

St. Petersburg State University  
Graduate School of Management  
Master in Corporate Finance Program

THE RELATIONSHIP BETWEEN THE BOARD  
COMPOSITION AND THE LEVEL OF IPO  
UNDERPRICING IN RUSSIAN COMPANIES

Master's Thesis by the 2<sup>nd</sup> year student  
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## ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ

Я, Левитанус Валерия Олеговна, студент второго курса магистратуры направления «Корпоративные финансы», заявляю, что в моей магистерской диссертации на тему «Взаимосвязь между композицией совета директоров и уровнем недооценки IPO российских компаний», представленной в службу обеспечения программ магистратуры для последующей передачи в государственную аттестационную комиссию для публичной защиты, не содержится элементов плагиата.

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Мне известно содержание п. 9.7.1 Правил обучения по основным образовательным программам высшего и среднего профессионального образования в СПбГУ о том, что «ВКР выполняется индивидуально каждым студентом под руководством назначенного ему научного руководителя», и п. 51 Устава федерального государственного бюджетного образовательного учреждения высшего профессионального образования «Санкт-Петербургский государственный университет» о том, что «студент подлежит отчислению из Санкт-Петербургского университета за представление курсовой или выпускной квалификационной работы, выполненной другим лицом (лицами)».

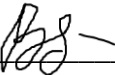
  
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## STATEMENT ABOUT THE INDEPENDENT CHARACTER OF THE MASTER THESIS

I, Levitanus Valeriia, second year master student, program «Corporate finance», state that my master thesis on the topic «The relationship between the board composition and the level of IPO underpricing of Russian companies», which is presented to the Master Office to be submitted to the Official Defense Committee for the public defense, does not contain any elements of plagiarism.

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## АННОТАЦИЯ

Автор	Левитанус Валерия Олеговна
Название магистерской диссертации	Взаимосвязь между композицией совета директоров и уровнем недооценки IPO российских компаний
Факультет	Высшая школа менеджмента
Направление подготовки	Корпоративные финансы
Год	2016
Научный руководитель	Березинец Ирина Владимировна
Описание цели, задач и основных результатов	<p>Целью данного исследования является определение взаимосвязи между композицией совета директоров и уровнем недооценки IPO российских компаний.</p> <p>Задачи исследования:</p> <ol style="list-style-type: none"> <li>1. Определить проблемы недооценки IPO и выделить основные характеристики данного феномена;</li> <li>2. Провести классификацию факторов, влияющих на недооценку IPO с точки зрения корпоративного управления на основании современных зарубежных исследований;</li> <li>3. Обосновать взаимосвязь между недооценкой IPO и идентифицированными факторами</li> <li>4. Провести эмпирическое исследование по установлению взаимосвязи выделенных факторов и величиной недооценки IPO;</li> <li>5. Проанализировать результаты и сделать выводы.</li> </ol> <p>Для проведения исследования нами была выбрана Россия, поскольку она представляет собой уникальный контекст с точки зрения системы корпоративного управления и рынка IPO. Для проведения эмпирического исследования мы использовали собранную вручную выборку IPO российских компаний, прошедших листинг на российских листинговых площадках.</p> <p>Результаты исследования продемонстрировали наличие отрицательной взаимосвязи между рядом факторов, относящихся к композиции совета директоров и величиной недооценки IPO. Такие факторы, как управленческий опыт у CEO и других исполнительных членов совета директоров за последние 5 лет до IPO, общее количество внешних директорств у независимых директоров, а также общее количество внешних директорств, занимаемых всеми членами совета директоров, отрицательно взаимосвязаны с недооценкой IPO.</p>
Ключевые слова	Композиция совета директоров, IPO, недооценка, корпоративное управление, Россия, множественность совета директоров

## ABSTRACT

Master Student's Name	Levitanus Valeriia
Master Thesis Title	The relationship between the board composition and the level of IPO underpricing of Russian companies
Faculty	Graduate School of Management
Main field of study	Corporate Finance
Year	2016
Academic Advisor's Name	Berezinets Irina Vladimirovna
Description of the goal, tasks and main results	<p>The aim of this paper is the analysis the relationship between the board composition and the level of IPO underpricing of the Russian.</p> <p>To achieve the goal the research paper has the following objectives:</p> <ol style="list-style-type: none"> <li>1. Define the phenomenon and provide background of IPO underpricing</li> <li>2. Identify factors attributed to board composition, which are associated with IPO underpricing, based on the review of contemporary academic research.</li> <li>3. Provide evidence of the relationship between IPO underpricing and the key identified factors</li> <li>4. Conduct an empirical study of the relationship between the identified factors and the level of IPO underpricing</li> <li>5. Analyze the results of the empirical study and draw conclusions</li> </ol> <p>We have chosen Russia as it represents unique context both in terms of corporate governance system and IPO market. To perform the empirical study we have employed a unique hand-collected data sample on Russian companies, listed on Russian stock exchanges for the pre-IPO period.</p> <p>Our findings demonstrate that board diversity, namely the outside directorships of the board members, management experience of CEO and other executives over the past 5 years before IPO, total outside directorships of independent directors in the relevant industry or financial sector are negatively associated with the level IPO underpricing.</p>
Key words	Board composition, IPO, underpricing, corporate governance, Russia, board diversity

## **Introduction**

In the context of current economic conditions and geopolitical tension, companies are in need of fund-raising opportunities to ensure sustainable growth. One of the ways to raise money is Initial Public Offering (IPO). As a financing method, IPO offers benefits such as improvement of company reputation and visibility and as a consequence increase of the liquidity.

Analysts believe that the Global IPO market is expected to climb due to a number of factors including robust monetary policy of U.S. and Europe, normalization of business conditions and fundamental reforms (Ernst & Young (EY), 2016).

At the same time experts including the Central Bank of Russia researchers are convinced that the next step in development of the Russian economy is bound to equity financing. According the forecast by (Baker, McKenzie, & Oxford Economics, 2015) the Russian IPO market is expected to increase (Appendix2) despite the current economic challenges. Indeed, the holistic overview of the market from 2002-2015 demonstrates that 105 Russian companies went public, 55 of which were listed in Russia. In 2015 a number of companies have undergone an IPO process in Russia. "Novorossiyski kombinat hleboproduktov " and the leasing company "Europlan", which is the part of the BIN group joined the Moscow Stock Exchange. Moreover, 8 IPOs are planned for 2016-2017.

However, in the process of IPO 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 offer price. In other words, this means that the issuing company loses money, by receiving less funding it could potentially obtain if the issued shares were priced more fairly.

A considerable number of experts have increasingly admitted the significant role of non-financial determinants in the success of fund-raising activities. At the same time expert consensus is that the quality of corporate governance has become a considerable obstacle for attracting investment primarily for Russia given the current economic conditions. Notably, the global ratings agencies have embedded a methodology to assess the corporate governance practices of companies coming from emerging markets as part of improving the rating models. For example, Standard & Poor's global rating agency pays attention on the ownership structure, shareholder rights' protection, company's affiliation history, company disclosure and, moreover, the efficiency of the board of directors. It follows that companies have to consider their corporate governance mechanisms along with traditional corporate performance to maximize the IPO proceeds.

Over the past several years, the importance of the board as a key internal control body and as a supervisor of strategic deals has grown over the past several years (Appendix 1). Moreover, an increasing number of the directors are convinced that the improvement of the quality of the corporate governance can increase investment attractiveness of their companies. In 2015 a number of major corporations such as Gazprom, Alrosa, VTB have attracted independent agencies to assess the efficiency of their board of directors. Moreover, the new Code of Corporate Conduct 2014, a document containing a cornerstone set of principles of corporate governance for Russian companies, recommends that corporation should assess the balance of professional experience, expertise and independency of its members to boost their strategic agility stimulate growth.

The academic literature traditionally covers the topic of IPO underpricing in relation to financial and operational performance of the company. Only few works are dedicated to the research of the relationship between underpricing and corporate governance. At the same time, it has been argued that the board structure and the characteristics of members of the board influence the perception of the investors, and thus are associated with underpricing.

The unique context of corporate governance system in Russia combined with growth prospects of the IPO market makes the research on relationship between underpricing and corporate governance a very attractive field.

Thus, the primary subject of the master thesis is IPO underpricing.

The aim of this paper is to analyze the relationship between the board composition and the level of IPO underpricing of the Russian. The paper is an empirical research paper.

To achieve the goal the research paper has the following objectives:

1. Define the phenomenon and provide background of IPO underpricing
2. Identify factors attributed to board composition, which are associated with IPO underpricing based on the academic literature review.
3. Provide evidence of the relationship between IPO underpricing and the key identified factors
4. Conduct an empirical study of the relationship between the identified factors and the level of the IPO underpricing
5. Analyze the results of the empirical study and draw conclusions

## **Chapter 1. The problem of IPO underpricing**

### **1.1. The definition of the IPO process**

The *Initial Public Offering (IPO)* represents the first time when the firm-specific information becomes publically available. According to the U.S. Securities and Exchange Commission (SEC) an IPO is referred to the first time a company offers its shares of capital stock to the general public by means of establishment of listing and initiation of trading on a stock exchange. The Russian Federation Securities Market Law defines the public placement of securities as a placement of securities via open subscription, which includes placement through stock exchange, auction sales and/ or through other trade promoters on Securities market. In case the placement of securities is intended solely for qualified investors on organized market, the placement is not considered to be public. After the issuing company received the floatation of its stocks and market quotes, the company is considered to be public (MOEX, 2015)

(Dalton, Daily, Certo, & Roengpitya, 2003) identifies two key reasons explaining the company's decision to undergo IPO:

1. IPO as a mechanism of portfolio risk diversification for initial shareholders
2. IPO as a channel for the managers of the firm to attract financing to pursue new projects and initiatives to develop the firm.

As method of raising capital, an IPO offers a number of benefits:

4. The access to the stock market enables the information about a company's creditworthiness to circulate among general public.
5. The listing on major exchanges serves as advertising for the company and increases the company's recognition among investors leading to a better access to a pool of investors. Consequently, the publically listed firm is able to obtain a greater supply of external funding and negotiate a lower borrowing cost by creating competition among lenders.
6. The stock market provides managerial discipline devices. For example, a threat of a takeover is one of the ways to decrease agency problems between shareholders and managers (Pagano, Panetta, & Zingales, 1998)
7. Information incorporated in the stock price allows shareholders of a public company to develop a more efficient compensation scheme for managers by tying the respective compensation to the stock performance (Holmström & Tirole, 1993)
8. The listing increases company's prestige and brand image (MOEX, 2015).

At the same time an IPO has a number of drawbacks for the company to take into account.



First of all, an IPO is a costly process and is associated with a number of initial costs and rolling-over expenses.

The costs directly attributed to IPO include (PWC, 2012) :

- Legal, accounting and printing fees
- Road show expenses
- Underwriter fees (gross spread)
- Other incremental organization costs (advisory accounting, valuation reports, tax and legal entity restructuring costs)
- Costs associated with converting the organization into a public company:
- New financial reporting systems implementation costs
- Recruitment of new executives and members of board of directors
- New executive and employee compensation plan implementation costs

Additionally, there is a threat of sensitive financial and legal information disclosure to all stakeholders. Other subtle cost concerns the difficulty associated with recruiting non-executive directors for board

The IPO process involves four key parties: the issuing company, the investment bank underwriting and marketing the deal and the new investors (the market) (Ljungqvist, 2007).

The IPO process includes the following key steps:

1. Decision about securities public placement
2. Corporate resolutions and prospectus
3. State registration of the securities issue/prospectus
4. Admission to a listing

In the United States, the first time of the IPO formal process is filing of the registration statement with the United States Securities Exchange Commission (SEC). It is the role of the underwriter to assist with the paperwork to ensure the issuer's firm compliance with the regulations. Additionally the issuing firm is the subject for legal check and conduction of due diligence not only by the legal advisors of the issuer, but also by the underwriting bank itself. The issuing company can opt for one of the two contracts: a firm commitment offer or the best effort contract.

In case of a firm commitment offer, the issuing part and the underwriter agrees on a preliminary prospectus. Then the underwriter approaches potential investors to get the indication of their interest in the offering. After the approval of the offer by SEC, the issuing party and the underwriter agree on the offer price and the number of shares to be sold on IPO. Usually an

underwriter is given an overallotment option to sell up to 15% more shares. After the final prospectus is issued the underwriter guarantees the delivery of proceeds. It is important to point out that in case of a firm commitment offer, the delivery of the IPO proceeds is unconditional on whether the issue is fully subscribed or not. The underwriting bank cannot raise the price of the offering despite positive changes in demand conditions, whereas it can lower the price in some cases (Ritter, 1987).

The second type of the underwriting contract is the best effort contract. In this case the issuing company and the underwriting banks agree upon an acceptable range of stock volume that has to be sold (Ritter, 1987).

In Russia, in order to be authorized to conduct an IPO, the issuer is required to get a state registration of the securities issue at the Bank of Russia in accordance with Article 20 of Securities Market Law. The Russian issuers can simultaneously sell offerings both in Russia and abroad. However, the firms have to comply with the foreign laws when preparing necessary documents and prospectuses.

In accordance with SEC, an IPO firm must provide documents, which include information about the firm, the uses of the proceeds generated from the IPO and details about management body. The extent of the details revealed in the IPO prospectus varies from firm to firm, as many companies are reluctant to expose proprietary information (Dalton et al., 2003). However, issuers are required to provide more extensive information for the more speculative offerings.

“A road show” is the key element in the IPO marketing process, because it helps to assess the expected demand for the offering. During the road shows lead underwriters and the issuer’s top representatives present the issuing firm’s key business activities, management and growth prospects mainly to potential institutional investors such as mutual funds in major locations (Loughran, Ritter, & Rydqvist, 2016).

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 given a wise choice of IPO timing, adequate choice of underwriters and markets to enter.

## **1.2. Peculiarities of the Russia equity market**

For the purpose of the current study it is necessary to consider the specification of the Russian equity market.

According to MSCI Russia indexetric designed to assess the performance of the large and mid cap sectors of the Russian market. The most of the top constituents belong to the energy sector. Hence, oil price is the crucial driver for the Russian equity market. Other important market drivers to consider are sovereign rating, partial relieve from sanctions, recession of the Chinese economy, exchange rate (dollar) and geopolitical tensions.

**Table 1**

Top 10 Constituents of MSCI Russia Index (Mar 31, 2016)

	<b>Market Cap</b>	<b>Index</b>	<b>Sector</b>	<b>Sector</b>
	<b>(RUB Bns)</b>	<b>Weight (%)</b>		<b>Weight (%)</b>
GAZPROM (RUB)	1,747.11	19.18	Energy	32.5
LUKOIL (RUB)	1,331.73	14.62	Energy	24.8
SBERBANK (COM)	1,184.91	13.01	Financials	69.7
MAGNIT (GDR)	694.59	7.63	Cons Staples	100.00
NOVATEK (GDR)	547.21	6.01	Energy	10.2
TATNEFT COMMON (RUB)	509.81	5.60	Energy	9.5
NORILSK NIKEL MMC (RUB)	481.58	5.29	Materials	63.3
VTB BANK (RUB)	395.66	4.34	Financials	23.3
ROSNEFT (RUB)	366.69	3.90	Energy	6.6
SURGUTNEFTEGAZ (RUB)      PREFERRED	311.10	3.42	Energy	5.8
<b>Total</b>	<b>7,559.38</b>	<b>82.99</b>		

Source: (MSCI, 2016)

Unlike in the US and the UK, a lot of Russian companies are facing limited access to debt financing. As a result resources for pursuing growth opportunities are quite limited.

Only a few companies managed to raise desired equity via listing. Russian local equity market is really small and MOEX provides very limited liquidity. Therefore, many Russian companies issue American Depository Receipts (ADRs), negotiable instruments issued by U.S

depository banks for listing on U.S. stock exchanges and Global depository notes (GDRs) for European stock exchanges, including the foreign ones. Interestingly, according to the Russian Mandatory Tender Offer Rules (MTO) restricts the depository issue to 30% of common stock (Latham & Watkins, 2011). Apart from stringent legislation, the prospects of foreign listing of the Russian IPOs is clouded by the investors' negative perception about the debatable quality of financial reporting and Russian taxation system. Nevertheless, there are some important shifts in legislation to boost the liquidity of the Russian equity market. In 2014 Russian equities were admitted to International settlement bank Euroclear. This action is intended to boost equities market liquidity by administering better accessibility to the market for foreign investors.

6 Russian biggest IPOs occurred from 2010-2014 (see Table 1), demonstrating that the Russian equity market is an interesting subject for the research.

**Table 2**

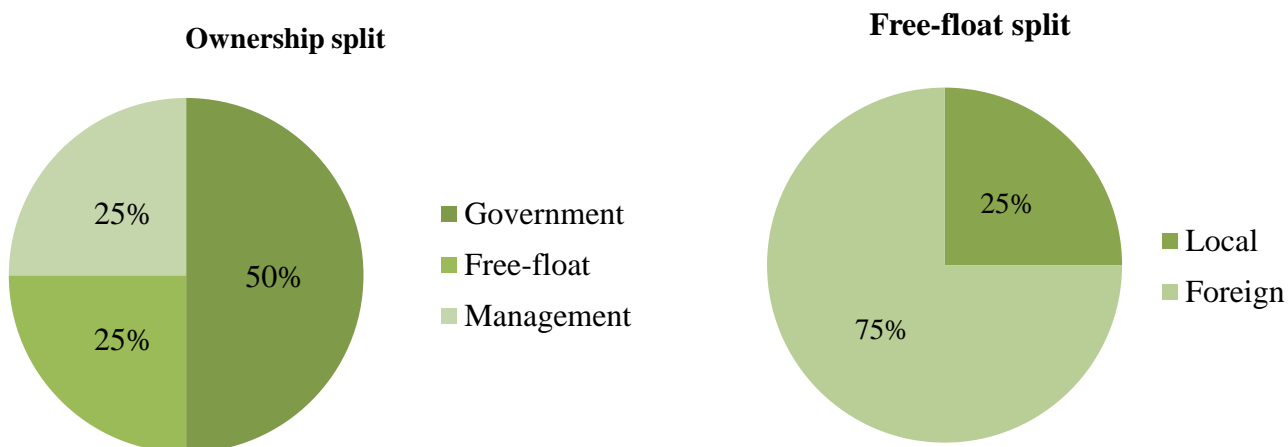
Top 15 Russian IPOs for the past 15 years.

<b>Company</b>	<b>Date</b>	<b>Stock Exchange</b>	<b>IPO Volume*</b>
JSC Rosneft	14.07.2006	MOEX, LSE	\$10,66 bln
VTB	11.05.2007	MOEX, LSE	\$7,99 bln
UC Rusal	22.01.2010	MOEX, HKSE	\$2,24 bln
PIK Group	31.05.2007	MOEX; RTS, LSE	\$1,93 bln
MEGAFON	28.11.2012	MOEX, LSE	\$1,83 bln
AFK "SISTEMA"	09.02.2005	LSE	\$1,56 bln
Yandex	23.05.2011	NASDAQ	\$1,44 bln
AFI Development	02.05.2007	LSE	\$1,4 bln
TCS Holding	22.10.2013	LSE	\$1,09 bln
TMK	31.10.2006	RTS, LSE	\$1,07 bln
Komstar-OTS	07.02.2006	LSE	\$1,06 bln
Mail.ru Group	05.11.2010	LSE	\$1,0 bln
Novatek	21.07.2005	LSE	\$966 mln
NCSP	02.11.2007	MOEX, LSE	\$955 mln

\*IPO volume including options

Source: Vedomosti.ru // „15 biggest Russian IPOs”

Another feature of the Russian publically traded companies is the ownership structure. 50% of the stake belongs to the government and  $\frac{1}{4}$  of equity is in the hands of top management of the enterprises (Figure 4). Only 25% of shares are free floated.



**Figure 1.** Russian equities' ownership.

Source: (Belyaev, 2016)

The peculiarities of Russian equity market combined with the market condition necessitate the enterprises to adjust their corporate governance mechanisms as one of the effective tools to boost underwriters and investors' confidence.

### 1.3. The problem of valuing an IPO company

The problem associated with assessing an IPO company fair value is the dependence of the valuation on 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 prospectus and the date of setting the final offer price, the issuer representatives participate in the road show to meet key investors in order to assess the demand for the issuer. Depending whether the expected demand is higher or lower than expected, the final price is adjusted upwards or downwards (Pukthuanthong-Le & Varaiya, 2007). At the final stage of IPO process the price of the share is adjusted on the secondary market based as a market reaction about the perception 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 forecasting, analysis of 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 and offer price range are option pricing models, analysis of discounted cash flow, method of multipliers and big transactions.

*Option Pricing Model* is based on valuation of future cash flow from company's projects accounting for positive and negative scenarios. The model enables to embed flexibility of management to react to changes in demand and costs and ability to adjust a business model accordingly. Depending on the complexity of projects and terms, the option pricing can be either done using the Black-Scholes Model or the Binomial Option Pricing Model in case more subprojects have to be taken into consideration.

*The Method of Discounted Cash Flow* is built on the forecasting of operational, depreciation and amortization expenses, changes in working capital and required capital expenditure. The forecasted free cash flows are discounted at the cost of capital. The second part of a company's fair value is the Perpetuity (Terminal) value, which captures the value of company's cash flows beyond the forecasted period given an estimated constant growth rate. The sum of the two forecasted discounted free cash flows and the perpetuity value gives the value of an IPO company. The fair share price is obtained by subtracting net debt from the obtained sum and dividing it by the number of shares.

Although the method can be used within negotiation process with between the issuing company and the investors, it has some particularities, which have to be considered in order to come up with a reasonable intrinsic value.

First of all, it is challenging to establish the appropriate cost of capital used in the discounting of the free cash flows of an early-stage company (Kim & Ritter, 1999). The required rate of return on equity varies with the risk appetite of investors. For example, private investors tend to have a higher required rate of return than large funds and banks. At the same time, changes in the cost of debt will affect the cost of capital and, hence, the fair value of the company. The second challenge is to establish appropriate constant growth rate. Another uncertainty is forecasting the effect fixed assets management and turnover of account receivables and account payables will have on working capital.

As a country with a very young equity market, Russia has a limited volume of listed firms, which would be suitable for the method of multiples.

*The method of multiples (comparables)* is based on the information on comparable firms as a benchmark for an IPO firm in order to establish the IPO firm's offer price. The advantages of the method are its simplicity and low cost.

As defined by (Penman, Richardson, & Tuna, 2007), a multiple is constructed as a ratio with market price as nominator and an important value driver from financial statements as a denominator. Market price can be proxied by company market capitalization or share price, whereas earnings, cash flows, revenue or book value can be used in the denominator.

One of the most widely used multipliers is Price/Book, which is the market capitalization of the company divided by its book value. The benchmark for the ratio varies for different industries. It depends on industry cyclicalities, capital intensity and profitability. It is essential to consider the multipliers of peers of a comparable size.

Unlike DCF and Option Pricing Models, the method does not involve forecasting. However, following the assumption that current market capitalization and the price for the previous big M&A deals reflect the growth prospects, this criticism can be omitted. Additionally, it is challenging to pick the right size of the peer group, ensure comparability of the companies and find the most relevant value drivers for a company.

Overall, there is no single correct method for assessment of the intrinsic value of an IPO company. 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 firm true value

After the trading is opened on 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 premium or 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 generate less funds than it could have received if the issue was priced more favorably. At the same time the value of the pre-IPO shares retained is diluted. Therefore, the underpricing considered to be a cost to company owners, because their shares are sold a lower price (Ljungqvist, 2007).

(Loughran & 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. However, the level of underpricing varies from country to country.

**Table 3**

Comparison of IPO underpricing in different countries.

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

Source: (Loughran et al., 2016)

The most pronounced effect of the positive first-day returns can be observed in developing countries. The table shows that underpricing in Russia is considerably lower than in other countries. This market peculiarity makes the research on the topic even more relevant.

To understand the driving forces behind IPO underpricing, it is necessary to consider existing theories about underpricing based on the contemporary international empirical literature based on the review.

#### **1.4. IPO underpricing theories**

This section of the paper presents a review of research on the topic of IPO underpricing. The positive first-day return was documented for the first time in the 70s.

Based on the analysis of the academic literature, the theories of underpricing can be arranged into four main groups:

- Theories explaining underpricing as a result of the asymmetric information problem
- Theories explaining underpricing as a result of deliberate underpricing of the offering and control considerations
- Theories explaining underpricing as a result of the influence of different specifications of the IPO and the parties participating in the IPO process
- Theories explaining underpricing from the behavioral point of view

The empirical findings indicate that the information frictions have a dominant effect on underpricing.



### **1.4.1 Asymmetric information theories**

A considerable pool of academic literature is dedicated to the research on the IPO underpricing phenomenon. The four main IPO underpricing theories covered in the modern academic literature are asymmetric information, control, institutional, behavioral (Ljungqvist, 2007).

According to the theories based on asymmetric information, the phenomenon of underpricing is caused by information frictions, resulting from one of the parties involved in the IPO transactions being more informed than the other ones (Ljungqvist, 2007). Information asymmetry may create agency costs and lead to underpricing. The theories can be further divided into:

1. Asymmetric information theories, where some investors are more informed than the issuing firm and the other investors
2. Theories, where an IPO issuer is more informed than the underwriter
3. Theories, where the underwriting bank is more informed than the issuing party regarding the demand conditions.

Following the assumption that investors are more informed than the issuer about the market conditions, the issuing firm faces uncertainty regarding the appropriate offer price to meet the demand. One of the earliest asymmetric information models was suggested by Kevin Rock. In his adverse selection model, the scholar assumes the existence of a group of investors, who is more informed than other investors (Rock, 1986). In the Rock's model as opposed to the uninformed investors, the informed investors, possessing some knowledge about the fair value of IPOs will only submit orders for IPOs, which are either underpriced or equal to their true value. In the event of oversubscription, a condition, when the demand for the offering exceeds its supply, investors get rationed.

According to Rock's observations rationing occurs more often for good shares than for bad ones. This implies that the uninformed investors receive a full allocation of overpriced shares and only a partial allocation of the oversubscribed shares and, hence, suffer from "the winner's curse". Rock supposes that the participation of the uninformed investors in the IPO market is crucial in order to maintain sufficient demand for the offerings. Therefore, underpricing should be used as a tool to compensate uninformed investors for the information disadvantage and keep sufficient number of investors on the primary market.

(Ritter, 2011) criticizes the Rock's theory and similar research which defends the argument that the adverse selection problem influences underpricing. The researcher argues that none of these conjectures prove that the adverse selection causes the underpricing and not vice versa. On the

contrary, Ritter conjectures that the bigger the expected underpricing, the more investors are incentivized to bid for the IPO and the higher is the oversubscription, which leads to adverse selection.

Moreover, the Rock's model became outdated. Unlike in the Rock's 80s setting, today underwriters have discretion in allocation of shares and the offer price is established via bookbuilding, a process in which the offer price is set in accordance with the expression of interest from institutional investors.

A second set of the asymmetric information theories examines the relationship between the issuer and the potential investors. In this case the issuer possessing some "inside" information is considered to be more informed than the investor.

Assuming the existence of asymmetric information problem signaling theory is considered to be very relevant. The theory pioneered by (Bhattacharya, 1979; Brealey, Leland, & Pyle, 1977) suggests that there is an array of certain variable that communicate signals about future value of the firms. The signaling theory has two premises as presented by (Dalton et al., 2003)

- The signal should be observable and known in advance (i.g. before IPO)
- The signal should be difficult or costly to imitate

Based on the aforementioned signaling theory, researchers by (Brealey et al., 1977) argue that the IPO companies want to distinguish themselves from the pool of low-quality firms by deliberately underpricing the offering. (Ibbotson, 1975) argues that the issuer use underpricing in order to "leave a good taste in investor's mouths".

(Ritter & Welch, 2002) question the validity of these signaling theories by arguing, that it is debatable whether underpricing is a stronger signal than other means of distinguishing such as marketing or donations, for example. Moreover, (Ljungqvist, 2007) conjectures that the underpricing signal is weaker than other signals like quality of the board of directors, reputation of the underwriter, auditors, etc.

*The third set* of asymmetric information theories considers cases, where the underwriter is more informed than the issuer given the circumstance, which is known as "partial adjustment phenomenon". The phenomenon was documented in the 90s by Hanley et. al 1993. The partial adjustment phenomenon is a pattern, in which final offer prices, revised upwards from the initially set file price range, are more underpriced than the rest of the initial public offerings. There are two different motives described in the body of literature, which explains conditional underpricing in the context of partial adjustment phenomenon. One block of theories (Baron, 1982; Hanley, 1993) argue

that underpricing is used by underwriters as a less costly alternative to increased issue allocation, which increases owner's residual claims. Alternatively (Arthurs, Hoskisson, Busenitz, & Johnson, 2008; Loughran & Ritter, 2002) accentuate the issuer-underwriter agency model, whereby the underwriter pursues personal motives to underprice the issue.

The first set of theories considers a setting, where the issuer is uncertain about the demand conditions and, hence, the appropriate offer price. In the model presented by (Baron, 1982) the issuer, facing demand uncertainty for the initial public offering, assigns the underwriter as an intermediary to lead negotiations with the investors about the offer price. Having agreed on the offer price range with the issuer, the underwriter approaches institutional investors, to capture truthful representation of their interest. However, in the process of bookbuilding investors are incentivized to misrepresent positive information to consequently get hold of the offering at a lower price. To encourage the regular investors to reveal the truthful information, (Benveniste & Spindt, 1989) predict that in case of a positive news, underwriters will only partly adjust the offer price. Moreover, underwriters will give preferential treatment in allocation for those investors.

Some scholars argue that there are alternatives ways to generate information about pricing. For example, in the research by (Hanley & Hoberg, 2009), the hypothesis, which stated that pre-market due diligence can improve the pricing information accuracy has been supported.

An alternative view suggests that the underwriter faces a conflict of goals: on the one hand the underwriter serves the interest from the side of the seller (the issuing firm), on the other hand from the side of the buyer investor).(Loughran & Ritter, 2002) conjecture that the “quid pro quo” relationship between the underwriting bank and the investor incentivizes the former to underprice the issue by means of not fully adjusting the offer price for the positive new information in return for higher trading commissions from the investor. Additionally (Arthurs et al., 2008) argues that the underwriter value more the ties with the institutional investors as a long- term source of revenue, than the agency relationship with the issuing firm. According to the research, the institutional investors are interested in short-term gains, which can be obtained via underpricing the issue and flipping later. Thus, the underwriter has an incentive to leave the money on the table.

#### **1.4.2 Control theories and theories of deliberate underpricing**

As it has been discussed in the part of the chapter dedicated to description of the IPO process, IPO is considered to be a step which leads to the separation of the ownership and control. (Ljungqvist, 2007) stresses that ownership is paramount in the sense of ensuring that management makes optimal operational and investment decisions. In case the ownership and control are not

completely separate, (Jensen, 1986) indicates that the owner-manager will be incentivized to maximize her own benefits rather than the expected shareholder value leading to the increase in agency costs.

There are two classes of theories: theories indicating that the underpricing is used as a means for managers to retain control after the IPO by avoiding monitoring by the outside blockholders, and other theories arguing that IPO underpricing encouraged monitoring and, hence, decreased agency costs.

(Brennan & Franks, 1997) conjecture that if the ownership and control are separated, directors will strive to derive private benefits of control after the IPO by inducing oversubscription and consequent rationing in order to insure defuse outside shareholding. The authors assume that the level of underpricing is positively related to the size of the block holding of outsiders. In the absence of the large outside shareholder the intensity of monitoring is reduced. The scholars refer to this as to “reduced monitoring” hypothesis. Although the reduced monitoring leads to lower efficiency of the firm and the increased costs levied on pre-IPO shareholder, (Brennan & Franks, 1997) conclude in their work that the cost will mostly fall on the pre-IPO shareholder, who sold their shares in the IPO. However, as (Field & Sheehan, 2001) research indicates, the pre-IPO firms have already formed blockholder in the pre-IPO firms. Therefore, preventing the formation of blockholders during IPO is futile as such.

The second set of control theories defends the hypothesis that underpricing reduces the agency costs. (Stoughton & Zechner, 1998) assume that managers as part-owners of an IPO company bear the cost of the shirking behavior at least partially. If a manager owns considerable stake in the company, the private benefits he extracts from his entrenchment are likely to be lower than the agency costs they have to bear. Therefore, the managers will be more interested in decreasing agency costs. Based on this assumption, the authors conjecture that allocation of shares to large outside investors will lead to better monitoring of the agent, and, therefore will be beneficial to the firm. Because shareholders are incentivized to actively monitor only in cases of possessing large enough stakes, managers would want to allocate large stakes to an investor. However, if an investor is not motivated to participate in a large stake, underpricing could be used as an additional way to incentivize investors.

As noted by (Ljungqvist, 2007) the theories of ownership and control represent a promising field of research for the phenomenon of IPO underpricing.

### **1.4.3. The influence of different specifications of the IPO and the parties participating in the IPO process**

*The third block of theories* is based on the assumption about “ex-ante” uncertainty. (Beatty & Ritter, 1986) describe “ex-ante uncertainty” as a phenomenon, in which an investor having made a purchase order cannot predict an offering value after it starts to be publically trading, despite the fact that on average initial public offerings are underpriced. The researchers hypothesize that the more ex-ante uncertainty an investor expects, the more money the issuing party will have to leave on the table.

Two factors serving as proxies of ex-ante uncertainty influence the IPO underpricing (Beatty & Ritter, 1986):

- Number of the Uses of the IPO proceeds
- Gross proceeds (the size of the offering)

The researchers argue that the underwriting bank has to balance between serving the interest of the issuer and the investor and, hence, needs to maintain underpricing equilibrium. In case the underwriter “cheats” on one of the parties, it will lose its reputation and as a result the market share.

Therefore, reputation is considered to be another factor influencing IPO underpricing.

(Beatty & Ritter, 1986) have empirically proved the influence of ex-ante uncertainty on the expected underpricing. The finding offers that the issuer is incentivized to disclose its information if the of ex-ante uncertainty is endogenous. Additionally, an investment banker (an underwriter) is a party, maintaining underpricing equilibrium in the face of losing its market share.

Other factors considered to be associated with positive initial return on the offerings are auditor’s reputation (Titman & Trueman, 1986) and the venture-backing (Cyr, Johnson, & Welbourne, 2000). However, the evidence of whether there has been a negative association between the aforementioned factors and the underpricing are mixed. The empirical findings of (Dalton et al., 2003) suggest that both the auditor’s reputation and share of venture equity are positively associated with underpricing.

Another body of literature considers corporate governance mechanisms as factors influencing IPO underpricing. Researchers (Prasad, Vozikis, Bruton, & Merikas, 1995) have remarked that the underwriter (the investment bank) is biased against risk and tend to designate low offering prices, leading to underpricing. The models exploring the corporate governance problems

of the IPOs assume the existence of the information asymmetry among the issuing firm, underwriting bank and external investors.

According to (Certo, Covin, Daily, & Dalton, 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” signal related corporate governance mechanism. Efficient 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 & Bishop, 2002) conjecture that board structure and characteristics of the board members help to reduce the extent of underpricing. (Booth & Chua, 1996; Filatotchev & Bishop, 2002) find empirical evidence that ownership structure of the IPO is another positive “signal” for the investor.

The paper by (Smart & Zutter, 2003) supports the “reduced monitoring” hypothesis promoted by (Brennan & Franks, 1997). It is argued that the introduction of dual-class shares reduce the incentive of the managers to underprice for the purpose of ruling out blockholders, as the voting control is secured in the hands of the management. The authors have concluded that dual-class firms are less underpriced on average.

(Filatotchev & Bishop, 2002) promote the conjectures of the researchers 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 the IPO underpricing. Unlike other research corporate, the paper considers 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 nonexecutive directors may serve as a source of strategic information and help gaining better expected growth opportunities for the IPO company.

According (Filatotchev & Bishop, 2002) findings a high proportion of nonexecutive directors and the intensity of the extra-organizational links reduce the IPO underpricing.

Notably, the studies covering emerging markets present contrasting results. According to Hearn, (2012) and Darmadi and Gunawan, (2013) in Indonesia and Sab-Saharan region Africa,

presence of independent board members have a positive association with underpricing. According to the researchers the findings correspond to the investors' perception about 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 way to reduce the extent of the IPO underpricing costs.

All in all, the academic literature about IPO is rather mature. IPO underpricing has been observed in both developed and emerging markets. However, the extent of IPO underpricing varies from country to country and fluctuates over time.

#### **1.4.4. Behavioral theories**

Some researchers have been skeptical about the opinion that information frictions and control consideration can cause significant underpricing. They promote the idea of irrational behavior of investors, who set a bid for the issue, which is higher than its intrinsic value. Other theories consider behavioral biases of investors, who do not put enough pressure on the underwriter to reduce underpricing

Behavioral theories conjecture that the conditions of an IPO company such as early-stage of development and lack of information, cause considerable deviation in the estimations of the firm's valuation from its true value.

(Loughran & Ritter, 2002) argue that behavioral biases among IPO decision-makers of the firm. Using the prospect theory and the behavioral bias of mental accounting, the researchers offer another explanation of the partial adjustment phenomenon discussed earlier. They hypothesize that the issuing firms does not get upset about leaving money on the table because of underpricing, because they sum up the losses caused by the positive first day return and the wealth gains from retained shares. The investment bank benefit from the issuer's behavioral bias (soft dollars) if investors seek chances of underpriced stock allocation. (Loughran & Ritter, 2002) suppose that the IPO decision makers consider that the fair value of the offering is represented by the mean of filing price range in the IPO registration statement. The actual offer price is usually different from the filing range price mean either because the underwriter took advantage of the issuer's perception of the firm's expected value or because of the adjustments made in the process of bookbuilding.

(Ljungqvist & Wilhelm, 2005) provide some empirical support for (Loughran & Ritter, 2002) arguments, having established that CEOs of the IPO firms, which were satisfied with the IPO outcome, hire the same underwriter as lead-managers for the season equity offering.

Yet, the behavioral theories explanations of underpricing are still at the stage of infancy. To conclude, the IPO underpricing research has been mature and provides numerous theories explaining the phenomenon of the positive first – day return. Theories promoting the role of information frictions as well as agency conflicts between different pairs of IPO participants in the IPO underpricing have been dominant in the academic literature.



## **Chapter 2. Board composition and IPO practices**

### **2.1. Mechanisms of Corporate Governance**

Corporate governance mechanisms comprise an essential aspect of sustainable growth of modern corporations. As emphasized in (OECD, 2006), the efficacy of corporate governance systems determines the investors' confidence in the company's growth prospects and accentuate potential risks of the company.

There is no one single definition of corporate governance and its notion varies depending on the legislation. According to the Organization of Economic Cooperation and Development (OECD), Corporate Governance is a system, which guides and controls business enterprises. 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, creditors, etc. (Solomon, 2007). The distribution of rights and responsibilities among the board, managers, shareholders and other stakeholders, decision-making rules on company matters are the main aspects determined by the corporate governance system.

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 alignment of the interests of the senior management and the shareholders
- Improvement of the company's coherence, decision-making process and internal operations

In particular, the agency problem is one of the central issues in the corporate governance literature. Agency problems arise from the separation of ownership and control and result of the conflict of goals between the shareholders and the managers. According to (Jensen & Meckling, 1976), agency relationship can be understood as a contract, which involves a principal, who delegates some responsibility and an agent, who performs activities, prescribed by the principal. Assuming that each of the parties pursues its own interest, the agent's goals may not be aligned with those of the principal. In the situation of conflicting interests the decisions made by an agent can

jeopardize the shareholder's value. The implementation of certain initiatives and monitoring can help the principal limit the agent's opportunistic activities.

The contemporary 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, market of corporate control and takeover market belong to the category of external mechanisms (Boulton, Smart, & Zutter, 2010).

Importantly, corporate governance structure involves institutions, which promote the governance of publically traded institutions such as investment banks, auditors, regulators (Luo, 2007).

Ownership concentration represents the shares owned by individual shareholders or block shareholders with the company's equity stake equal or exceeding 5%. Commonly, blockholders are institutional investors in things such as 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 is the higher the level of ownership concentration, the better is the monitoring and the tighter control by the block shareholder in order 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. On the other hand, a high ownership concentration also poses a threat of poor management and decision-making by the blockholders, who might undertake actions, which contradict the interests of other shareholders and result in minority shareholder expropriation. One of the recent examples of ownership control by a block shareholder would be the case the British telecommunication company BSkyB in 2011. After the phone-hacking scandal, several large institutional shareholders have pressured the non-executive Chairman of the company board to resign from his position (Solomon, 2007).

The Anglo-Saxon context of the ownership structure is characterized by weaker governance power. Investors with minor ownership interest are less likely to be involved in active monitoring and control and tend to vote "by feet". i.e. by selling their equity stakes in the company. (Conyon & He, 2011) have investigated the executive compensation and corporate governance of the publically traded companies in China, comparing and contrasting the results with those of the U.S. companies.

The researchers have concluded that in the firms controlled by the state and in enterprises with high ownership concentration, the executive pay and CEO incentives are lower. Another finding of the scholars confirms the significance of the positive linkage between the amount of compensation and performance in the boards with more independent directors.

Another body of literature (Haid & Yurtoglu, 2006; Lazarides, Drimpetas, & Dimitrios, 2009) found empirical evidence of the positive relationship between the company's financial performance and the executive compensation. However, as suggested by (Suherman, Rahmawati, & Buchdadi, 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 a compensation exceeding \$ 160 million, whereas the company was struggling to survey putting up with losses of \$ 8.4 billion.

The board of directors is the third pillar of the internal corporate governance system. It is a fundamental mechanism for separation of management and control. The board of directors plays an important 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 properly served (Keasey, Thompson, & Wright, 2005). According to (Fama & Jensen, 1983), the board of directors is the key 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 & Jackson, 2000) confirm that stock prices of the company are positively associated with the board characteristics. The functions of board of directors will be discussed in detail later in the chapter.

There are two key primary groups of studies exploring the IPO process in the context of corporate governance.

*The first* one promulgates that different corporate governance factors, including ownership concentration, board membership participation, and executive compensation, possess signaling properties for the investors and affect their perception of the company's value and, thus, the IPO success. As it has been discussed already, a number of scholars have empirically proved the negative association between the IPO underpricing and a number of board characteristics including the board diversity and share ownership.

*The second* body of research considers the effect of institutional factors such as country-level regulations on the IPO (Pugliese, 2014). The corporate governance mechanisms such as

ownership concentration, board experience convey signaling properties regarding the pre-and post - IPO company prospects to the investors.

(Boulton et al., 2010) have examined more than 4 thousand IPOs in 29 countries for the period 2000-2004, concluding that the features of country-level governance do not have a pronounced positive effect on the IPO valuation of the investors. Additionally, the researchers have conjectured that internal corporate governance mechanisms such as the board of directors, ownership structure and other enterprise-specific elements can considerably influence the IPO underpricing.

Corporate governance mechanisms play a central for the company's prosperity. Board of directors and ownership structure are the key corporate governance mechanisms, which not only influence the strategic and managerial choices within the company, but also serve as a quality signal for the potential investors.

## **2.2. The composition of board of directors as an effective corporate governance mechanism**

There is a general consensus in the major body of empirical literature that the size of the board is negatively associated with the corporate governance efficiency. Certainly, the bulky board tends to hinder the speed of decision making process. (Willekens & 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.

After a series of involving directors of Enron, Worldcom, Parmalat in the early 2000, Sarbanes-Oxley law was developed aimed at improving transparency and quality of due diligence process. The more recent corporate governance failures of such industry giants as Lehman Brothers, AIG, Bear Stearns, General Motors contributed to the world economic crisis. Today level of the board involvement has significantly increased.

Generally, an effective 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 management, board of directors, shareholders, etc.

The board duty to monitor the firm performance and resolve agency problems is considered to be one of the central problems in the corporate governance literature. The responsibility of the board of directors is to protect investors by ensuring that managers make decisions aligned with the interests of the investors. It is important to note that the board responsibilities do not include the management of an enterprise.

Varying in size, composition, board processes and other dimensions, the board of directors represents a complex structure. (Carter & 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 in order 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 in the board.

As for the board composition, it can accommodate executive, non-executive related or affiliated directors or 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. Unlike the insider directors, non-executive board members (outside directors) do not have executive duties and are not usually involved in the affairs of the corporation. (Solomon, 2007).

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

Apart from the powers held by the Board of Directors, all the discretion to make decisions with regards to the Corporate Objective is granted to the CEO. Thus, the CEO possesses freedom in making decisions and taking actions based on her reasoning, which is, however, a subject to certain limitations. The CEO is held responsible to the Board of Directors (Clarke, 2007).

Another aspect, which adds complexity to the board, is that the CEO can simultaneously occupy the position of the Chairman of the company board. This status is known as the CEO duality. The CEO duality offers a number of advantages such as the provision of strong leadership and decision-making. However, the concentration of power can also be a drawback, because in the case of CEO duality, the Chairman's corporate governance role as a monitor can be substantially weakened. Yet, the tension can be alleviated by appointing a lead outside directors in order to harmonize the power of the CEO and the rest of the board.

With the increased attention on the importance of the board of directors 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 & Jensen, 1983) emphasize the role of non-executives as management monitors. (Rosenstein & Wyatt, 1990) have found empirical support to a positive relationship between the share price and the appointment of a non-executive positive director. (Pearce & Zahra, 1991) have found a positive relationship between the representation of the outside directors and the company financial performance.

(Agrawal & Knoeber, 1996) conjecture that non-executive directors negatively impact 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.

A number of fraud instances in some large corporations like Enron, WorldCom have escalated a concern that inside directors can be dominantly driven by self-interest. In the light of the

corporate governance failure, the corporate governance control has tightened and became one of the reasons for structural changes in the composition of boards.

The presence of independent directors in the board has had a growing importance, because of expertise, skills and a more extensive unbiased viewpoint they can contribute (Du Plessis, Hargovan, & Bagaric, 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”. Yet, a lot of instances have demonstrated that the presence of directors, which are able to impose an objective outlook is a very beneficial practice for corporations.

According to (Jones & Pollitt, 2004), in order to qualify for the position of the Chairman, the director has to fulfill the criteria of “independence”. This way, an ex-CEO should not become a Chairman. In a situation of the CEO duality, the board has to ensure a strong presence of independent non-executive directors.

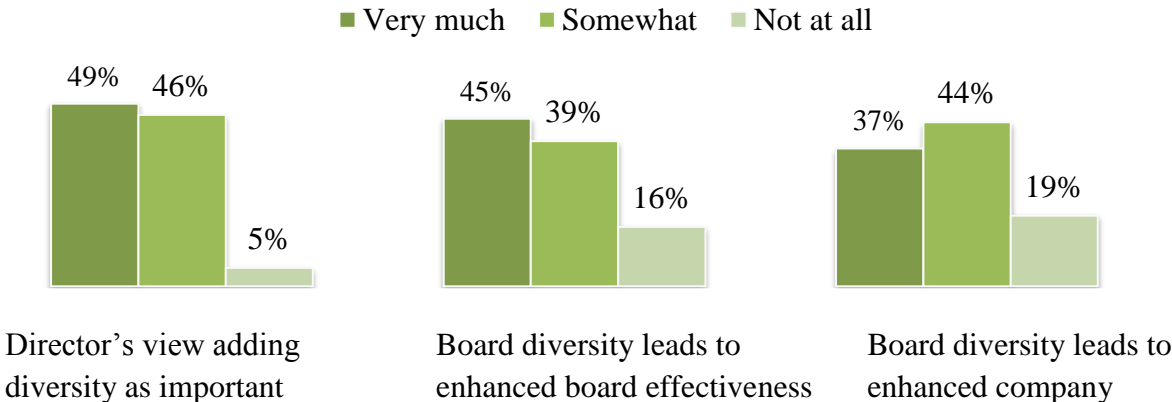
(Desender, 2009) conjectures that the ownership structure has a significant influence on the prioritization of the board decisions and helps to determine the board composition. The researcher concludes that such board characteristics as the presence of the CEO on the board and board size are some of the key elements for establishment of an optimal board composition.

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, Helliard, & Power, 2004) have conducted a survey of 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 the 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 in order to increase the credibility of the IPO in front of the potential

institutional investors. The appointment of different board committees, introduction of non-executive directors is an important factor for improvement of the company's accountability.

According to the surveyed company representatives another reason, primarily relevant for big corporations, is the need to update the functionality of investor relations before the IPO in order to improve communication with the outside investors. The change in the corporate governance structure is also driven by the need to introduce more experienced directors and independent non-executive directors for better strategic choices.



**Figure 2** Questionnaire: To what extent do you believe the following regarding board diversity?

Source: (PWC, 2015a)

All in all, the board of directors represents a complex structure and a powerful corporate governance mechanism, which has recently received a lot of attention. In the light of the world economic crisis, companies have put more effort into making strategic and management choices and started to pay more attention on improving the board structure to attract and retain investors, who have become more cautious. The IPO is one of the most important sources of funding and indicating the need for a better IPO preparation.

**2.3. Corporate governance mechanisms in Russia**

The Russian Corporate Governance Code defines Corporate Governance as a notion, which describes “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).

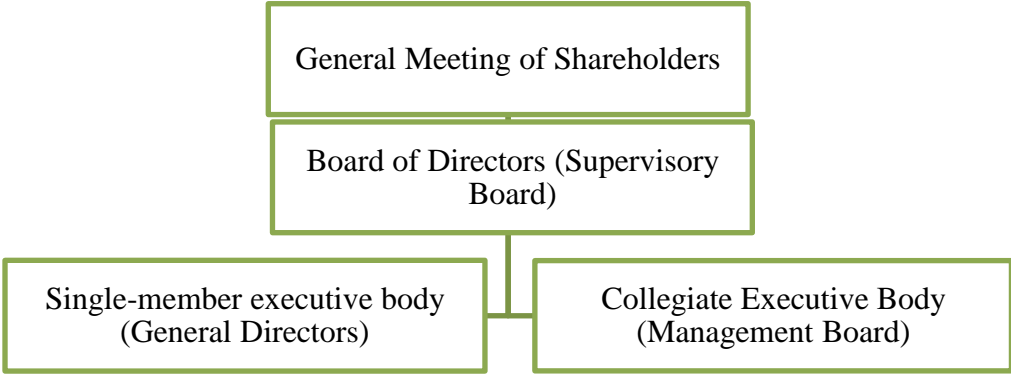
The Corporate Governance System in Russia remains at a relatively early stage of development, because the market-oriented system has been established in the country only 20 years ago. However, the Russian enterprises have increasingly admitted the importance of efficient



corporate governance mechanism. A special attention has been given to the composition of board of directors

The Russian Corporate Governance framework is rather unconventional. As enforced by the Russian corporate law, the corporate governance system is neither German-Japan (Blockholder model) nor Anglo-Saxon (widely-spread corporation model). De facto, it combines features of both national legal systems.

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



**Figure 3** Governance Structure of a Russian joint-stock company.

Source: (Kpmg, 2013)

General meeting of shareholders is considered to be the paramount governance body and has to be held at least one a year. The shareholders not only participate in the unlimited upside potential, but also are exposed to considerable downside risk of the company, that is why the executive body and the board of directors have to provide them necessary details on the company’s policies and chosen courses of action. However, the shareholders have the authority is limited to passing changes and approvals of company reorganization and liquidation, dividends, annual reports and, importantly, the election of governance body including the board of directors, etc. (Muravyev, Berezinets, & Ilina, 2014).

The Russian corporate law describes the functions of the board of directors similar to the other legislation including that of the U.S. According to the Federal law on joint-stock companies [N 208 FZ passed in 1995] and regulations in Russia, a unitary executive body with a CEO (also known as general director” or a collective executive body (management boy) and a CEO are 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 of the scope of the collective board's authority (Muravyev et al., 2014).

The board size of the Russian companies is comparable with the FTSE 100 (Financial Times Stock Exchange Index, a share index of the companies with the highest capitalization listed on LSE) and S&P 500 (a US share index comprised of largest-cap companies and listed) companies.



**Figure 4** The average number of board members in 2011.

Source: (Survey, 2012)

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 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. Although the CEO duality is prohibited, the management representatives, who have not previously been management representatives, are included in the board.

In the Russian companies the role of independent directors includes the improvement of company's credibility and public trust, advisory for the top management, especially in the process of preparation of a company for an IPO. Although a lot of companies have yet to recognize the relevance of independent directors, the number of independent directors in the board of joint-stock companies has been increasing. According to the Russian Association of the Independent Directors Research Report on average the independent directors comprise only the 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%. Although the Code of Corporate Conduct is not a law, the Russian companies are obliged to disclose the deviations from the code's standards in their annual reports.

Released in 2002, the first Russia's Code of Corporate Conduct aimed at improving corporate governance rules in Russian companies, increasing the protection shareholder's rights and improving the information transparency.

The first Code of Corporate has contributed to the development of the main principles of the corporate governance system in Russia. However, more than a decade has passed since the release of the code and the market conditions largely influenced the financial crisis of 2007, the changes in the Russian legislation have prompted the update of the document in 2013.

The significance of corporate governance for the issuing company has been articulated in new Code of Corporate Governance, which reveals new standards and best practices of corporate governance. The Moscow Stock Exchange has taken active part in preparation of the new code. The new Code has influenced the rules of the Listing Rules 3 of CJSC MICEX Stock Exchange, which came into force in 2015. The Listing rules outline the requirement for stocks to be included in the Second quotation level, and specifies the criteria of independence for members of the board of directors (MOEX, 2015).

The changes in the Code concern all the chapters of the document. However, the project of the new Code has accentuated the board of directors as a central mechanism in corporate governance. Not only was the definition of the board adjusted, but also the new criteria for independent directors were introduced. Additionally, distinctive definitions for compensation and nomination committees have been introduced.

Therefore, despite the number of uncertainties, the corporate governance system in Russia has experienced a number of positive modifications. The fundamental changes in the part of the Code of Corporate Conduct related to the board of directors accentuates the role of the board as an important 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 joint stock has the following key requirement with regards to the board composition:

## Requirement for the board composition in Russia.

<b>Type of person admitted to the board of directors</b>	<ul style="list-style-type: none"> <li>• Only natural person can be elected</li> <li>• (Article 66 paragraph 2)</li> </ul>
<b>Directors</b>	<ul style="list-style-type: none"> <li>• <b>5 directors is the absolute minimum;</b></li> <li>• <b>Seven</b> for a company with more than one thousand holders of voting stock;</li> <li>• <b>Nine</b> for a company with more than ten thousand holders of voting stock</li> <li>• (Article 66 paragraph 3)</li> </ul>
<b>Collective executive directors</b>	<ul style="list-style-type: none"> <li>• Less than one quarter of the members of the board of directors (supervisory board)</li> <li>• (Article 66 paragraph 2)</li> </ul>
<b>Election of board members</b>	<ul style="list-style-type: none"> <li>• (Article 66 paragraph 1)</li> <li>• A person can be re-elected unlimited number of time</li> <li>• A director is elected by the cumulative voting for companies. In accordance with cumulative voting the shareholders can cast their votes for one or more candidates</li> </ul>
<b>CEO (can be a part of the board of directors)</b>	<ul style="list-style-type: none"> <li>• Can be a legal entity</li> <li>• CEO duality is not allowed</li> </ul>

Source: (N 208 FZ passed in 1995)

(Muravyev et al., 2014) emphasizes that the law regarding the selection of the board of directors' members eliminate the presence of staggered board in Russian corporations in contrast to other legislation such as the U.S. and France.

Yet, despite a number of progressive steps, the governance mechanisms have a number of considerable drawbacks and weaknesses that have to be addressed in the future.

First of all, the Civil Law, which serves as the basis of the Russian legal system, is deemed inefficient. One of the key problems of the system is individual rights protection because of the presence of corruption in the law enforcement system. The legislation of Russian Federation provides little protection for minority shareholders and trigger lawsuits filed by international investors.

In turn, the market for corporate controls is quite inert, making the information disclosure to inaccurate and opaque. However, the information provided by the publically listed companies is better disclosed due to stock exchange requirements articulated in the country's Code of Corporate Conduct (McCarthy, Puffer, & Shekshniya, 2004).

Another challenge to the corporate governance system is posed by the Financial Industrial Groups and other companies, which conduct their business via unofficial network to avoid the legal bureaucratic procedures and represent one of the biggest business groups in Russia.

Generally, the Russian corporations are characterized by high ownership concentration and several blockholders' groups. Often times, 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 certain 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 a big privatization program for 2010-2013, which resulted in privatization of shares in such companies as JSC "Bank VTB", JSC "Sberbank" and JSC "Rosneft". The state has launched another privatization program in 2014-2016, planning to sell the remaining stakes in JSC "RusGidro" JSC "Rosneft", JSC "Bank VTB", JSC "Aeroflot", etc. ("Federal Property Government Agency," 2013). Nevertheless, the privatized companies still draw attention as one of the factors influencing the accountability of the company to the public. This implies that especially this type of companies has to provide consideration to the level of the board independence and diversity.

Although the growing number of Russian companies has audit and compensation committees, the majority of the boards does not include governance committees. Nonetheless, the internal audit committee independence and the objectivity are jeopardized because the auditing committee reports to the general directors and not to the board of directors.

There is a major body of empirical research including (Dolgopyatova, Libman, Petrov, & Yakovlev, 2012), who studied the relationship between the ownership structures and the quality of

corporate governance. However, there is a dearth of research exploring the association between the board of directors and company financial performance in the context of Russian legislation. For example, (Ilchuk, 2006) conducts an econometrical analysis of the link between the level of influence of the efficiency 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 the operational efficiency. (Maslennikova & Stepanova, 2010) consider 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 the. They have empirically proved that the number of independent directors in the board have a positive influence on the strategic efficiency.

Yet, their sample included only 40 Russian companies. None of the aforementioned works evaluate the efficiency of corporate governance mechanisms Russian companies at the stage of the IPO process.

#### **2.4. Relationship between board composition and IPO underpricing**

Chapter 1 is dedicated to the analysis of the problem of IPO underpricing. The IPO price is determined in the process of negotiations between the underwriter and the issuer as well by the investors' demand. An IPO firm represents is an especially risky venture. First of all, as private enterprises with limited information availability, pre-IPO companies are difficult to evaluate. For instance, the company managers will not always disclose the history of performance.(Baker & Gompers, 2003) argue that the formation of effective corporate governance with solid minority shareholders' protection of rights should be considered as one of the most important steps in the company preparation to go public, because in many cases the equity in an IPO process is raised via dispersed investors. It can be implied that the uncertainty regarding the potential agency problems in the corporation will further contribute to investors' perception of the company's value because of the misappropriation risk and possibility of incompetent decision making. Thus, the inability to make reliable company valuation, incentivize the underwriters and the investors to secure themselves by pricing the IPO lower. As a result, the companies, which aim at raising funds via public listing, are especially scrutinized by underwriters and investors not only for the subject of financial health, but for the presence of good corporate governance system. The corporate governance mechanism can help a company to communicate its quality to underwriters and potential investors in a better key.

Chapter 2 considers the key internal and external mechanisms corporate governance mechanisms.

As a primary internal corporate governance mechanism, the board of directors plays an important role in the IPO of the company by making decisions with regard to 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. Logically, 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 share they hold. According to (Espenlaub & Tonks, 1998) this boost in the outside investors' confidence can lead to less IPO underpricing.

*Experience* and strategic connections are other factors that can increase investors' assurance in the credibility of the venture. The experienced board members can only increase the monitoring of managerial decisions, 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, *the IPO diversity* can help decreasing 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.

The changes in the legislation also affected the corporate governance requirements for the registration and listing on stock exchanges of the IPO companies.

To investigate the interrelationship 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.*

## Chapter 3. Empirical research

### 3.1 Model and variables

Based on the Part I and Part II 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 purposes a cross-sectional regression will be performed.

The general econometric model can be specified as follows:

$$\text{IPO\_underpricing}_i = \alpha_i + X_i\beta + Z_i\gamma + \varepsilon_i, \quad (1)$$

where

$i$  - a subscript denoting respective IPOs

$\text{IPO\_underpricing}_i$  – the dependent variable representing IPO underpricing for each respective company

$\alpha_i$  – a constant term capturing unobserved IPO underpricing characteristics of company  $i$

$\mathbf{X}$  – vector of variables describing the characteristics of the board of directors of company  $i$ ;

$\mathbf{Z}$  – vector of variables describing the control variables;

$\beta, \gamma$  – vectors of unknown parameters;

$\varepsilon$  – error term

Our study is centered around exploring the vector of  $\beta$  coefficients

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

**Table 5**

Description of variables

Variable	Empirical definition	Measurement approach
<b>Dependent variable</b>		
<b>IPO_UNDERPRCING</b>	<b>IPO underpricing</b>	Percentage difference between the offer price and the price at the end of the first day of trading The approached is used in (Darmadi & Gunawan, 2013; Loughran et al., 2016)
<b>Independent variables</b>		
<b>1. Variables describing board composition</b>		
<b>BEXP</b>	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 approached is used in (Darmadi & Gunawan, 2013; Howton, Howton, & Olson, 2001)
<b>ODIRSHAR</b>	Outside directorships per independent director	Sum outside directorships divided by the number of independent directors The approached is used in (Filatotchev & Bishop, 2002)
<b>ODIRTOT</b>	Total outside directorships	Total number of outside directorships of the board The approached is used in (Filatotchev & Bishop, 2002)
<b>DIROWN</b>	Share ownership held by members of the board of directors	Percentage of the total number of ordinary shares retained by executive and non-executive board members The approached is used in (Filatotchev & Bishop, 2002)
<b>INDSUMDIR</b>	Total outside directorships held by independent directors of the board	Total number of outside directorships of the independent board members The approached is used in (Filatotchev & Bishop, 2002); (Mnif, 2009)
<b>2. Control variables</b>		
<b>DF</b>	Debt financing	Total interest-bearing debt divided by total assets Approach used in (Drucker & Puri, 2005)
<b>SIZE</b>	Natural logarithm of IPO firm size	The natural logarithm of the IPO firm size is measured as firm's capitalization at the offer price The approached is used in (Bell, Filatotchev, & Aguilera, 2013; Bethel & Liebeskind, 1993)
<b>AGE</b>	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 & Liebeskind, 1993; Filatotchev & Bishop, 2002)
<b>PREIPOSHAR</b>	Pre-IPO share of the largest shareholder	Pre-IPO share of the largest shareholder (Kang, Kang, Kim, & Kim, 2015)
<b>SER</b>	Service Sector	Binary variable; 1- if the IPO firm's main activity relates to the service sector, 0 – otherwise  The approach is used in (Filatotchev & Bishop, 2002; Mauri & 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 international academic literature review the coefficient of the variables describing board diversity are predicted to have a negative sign as it has been elaborated at the end of Chapter 2.

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 & Ritter, 2002; Ritter & Welch, 2002; Ritter, 2011) and many other researchers that 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 to be introduced in order to

account for the relationship of the aforementioned characteristics and the IPO underpricing (Beatty & 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, because 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, 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 & 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 & Puri, 2005) the underwriting banks, who issued debt or debt instruments, have already experience of working with the company and, hence, established good relationship with the issuer. As a result the bank is less likely to underprice the IPO issue. Moreover, debt issues, which occurred prior to the IPO, decrease the information asymmetry between the issuing company and the investors. As a result an IPO is priced more favorably.

### **3.2. Data sample**

To perform the empirical study, the sample of IPOs of companies, registered in Russia and floated on Moscow Stock Exchange (MOEX) and Russian Trading System (RTS) is collected. The sample starts with IPO of OJSC (Open Joint-Stock Company) RBC Information Systems, the first Russian company floated on the Russian stock exchanges. Therefore, the initial sample covers the period from 2002 - 2015. The sample is finalized by the IPO of PJSC ( Ob'edinennaya vagonnaya in April 2015.

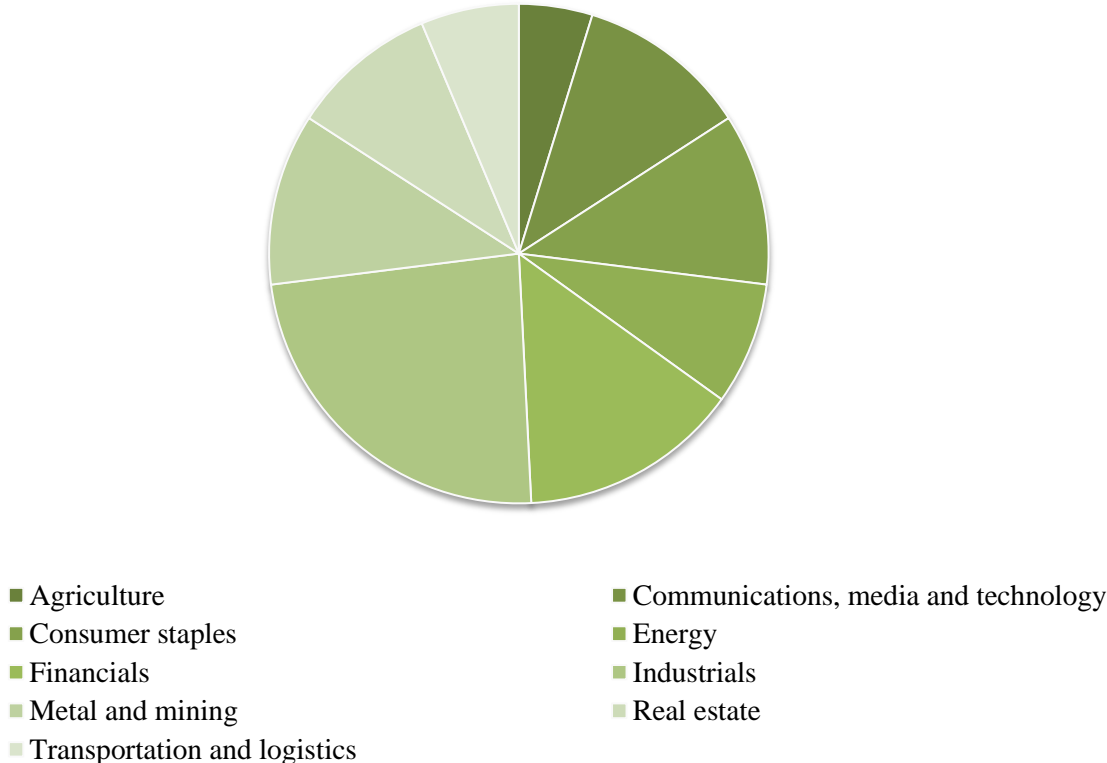
The list of IPOs has been obtained from Zyphyr Bureau van Djik and verified with SKRIN and SPARK databases. The key information for the hand-collected dataset has been obtained from the IPO listing prospectuses, reports on the results about the initial public offering, company annual and quarterly reports,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

The primary sources for identification of independent directors in the sampled companies were annual, quarterly reports and prospectuses. In most of the companies' quarterly and reports 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. The algorithm of identification of the characteristics, which respective types of directors must possess, 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) for identification of independent directors has been adopted from the paper by (Muravyev et al., 2014). Also the algorithm had to be adjusted for the changes presented in the Russian Code of Corporate 2014.

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

The data in Figure 5 demonstrate that the greatest number of Russian IPOs is large-sized corporations belonging to metals & mining industry. This fact can be explained by the peculiarity of establishment of many Russian corporations, which were formed after a large privatization wave of industrial companies in the 90s (Hare, Paul; Muravyev, 2002).



**Figure 6** Distribution of observations by sector.

We observe a hike of IPOs representing financial sector in 2006-2007 (Figure 7), which can be explained by accelerated growth rate of the banking industry. At that time, developed countries experienced financial crisis and the foreign investors channeled their investments in the emerging markets. As the Russian financial sector enjoyed a double-digit growth of its assets, in 2007 two biggest state-owned banks, Sberbank and VTB, went public. However, already in 2008 the global financial crisis engulfed Russia and the investors' perception regarding the safety of the Russian market has drastically changed (Mamonov & Solntsev, 2009).

Also telecom industry is quite active in 2007 Russian IPO. As noted by (Pattnaik & Kumar, 2014) there was a wave of cross M&A activity by major Russian telecommunications industry. In many cases M&A precedes the decision to through IPO, which is way to finance further development of the reorganized company.

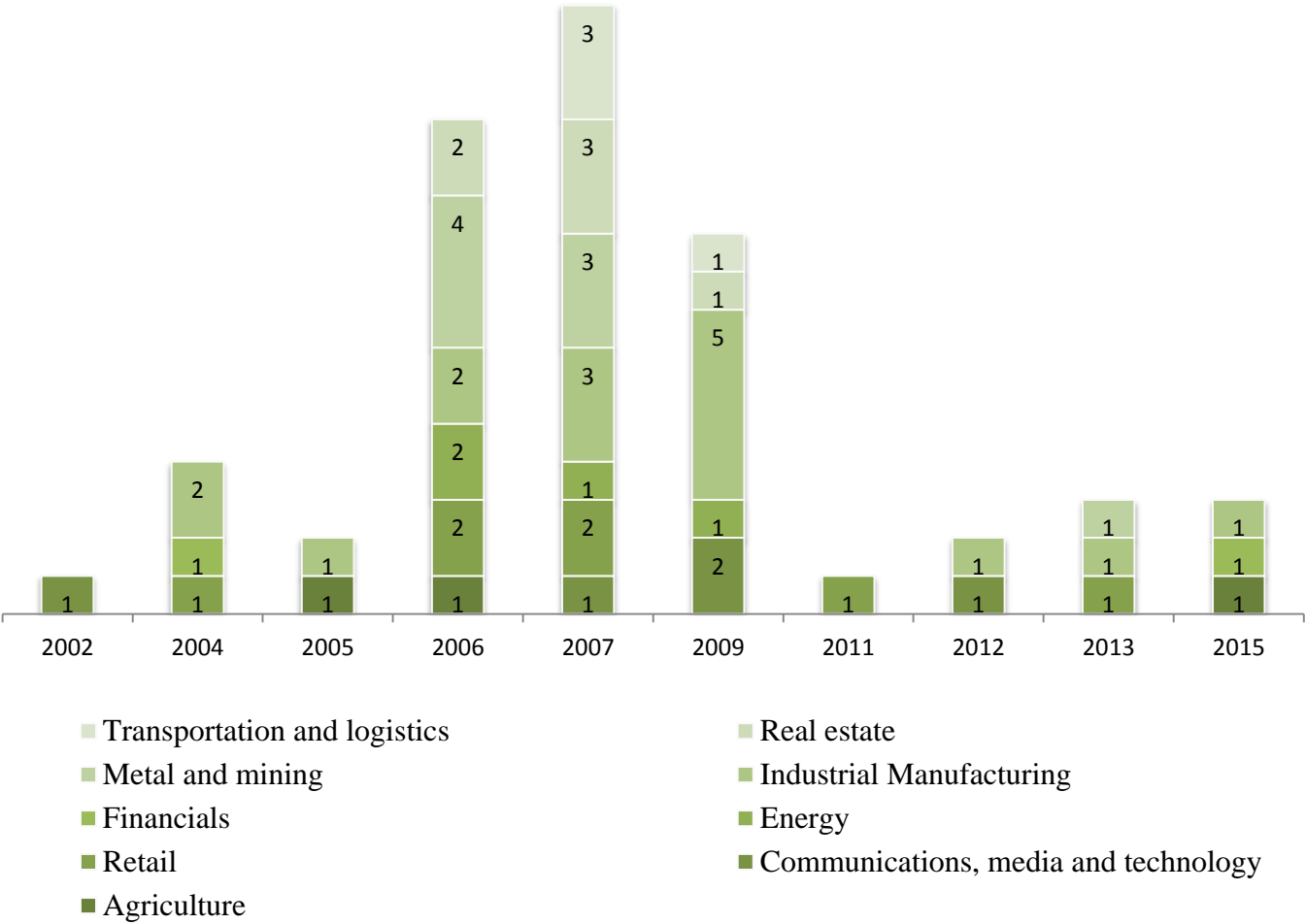


Figure 7 Industry breakdown of observation from 2002-2015

### 3.3 Descriptive statistics

Descriptive statistics of the data sample is summarized in Table 8.

**Table 6**

Descriptive statistics.

Variable	Mean	sd	Min	p50	Max
<i>Dependent variable</i>					
IPO_UNDERPRICING, %	4,90	0,09	-11,55	3,60	29,00
<i>Board Composition variables (vector X)</i>					
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
<i>Control variables (vector Z)</i>					
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 average level of IPO underpricing is 4.9%, while the greatest 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. The IPO underpricing dynamics of the sampled Russian IPOs can be observed in Figure 10.

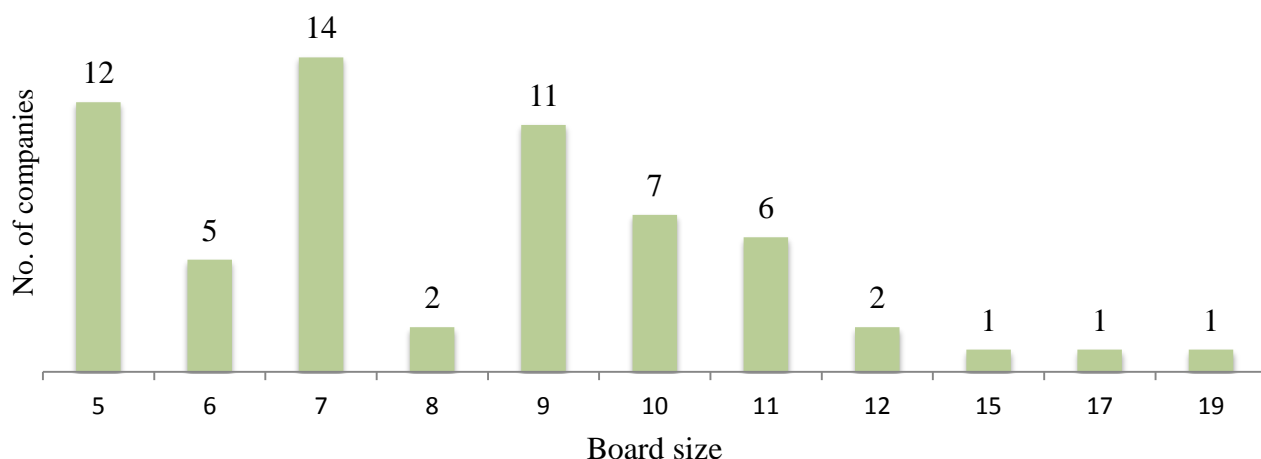


Note: 1 – average first-day return of the German IPO market; 2- average first-day return of the U.S. IPO market; 3- average first day-return of the Russian IPO market 4- average first-day return of the Argentinian IPO market

**Figure 8** 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 haven't fully rehabilitated from the economic crisis and had to endure the burden economic sanctions, which negatively affect the capital markets. In terms 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, high level risk-aversion of towards any uncertainty, which is associated with investments in an IPO shares.

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



**Figure 9** Distribution of observations by board size.

Two-third of board of a Russian IPO company is comprised on non-executive directors and one-fourth of the board represents independent directors (see Table 10).

**Table 7**

Structure of the boards.

	Average (No.)	Board share, %	Min. (No.)	Max. (No.)	S.D.
<b>Non-executive directors</b>	6	75%*	2	13	2,499
<b>Executive directors</b>	2	25%	0	7	1,414
<b>Independent directors</b>	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, the company prospectuses and reports omitted a number of significant facts. The additional analysis of the affiliation history, the history of the board of directors in SPARK and SKIRN and the additional search for the information in electronic sources 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 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 smaller stake of the state in the U.S. IPO companies.

**Table 8**

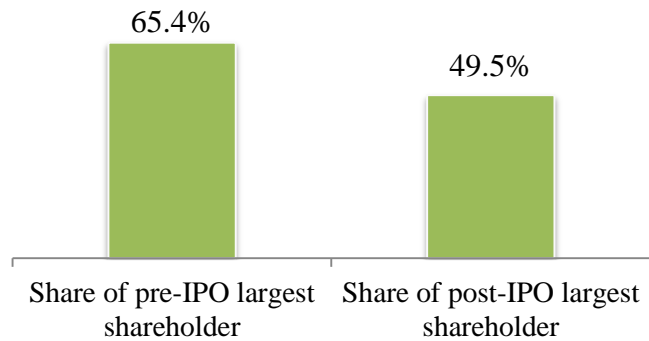
Comparison of board composition of Russian and U.S. IPO companies.

	<b>U.S IPO company</b>	<b>Russian IPO company</b>
<b>Board size</b>	<b>8</b>	<b>8</b>
<b>Share of independent directors</b>	<b>68%</b>	<b>25%</b>

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 expertise of 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 one. 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 the abroad to overcome the issue. It follows that the compliance with the corporate code may be broken unintentionally, as attracting a foreign independent director requires a certain connection 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.



**Figure 10** 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.

### 3.4. Regression analysis results

We start the econometric analysis with 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 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 tables below.

**Table 9**

Results of the econometric study.

	Models													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>AGE</b>	-0,001													
<b>SIZE</b>	-0,002													
<b>SER</b>	0,004													
<b>DF</b>	-0,137	**	-0,144	**	-0,154	***	-0,11	**	0,114	**	-0,142	**	-0,158	**
<b>PREIPOSHAR</b>	0,135	**	0,123	**	0,125	**	0,101	**	-0,113	**	0,129	**		
<b>INDIREXP</b>					-0,004	*								
<b>ODIRTOT</b>							-0,001	**						
<b>TOTODIRSHAR</b>									-0,001					
<b>DIROWN</b>											0,021			
<b>INDSUMDIR</b>													-0,006	*
<b>Cons</b>	0,054		0,006		0,022		0,045		0,018		-0,001		0,11	***
<b>R^2 adjusted</b>	0,344		0,367		0,406		0,46		0,388		0,358		0,308	
<b>P-value</b>	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 (Column 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. The variable, describing the ownership stake of the largest shareholder of the firm is also statistically significant and has a pronounced negative association with the level of IPO underpricing as expected. AGE and SIZE are not statistically significant. The dummy variable, representing the service industry is also insignificant. It can thus be concluded, that the industry specifications does not have a bearing on the underpricing of Russian IPO companies. Therefore, we have to reconsider the baseline regression and exclude AGE and SIZE from it. Column 2 corresponds to a set of control variables, which is retained across all the subsequent specifications.

The column 3 summarizes the results of the model, which considers the total CEO and management experience of the executive directors in the board including 5 years prior to the IPO. The variable is statistically at 10% level of significance. The results confirm our hypothesis. The prior management experience of the executive directors in the board prior to the IPO of the firm is negatively linked to the IPO underpricing. The results of the column 4 specifications indicate that the total outside directorship positions, which the board members simultaneously occupy at the time of IPO are also negatively associated with IPO underpricing at 5 % level of significance.

Notably, as opposed to results provided in column 4, the specification in column 5, which describes total outside directorships per board member, did not give a statistically significant result.

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

Column 6 reports that the link of the retained share ownership and IPO underpricing is not statistically significant.

Contrary to the hypothesis stating that the retained share ownership by nonexecutives and executives is negatively associated with IPO underpricing, the relationship has not been proved to be statistically significant. One of the reasons, explaining the result is a small number of Russian IPO companies, in which a non-executive would have a significant ownership stake. The scarce participation in the company's ownership did not provide a number of instances, which would allow to extensively explore the given association. Another reason could be also attributed to the general investors' perception about poor protection against the expropriation of the investors in Russia.

Therefore, the empirical results demonstrate that there are a number of statistically significant board composition characteristics, which are negatively linked to the level of

underpricing. These findings support the hypothesis stating the IPO underpricing is negatively associated with the board diversity. On the contrary, the hypothesis stating that retained ownership by executive and non-executive board members have not be confirmed.

### **3.5. Discussion**

The empirical research presents three key findings. The analysis indicates that there is a negative association between the level of IPO underpricing and a number of board composition specifications. Board diversity characteristics such as total outside directorships of the board members, the outside directorships held by independent directors and the executive directors' management experience in relevant industries or financial sector are negatively linked to the IPO underpricing level. From the findings it follows that the investors, when assessing an IPO, value the organizational and strategic expertise of the executives combined with the experience and connections of the non-executive directors, because the board composition reinforces the firm's reliability by having strategic expertise and networks embedded in the board of the company

Our next step is the interpretation of the three key results.

#### **1. 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, Cai, & Li, 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. Noteworthy, this association in the U.S. context is stronger. This 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 can be explained by the absence of any management experience among executive directors in almost 34% companies from the sample.

#### **2. 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 & 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. 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 & Bishop, 2002), who also obtained results supporting negative relationship between outside directorships and IPO underpricing. Yet, the association in 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. The British legislation provides stronger shareholders' protection. Moreover, the British corporate world has long ago adopted the recommendation about the board independence. In fact, the term "non-executive director" and "independent director" are deemed equal in British corporate governance system. Indeed, 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 potential explanations of why several of the stated conjectures have not been empirically proved based.

Total outside directorships per board member as a board diversity characteristics has not been found important, probably because Russian IPO companies are characterized by unbalanced distribution of outside directorship positions among the board members in the IPO companies. In fact, 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 revealed, contrary to the findings of (Filatotchev & Bishop, 2002). 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 revoked could be also attributed to the general investors' perception about ownership concentration in the Russia and poor protection against the expropriation of minority shareholders as opposed to stronger institutional context such as Great Britain presents.

## Conclusions

Traditionally, the phenomenon of IPO underpricing is commonly viewed in association with financial and operational performance metrics. The aim of the study was to explore the association between the level of underpricing and non-financial factors such as internal corporate governance mechanisms. Namely, we analyzed the relationship between the board composition and the level of IPO underpricing. We have chosen Russia as it represents unique context both in terms of corporate governance system and IPO market. To perform the empirical study we have employed a unique hand-collected data sample on Russian companies, listed on Russian stock exchanges for the pre-IPO period. Moreover, this paper studies board composition as a corporate governance mechanism at the pre-IPO stage of Russian corporations, which has not been covered in the contemporary academic literature before.

*We have tested the following hypotheses:*

- *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.*

Our findings demonstrate that board diversity, namely the outside directorships of the board members, management experience of CEO and other executives and outside directorships positions occupied by independent directors in the relevant industry or financial sector are negatively associated with IPO underpricing.

At the same time the hypotheses about share ownership of executives and non-executives have not been empirically proved.

**Based on the conducted study we believe that company 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 industrie and or/ in 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, 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 mechanism, comparative study of Russia IPO on Russian and foreign stock exchanges are some of the possible directions of future research



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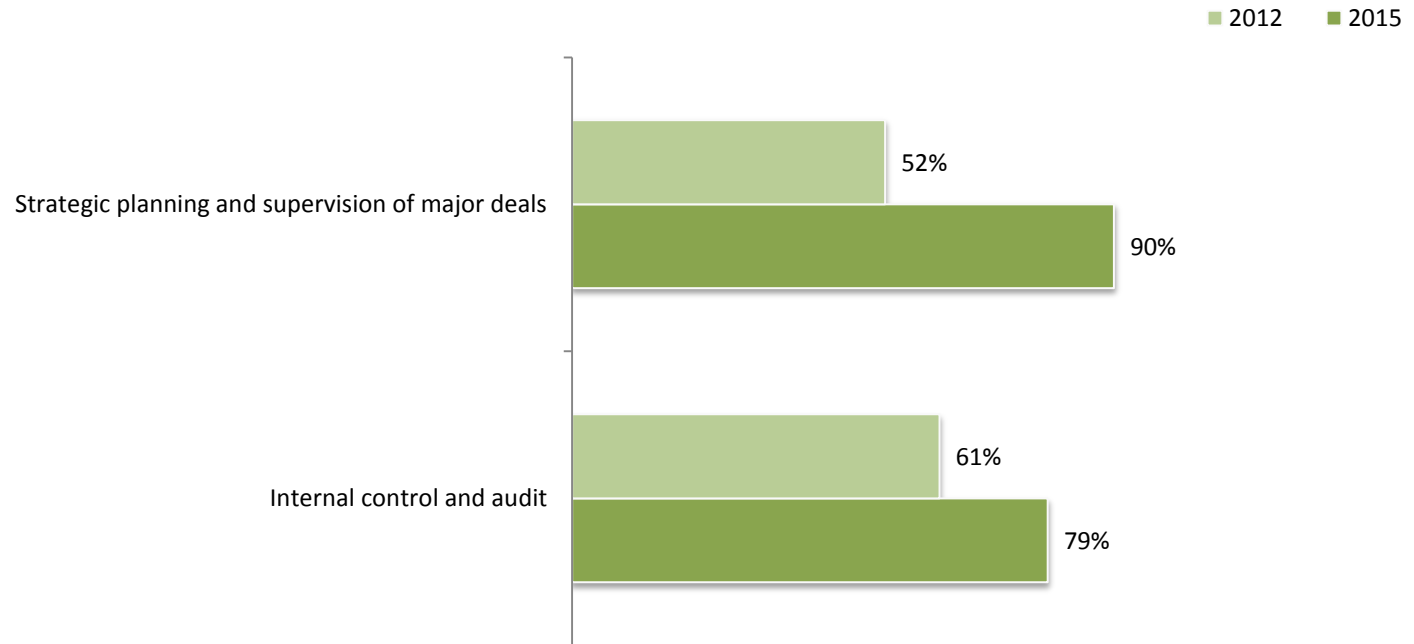
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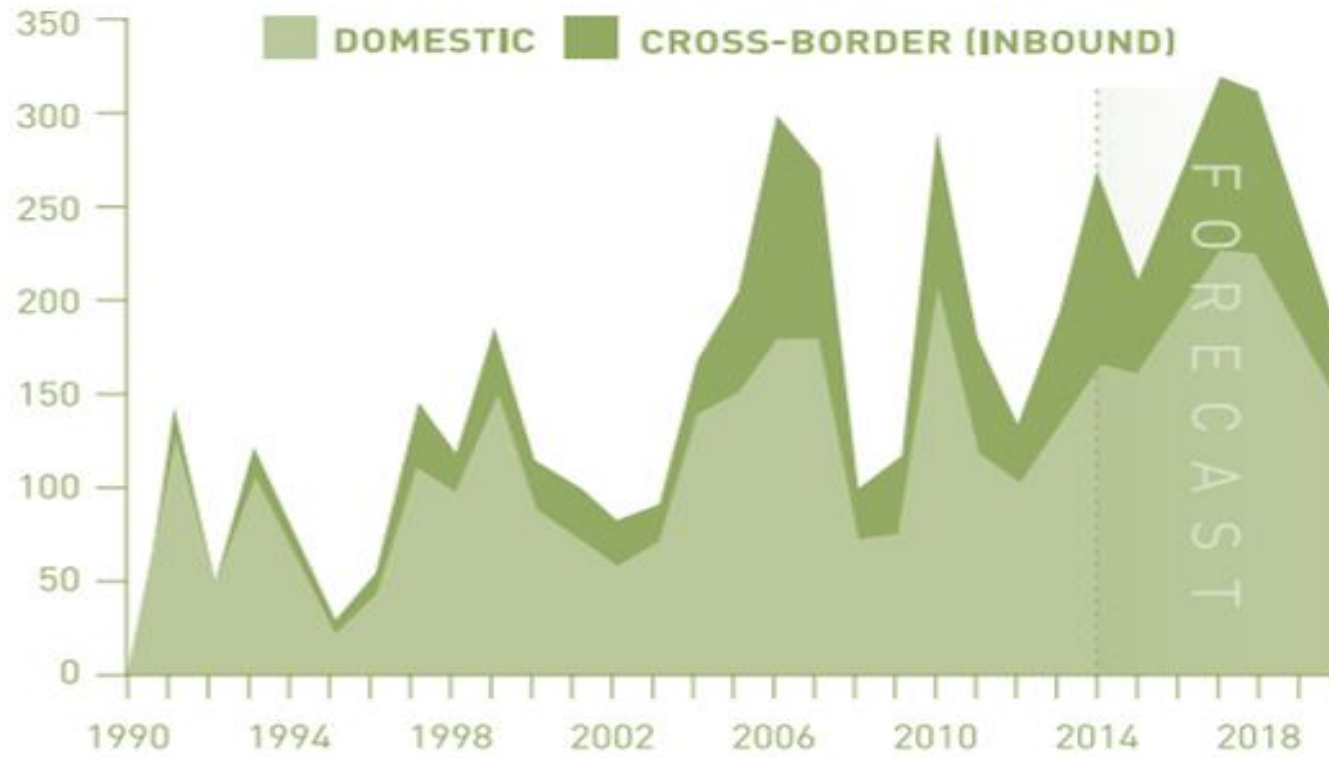
## Appendix

### Appendix 1. Role of the board of directors in Russia.



Source: (PWC, 2015b)

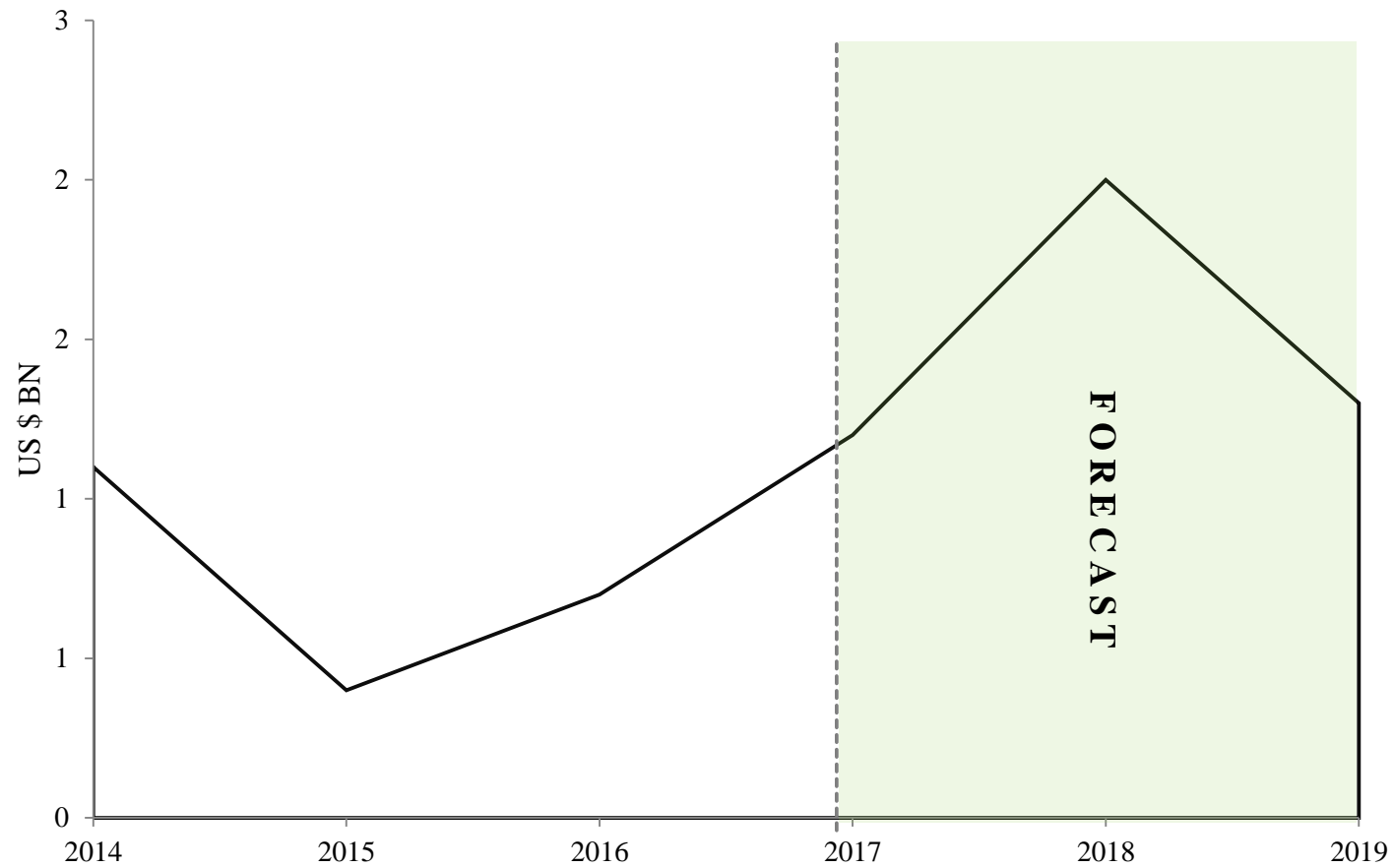
**Appendix 2.** Global IPO market forecast.



Source: (Baker et al., 2015)



**Appendix 3.** Russian IPO market forecast.



Source: (Baker et al., 2015)

**Appendix 4.** 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 5** Algorithm of identification of an independent director.

	<b>Criteria for independent directors for IPO companies for the period 2002-2012<sup>1</sup></b>	<b>Adjustments in the independent directors criteria for IPO companies for the period 2014-2015<sup>2</sup></b>
<b>Step 1</b>	The directors are classified on insiders and outsiders	
<b>Step 2</b>	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 directors has stake, which exceeds 1%, the person cannot be an independent director
<b>Step 3</b>	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). An non-executive director, who simultaneously is civil servant cannot be an independent director	Additionally, the non-executives' work positions for the year prior to the IPO were considered. A non-executive, who worked as a civil servant for the past year cannot be independent
<b>Step 4</b>	The tenure of the non-executives on the board of the company is considered. If a non-executive serves more than 7 years on the board of the company, this directors cannot be independent	
<b>Step 5</b>	A list of affiliated persons is studied (the legal entities in particular). If an non-executive director is a representative of the executive body of the affiliated persons, this directors	

<sup>1</sup> 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](http://www.cbr.ru/sbrfr/archive/fsfr/fkcb_ffms/catalog.asp@ob_no=1772.html)

<sup>2</sup> Based on the Russian Code of Corporate Conduct 2014 // (Journal of the Bank of Russia. (2014). Russian Code of Corporate Governance, 40(1518))

	cannot be independent	
<b>Step 6</b>	If the CEO of the company is a controlling company, than the independent director is checked for the affiliation with this controlling company. If a non-executive is affiliated, than this person cannot be independent	
<b>Step 7</b>	In case, a non-executive qualifies the criteria of an independent directors, but the information about the director for the past 5 years did not provide sufficient evidence of the independency, an additional search is conducted for the purpose of identification of presence or absence of any connections of the non-executive with the controlling companies	