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The Relationship Between the Board Composition and the Level of IPO Underpricing in Russian Companies

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Abstract Traditionally, the phenomenon of IPO underpricing is commonly explored in relation to financial and operational performance metrics. In this study we consider the relationship between the level of IPO underpricing and internal corporate governance mechanisms. We analyze the relationship between the board composition and the level of IPO underpricing in Russian companies, who had undergone an IPO in Russia between 2002 and 2015. Our findings demonstrate that such characteristics of the board diversity as the management experience of executives and the presence of independent directors with outside directorships in company industries or financial sector are negatively associated with IPO underpricing.

Keywords: Board composition, IPO, underpricing, corporate governance, Russia, board diversity.

1. Introduction

In the process of raising equity through Initial Public Offerings (IPOs) companies face a phenomenon known as IPO underpricing. IPO underpricing is usually measured as the percentage difference between the closing price on the first day of trading on the secondary market and the initial offer price. In other words, the issuing company loses money by receiving less funding than it could have potentially obtained had the issued stock been priced more fairly.

The academic literature traditionally covers the topic of IPO underpricing in relation to the financial performance of a company. Relatively few works have explored the relationship between IPO underpricing and other determinants such as corporate governance. However, a considerable number of market experts have increasingly admitted the significant role of non-financial determinants such as corporate governance in the success of fund-raising activities. Notably, Standard & Poor's global rating agency has embedded a methodology to assess the corporate governance practices of companies, because the investors increasingly review more systematically a company's corporate governance practices as part of the investment decision-making process (Standard & Poor's Governance Services, 2004). For example, in its corporate governance assessment, the agency pays attention to the ownership structure, shareholder rights' protection, company's affiliation history, company disclosure and, moreover, the efficiency of the board of directors.

This paper will explore the relationship between the board composition and the level of IPO underpricing of the Russian companies.

The paper is organized as follows. In Chapter 1 we review the relevant prior research on the the problem of IPO underpricing, where we establish that the corporate governance mechanisms can help a company to communicate its quality to underwriters and potential investors. In Chapter 2 we conduct a literature review on

internal mechanisms of corporate governance and the role those mechanisms play in investors' perception of the company. Based on Chapter 1 and Chapter 2 of our study we build an econometric model in order to capture the intensity of the relationship between IPO underpricing and the board composition. Our findings demonstrate that board diversity, namely the outside directorships of the board members, management experience of CEO and other executives as well as the presence of outside directorships positions occupied by independent directors in the relevant industry or financial sector are negatively associated with IPO underpricing.

2. The problem of IPO underpricing

Generally, IPO activity can be considered as an indicator of a country's economic development. An IPO can be an effective mechanism for a company to accelerate its development, pursue new projects.

The problem associated with assessing an IPO company's fair value is the dependence of valuation on the company's expected future cash flows of the company.

An IPO offer price is typically determined along the IPO process. The filing price range is set by the underwriting bank based on information from the issuing company prospectus. During the "waiting period," a period which takes places between the filing of the IPO prospectus and the date of setting the final offer price, the issuer representatives participate in the road show to meet key investors and assess the demand for the stock. Depending on whether the expected demand is higher or lower than expected, the final price is adjusted upwards or downwards (Pukthuanthong-Le and Varaiya, 2007). At the final stage of the IPO process, the price of the share is adjusted on the secondary market based on the market perception of the issue's value.

In practice, there are three groups of company valuation methods, which are built based on the analysis of company's financial performance and its the balance sheet or comparison of company's performance indicators with those of the peers (MOEX, 2015).

The most widely used techniques for the valuation of an IPO company's intrinsic value to establish offer price range are option pricing models, analysis of discounted cash flow and method of multipliers. It is important to take into account industry specifics, and ensure that reliable information is used to be able to provide an estimate which would be representative of the true firm value.

After the trading opens on the stock exchange, the market determines the share price of an IPO company. Depending on the demand on an IPO and the market perception, the IPO shares can be traded either at a premium or at a discount. The latter phenomenon, as it has previously been mentioned, refers to "underpricing." As the result of the IPO underpricing, many of issuing firms leave "money on the table," i.e., the issuer generates less funding than it could have received had the issue been priced more favorably. At the same time, the value of the pre-IPO shares retained is diluted. Therefore, the underpricing is considered to be a cost to company owners because their shares are sold at a lower price (Ljungqvist, 2007).

(Loughran and Ritter, 2002) point out that underpricing is a highly complex phenomenon, which has been subjected to many speculations. The phenomenon of underpricing can be observed in all countries and stock exchanges (Table 1).

The most pronounced effect of positive first-day returns can be observed in developing countries. The table shows that underpricing in Russia is considerably

Table 1. Comparison of IPO underpricing in different countries.

Country	Period	No. observations	Initial average return
U.S.	1960-2014	12,702	16.90%
UK	1959-2012	4,932	16.00%
Germany	1978-2011	736	24,20%
China	1990-2013	2,512	118.40%
India	1990-2011	2,964	88.50%
Argentina	1991-2013	26	4.2%
Russia	1999-2013	64	3.30%

Source: (Loughran et al., 2016)

lower than in other countries. This market peculiarity makes the research on the topic even more relevant.

There are four main groups of theories explaining the driving forces behind IPO underpricing:

- Theories explaining underpricing as a result of the asymmetric information problem (Bhattacharya, 1979; Brealey et al., 1977; Rock, 1986; Baron, 1982; Hanley, 1993),
- Theories explaining underpricing as a result of deliberate underpricing of the offering and control considerations (Brennan and Franks, 1997; Stoughton and Zechner, 1998),
- Theories explaining underpricing as a result of the influence of different specifications of the IPO and the parties participating in the IPO process (Certo et al., 2001; Filatotchev and Bishop, 2002; Booth and Chua, 1996)
- Theories explaining underpricing from the behavioral point of view (Loughran and Ritter, 2002; (Ljungqvist and Wilhelm, 2005)

The group of theories explaining underpricing as the influence of different specifications of the IPO and the parties participating in the IPO process include a body of literature, which consider corporate governance mechanisms as factors influencing IPO underpricing.

According to (Certo et al., 2001), underpricing is a direct transfer of wealth from the pre-IPO shareholders and the founders to the first-day investors. A number of researchers found the evidence of the fact that the intensity of the underpricing can be lowered with the help of "positive" signals related corporate governance mechanism. Effective corporate governance mechanisms have a positive impact on the performance of a firm and, hence, convey positive information about the quality of the firm for the investors. (Certo et al., 2001; Filatotchev and Bishop, 2002) conjecture that board structure and characteristics of the board members help to reduce the extent of underpricing. (Booth and Chua, 1996; Filatotchev and Bishop, 2002) find empirical evidence that the ownership structure of the IPO is another positive "signal" for the investor.

(Filatotchev and Bishop, 2002) promote the conjectures supporting the view that corporate governance mechanisms help to increase the IPO firm's performance and, therefore, communicate good news to the underwriter and the investor. The

reduction of agency costs results in lower IPO underpricing. The researchers consider governance mechanisms in the IPO context to be endogenous factors driven by the organization outcomes. The authors indicate that the following corporate governance characteristics are associated with IPO underpricing:

- Board diversity
- Share ownership of executives
- Share ownership of nonexecutives

Moreover, the non-executive directors may serve as a source of strategic information and help in gaining better-expected growth opportunities for the IPO company.

(Filatotchev and Bishop, 2002) find that a high proportion of non-executive directors and the intensity of the extra-organizational links reduce the IPO underpricing.

However, studies covering emerging markets present conflicting results. According to Hearn, (2012) and Darmadi and Gunawan, (2013) in Indonesia and Sab-Saharan region Africa, the presence of independent board members has a positive association with underpricing. The findings correspond to the investors' perception of the insignificance of the role of the board in the company affairs.

This empirical evidence is relevant for the current research, as the results prove that the ownership structure and the characteristics of the board can be a way to reduce the extent of the IPO underpricing costs.

3. Board composition and IPO practices

3.1. Mechanisms of Corporate Governance

Corporate governance mechanisms comprise an essential aspect of sustainable growth of modern corporations. The efficacy of corporate governance systems determines the investors' confidence in the company's growth prospects and accentuate the potential risks of the company.

The broad view of corporate governance considers not only the relationship between a company and its shareholders but also between the owners and other stakeholders like customers, employees, suppliers, and creditors, (Solomon, 2007). Generally, the corporate governance structure serves the following objectives (OECD, 2006):

- Minimization of agency costs between stakeholders and top management. Such costs include the self-serving behavior of the managers and minority shareholder expropriation;
- Provision of trustworthy information about the value of the firm and maintenance of the company's accountability to its shareholders;
- Provision of the source of competitive advantage for the company by improving the alignment of the interests of the senior management and the shareholders;
- Improvement of the company's coherence, decision-making process, and internal operations.

The research literature divides corporate governance system into internal and external mechanisms. Ownership concentration, board composition, and executive compensation comprise the internal mechanisms, whereas shareholder activism, the

market of corporate control and takeover market belong to the category of external mechanisms (Boulton et al., 2010).

In this paper, we focus on three internal mechanisms of corporate governance mentioned above.

Ownership concentration is a case when an individual shareholder or a block-shareholder owns a stake in a company's equity, which is equal or exceeding 5%. Commonly, blockholders are institutional investors in pension funds and mutual funds. High ownership concentration is typical for blockholder model of corporate governance (also known as German model). This model is considered to be more effective compared to diffused ownership model (Anglo-Saxon model) because the company is controlled by the shareholders, who are economically motivated to maintain the effective corporate governance (Berezinets et al., 2011). Many researchers believe that the higher the level of ownership concentration is, the better are the monitoring and the control by the block shareholders because they will want to minimize the risk of the investment loss. This way, the presence of controlling shareholders can serve as an internal corporate governance mechanism to solve the agency problem by reducing the probability of the manager's opportunism.

The second important internal corporate governance mechanism is executive compensation. There is a body of literature (Haid and Yurtoglu, 2006; Lazarides et al., 2009), which has found a positive relationship between the company's financial performance and executive compensation. However, as suggested by (Suherman et al., 2011) there is some pressing real-life evidence, which contradicts the findings of the scholars. For example, Staley O'Neal, the former CEO of the Bank of America, received compensation exceeding $ 160 million, whereas the company was struggling to survive to put up with losses of $ 8.4 billion.

The board of directors is the third internal corporate governance system. It is a fundamental mechanism for the separation of management and control. The board of directors plays an essential role as a mechanism, which ensures an inflow and outflow of accurate information related to company performance, risk, and growth projections. It oversees the management actions so that shareholders' interests are adequately served (Keasey et al., 2005). According to (Fama and Jensen, 1983), the board of directors is the vital internal corporate governance tool for control over senior management actions. Board composition has a considerable impact on the firm's decisions and, hence on the financial performance of a company. Along with other researchers, (Hambrick and Jackson, 2000) confirm that stock prices of the company are positively associated with the board characteristics.

Therefore, we find evidence that ownership structure and the composition of the board of directors are the key corporate governance mechanisms, which not only influence the strategic and managerial choices in the company but also serve as a quality signal for the investors.

3.2. The composition of the board of directors as an effective corporate governance mechanism

There is a consensus in the major body of empirical literature that the size of the board is negatively associated with corporate governance efficiency. Indeed, the bulky board tends to hinder the speed of the decision-making process. (Willekens and Sercu, 2005) conjecture that the board size and independence of directors are the two board characteristics, which have a profound effect on the efficiency of corporate governance.

Generally, an efficient board should fulfill responsibilities related to advisory and oversight of the senior management. Some of the essential responsibilities of the board of directors include:

- Advisory and guidance on the firm's corporate strategy, planning, risk assessment as well as tracking the implementation of the initiatives and company performance;
- Appointment and removal of the corporations' chief executive officer (CEO);
- Fair treatment of all groups of the shareholders;
- Selection of new executive directors ;
- Protection of the enterprise's reputation and its assets and approval of the major company assets transactions, capital expenditure;
- Efficient monitoring and resolving of potential conflict of interests of the management, the board of directors, shareholders, etc.;
- Efficient monitoring and resolving of potential conflict of interests of the management, the board of directors, shareholders, etc.;

The board of directors represents a complex structure. (Carter and Lorsch, 2004) identify three elements of board design:

- Board structure;
- Board composition;
- Board processes.

The board structure dimension defines the size and the necessary board committees such as nomination, audit, compensation, and governance committees to fulfill its duties. The board composition varies with the experience of the board members, skills, and other important board features. The processes determine the ways the information is gained, the expertise is built, and the decisions are conducted on the board.

The board is composed of executive, non-executive affiliated directors and independent non-executive directors. Executive directors (also referred to as insider directors or management directors) are the salaried employees such as Chief Executive Officer (CEO), Chief Financial Officer (CFO) or Chief Operating Officer (COO) with full-time executive responsibilities. Non-executive board members (outside directors) do not have executive duties (Solomon, 2007).

An effective board should have a balanced board composition with an optimal ratio of inside and outside directors to ensure the presence of experienced representatives, impartial assessment, and monitoring of the management efficiency.

With the increased attention on the importance of the board composition as a corporate governance mechanism, the role of non-executives has been vigorously debated.

A non-executive director serves the following key roles (Tyson, 2003):

- Strategic guidance and objective evaluation of a company's management decisions;
- Monitoring of the performance and strategy implementation by the company's management;
- Monitoring of the accuracy of the company information disclosure provided to investors;

- Appointment, evaluation, and retention of senior management;

The empirical literature provides mixed evidence on the significance of the role of the non- executive directors. (Fama and Jensen, 1983) emphasize the role of non-executives as management monitors. (Rosenstein and Wyatt, 1990) have found empirical support to a positive relationship between the share price and the appointment of a non-executive positive director. (Pearce and Zahra, 1991) have found a positive relationship between the presence of the outside directors and the company financial performance.

(Agrawal and Knoeber, 1996) conjecture that non-executive directors negatively impact the financial performance of a corporation. Based on the sample of the U.S. corporations, the results of their empirical research suggest that there is an excessive number of non-executive directors in the boards. (Solomon, 2007) challenges the view by conjecturing that the number of independent directors is often added to the board in the times of a company's distress in order to boost its performance.

Despite some opposing views on the relevancy of non-executive directors, it is clear that the non-executive directors play a significant role in the efficiency of the board of directors. Several fraud instances in some large corporations like Enron, WorldCom have escalated a concern that inside directors can be dominantly driven by self-interest

The presence of independent non-executive directors in the board has growing importance, because of expertise, skills, and a more extensive unbiased viewpoint they can contribute (Du Plessis et al., 2010). One of the general definitions of "independence" suggested by the authors, describes independent directors as directors, who are "free from any business or other relationship which could materially interfere with the exercise of their independent judgment" (Cadbury, 1992). The "independence" criteria are stated in a Corporate Code, which varies depending on the country legislation. Debating the efficiency of the requirement, some companies have argued that operating in a small business community makes it extremely challenging to find a director, which would pass all the "independent criteria."

The board composition influences the board decisions on such matters as the way the board functions, investment, financing and strategic decisions and, hence, is one of the fundamental issues to be considered in the research field of corporate governance.

To explore the role of corporate governance in the IPO process (Burton et al., 2004) have surveyed over 100 enterprises. They have discovered that 67% of the inquired UK enterprises change corporate governance procedures, and 46 % of the forms changed the top management personnel in the period before the flotation. The participants of the survey suggest a number of reasons justifying the change in corporate governance systems. The primary reason is compliance with the country regulations and the stock exchange listing requirements. Additionally, a considerable share of the interviewees has admitted that the corporate governance change has been done to increase the credibility of the IPO in front of the potential institutional investors. The appointment of different board committees, the introduction of non- executive directors is an important factor for improvement of the company's accountability.

3.3. Corporate governance mechanisms in Russia

For the purpose of this research it is important to point out the key features of the Corporate governance mechanisms in Russia.

The Russian Corporate Governance Code defines corporate governance "a system of relationships between the executive bodies of a joint-stock company, its board of directors, its shareholders and other stakeholders" (Journal of the Bank of Russia, 2014).

The Corporate Governance System in Russia remains at a relatively early stage of development. However, the Russian enterprises have increasingly admitted the importance of efficient corporate governance mechanism. Special attention has been given to the composition of the board of directors.

Generally, a three-tier governance structure is one of the preferred organizational structures of big open and closed joint-stock companies in Russia.

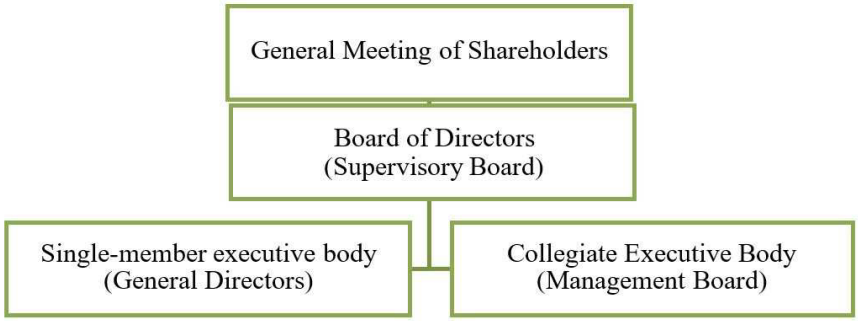


Fig. 1. Governance Structure of a Russian joint-stock company.
Source: (Kpmg, 2013)

The Russian corporate law describes the functions of the board of directors similar to other legislation, including that of the U.S. According to the Federal law on joint-stock companies [N 208 FZ passed in 1995], a unitary executive body with a CEO (also known as "general director") or a collective executive body ("management body") is in charge of the company's management. It is important to note that the board of directors does not bear executive functions. Provided that the enterprise is managed by the CEO and the collective executive body, the Russian corporate law demands that the company specifies the scope of the collective board's authority (Muravyev et al., 2014).

A distinctive feature of the board of directors in Russia is the absence of the CEO duality because the Corporate Code forbids the simultaneous admission of the position of the Chair of the board and the CEO. In the updated Law on the joint-stock company, the collective executive body of the company cannot exceed one-fourth of the Board of Directors.

In the Russian companies, the role of independent directors includes the improvement of a company's credibility and public trust, advisory for the top management, especially in the process of preparation of a company for an IPO. Although many Russian companies have yet to recognize the relevance of independent directors,

the number of independent directors in the boards of joint-stock companies has been increasing. According to the Russian Association of the Independent Directors Research Report, on average independent directors comprise only one third of the board in 60 companies with A-level stocks traded on Moscow Stock Exchange ("Russian Association of Independent Directors Research," 2015), whereas in 2010 the independent directors' share in the board was 21%.

The significance of corporate governance for the issuing company has been articulated in the new Code of Corporate Governance of 2014, which reveals new standards and best practices of corporate governance. The new Code has influenced the Listing Rules of CJSC MICEX Stock Exchange. The Listing rules outline the requirements for stocks to be included in the Second quotation level and specify the criteria of independence for members of the board of directors (MOEX, 2015).

The fundamental changes in the part of the Code of Corporate Conduct related to the board of directors accentuate the role of the board as an essential element in improving the investors' confidence in the Russian companies' credibility. At the moment, the Russian capital market is experiencing a lot of distress related to the increase of the risk premium, increase of the discounting rate used in the valuation of the Russian companies and capital flights. That is why determination an optimal structure of the board of directors for an IPO is an important step for increasing the investors' expectations and funding resources.

The Russian Federal law on the joint stock has the following key requirements for the board composition:

Generally, the Russian corporations are characterized by high ownership concentration and several blockholders' groups. Often, the state is the controlling shareholder in the companies (Berezinets et al., 2011). According to the survey of large-scale enterprises conducted by a research team from Hitotsubashi University and Higher School of Economics in 2005, 39.3% of the 822 firms are affiliated with a specific business group through shareholding. De facto, the major stakes in the companies belong to the holding companies or business groups (Iwasaki, 2008). The strong affiliation network implies that the effectiveness of the monitoring is significantly reduced. The Russian context reinforces the argument that board composition should serve as a primary corporate governance mechanism.

A feature adding complexity to the Russian Corporate Governance system is that the market of the publically listed companies is dominated by the state-owned enterprises (SEO), which represent approximately 50% of the country's GDP. However, the Russian government had launched several privatization programs. It implies that especially this type of companies has to provide consideration to the level of board independence and diversity.

(Ilchuk, 2006) conducts an econometrical analysis of the link between the level of influence of the company performance and the board structure. Using the sample of Russian companies for the period 1999 -2004, the researcher tests the influence of such board characteristics as the share of inside and outside directors in the board on the company's return on investment. His empirical findings confirm the presence of the link between the board of directors and operational efficiency. (Maslennikova and Stepanova, 2010) consider the influence of ownership structure and a group of metrics, including the board size and the number of independent directors in the board in their comparative study. They have empirically proved that the number of independent directors in the board has a positive influence on the strategic efficiency.

Table 2. Requirements for the board composition in Russia.

Type of person admitted to the board of directors	• Only a natural person can be elected (Article 66 paragraph 2)
Directors	• **Five directors are the absolute minimum;** • **Seven directors are the absolute minimum** for a company with more than one thousand holders of voting stock; • **Nine** for a company with more than ten thousand holders of voting stock (Article 66 paragraph 3)
Collective executive directors	• Less than one-quarter of the members of the board of directors (supervisory board) (Article 66 paragraph 2)
Election of board members	• (Article 66 paragraph 1) • A person can be re-elected an unlimited number of time • A director is elected by the cumulative voting for companies. By cumulative voting, the shareholders can cast their votes for one or more candidates
CEO (can be a part of the board of directors)	• Can be a legal entity • CEO duality is not allowed

Source: (N 208 FZ passed in 1995)

3.4. Relationship between board composition and IPO underpricing

We have concluded that the board of directors as a primary internal corporate governance mechanism plays an essential role in the IPO because it makes makes decisions about the choice of the underwriting banks and the approval of the IPO offering conditions. Given the increase in corporate governance requirements and more demanding expectations of the investors, IPO represents even a more challenging process for the board of directors. Because of the risky nature of IPO firms, investors tend to favor continuity in leadership.

Share ownership retention by executive directors can be interpreted as a quality signal by the investors. By retaining shares, the executives demonstrate their confidence in the values of the shares they hold. According to (Espenlaub and Tonks,

1998) this boost in the outside investors' confidence can lead to less IPO underpricing.

The diversity of the board's composition, including the presence of experienced and independent directors can increase investors' assurance in the credibility of the venture. The experienced board members can not only increase the monitoring of managerial decision but also give access to the necessary strategic guidance. (Provan, 1980) argues that non-executives' organizational contacts outside the firm can not only leverage the issuer's bargaining power with the underwriters and investors. The presence of experienced non-executive directors can help the company to discern itself from its IPO peers. Thus, board diversity can help to decrease the level of the IPO underpricing.

Additionally, by retaining the share ownership, non-executives express their confidence in the companies' fundamentals. Therefore, the IPO share price discount becomes less necessary.

To investigate the relationship between the composition of the board of directors and the level of IPO underpricing the following research hypothesis shall be tested:

H1 The IPO's board diversity is negatively associated with IPO underpricing of Russian IPO companies;

H2 The share ownership of the IPO company's non-executive directors is negatively associated with underpricing of Russian IPO companies;

H3 The share ownership of the IPO company's executive directors is negatively associated with underpricing of Russian IPO companies.

4. Empirical research

4.1. Model and variables

Based on the literature review of our study, we build an econometric model in order to capture the intensity of the relationship between IPO underpricing and the board composition. For this purpose, a cross-sectional regression will be performed.
The general econometric model can be specified as follows:

$$IPO\_underpricing_i = \alpha_i + X_i\beta + Z_i\gamma + \varepsilon_i, \tag{1}$$

where
i – a subscript denoting respective IPOs
$IPO\_underpricing_i$ – a dependent variable representing IPO underpricing for each respective company
X – a vector of variables describing the characteristics of the board of directors of the company i;
Z – a vector of variables describing the control variables;
β, γ – vectors of unknown parameters;
ε – error term
Our study is centered around exploring the vector of β coefficients

We define the variables employed in the econometric analysis based on the literature review. The names and respective descriptions of the variables are summarized in the table below.

Table 3. Description of variables

Variable	Empirical definition	Measurement approach
Dependent variable		
IPO_UNDER-PRCING	**IPO underpricing**	The percentage difference between the offer price and the price at the end of the first day of trading The approach is used in (Darmadi and Gunawan, 2013; Loughran et al., 2016)
Independent variables		
1. Variables describing board composition		
A. Board's diversity		
BEXP	The combined experience of CEO and other executives	Number of directorships and management positions taken by the CEO and the executive members of the board The approach is used in (Darmadi and Gunawan, 2013; Howton et al., 2001)
ODIRSHAR	Outside directorships per independent director	Sum of the outside directorships divided by the number of independent directors The approach is used in (Filatotchev and Bishop, 2002)
ODIRTOT	Total outside directorships	Total number of outside directorships of the board The approach is used in (Filatotchev and Bishop, 2002)
INDSUMDIR	Total outside directorships held by independent directors of the board	Total number of outside Directorships of the independent board members The approach is used in (Filatotchev and Bishop, 2002); (Mnif, 2009)
B. OWNERSHIP		
DIROWN	Share ownership held by members of the board of directors	Percentage of the total number of ordinary shares retained by the executive and non-executive board members The approach is used in (Filatotchev and Bishop, 2002)
Control variables		
DF	Debt financing	Total interest-bearing debt divided by total assets The approach is used in (Drucker and Puri, 2005)

SIZE	Natural logarithm of IPO firm size	The natural logarithm of the IPO firm size measured as the firm's capitalization at the offer price. The approach is used in (Bell et al., 2013; Bethel and Liebeskind, 1993)
AGE	The age of the IPO firm	The natural logarithm of the age of the IPO company, which can be understood as the time period between the date, when the company was registered as an Open Joint Stock Company (Public Joint Stock Company stating from 2015) and the IPO date The approach is used in (Bethel and Liebeskind, 1993; Filatotchev and Bishop, 2002)
PREIPOSHAR	Pre-IPO share of the largest shareholder	Pre-IPO share of the largest shareholder (Kang et al., 2015)
SER	Service Sector	Binary variable; 1- if the IPO firm's main activity relates to the service sector, 0 – otherwise The approached is used in (Filatotchev and Bishop, 2002; Mauri and Michaels, 1998)

The variables describing the experience of the CEO and other executive directors, total outside directorships of the board and outside directorships held by independent directors serve as determinants of board diversity. According to the literature review, the coefficient of the variables describing board diversity is predicted to have a negative sign.

At the same time, the traditional view on the IPO underpricing has to be taken into consideration in the current study. According to an extensive empirically proved research presented by (Ljungqvist, 2007; Loughran and Ritter, 2002; Ritter and Welch, 2002; Ritter, 2011) and many other researchers the first-day positive return is associated with financial characteristics of the issuing company as well as such fundamental factors as the IPO proceeds, the age and the industry, in which the company operates. Therefore, a vector of control variables has been introduced in order to
account for the relationship of the characteristics above and the IPO underpricing (Beatty and Ritter, 1986).

The predicted signs for control variables require elaboration. It is assumed that the age of the company is negatively associated with the IPO underpricing, be-

cause more mature companies tend to have more publically available information on financial and operational performance and, hence, pose less uncertainty for the underwriters and the investors. In turn, a better perception of the issuing company results in a more favorable valuation of the IPO share price.

The variable describing the size of the company is predicted to have a negative sign of its coefficient. As empirically proved by (Filatotchev and Bishop, 2002), large-scale companies tend to have larger boards. The larger boards are likely to have more non-executive directors, and as a consequence, the issuing company will be better perceived by the investors.

The level of debt financing is forecasted to have a negative association with underpricing for several reasons. First of all, according to (Drucker and Puri, 2005) the underwriting banks, who issued debt or debt instruments, have already experience of working with the company and, hence, established a good relationship with the issuer. As a result, the bank is less likely to underprice the IPO issue. Moreover, debt issues, which occurred before the IPO, decrease the information asymmetry between the issuing company and the investors. As a result, an IPO is priced more favorably.

4.2. Data sample

To perform this empirical study, the sample of IPOs of companies, registered in Russia and floated on the Moscow Stock Exchange (MOEX) and the Russian Trading System (RTS) is collected. The initial sample covers the period from 2002 - 2015.

The collected sample includes 63 companies. 7 firms, which represent the financial sector, were excluded. Therefore, the final sample consists of 56 companies. The list of companies is presented in Appendix 1.

The list of IPOs has been obtained from Zyphyr Bureau van Djik and verified with SKRIN and SPARK databases. The key information for the hand-collected dataset has been obtained from the IPO listing prospectuses, reports on the results about the initial public offering, company annual and quarterly reports, which were obtained in SPARK and SKRIN.

The primary sources for the identification of independent directors in the sampled companies were annual, quarterly reports, and prospectuses. In most of the companies' documents, there was no specification of whether a director was independent or not. Therefore, as a part of the research, the classification of directors into several categories (independent non-executive director ("independent director"), dependent non-executive directors and executive directors) has been conducted. The algorithm was based on the Code of Corporate Conduct of 2002 for the observations covering the period 2002-2012 and the new Code of Corporate Conduct of 2013 for the period covering 2013-2015. The algorithm (Appendix 2) for the identification of independent directors has been adopted from the paper by (Muravyev et al., 2014). Additionally, the algorithm had to be adjusted for the changes presented in the Russian Code of Corporate 2014.

4.3. Descriptive statistics

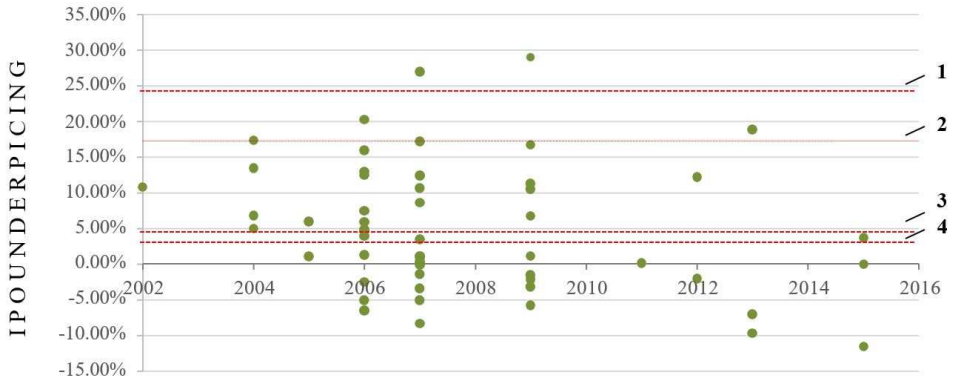
Descriptive statistics of the data sample is summarized in Table 4.

The average level of IPO underpricing is 4.9%, while the highest level of IPO underpricing approximates 30%. At the same time, there is a considerable number of companies, which experience overpricing, a negative first-day return after the IPO.

Table 4. Descriptive statistics.

Variable	Mean	sd	Min	p50	Max
Dependent variable					
IPO_UNDERPRICING, %	4,90	0,09	-11,55	3,60	29,00
Board Composition variables (vector X)					
INDSUMDIR	3,48	3,96	0,00	2,50	17,00
INDIREXP	4,17	5,72	0,00	2,00	24,00
TOTODIRSHAR	19,06	24,48	0,00	5,75	91,00
ODIRTOT	34,64	31,22	2,00	25,50	142,00
DIROWN	0,13	0,23	0	0	0,8
Control variables (vector Z)					
SIZE	10980	14718	41	4697	73888
AGE	7,68	5,18	0,00	0,00	18,00
DF	0,26	0,23	0,00	7,00	0,81
PREIPOSHAR	0,65	0,27	0,12	0,64	1,00

The IPO underpricing dynamics of the sampled Russian IPOs can be observed in Figure 2.



Note: 1 – average first-day return of the German IPO market; 2- average first-day return of the U.S. IPO marker; 3- average first day-return of the Russian IPO market 4- average first-day return of the Argentinian IPO market

Fig. 2. Dynamics of the first-day return on IPO stocks of Russia companies floated on MOEX and RTS.

From the scatter plot, we can observe the peak of the IPO activity of the Russian market occurred 2006-2007. The absence of the IPOs in Russia in 2008 can be explained by the global economic crisis and heightened risk aversion of the investors. Starting from 2010 and on the IPO activity has become scarce. Russia has not fully rehabilitated from the economic crisis and had to endure the burden of economic sanctions, which negatively affect the capital markets. The level of IPO underpricing Russia is very close to Argentina. This similarity can be explained by the low level of savings of the local retail investors in these two countries and, logically, a high

degree of risk-aversion towards any uncertainty, which is associated with investments in IPO shares.

From Figure 3 we see that relatively small Supervisory boards describe the Russian IPO companies. The average number of board members is 8. In many instances, the board has just the minimum number of board members required for the IPO companies by the Federal Law.

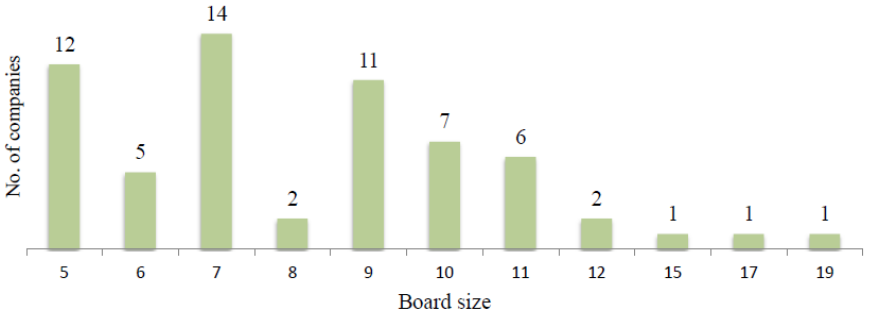


Fig. 3. Distribution of observations by board size.

Two-third of the the board of an average Russian IPO company consists of non-executive directors and one-fourth of the board represents independent directors.

Table 5. Structure of the boards.

	Average (No.)	**Board share, %**	**Min. (No.)**	**Max. (No.)**	**S.D.**
Non-executive directors	6	75%*	2	13	2,499
Executive directors	2	25%	0	7	1,414
Independent directors	2	25%	0	5	1,368

*Including independent directors

Although an average board composition of a Russian IPO company meets the corporate governance regulations in terms of the ratio of executive directors/non-executive directors, the data sample investigation reveals that at the moment of an IPO 6 companies do not have any director on the board, who would qualify as independent according to the Code of Corporate Conduct. In many instances, company IPO prospectuses and reports omitted several significant facts. The additional analysis of the affiliation history, the history of the board of directors in SPARK and SKIRN and research demonstrated the infringement of the independence criteria of the board in some joint-stock companies from the sample.

It is also interesting to compare the results of the research on the board of the Russian IPO companies with the boards of the U.S. companies at the time of an IPO. Surprisingly, the average

size of the board of U.S. IPO companies is equal to the size of the Russian IPO board. At the same time, there is a substantial difference in the share of independent directors in the board of IPO companies of the two countries. A higher share of independent directors in the U.S. IPO companies can be explained by a more developed corporate governance system and a smaller stake of the state in the U.S. IPO companies.

Table 6. Comparison of board composition of Russian and U.S. IPO companies.

	U.S IPO company	**Russian IPO company**
Board size	**8**	**8**
Share of independent directors	**68%**	**25%**

Source: Author's calculations; (PWC, 2015a)

According to the findings, some of the executive directors of the IPO companies do not possess prior directorship experience. Nor do independent directors in some companies from the sample have the expertise in leading a company in a similar industry. The problem arises from the fact that the Russian economy is still in the process of transition to the market economy. The scarcity of enterprises, which are not affiliated with the state, makes it more challenging to find an independent director from the local market. Based on the analysis of the dataset, some companies attract independent directors to the board from abroad to overcome the issue. It follows that the compliance with the corporate code may be broken unintentionally, as attracting an independent foreign director necessitates establishing a certain affiliation at first.

Whereas the board of directors does not have high ownership stake on average in Russian IPO companies, the ownership is concentrated in the hands of shareholders, who are not the board members. Even after the IPO, the largest shareholder retains control over the company on average.

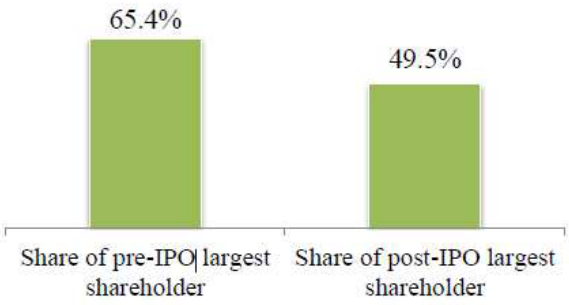


Fig. 4. Share ownership in Russian companies before and after IPO.

With the smallest capitalization of the IPO proceeds of approximately 41 bn RUR, whereas the largest capitalization raised in the IPO process exceeds 73 bn

RUR, there is no drastic discrepancy with regards to the IPO size among the companies.

As for the firm age, we see that on average, the IPO companies are not very young. At the same time, a fair share of the observations represent companies, which have been established as Open Joint-Stock Companies close to the IPO date. On average the IPO companies are not significantly geared.

All in all, the descriptive statistics demonstrate that there is a number of board characteristics, namely the board structure, its size and ownership concentration of Russian IPO companies are similar to the findings of corporate governance research on companies, who already went public such as (Muravyev et al., 2014), (McCarthy et al., 2004), etc.

4.4. Regression analysis results

We start the econometric analysis by testing the baseline specifications. The baseline model includes variables describing IPO firm amount of the proceeds from the IPO, level of debt financing, the ownership of the largest shareholder and the dummy variable representing the service industry. Consequently, we include variables specifying the board composition of Russian IPO companies to capture the intensity of the links between IPO underpricing and the board composition. The results of the regression analysis are depicted in the table below.

Table 7. Results of the econometric study.

	Models						
	1	**2**	**3**	**4**	**5**	**6**	**7**
AGE	-0,001						
SIZE	-0,002						
SER	0,004						
DF	-0,137 **	-0,144 **	-0,154 ***	-0,11 **	0,114 **	-0,142 **	-0,158 **
PREIPOSHAR	0,135 **	0,123 **	0,125 **	0,101 **	-0,113 **	0,129 **	
INDIREXP			-0,004 *				
ODIRTOT				-0,001 **			
TOTODIRSHAR					-0,001		
DIROWN						0,021	
INDSUMDIR							-0,006 *
Cons	0,054	0,006	0,022	0,045	0,018	-0,001	0,11 ***
R∧2 adjusted	0,344	0,367	0,406	0,46	0,388	0,358	0,308
P-value	0,000	0,000	0,000	0,000	0,000	0,000	0,000

Notes:
*** Denotes significance at 1% level
** Denotes significance at 5% level
* Denotes significance at 10% level

The results of the baseline regression (model 1) reveal that not all control variables are statistically significant. As expected, the debt-to-assets ratio of the company has a strong negative association with IPO underpricing, whereas the variables describing companies' age and size are not statistically significant. The dummy variable, representing the service industry, is also insignificant. Thus, we have to recon-

sider the baseline regression and exclude statistically insignificant control variables (model 2).

In model 3, we add a variable describing the experience of the executive directors in the board for five years prior to the IPO. The variable is statistically at 10% level of significance. The prior management experience of the executive directors in the board before the IPO of the firm is negatively related to the IPO underpricing.

The results of model 4 indicate that the variable describing total outside directorship positions per independent director, is also negatively associated with IPO underpricing at 5 % level of significance.

The specifications in Model 5, which describes total number outside directorships held by all members board of directors, did not give a statistically significant result.

The results presented in Model 7 indicate that the total outside directorships occupied by the independent directors in the IPO company board has a statistically significant negative relationship with IPO underpricing at 10% confidence level.

Model 6 reports that the relationship between the retained share ownership and IPO underpricing is not statistically significant. Contrary to hypotheses #2 and # 3 stating the retained share ownership by nonexecutives and executives is negatively associated with IPO underpricing, the relationship has not been proved to be statistically significant.

4.5. Discussion

The empirical research presents three key findings.

1. **The negative association between CEO and management experience of the executive board members and the level of IPO underpricing.** The finding is line with the empirical research by (Pan et al., 2012) and (Mnif, 2009), who studied the association of the role of executive directors networks and expertise and the level of IPO underpricing of the U.S. companies. However, this association is stronger in U.S. companies. It can be attributed to more advanced corporate governance mechanisms in the U.S. Additionally, executive directors in the U.S. are more likely to have expertise and connections. Less pronounced association between the experience of the executive board members and the level of IPO underpricing in our sample can be explained by the absence of any management experience among executive directors in almost 34% companies from the sample.
2. **The negative association between the total outside directorships held by the board members and the level of IPO underpricing.** Our findings support the arguments suggested by (Filatotchev and Bishop, 2002). However, the link in case of the British IPO companies is stronger than in the Russian context. The results could be explained by the absence of outside directorship positions in the relevant industries.
3. **The negative association between the total outside directorships held by independent board members and the level of IPO underpricing.** Our results support the conjectures of (Filatotchev and Bishop, 2002), who also obtained results supporting a negative relationship between outside directorships and IPO underpricing. The association is the case of Russian IPO companies is not as pronounced as for the British IPO firms. One of the potential explanations for the discrepancy in the results is the differences in institutional contexts of Great Britain and Russia. British legislation provides stronger shareholders' protection. Moreover, the British corporate world has long ago adopted

the recommendation about board independence. In fact, the term "non-executive director" and "independent director" are deemed equal in British corporate governance system. In our sample, only 33% of independent directors have outside directorship positions in relevant industries. This fact can explain the absence of pronounced negative association with IPO underpricing in the case of Russian IPO companies.

At the same time, we can provide possible explanations of why several of the stated hypotheses have not been empirically proved.

Total outside directorships per board member as a board diversity characteristics has not been found statistically significant, probably because Russian IPO companies are characterized by an uneven distribution of outside directorship positions among the board members in the IPO companies. In our sample, on average, 51 % of the board's total outside directorship positions is occupied by one director in a Russian IPO firm.

The negative relationship between the retained ownership by the board members and the level of IPO underpricing has not been identified, contrary to the findings of (Filatotchev and Bishop, 2002), possibly because the board members in Russian IPO companies do not possess major ownership stakes in the companies. The scarce participation in the company's ownership did not provide a sufficient number of instances, which would allow a more extensive exploration of the relationship between the retained ownership of executive and non-executive board members and the level of IPO underpricing. Another reason why our hypothesis about negative association between share ownership and IPO underpricing has been rejected could also be attributed to the general investors' perception about ownership concentration in Russia and inadequate protection against the expropriation of minority shareholders as opposed to stronger institutional context such as Great Britain presents.

Based on the conducted study we believe that companies should seek to appoint:

1. *CEO and other executives with prior directorship and managerial (CEO) experience*
2. *Independent directors with experience in the industry, related to the company operations*
3. *Non-executives with outside directorships in the relevant industry and or/ in the financial sector*

This study contributes to the existing body of corporate governance literature by offering valuable insights on the role of corporate governance mechanisms in the context of IPO performance. This paper extends the prior study of the board characteristics in Russia by taking into account more involved board composition metrics such as outside directorships, the experience of executives and independent directors at the time of an IPO. At the same time given the context of the study, it has a number of limitations. The board composition as a corporate governance mechanism is considered in isolation without taking into consideration external corporate governance mechanisms. For example, consideration of institutional context, labor market for managers and other external corporate governance mechanisms, comparative study of Russia IPO on Russian and foreign stock exchanges are some of the possible directions of future research.

Appendix 1. The list of the companies in the data sample.

No.	Year	Company	No.	Year	Company
1	2002	RBC IS	29	2007	MMK
2	2004	OPIN	30	2007	Synergy
3	2004	Kalina	31	2007	PIK Group
4	2004	Irkut	32	2007	Nutrinvestholding
5	2004	7 kontinent	33	2007	Gruppa LSR
6	2005	Sollers	34	2007	Polymetall
7	2005	Pava (Khleb Altaya)	35	2007	OGK-2
8	2006	World Trade Center	36	2007	SITRONICS
9	2006	TMK	37	2009	Human Stem Cells Institute
10	2006	Razgulay Group	38	2009	Protek
11	2006	VEROPHARM	39	2009	Kuzbasskaya Toplivnaya Company
12	2006	Hals-Development	40	2009	Armada
13	2006	Chelyabinsk Zinc Plant	41	2009	Mostotrest
14	2006	Enel OGK-5	42	2009	Russkaya akvakultura
15	2006	Lebedyansky	43	2009	Russian Navigation Technologies
16	2006	Magnit	44	2009	Rosneft
17	2006	Cherkizovo Group	45	2009	Transkonteiner
18	2006	DIOD	46	2009	Pharmsynthez
19	2006	Raspadskaya	47	2011	Platforma Utinet.ru
20	2006	Severstal	48	2011	PhosAgro
21	2007	Uralkali	49	2012	Multisistema
22	2007	Pharmstandard	50	2012	Megafon
23	2007	DMVP	51	2013	Aessel
24	2007	Rosinter Restorants	52	2013	Jhivoy Offis
25	2007	Novorossiysk Commercial Sea Port	53	2013	Alrosa
26	2007	RTM	54	2015	OVK
27	2007	M.Video	55	2015	Evroplan
28	2007	DIXY Group	56	2015	NKHP

Appendix 2. Algorithm of identification of an independent director.

	Criteria for independent directors for IPO companies for the period 2002-2012[1]	**Adjustments in the independent director's criteria for IPO companies for the period 2014-2015**[2]
Step 1	The directors are classified on insiders and outsiders	
Step 2	Outsider directors were assessed for the presence or absence of the share ownership in the company. If a non-executive director is a shareholder of a company, the person cannot be an independent director.	If a non-executive director has a stake, which exceeds 1%, the person cannot be an independent director
Step 3	The list of the remaining non-executives is screened for the presence of government officials (of any nature or level including the executive and legislative branches and managers of state corporations). A non-executive director, who simultaneously is a civil servant cannot be an independent director	Additionally, the non-executives' work positions for the year before the IPO were considered. A non- executive, who worked as a civil servant for the past year cannot be independent
Step 4	The tenure of the non-executives on the board of the company is considered. If a non- the executive serves more than seven years on the board of the company; this director cannot be independent	
Step 5	A list of affiliated persons is studied (the legal entities in particular). If a non-executive the director is a representative of the executive body of the affiliated persons; these directors cannot be independent	
Step 6	If the CEO of the company is a controlling company, then the independent director is checked for the affiliation with this controlling company. If a non-executive is affiliated, then this person cannot be independent	
Step 7	In case, a non-executive qualifies the criteria of independent directors, but the information about the director for the past five years did not provide sufficient evidence of the independence, an additional search is conducted for identification of presence or absence of any connections of the non-executive with the controlling companies	

[1] Based on the Russian Code of Corporate Conduct 2002 // Assessed via http://www.cbr.ru/sbrfr/archive/fsfr/fkcb_ffms/catalog.asp@ob_no=1772.html

[2] Based on the Russian Code of Corporate Conduct 2014 // (Journal of the Bank of Russia. (2014). Russian Code of Corporate Governance, *40*(1518))

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