in the company, which is affected by the legal environment. The size of the private benefits of control increases at the expense of minority shareholders if legal mechanisms do not provide an acceptable degree of protection to minority shareholders [Zingales, 1994; Zingales, 1995]. As it was shown by [Nenova, 2003] the lower the legal protection of minority shareholders, the higher the private benefits of control, i.e. the spread. The issuance of ADR for a company shares is a corporate governance quality proxy that is most frequently used in empirical research (see for instance, [Muravyev, 2009; De Souza, Fernandes, 2014]). In contrast more complex corporate governance quality indicator, i.e. corporate governance index, was used in the Brazilian market only [Silva, Subrahmanyam, 2007].

Quality of corporate governance is influenced by the type of controlling shareholder. However, the issue regarding the influence of ownership structure on the control premium also remains open. For instance, in Brazil [Silva, Subrahmanyam, 2007; De Souza, Fernandes, 2014] have found a significant negative impact of government participation in a company on the spread, while

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[1] As a rule, preference shares have not voting rights, however may vote in some circumstances, for instance when dividend is omitted or not paid in full

[Saito, Silveira, 2010] have not derived the same results. The theory suggests the spread should be higher if a family holds control stake in a company, especially if a family holds large stake of voting rights since the family is more sensitive to maintaining control and is also more prone to expropriate minority shareholders as a class [Caprio and Croci, 2008]. [Saito, Silveira, 2010] have obtained empirical evidence in the Brazilian market of the positive relationship between family ownership of voting rights and spread meanwhile family influence on spread has not yet been tested over the most recent period.

The institutional characteristics of the country both determine the control premium factors and have an impact on the sign of the relationship. Considering that not all hypotheses can be tested for each country as well as the need to compare the results across countries, it is necessary to conduct research on each country separately in order to properly estimate the influence of the voting premium determinants.

Research objects are the non-financial companies of the global financial market. **A subject of study** is the control premium, estimated as a price difference between voting common and non-voting preference shares. **An objective of the research** is to quantify the impact of corporate governance aspects on the control premium.

In order to achieve the main research objective several **objectives** were formulated:

1) to summarize theoretical findings and empirical results of the modelling devoted to the following questions: «Why do companies use dual-class structures and why do they eliminate them?», «What impact does the dual-class share structure have on a company market value?»;

2) to identify the largest preference share markets with non-fixed dividend;

3) to identify the institutional background of Brazil, Germany, Russia and South Korea preference share markets, that determines the factors affecting the spread in those markets;

4)   to identify the aspects of corporate governance and the direction of their influence on the control premium estimated through the difference between prices of common and preferred shares in Brazil, Germany, Russia and South Korea.

Theoretical base. The theoretical base includes the studies of Russian and foreign authors devoted to comparative valuation of shares with different shareholder rights, as well as to the corporate governance issues in the companies with complex capital structure («dual-class companies»). Statistical and econometric methods were used for empirical testing. Microsoft Excel and Stata software were used for calculations.

Information base. The data were mainly collected from Datastream and Bloomberg professional databases as long as from Brazil, Germany, Russia and South Korea exchange websites and from companies' websites and E-disclosure corporate information server.

Methodology. There are four main approaches used to estimate corporate voting rights value, the literature review of which was conducted by [Kalay, 2014]: approach based on the comparison of the value of shares before and after control block sale, approach based on the increase in lending rate prior to record date for retail investor, approach based on the price difference between value of stock with voting rights and value of synthetic stock without voting rights and finally, approach based on the price difference between market value of shares with different voting rights. In this research determinants of corporate voting rights value are studied based on the fourth approach.

Control premium *spread* is calculated as the price difference between prices of voting common stock and non-voting preference stock in accordance with methodology introduced by [Zingales, 1995], while dividend differential is not eliminated but estimated as a control variable:

$$spread_{i,t} = \frac{P\_comm_{i,t} - P\_pref_{i,t}}{P\_pref_{i,t}} \tag{1}$$

Quarterly close share prices were used in *spread* calculation. If trades were not executed as of the end of a given quarter, close share prices that are most close

to the end of the quarter were used. Similarly [Da Silva, Subrahmanyam, 2007] constructed the *spread* variable based on monthly observations in the Brazilian market.

We estimate multiple regressions models on panel data in order to evaluate the effects of the control premium determinants: Pooled OLS, PCSE (Panel Corrected Standard Errors), Fixed Effects and Random Effects models. Several specifications of the following generalized econometric model are estimated:

$$spread_{i,t} = \beta_0 + \boldsymbol{corp\_gov_{i,t}}'\beta_1 + \boldsymbol{contest}_{i,t}'\beta_2 + \boldsymbol{OS_{i,t}}'\beta_3 + \boldsymbol{control}_{i,t}'\beta_4 + u_{i,t}$$
$$i = 1, \dots, n; t = 1, \dots, T \tag{2}$$

where *spread* – dependent variable, $\boldsymbol{corp\_gov_{i,t}}'$ – vector of corporate governance quality variables, $\boldsymbol{contest}_{i,t}'$ – vector of control contest probability variables, $\boldsymbol{OS_{i,t}}'$ – vector of ownership structure variables, $\boldsymbol{control}_{i,t}'$ – vector of control variables, u – random disturbance *iid* $(0, \sigma_u^2)$.

In order to account for heteroscedasticity and intragroup autocorrelation in Pooled OLS, Fixed Effects and Random Effects models Rogers clustered standard errors are estimated [Rogers, 1993]. When there is a presence of cross-sectional correlation based on statistical test results we estimate Driscoll and Kraay standard errors [Driscoll, Kraay, 1998]. Driscoll and Kraay standard errors are heteroskedastic and contemporaneously cross-sectionally correlated with autocorrelation estimated based on moving average process with lag of *q*. The PCSE model implies that standard errors are heteroskedastic, contemporaneously cross-sectionally correlated, and autocorrelated of type AR (1).

Time-invariant variables are estimated in a following hybrid model [Allison, 2009; Schunk, 2013]:

$$y_{i,t} = \beta_0 + (\boldsymbol{x_{i,t}} - \overline{\boldsymbol{x_i}})'\beta_1 + \boldsymbol{c_i}'\beta_2 + \overline{\boldsymbol{x_i}}'\beta_3 + \mu_i + u_{i,t}$$
$$i = 1, \dots, n; t = 1, \dots, T \tag{3}$$

where i and t denote company and quarter respectively, $y_{i,t}$ – dependent variable, β_1 – *«within»* estimates [Mundlak, 1978], β_3 – *«between»* estimates [Mundlak, 1978], β_2 – estimates of time-invariant variables, μ_i – individual random effect, $u_{i,t}$ – random disturbance *iid* $(0, \sigma_u^2)$.

Main findings:

1)   the identified influence of legislation changes of 2012 and 2013 in South Korea that was aimed at improving corporate governance practice in the country. It was shown that the overall market spread decreased as a result of the amendments to the «Commercial Act» in 2012 and to the «Financial Investment Services and Capital Markets Act» in 2013 improving corporate governance;

2)   the results of empirical testing of the hypothesis of expropriation of minority shareholders in family-owned companies in South Korea as well as the effect of the government ownership on the spread in Brazil and Russia. It was shown that the spread is higher in family-owned companies compared to the companies without significant family participation in voting rights. It was shown that spread is lower in Brazilian companies by 19-20 pp. with government participation compared to the companies without significant government share of voting rights. It was also shown that spread is lower in Russian companies by 40 pp. if government has qualified majority of voting rights;

3)   the results of the empirical testing of control contest probability on control premium in Brazil and Germany. In accordance with the voting model we show that the higher the probability of control contest in a company the higher control premium.

Contribution:

1)   the complex theoretical study devoted to the impact of the dual-class share structure on company market value was conducted;

2)   the impact of the effectiveness of corporate governance on the spread between common and preference share prices on a base of corporate governance index (CGI) in South Korea was first studied. The negative relationship between

corporate governance quality and the spread was found for the subsample of companies with CGI;

3)   the impact of legislative changes aimed at improving corporate governance quality on a country level in South Korea and Russia was first studied. It was shown that the overall market spread in South Korea decreased as a result of the amendments to the «Commercial Act» in 2012 and to the «Financial Investment Services and Capital Markets Act» in 2013;

4)   the comparative study of the influence of the type of controlling shareholder on control premium was first conducted in Brazil, Germany, Russia and South Korea; the positive impact of family ownership in a company on control premium was found in South Korea and the negative impact of the government share above 75% in Russia;

5)   the influence of the difference in dividends attributed to controller and minority shareholders as a corporate governance aspect was firstly found in Russian stock market. We have found the negative relationship between spread and special provision embedded in the Articles of incorporation of most Russian companies providing the dividends for preference stock at least at the level of common stock dividends if the dividends for the former were lower compared to the latter. The empirical finding of redistribution of dividend benefits from minority preferred shareholders to the controlling owner was first obtained for companies that do not have the provision in the corporate charter;

6)   the inclusion of stock class in the market index was first accounted for in econometric modelling of control premium determinants. It was shown that the inclusion of common shares in the main market index has the positive impact on the spread in Germany market.

Conferences.

1)   PhD Seminar «Financial Markets and Corporate Strategies: Comparative Studies» of Finance Department, XVIII April international scientific conference on the problems of development of the economy and society (Moscow). Report: «The modelling of the shareholders voting rights value using derivatives»;

2)   30th IBIMA International Conference (Madrid). Report: «Preferred Stocks as an Instrument for Sustainable Development: Valuation Aspects».

List of author's original articles.

Articles published in leading peer-reviewed scientific journals recommended by the Higher Attestation Commission of the Ministry of Education and Science of the Russian Federation:

1)   Shabalin, P.G. The modelling of the shareholders voting rights value using derivatives // Journal of Corporate Finance Research. – 2017. - №11. – pp. 78-89.

2)   Shabalin, P.G. The estimation methods of the value of corporate voting rights // Financial Business. – 2016. - №5. – pp. 48-51.

3)   Shabalin, P.G. The impact of voting rights variation on company market value // Finance and Business. – 2016. - №1. – pp. 103-120.

Other articles:

1)   Shabalin P.G., Kaisin D., Byhovskiy A. The spread between prices of preference and common shares in Russian stock market: dynamics and key determinants // Stock Market. 2014. № 2. pp. 1-15.