INITIAL PUBLIC OFFERING: THEORY AND PRACTICE OF CZECH AND POLISH COMPANIES

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PREFACE

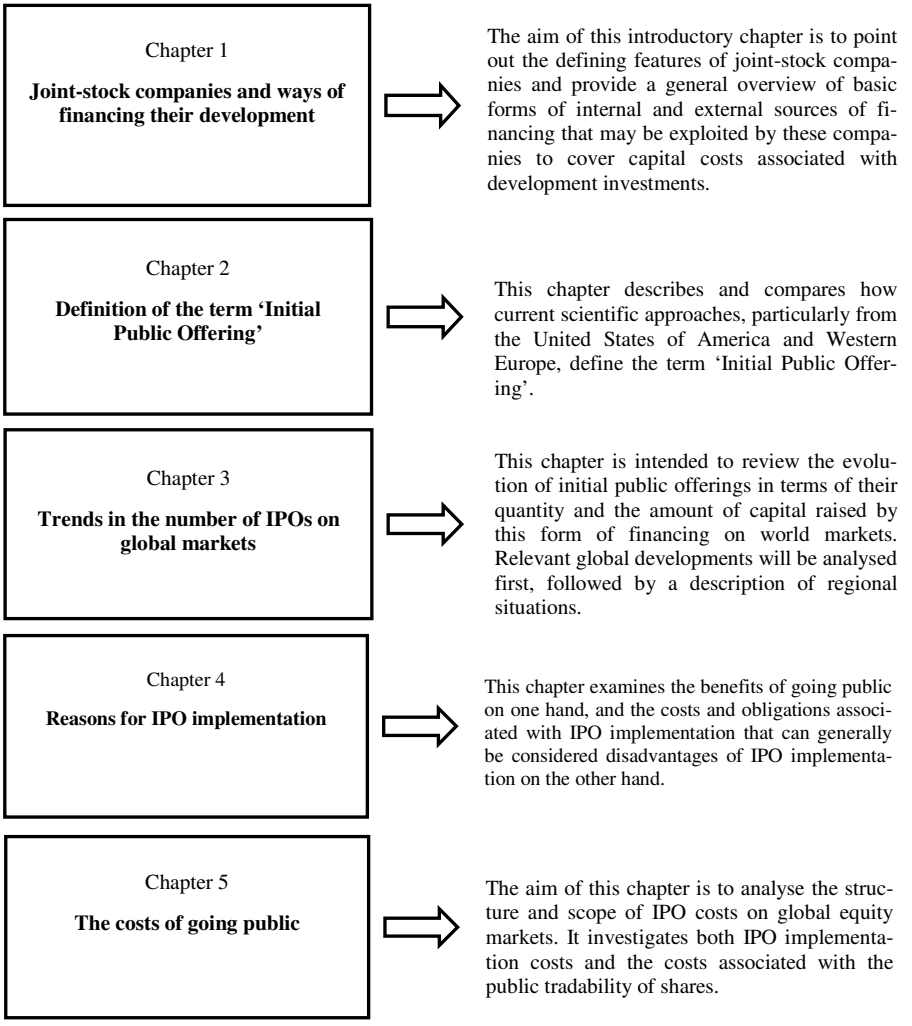
Every business enterprise experiences a need for capital at some time during its existence as a result of the unsynchronised flow of income and expenditure. Joint-stock companies have a wide variety of sources that may be tapped to raise the capital needed to invest in corporate development. Long-term financing, especially in large volumes, can be said to necessitate the use of external sources. This is done primarily by issuing securities on public capital markets. These securities are characterised by tradability, which constitutes a great advantage for the issuers, whose long-term securities thus become long-term monetary sources. The investors also benefit by not having to hold the acquired securities to maturity, since they may be sold at any time, thereby reverting to the desired liquidity. In this way, the short-term funds of the individual investors are converted into long-term resources that facilitate large development-oriented investments.

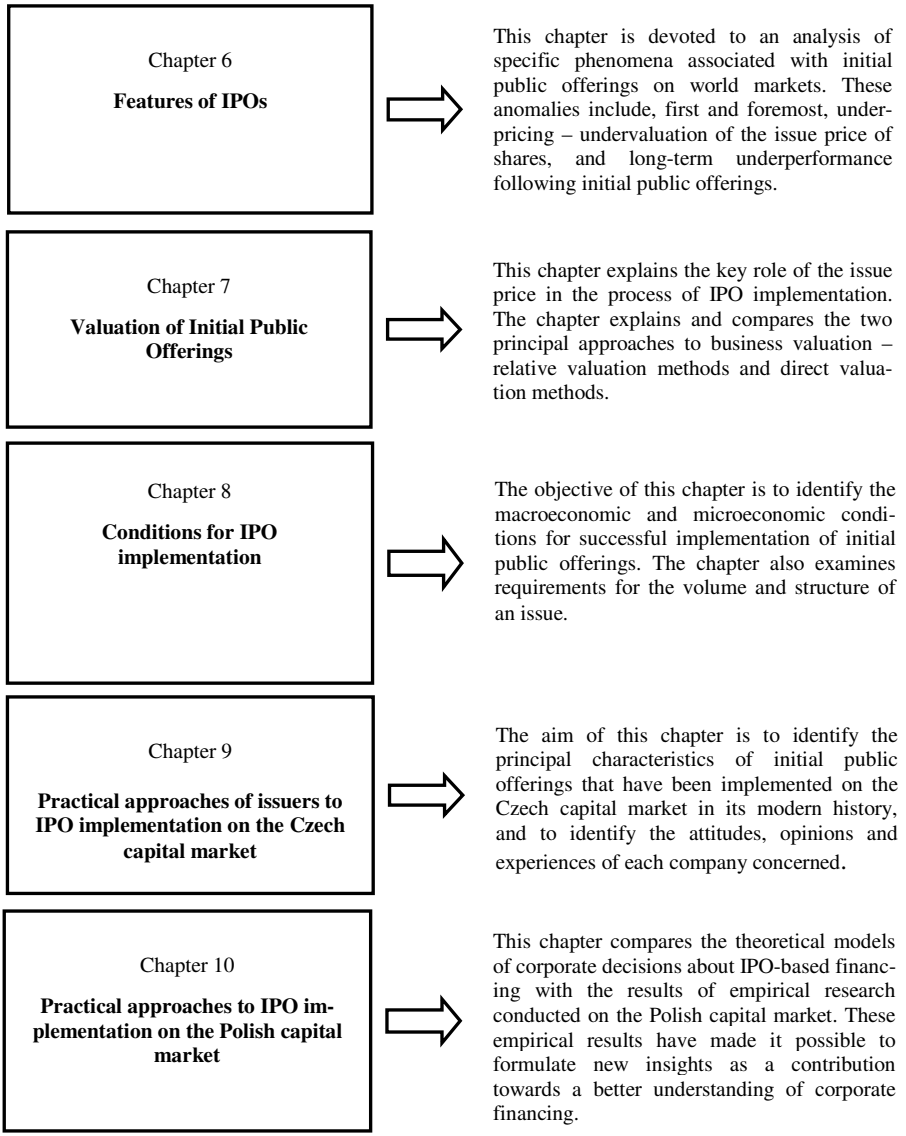
Joint-stock companies enjoy the widest range of possibilities in financing corporate development on a capital market. To obtain the necessary funds, they can either increase registered capital by issuing shares or increase long-term debt by issuing bonds. Increasing the base capital by a subscription of shares involves a decision as to whether the issue should be private or public. A private issue is a direct sale of shares to a predetermined number of legal or natural persons. These securities are not negotiable on a regulated public securities market. A public issue, on the other hand, signifies a public offer of shares to an unlimited number of unspecified persons with the objective of obtaining the desired volume of capital through the primary securities market. The first public issue of shares from a company whose shares have not been publicly traded is usually referred to in the literature as an *'Initial Public Offering',* or IPO for short.

Countries with mature market economies have a long tradition of financing corporate development through Initial Public Offerings. Globally, the importance of IPOs has been on the increase, particularly since the 1960s. In the last decade, public offers of shares have also begun to appear in the countries of Central and Eastern Europe, and particularly on the Pol-

ish capital market. The Warsaw Stock Exchange is currently one of the European stock exchanges with the highest number of completed IPOs.

The facts outlined above were the inspiration for this book, which intends to expand knowledge and understanding of corporate financing through *Initial Public Offerings,* particularly by pointing out some practical approaches to decisions that companies have to make when executing an IPO under the conditions in force on the Czech and Polish capital markets. The book is structured as follows:





The following groups are targeted for readership:

a) managers of publicly held companies, their financial/legal advisors and consultants,

b) students and lecturers at colleges and universities offering courses in corporate finance,
c) participants in advanced forms of managerial training (such as MBA studies), professional courses and seminars,
d) members of the public with an interest in the given issues, including stock market investors.

We have attempted to fill the gap that exists on the Czech and Polish book markets in the titles covering the dynamic and eminently topical subject that 'Initial Public Offering' undoubtedly is. This book is also the result of the higher doctorate thesis *'Theory and Practice of Company Financing through IPOs in the CEE Region',* defended in 2011 at the Faculty of Business and Management at Brno University of Technology, and also incorporates the results of post-doctoral project GACR no. 402/09/P134 entitled *'A Decision-making Model of Corporate Financing through IPOs'*.

We hope this book will become a useful source of information for both theoretical and practical matters, as well as a platform for experts to share their respective experiences that will lead to a new enlarged edition in the near future.

We would like to take this opportunity to thank all our readers for their interest and potential comments, suggestions and recommendations, which may be sent to the authors' e-mail addresses meluzint@fbm.vutbr.cz and zinecker@fbm.vutbr.cz.

Brno, January 2012

The authors

A. INTRODUCTION: JOINT-STOCK COMPANIES AND INITIAL PUBLIC OFFERINGS

INDIVIDUAL OBJECTIVES

Consider how to define the term 'joint-stock company'

Provide a general overview of sources that may be used for financing development projects in terms of a 'joint-stock company'

Discover how current scientific approaches define the term 'Initial Public Offering'

Investigate trends in the number of 'Initial Public Offerings' on global markets

CHAPTER 1. JOINT-STOCK COMPANIES AND WAYS OF FINANCING THEIR DEVELOPMENT

The aim of this introductory chapter is to point out the defining features of joint-stock companies and provide a general overview of basic forms of internal and external sources of financing that may be exploited by these companies to cover capital costs associated with implementing development investments.

1.1. A Characterisation of a Joint-stock Company

Many authors have considered the definition of the term 'joint-stock company' in monographs addressing both legal and economic matters. Monographs by the Czech authors Dědič, Kříž and Štenglová (2003), Liška and Gazda (2001) and Eliáš (2000) and German monographs by Busse (2003) and Drukarczyk (2003) may be given as examples. A characterisation of joint-stock companies is also included in the Czech Commercial Code[1] and the Polish Trading Companies Act[2]. Similar definitions are to be found in the German and Austrian shares acts. The following ***characteristic features of joint-stock companies*** are stated in all the above-mentioned sources:

- a joint-stock company is a corporate body;
- a joint-stock company is one type of trading company, and as such has to be recorded in the Commercial Register, thereby attaining the status of entrepreneur[3];
- a joint-stock company is a stock corporation, for which reason a registered capital has to be generated;

[1] Act no. 513/1991 Sb., The Czech Commercial Code, as amended.

[2] Kodeks spółek handlowych (Dz. U. z 2000 r. Nr 94, poz. 1037).

[3] The purpose of establishing a joint-stock company is, as a rule, the conduct of business. However, the Czech Commercial Code also permits the establishment of a joint-stock company for other purposes, although this is not usual in practice.

- the registered capital of a joint-stock company is divided into a specified number of shares with specified nominal values;
- the registered capital is acquired by a share issue (either private or public offerings) and the joint-stock company has to have a registered capital equal to or higher than the minimum amount prescribed by the law at the moment of its establishment and throughout its existence;
- it is possible to divide the required capital into a large number of shares of a nominal value that will ensure their negotiability. This may lead to the easier accumulation of capital of a high value in comparison with other types of companies;
- a shareholder may decide to sell its equity stake in the form of a share on a public capital market at any point[4], which serves the interests of both the issuing company gaining long-term sources of finance and the investor holding liquid assets;
- ownership and management are clearly divided in joint-stock companies, i.e. the right of a shareholder to participate in the management of a company is basically limited to voting rights at a general meeting;
- a shareholder is obliged to invest certain property in the company and to redeem it;
- all payables are secured against all properties the company owns, though shareholders have no liability[5];
- a joint-stock company may be established by a single founder if this founder is a corporate body. In other cases, there must be at least two founders. One founder establishes a company by signing a founder's deed; two or more founders establish a company by signing a memorandum of association;
- a joint-stock company is set up on the day on which it is entered in the register of companies; the application is lodged by the board of directors and all members of the board must sign it;
- the highest body of a joint-stock company is the general meeting, the statutory body is the board of directors, and the inspecting body the supervisory board;
- internal and member conditions are specified in the company bylaws.

The primary economic motive for establishing joint-stock companies is the accumulation of capital of a size that cannot be acquired by an individ-

[4] Provided that the shares are freely traded on organised capital markets.

[5] However, if a company goes out of business, previous shareholders have a liability equal to their shares in the liquidation balance.

ual or a small group of individuals, whether due to the amount of accumulated wealth, the risk faced or the liquidity required. The joint-stock company therefore appears to be a suitable legal form of company if the character of the given business activity requires a high level of investment with a long payback period expected. Another advantage of the legal form of the joint-stock company may be seen in the possibility of increasing the registered capital by means of the subscription of new shares to finance potentially effective investment opportunities. From the investors' perspective, the main reason for the given character of a joint-stock company being favourable is that the level of investment may be suited to property owned, an investor's relation to risk and, last but not least, shares being liquid investment instruments provided that they are traded on public capital markets.

The disadvantage of the legal form of a joint-stock company is generally considered to be the non-participation of shareholders in the management of the business entity. In this case, the risk that professional management will favour their own interests over the interests of the shareholders is created. Another risk is the bureaucratisation of management, which may lead to an inflexible response to market needs, with all the negative consequences on business success and shareholders' wealth associated with this.

1.2. Financing the Development of a Joint-stock Company

When financing their development, joint-stock companies draw on a wide range of sources of financing that may be classified by various criteria. According to Brealey and Myers (2000), Busse (2003), Geyer et al. (2006), Synek (2003), Valach (1999) and Režňáková (2005), the most frequent classification criteria are ***the legal status of the provider, the origin of capital and its maturity***.

1. In terms of ***the legal status of the capital provider***, financing by means of ***equity capital*** and financing by means of ***debt capital*** are traditionally differentiated. Providers of equity capital have owner status and are shareholders who subscribe for a certain number of shares of particular nominal values in the first stage and pay back the subscribed shares in the second stage. The registered capital may be increased by issuing new shares during the existence of the joint-stock company. Investors may be current shareholders or other entities involved in business. As for debt capital, providers of this type of capital have the ***status of***

a creditor. Their role in the context of company financing is most frequently played by banks and investors who buy and add corporate bonds to their portfolio. If the legal status of a capital provider oscillates between the status of owner and creditor, this situation is referred to as ***mezzanine capital***.

2. The classification of sources of financing according to the legal status of their provider is by no means exhaustive as far as other possibilities of financing the development of a joint-stock company are concerned. This is, in fact, a case of classification that takes into account only such financing-related measures that lead to gaining sources of ***external financing*** and result in financial relations primarily between a company and other entities on financial markets. No less significant financial relations are also established between a company and non-financial markets as a result of a company's business activity. And in the overwhelming majority of cases, it is just such relations that create sources of ***internal financing***. The criterion for the classification of financing as external and internal is, therefore, its ***origin***. If internal financing is not sufficient to cover ***capital needs*** in order to make investments or maintain liquidity, it is necessary to use ***external financing***.
3. Regarding the criterion of ***maturity of capital***, two sources of financing are differentiated – those that are at the company's disposal for an unlimited period of time (usually equity capital) and those with a stated maturity (usually debt capital which may be available in the short, medium or long term).

In the following chapters, the advantages and disadvantages of internal and external financing are analysed from the perspective of financing the further development of a joint-stock company.

1.2.1. Internal Financing of the Development of a Joint-stock Company

When deciding on a type of financing for the further development of a joint-stock company, the availability of sources of internal financing is first taken into consideration. According to Drukarczyk (2003), the ***internal financing*** of a company over a stated period consists of the difference between incomes from non-financial markets (selling goods, products and services) and expenses on both non-financial markets (buying stock, goods, energy, labour and services) and financial markets (interest payments and debt amortisations). Sources of financing are obtained from sales markets,

and in this respect internal financing is very unlike external financing, which requires the coverage of costs associated with, for example, investments from sources gained on a financial market (e.g. a share or bond issue).

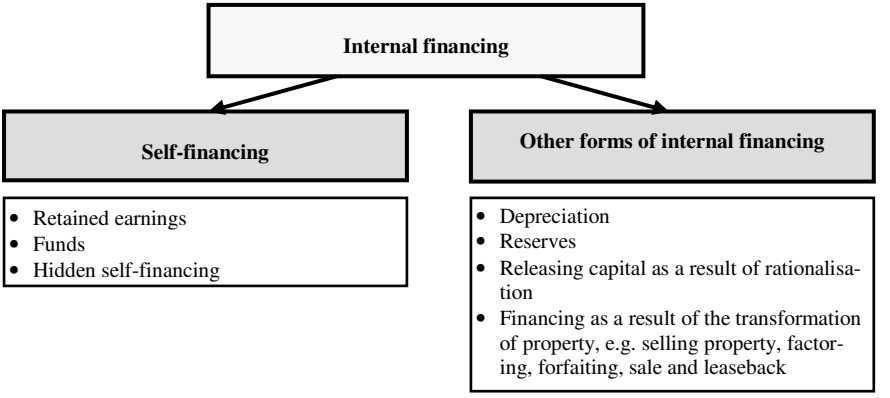


Figure 1-1: Internal Financing
Source: Busse (2003)

A *sine qua non* of using internal sources for financing the development of a joint-stock company is that a selling price is collected, i.e. ***a profit or loss stated in a profit/loss account is converted into an actual amount of money***. As a matter of fact, a profit and loss statement shows individual categories of revenues and costs when they come into existence whether monetary incomes are actually received and expenses covered or not. Therefore, a discrepancy in both content and time arises between costs and expenses, revenues and incomes, and profit and monetary balance. A company may report a high level of revenues and profit or loss in its accounts, but monetary incomes and monetary balance may be markedly different. In this case, companies report a profit, but the profit has not been converted into income, so this is profit connected with receivables and even irrecoverable debts. An increase or decrease in profit does not, therefore, mean an increase or decrease in the amount of money that a company has in cash or in its bank accounts.

The advantage of internal financing is its easy availability to the company. The company is not exposed to the pressure of external influences, i.e. it does not have to try to win investors' trust and can even afford to finance relatively higher-risk investments. The number of neither shareholders nor creditors increases, no costs associated with issuing securities are incurred, and there is no increase in the company's indebtedness or the

risks related to this. The disadvantage of internal financing is its relatively high price[6] and the fact that its value is limited. A company may invest in its development only such an amount that it is able to earn. Moreover, profit is generated gradually and is also characterised by a certain degree of instability. ***Self-financing can be said to be generally sufficient for only the gradual growth of a joint-stock company***.

1.2.2. External Financing of the Development of a Joint-stock Company

External financing of a company requires the existence of financial relations between the company and a financial market, or more precisely its

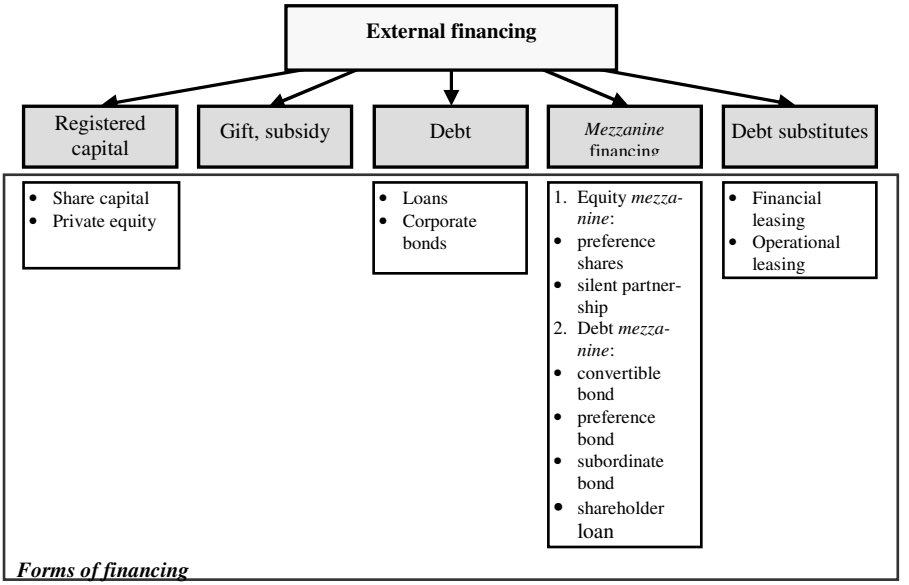


Figure 1-2: External Financing of the Development of a Joint-stock Company
Source: Busse (2003), Drukarczyk (2003) and Stiefl (2005)

[6] This is due to the fact that using profit for the purposes of financing business activities means that shareholders forfeit the payout of dividends in order to support the further development of the company and will, therefore, require at least such a return on investment that equals the payout of dividends. In financial theory, costs related to retained profit therefore correspond to the costs of share capital excluding issue costs.

individual segments. As for the legal status, providers of external financing may play the role of owner or creditor, or their legal status may oscillate between the two. Figure 1-2 shows various forms of external financing.

1.2.2.1. Share Capital Financing

The principal source of financing the further development of a company by means of its own external sources is ***increasing the company's registered capital***. The registered capital of a joint-stock company is, according to article no. 154 of the Czech Commercial Code[7], divided into a certain number of shares of a particular nominal value. The registered capital is increased by ***issuing new shares***, which is followed by the processes of subscription and redemption.

Acquiring registered capital by the subscription of shares is primarily connected with ***selecting private or public offering***.

- ***Private offering*** means the direct selling of shares to a predetermined number of corporate bodies or individuals. This form of acquiring registered capital is typical of joint-stock companies with a low number of shareholders. Shares of these companies cannot be traded on organised public markets.
- ***Public offering*** is connected with offering shares to an unlimited number of non-predetermined persons with the aim of acquiring the required amount of capital by means of a primary securities market. In this context, *Initial Public Offering* (IPO) and *Seasoned Equity Offering* (SEO) are differentiated. The former refers to a situation in which a company offers its shares to the public for the first time, the latter means increasing the registered capital of public companies[8] by means of another public offering.

According to Valach (2001), the high price of financing by means of issuing shares may be considered the main disadvantage of this source. From the investors' perspective, buying shares is the riskiest investment, and this corresponds to the required rate of return.[9] In accordance with Richter (2005), the conclusion may also be that (*ceteris paribus*) companies conducting business in countries whose legal systems do not provide adequate

[7] Act no. 513/1991 Sb., The Czech Commercial Code, as amended.

[8] A public company is understood as a company whose shares are already traded on a public capital market.

[9] This is mainly due to the fact that dividends are paid after other requirements are satisfied, and in the case of bankruptcy, the rights of shareholders are the last to be considered.

protection of the proprietary rights of investors are more likely to be confronted with higher costs of external financing than companies conducting business in countries in which such protection is ensured.[10]

Another disadvantage is that dividends are not tax-deductible expenses and voting rights are extended to further shareholders as a result of the issuing of ordinary shares. An issue of shares is also connected with considerable issue costs, which are by nature direct and indirect. The principal direct issue costs are represented by remuneration for the issue manager and costs for legal services. Indirect costs relate to, for example, the undervaluation of shares issued in an initial offering or a drop in the price of current shares due to the issue of additional shares. However, it is important to realise that the fixed nature of certain issue costs leads to economies of scale in issuing securities. This means that the relative size of issue costs decreases with an increasing amount of money obtained from issuing securities.

In comparison with other sources of financing, offering issued shares on the market may also be a time-consuming process. However, the period of time from the moment the statutory body decides to increase the registered capital by issuing shares to the moment they are accepted onto the market may vary, as it does not only depend on the issuer being ready and the experience of advisers and the issue manager, but also on the right timing for entering a capital market.

Given the scope of this publication, the individual aspects of financing the development of a joint-stock company by an initial public offering will be dealt with in the following chapters.

Financing by ***private equity*** is an alternative for joint-stock companies whose shares have not yet been traded on an organised capital market. In this case, venture capital funds participate in providing the registered capital of the joint-stock company.

A venture capitalist usually enters as follows: First, an applicant for venture capital develops a business idea that it then presents to potential investors. It is the ***quality of this business idea*** that is the crucial criterion used by an investor in deciding whether to invest their capital or not. Preference is given to companies with a potential for high growth, i.e. those with a high rate of expected turnover and positive development of other indicators under study. If an investor provides capital, this means that they usually ***participate in accumulating the registered capital*** of the company

[10] Insufficient protection of proprietary rights may even result in a situation in which external financing is virtually not available at all.

and hence become a co-owner. In contrast to financing by means of a traditional bank loan, no creditor versus debtor relationship is formed. A venture capitalist has the right to participate in management, but usually this only concerns decisions about the strategic objectives of the company, and they do not have control over the day-to-day running of the company. If the company is not successful in its business activities, then the investor loses its resources. On the other hand, if the company is successful, they may increase the value of their investment several times over. The investor ***exits*** the company after a certain period of time. It tries to sell its equity stake, which has ideally increased its value considerably due to a growth in turnover and profit. As Murray (2001) has it, there are the following ***strategies for exiting an investment for a venture capitalist***:

- the company goes into liquidation if it is impossible to sell its equity at a profit and run the company effectively in the long term. If the company is viable, though it is not possible to sell its equity at a profit to a third party, the equity stake is often credited to the original owner's account. This is called *buy back*;
- *trade sale*, i.e. selling to a third party;
- *secondary purchase*, i.e. selling to another venture capitalist;
- selling by means of ***Initial Public Offering***;
- a combination of the above-mentioned strategies.

The principal advantages of financing by means of *private equity* include reducing the overall indebtedness of the company and enhancing its financial stability connected with access to additional sources. Non-financial benefits in the form of new ideas produced by an investor, contacts, counselling and *know-how* should also not be forgotten. In contrast to debt financing, the maturity of venture capital is not fixed. It is associated with generating the required profit. Liquidity is, therefore, not influenced in the form of fixed payments, as is the case with bank loans or leasing.
The disadvantage of a venture capitalist buying into a company is that the independence of management is limited, as is the exercising of the proprietary rights of current shareholders.

1.2.2.2. Debt Financing

The reason for introducing debt capital into the financial structure of a company is an insufficient amount of the company's own sources of financing. According to Stiefl (2005), debt financing may be promoted by factors such as the absence of a functioning stock market, insufficient re-

turn on a company's own investment, tax discrimination against it in capital companies, or the possibility of increasing return on a company's own investment by means of debt capital.

Financing the development programme of a joint-stock company by means of debt financing is realised either by the ***issue of long-term bonds*** or by ***receiving long-term loans*** granted by the banking sector.

Bond issues are used in particular by companies whose requirements go beyond the financial scope of individual banks. An issue of bonds enables the company to accumulate capital of a considerable size, as loans may be received from a large number of investors. If an issue is offered to be directly sold off, i.e. excluding the public capital market, the act is referred to as private offering (not unlike the same act with shares). The negotiability of bonds on an organised capital market ensures the liquidity of bonds, and thereby increases their attractiveness for investors. The success rate of an issue is substantially influenced by the issuer's solvency, i.e. the *rating* assigned to it.

The issuing of bonds is regulated by bond law[11] in the Czech Republic. A bond is defined as a *'substitutable security, with which the right to pay off an outstanding amount and the obligation of an issuer to settle the right is associated'*.

The advantage of bonds over shares are the lower costs of debt servicing.[12] Along with interest on a loan, interest on bonds are tax-deductible expenses. Owners of bonds have very limited control of the day-to-day running of a company. The disadvantage of obtaining necessary sources of financing by issuing bonds may be seen in that financial risk increases due to an increasing share of debt in the overall capital; interest must be paid even if the profit of the company falls and cash flow is burdened at the time of bond maturity. A bond issue is connected with issue costs that increase capital costs in this form of financing, and it is therefore advisory to issue bonds once a certain amount of money is obtained.

Loans are granted to companies by, in particular, banking institutions on signing a loan contract; however, the role of creditor may also be played by, for example, a parent or subsidiary company providing loans to its group of companies. Banks supply loans for a period of 4 (medium-term loans) to 10 years (long-term loans). The basic characteristic of such loans

[11] Act no. 190/2004 Sb., The Bond Law, as amended.

[12] Owners of bonds require a lower return on investment in comparison with shareholders, due to the lower degree of risk. Interest payments on bonds on a developed capital market are therefore usually lower than the return on ordinary shares.

is their purposefulness, i.e. a loan applicant states the purpose of the loan (machinery, land, building, operating expenses, etc.).

A ***loan contract*** does not only define the terms and conditions under which a loan is granted, but also mechanisms of control and stimulation of debtor behaviour during the existence of the debtor-creditor relationship. The prerequisite for receiving a loan is evaluation of the applicant's solvency and loan security. Unlike corporate bonds, gradual redemption during the payback period is typical of bank loans, so a company's liquidity is burdened evenly as opposed to loans related to an issue of bonds.

The main advantage of financing the development of a company by means of a bank loan is seen in the speed with which it can be received, the absence of relatively high initial costs in comparison with bond issues, and tax deductions for interest paid.

The principal disadvantage of this source of financing is the fact that a bank loan and its repayment are always time-limited. The company has to use part of its available resources to make continuous repayments in the future, which may hinder its further development. Another disadvantage is the limited amount of financial sources that may be provided by a bank to an individual client and the necessity of securing them.

An alternative to financing the development of a company with a bank loan is ***financial leasing***.[13] Leasing is regarded as a specific form of financing a company, as the lessee is not the owner of the subject leased and it is not, therefore, shown in their balance. Leasing is one of the most frequent ways of covering long-term corporate needs at the present time. The prerequisite for concluding a lease, as is the case with a bank loan, is the lessee's solvency. However, a leasing operation has less demanding requirements concerning its security than a bank loan, since the lessor, i.e. the leasing company, retains ownership of the subject leased, which may be confiscated and sold more easily in the case of a breach of the lease.

[13] This is a financial operation that substitutes for a loan for acquiring a particular subject leased. It is an arranged relationship between a producer and a lessee with a leasing company as the go-between. The leasing company (often established by a merchant bank in the form of a subsidiary company) first pays the purchase price to the producer and then becomes the owner of the subject leased to an end user. The end user first pays lease payments and subsequently purchases the subject for a residual price once the lease expires and becomes its owner (the actual terms and conditions of the leasing company may differ).

1.2.3. Summary

The aim of this chapter was to provide an overview of the basic forms of internal and external financing that may be used to cover capital needs in connection with the realisation of an investment in the development of a joint-stock company. A capital need of a considerable size may be said to require the use of external sources of financing. A significant form is, in this context, represented by the issue of securities on public capital markets. Shares and bonds issued on these markets are characterised by their negotiability, which serves as a great advantage for both issuers themselves, who by means of issuing long-term securities acquire long-term financial resources, and investors, who do not have to hold them for the whole period, but may sell them at any point and regain the required liquidity, i.e. the amount of money invested. ***Short-term monetary resources of individual investors are therefore converted into long-term monetary resources, thereby making the realisation of a sizeable investment in development possible***. Due to the fact that securities are bought by a large number of investors, a company may acquire capital of the kind of size that an individual investor would not be able or willing to provide.

Figure 1-3 shows possibilities of using individual sources of financing depending on the amount of money needed and the duration of financing.

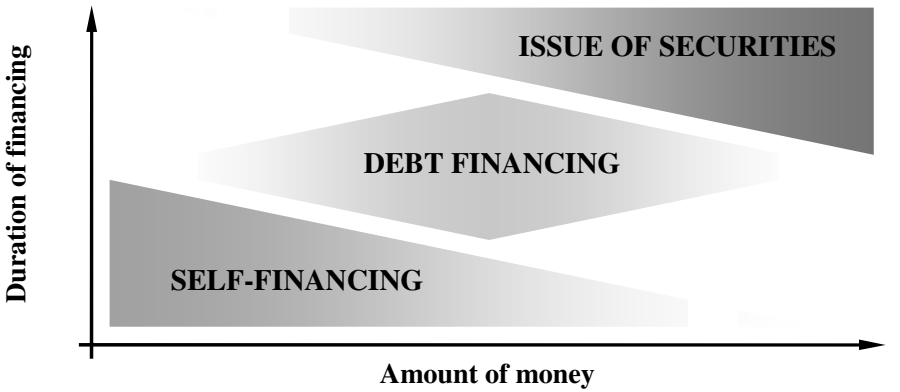


Figure 1-3: Using Individual Sources of Financing Depending on the Amount of Money Needed and the Duration of Financing
Source: own processing

CHAPTER 2. DEFINITION OF THE TERM 'INITIAL PUBLIC OFFERING'

When searching for a relevant definition of *'Initial Public Offering',* for which the abbreviation 'IPO' is generally used, we used foreign sources, particularly from the United States of America and Western Europe[1]. It is clear from a comparative analysis of foreign definitions that when defining IPO most authors put the emphasis on the fact that ***the company offers its securities, in the strict sense of the word shares, to the public for the first time,*** and also ***enters the public organised securities market***, represented most frequently by its stock exchange.[2] The essential thing is that an IPO can only be used by issuers whose securities are not being traded on the public securities market at that time.

According to the origin of the shares offered in an IPO, some authors (Jenkinson and Ljungqvist, 2001; Giudici et al., 2005; Huyghebaert and Van Hulle, 2006) distinguish between:

- ***An IPO of primary shares***, with the issuing of new shares and their placement on the public primary securities market,
- ***An IPO of secondary shares,*** consisting of offering previously issued shares that have been traded only on the private secondary securities market,
- ***A combined IPO***, in which the newly issued shares are completed with existing shares.

According to Huyghebaert and Van Hulle (2006), the principal reasons for an IPO of ***primary shares*** are a need for more capital for company development, the limited generation of internal financial resources and an increasing share of bank loans in the financial structure of the company. In contrast, stable companies with a solid market position and high production

[1] Financing company development by IPOs has a particularly long tradition in these countries and is a well-established way of funding the business plans of corporations.

[2] The public organised securities market in the Czech Republic is defined according to Act no. 256/2004 Sb., The Capital Market Law, as a regulated market with investment instruments.

of internal financial resources tend to offer ***secondary shares***. This also comes into consideration in the case of the privatisation of state shares through the capital market or in the case of the exit of an investor from a venture capital company.

It is obvious from the above that the decision to offer primary or secondary shares is important for both the company itself and for its shareholders. During the IPO of primary shares, the issuer offers newly issued securities and, by selling them, obtains the necessary funds for its business activities. During the IPO of secondary shares, funds are acquired by the existing shareholders whose shares are issued in an IPO on the public secondary market in securities for the first time. It can be said that ***for funding the further development of a company by its own external sources, only an IPO of primary shares is important***, when the company, in order to obtain the necessary financial resources, issues new shares that may also be completed with the existing shares to improve their liquidity and attractiveness.

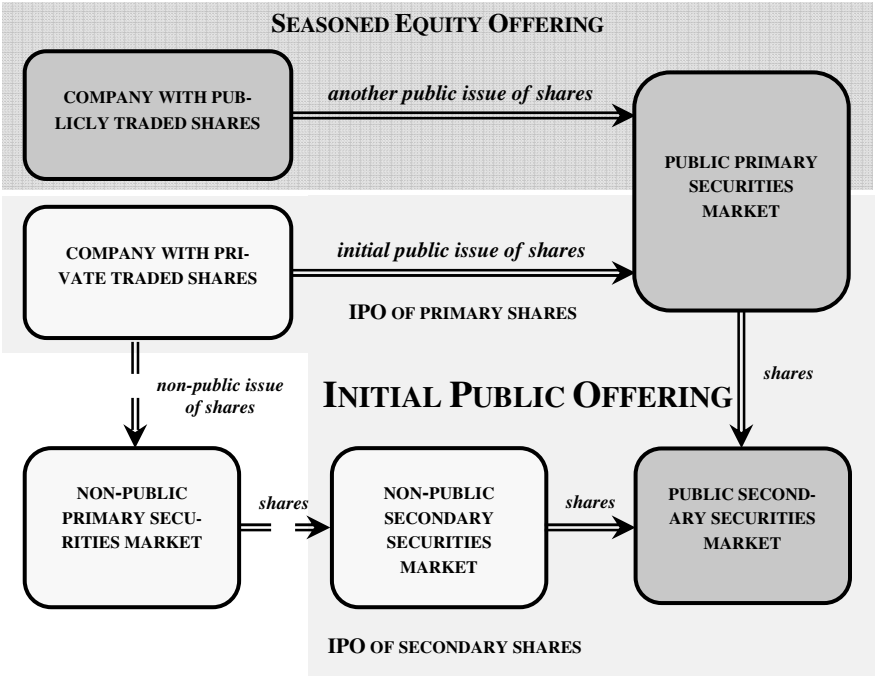


Figure 2-1: Comparison of IPO and SEO Shares
Source: own processing

In the Czech literature, definition of the term *'Initial Public Offering'* may be found, for example, in the publication by Pavlát (2003): *'IPO represents underwriting of new securities to the first acquirers'* and in publications by Ježek et al. (2004) and Liška and Gazda (2004), in which IPO is called the *'primary emission of shares'*. Some authors also consider as IPO ***a subsequent emission of shares of companies*** whose shares are already publicly traded on the securities market. However, it should be pointed out that publicly traded companies cannot implement an IPO for the very reason that their shares are already traded on the public securities market. A subsequent public subscription of shares of these companies is, according to the foreign literature[3], most often referred to as a *'Seasoned Equity Offering',* abbreviated to 'SEO'.[4] The difference between the IPO and SEO of shares is schematically illustrated in Figure 2-1.

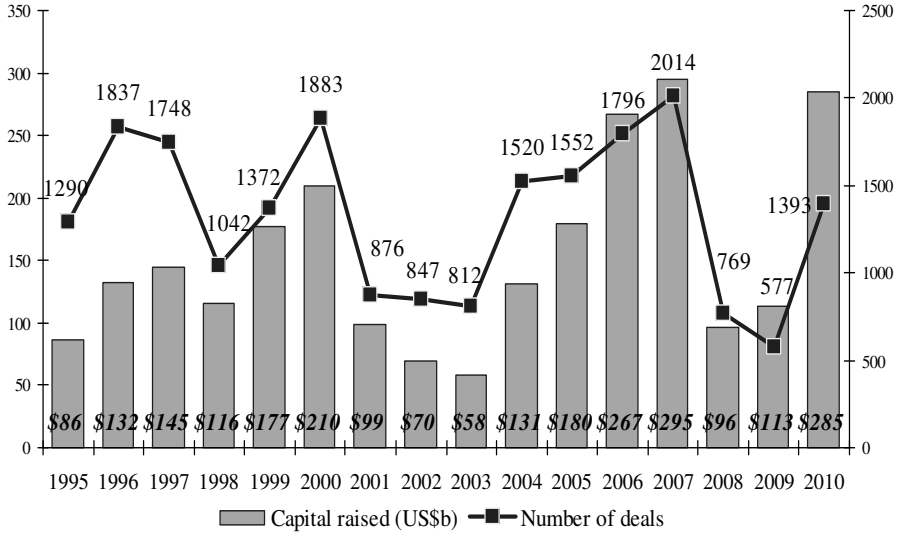
In view of the nature of this publication, which focuses on initial public offerings of shares, the term *'Initial Public Offering'* will be used hereinafter ***in the strict sense of the term and 'IPO' will be used as shorthand for an initial public offering of shares.***

[3] E.g. Jagadeesh et al. (1993) and Giudici et al. (2005).

[4] Other designations for further public offering of shares, such as '*Secondary Public Offering*', abbreviated to 'SPO', can also be found in the English literature.

CHAPTER 3. TRENDS IN THE NUMBER OF IPOs ON GLOBAL MARKETS

The intention of this chapter is to review the evolution of initial public offerings of shares in terms of their quantity and the amount of capital raised by this form of financing on world markets. Relevant global developments will be analysed first, followed by a description of regional situations. A basic overview of IPO progression on a global scale is provided by the graph below.



Graph 3-1: Number of IPOs and the Amount of Globally Raised Capital in the Period 1995–2010

Source: Ernst & Young (2008; 2009; 2010; 2011)

As is evident from Graph 3-1, IPO activities correlate closely with the sequence of economic cycles. The sixteen-year period covered by the chart can be divided into several shorter intervals. After a period of economic stagnation in the early 1990s, especially in the United States and Great

Britain, the years 1995–1997 were marked by a resurgence in initial public offerings. The popularity of IPOs culminated in the year 2000, when 1,883 firms took advantage of them. On US markets, these were primarily companies from the *high-tech* sector, which is why this period of excessive optimism is often referred to as the *'Internet bubble'*. Subsequently, during the years 2001–2003, interest in IPOs cools and their annual total does not rise above 900. Graph 3-1 shows that this trend was reversed in 2004 and the number of completed public offerings started to climb again. The so-called *emerging markets*, i.e. markets of dynamic growth, namely those of Brazil, Russia, India and China, contributed significantly to the upswing in the IPO count and the amount of capital generated by this form of financing in the years 2004–2007. In 2007, there were 2,014 initial public offerings processed in the world, with total proceeds of 295 billion USD. These numbers constitute a historic record and include substantial contributions from China (259 issues of a total value of 66 billion USD), the USA (172 issues valued at 34.2 billion USD), and Brazil (64 offers valued at 27.3 billion USD).

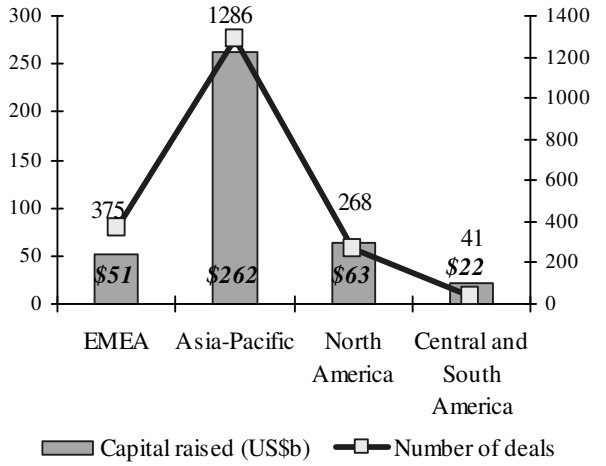
In 2008, however, interest in additional IPOs cooled on stock markets around the world due to the global economic crisis. Only 769 initial public offerings were executed in that year worldwide, valued at 96 billion USD. When compared to 2007, this represents a 62 % drop in the number of IPOs and a 67 % decline in capital value. The following year (2009) produced the smallest number of IPOs in the period studied, as only 577 initial public offerings were issued on global stock exchanges with a total value of 113 billion USD. The data for 2010 for the number of IPOs and the amount of raised capital shows an increase in both parameters, which can be interpreted as a sign of renewed corporate interest. There were 1,393 IPO issues on world markets in 2010, with a total yield of 285 billion USD. The amount of capital generated in this manner was the second largest in the last 16 years covered by the graph.

Table 3-1 gives the basic characteristics of initial public offerings issued on world stock markets in the years 2008–2010.

IPO CHARACTERISTICS	2008	2009	2010
Number of deals	769	577	1393
Capital raised (Billion USD)	95.8	112.6	284.6
Average deal size (Million USD)	124.6	195.1	204.8
PE-backed IPOs (number of deals; capital raised)	52 10.8 billion USD	53 16.2 billion USD	155 35.0 billion USD
Top five sectors (number of deals)	Materials (185) Industrials (107) High technology (84) Financials (68) Energy (65)	Industrials (101) Materials (86) High technology (59) Consumer staples (49) Financials (46)	Materials (307) Industrials (236) High technology (180) Consumer staples (113) Energy (94)
Top five sectors (capital raised)	Financials ($25.9b) Energy ($18.4b) Materials ($16.0b) Industrials ($14.2b) Telecoms ($6.9b)	Industrials ($23.2b) Financials ($22.6b) Energy ($12.1b) Real estate ($10.8b) Materials ($7.2b)	Financials ($80.0b) Industrials ($57.6b) Materials ($38.5b) Energy ($23.2b) High tech. ($20.7b)

Table 3-1: Characteristics of IPOs Executed Worldwide in the Years 2008–2010
Source: Ernst & Young (2011)

Graph 3-2 shows the number of IPOs and the amount of capital raised in the years 2009–2010 by geographical location. In the last five years, the Asia-Pacific region has accounted for the largest proportion of issues and their capital value, largely because of the expanding Chinese economy. In the years 2009–2010, 65 % of all IPOs around the world originated in this region. The EMEA region, comprised of Europe, the Middle East and Africa, is also in a strong position in respect to IPOs. It issued 375 initial public offerings during 2009–2010, or 19 % of all IPOs around the world. A significant contribution to the total quantity of IPOs in this region was made by the Polish capital market, which absorbed 92 IPOs in the year 2010 alone. North America had 268 IPOs in 2009–2010, or less than 14 % of the global total, though proceeds in the region were relatively high, amounting to 63 billion USD. The contribution made by Central and South America was small, particularly in the years 2009–2010, when only 41 IPOs were released. These were, however, apparently larger issues, as the capital raised in the region amounted to 22 billion USD.



Graph 3-2: Number of IPOs and the Value of Raised Capital in the Years 2009–2010 by Geographical Location
Source: own processing based on data from Ernst & Young (2011)

The following tables present a listing of the ten largest IPOs executed around the world in 2009 and 2010.

Rank	Issuername	Domicile country	Sector	Capitalraised (US$b)	Exchange(s)
1	Banco Santander Brasil SA	Brazil	Financials	7.5	NYSE, Sao Paulo
2	China State Constr. Engineering Corp	China	Industrials	7.3	Shanghai
3	Metallurgical Corpof China Ltd	China	Industrials	5.1	Shanghai, Hong Kong
4	Visa Net Brasil	Brazil	Financials	4.3	Sao Paulo
5	Maxis Bhd	Malaysia	Telecoms	3.3	Malaysia
6	China Longyuan Power Group Corp	China	Energy	2.6	Hong Kong
7	Sands China	Macau	Media&entertain.	2.5	Hong Kong
8	China Shipbuilding Industry Co Ltd	China	Industrials	2.2	Shanghai
9	Verisk Analytics Inc	USA	Financials	2.2	NASDAQ
10	PGE Polska Grupa Energetyczna SA	Poland	Energy	2.1	Warsaw

Table 3-2: Ten Largest IPOs around the World in the Year 2009
Source: Ernst & Young (2010)

Table 3-2 illustrates the fact that the ten largest IPOs around the world in 2009 appeared on *emerging markets*, particularly Brazil and China. The

tenth largest IPO, issued on the Warsaw Stock Exchange in Poland, is also noteworthy. Its implementation raised 2.1 billion USD in capital value, and this was actually the largest issue in Europe that year.

Rank	Issuername	Domicile country	Sector	Capitalraised (US$b)	Exchange(s)
1	Agricultural Bank of China Ltd	China	Financials	22.1	Shanghai, Hong Kong
2	AIA Group Ltd	Hong Kong	Financials	20.5	Hong Kong
3	General Motors Co	USA	Industrials	18.1	New York, Toronto
4	Dai-ichi Life Insurance Co Ltd	Japan	Financials	11.1	Tokyo
5	Petronas Chemicals Group Bhd	Malaysia	Materials	4.8	KualaLumpur
6	Samsung Life Insurance Co Ltd	South Korea	Financials	4.4	Korea
7	QR National Ltd	Australia	Industrials	4.0	Australia
8	Enel Green PowerSpA	Italy	Energy	3.4	Milan, Madrid
9	Coal India Ltd	India	Materials	3.4	Bombay, National
10	China Everbright Bank Co Ltd	China	Financials	3.2	Shanghai

Table 3-3: Ten Largest IPOs around the World in the Year 2010
Source: Ernst & Young (2011)

Heading the 2010 list was Agricultural Bank of China, with an issue valued at 22.1 billion USD and representing 7.7 % of global IPO proceeds that year. Other companies listed in the table came from both *emerging markets* and developed markets.

3.1. American Markets

The IPO market in the USA underwent a period of recession in the wake of the adoption of regulatory measures for *corporate governance*, reflected by diminished corporate interest in IPOs. One of the most important legal standards enacted to improve the supervisory function was the *Sarbanes Oxley Act* of 2002 that instituted changes focusing primarily on accounting and auditing, as well as the structure and activity of management boards. At the same time, the Public Company Accounting Oversight Board was established to set appropriate accounting and auditing standards. These measures, adopted after it became known that some American companies had misrepresented their accounting to mislead investors, changed corporate

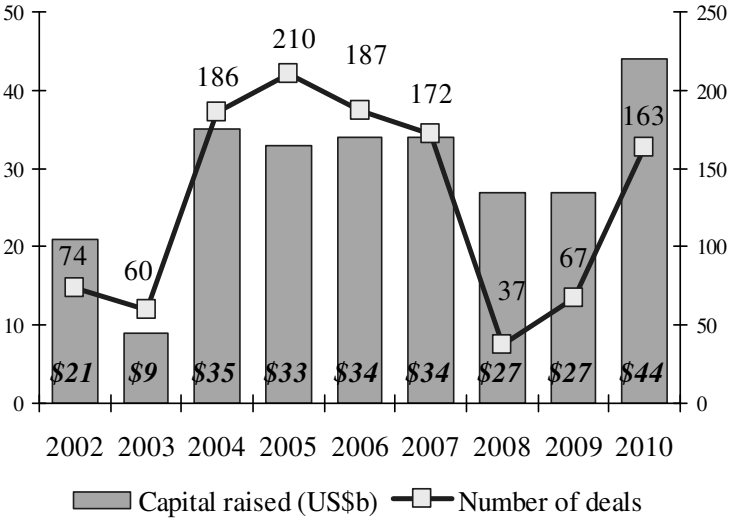
thinking about using IPOs in the United States to finance development. Smaller companies, for which mandatory compliance with the Sarbanes Oxley Act is a costly proposition, started to consider the possibility of issuing IPOs on foreign markets, preferably the AIM[1] in London.

The higher administrative burden placed on issuers by the *Sarbanes Oxley Act* implies that likely candidates for IPOs on the American market at this time are well-established companies that have no problem complying with even the strictest dictates of *corporate governance*. The situation is, therefore, a little different than it was a few years ago. In the 1990s, the average age of an IPO-issuing company on the US market was 5–7 years, whereas it currently stands at about 8 years. The annual IPO count and the value of capital raised by this form of financing in the United States in the period of 2002–2010 are displayed in Graph 3-3.

Even though the adoption of the *Sarbanes Oxley Act* had a negative impact on the annual frequency and raised capital value of IPOs, this was only a temporary setback that factored prominently only in the years 2002–2003. The acceleration of economic growth overshadowed this phenomenon and, from 2004, reignited interest in initial public offerings. Interest in additional IPOs receded in 2008 as a result of the global economic recession, preceded by problems on the US mortgage market. Only 37 IPOs were issued in the United States that year, which represents a fall of 78 % relative to 2007. The decline in the raised capital value (21 %) was not as dramatic, but only thanks to an issue from Visa Inc. valued at more than 19 billion USD.[2] In 2009, the number of IPOs in the United States increased to 67 and this upward trend continued in the following year, as is evident from Graph 3-3. 163 IPOs were issued in 2010, with a total value of 44 billion USD. The capital value generated by IPO activities in 2010 is the highest in the last nine years.

[1] AIM is an abbreviation for the *Alternative Investment Market* at the London Stock Exchange. This market was established in 1995 with the object of letting smaller companies enter the stock market. It is less regulated than the main market of the London Stock Exchange.

[2] This was the largest IPO in the history of the United States. If excluded, the average issue volume would have been 199.2 million USD.



Graph 3-3: Number of IPOs and the Value of Raised Capital in the US in the Period 2002–2010
Source: Ernst & Young (2008; 2009; 2010; 2011)

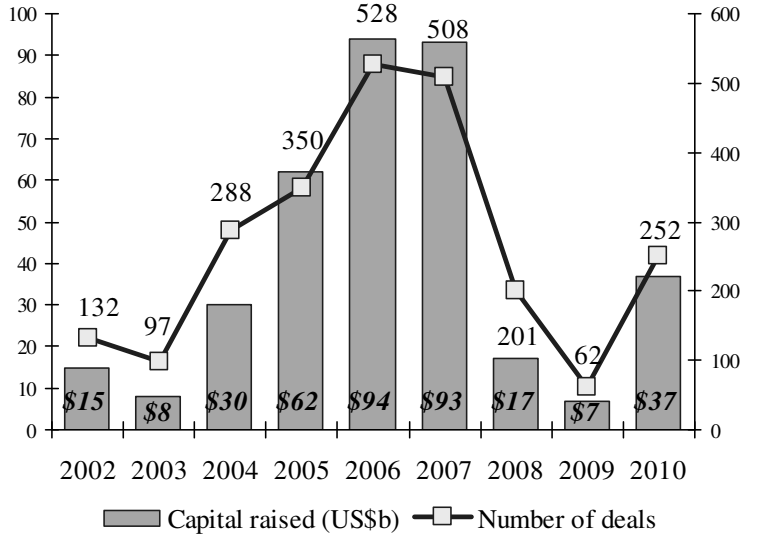
Table 3-4 gives the basic characteristics of initial public offerings conducted in the US in the years 2008–2010.

IPO CHARACTERISTICS	2008	2009	2010
Number of deals	37	67	163
Capital raised (US$b)	26.8	27.3	43.5
Average deal size (US$m)	724.9	406.9	145.7
PE-backed IPOs (number of deals; capital raised)	8 2.5 US$b	28 9.0 US$b	33 6.1 US$b
Top five sectors (number of deals)	Energy (8) Financials (5) Healthcare (5) Industrials (5) High technology (4)	High technology (12) Healthcare (9) Real estate (9) Industrials (8) Financials (5)	High technology (35) Healthcare (21) Financials (20) Industrials (17) Energy (14)
Top five sectors (capital raised)	Financials ($20.0b) Energy ($2.7b) Materials ($1.3b) Industrials ($0.8b) High tech. ($0.6b)	Financials ($10.5b) High tech. ($3.2b) Real estate ($2.9b) Healthcare ($2.2b) Energy ($1.4b)	Industrials ($22.0b) High tech. ($4.9b) Financials ($4.1b) Energy ($3.5b) Real estate ($2.0b)

Table 3-4: Basic Characteristics of IPOs on US markets in the Years 2008–2010
Source: Ernst & Young (2011)

3.2. European Markets

At present, the European markets are in a strong position in terms of IPO numbers, and even more so in terms of generated capital value. Unlike the United States, where the imposition of the *Sarbanes Oxley Act* had a dampening effect on the number of initial public offerings, the regulatory standards[3] adopted in Europe did not have an appreciable impact on the IPO market.



Graph 3-4: Number of IPOs and the Value of Capital Raised on European Markets in the Period 2002–2010
Source: Ernst & Young (2008; 2009; 2010; 2011)

Graph 3-4 tracks the annual frequency and capital value on the European markets in the period 2002–2010. The graph shows a significant increase in IPO activity on these markets in the years 2004–2007. In 2008, many planned IPOs were deferred due to the economic downturn, causing a precipitous drop in both the quantity and capital value of IPOs issued that year. A significant proportion of all IPOs (201 issues) and their capital (17 billion USD) came from companies operating on *emerging markets.* In 2008, these markets floated 7 out of 10 of the largest European IPOs (of

[3] This refers mainly to the implementation of International Financial Reporting Standards (IFRS) and a European Community directive on securities prospectus of 2003.

which one was in the Czech Republic, two in Poland, and two in Russia). In 2009, the European markets experienced a further decline in the number of IPOs along with their capital value. However, the results for 2010 show that the European markets, like markets on other continents, have seen an increase in IPO activities, which may signify that interest in this form of corporate financing is returning. In 2010, there were 252 IPOs with a total value of 36.7 billion USD released in Europe, and the stock exchanges in London and Warsaw are now considered to be the most productive markets.

Table 3-5 summarises the basic characteristics of the initial public offerings that appeared on European markets in the years 2008–2010.

IPO CHARACTERISTICS	2008	2009	2010
Number of deals	201	62	252
Capital raised (US$b)	16.8	7.4	36.7
Average deal size (US$m)	83.4	119.4	147.2
PE-backed IPOs (number of deals; capital raised)	3 3.4 US$b	3 0.8 US$b	18 9.5 US$b
Top five sectors (number of deals)	High technology (28) Materials (27) Industrials (25) Consumer products (23) Energy (18)	Industrials (16) Materials (7) Financials (7) Real estate (6) Healthcare (5)	Materials (31) High technology (29) Consumer products (28) Industrials (28) Consumer staples (26)
Top five sectors (capital raised)	Energy ($5.3b) Materials ($4.7b) Telecoms ($2.5b) Industrials ($0.9b) Financials ($0.9b)	Energy ($2.3b) Financials ($2.2b) Industrials ($1.6b) Real estate ($0.6b) Materials ($0.2b)	Energy ($8.3b) Materials ($6.4b) Financials ($5.9b) High technology ($3.8b) Retail ($3.5b)

Table 3-5: Basic Characteristics of IPOs Executed on European Markets in the Years 2008–2010
Source: Ernst & Young (2011)

3.2.1. The Markets of Central and Eastern Europe

Table 3-6 documents the frequency of initial public offerings released on the main markets of selected stock exchanges in the countries of Central and Eastern Europe. It demonstrates that it is not very common in these countries to enter onto capital markets for corporate financing. The exception is Poland, whose capital market is widely considered to be the most developed among the Central and Eastern European countries. This is evident from the large number of IPOs issued on the Polish capital market in

recent years. As mentioned before, the Warsaw Stock Exchange is now one of the European stock exchanges with the highest number of completed IPOs.

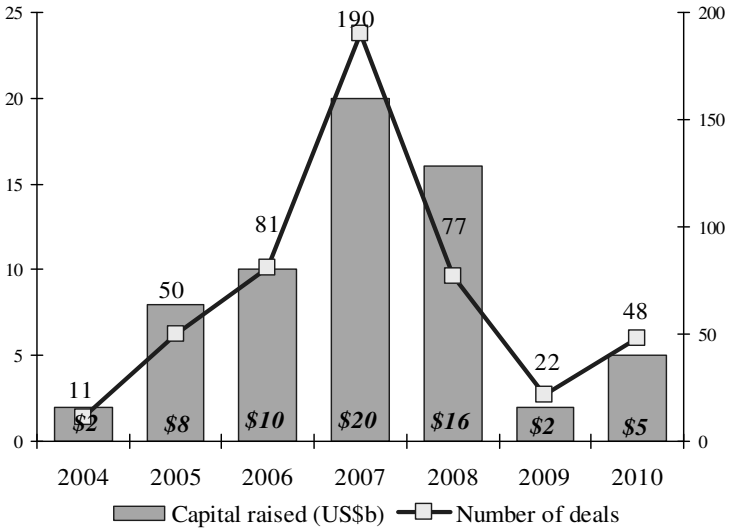
STOCK EXCHANGE	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Warsaw Stock Exchange	57	28	13	9	5	6	36	34	35	68	29	10
Prague Stock Exchange	0	0	0	0	0	0	1	0	2	1	1	0
Budapest Stock Exchange	3	1	0	0	0	0	1	0	3	0	1	2
Bratislava Stock Exchange	0	0	0	0	1	0	0	0	0	0	0	0
Ljubljana Stock Exchange	0	0	0	0	0	0	0	0	2	1	1	0
Total	**60**	**29**	**13**	**9**	**6**	**6**	**38**	**34**	**42**	**70**	**31**	**12**

Table 3-6: Number of IPOs on the Main Markets of Selected Stock Exchanges in the CEE Region in the Years 1998–2009
Source: Paleari et al. (2008; 2009; 2010)

3.3. The Markets in the Middle East and Africa

The most active capital markets for IPOs in the Middle East and Africa are found in Saudi Arabia and the United Arab Emirates. Interest in initial public offerings in the Middle East is sustained mainly by high market liquidity, privatisation and enduring economic prosperity. Annual IPO counts and total proceeds in the Middle East and Africa in the period 2004–2010 are presented in Graph 3-5.

Graph 3-5 demonstrates that this region has been relatively immune to the global economic recession of 2008, since it implemented 77 initial public offerings of a total value of 15.3 billion USD in that year. A fall in the number of IPOs and the value of the raised capital in this region came a year later, in 2009, when only 22 IPOs were absorbed with a total value of 2.4 billion USD. As can be seen in Graph 3-5, the IPO market in the region is now experiencing a modest rebound.



Graph 3-5: Number of IPOs and the Value of Capital Raised in the Middle East and Africa in the Period 2004–2010
Source: Ernst & Young (2008; 2009; 2010; 2011)

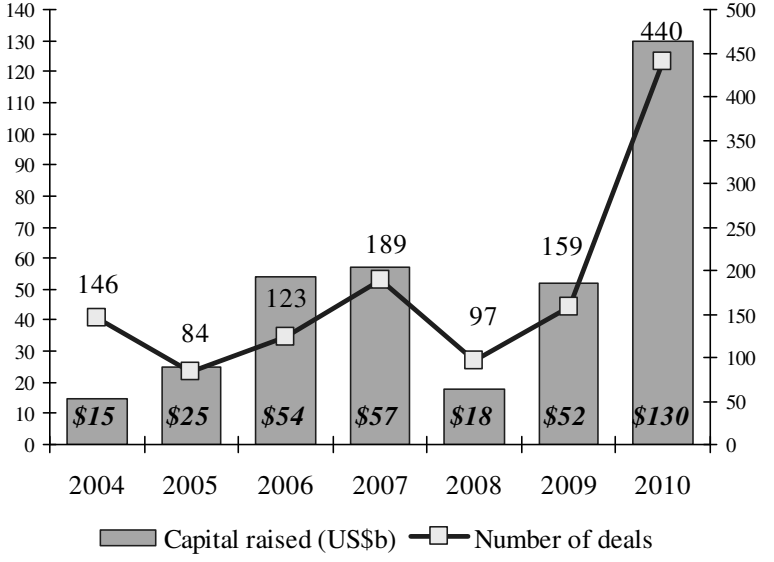
Table 3-7 shows the basic characteristics of initial public offerings issued in the Middle East and Africa in the years 2008–2010.

IPO CHARACTERISTICS	2008	2009	2010
Number of deals	77	22	26
Capital raised (US$b)	15.8	2.4	5.0
Average deal size (US$m)	205.5	109.6	103.3
Top 2 sectors (number of deals)	Financials (26) Industrials (12)	Financials (12) Telecoms (4)	Financials (9) Industrials (8)
Top 2 sectors (capital raised)	Telecoms ($4.3b) Materials ($4.0b)	Telecoms ($1.1b) Energy ($0.6b)	Materials ($1.2b) Real estate ($1.0b)

Table 3-7: Basic Characteristics of IPOs Issued in the Middle East and Africa in the Years 2008–2010
Source: Ernst & Young (2011)

3.4. Asian Markets

Asia is currently the region with the highest IPO count and the largest value of capital raised by this form of financing in the world. This is primarily because of the economic expansion in China. From 2006 onwards, this country has had the largest number of IPOs in the world. As shown in Graph 3-6, China implemented 440 initial public offerings in 2010 with a total yield of 130 billion USD. In comparison with the previous year, this represents a 177 % jump in the IPO count and a 152 % boost in capital value. Much of this can be attributed to the interest in IPOs from small and mid-sized businesses in the sectors of consumer goods, infrastructure, clean technology and pharmaceuticals, as well as a number of large, government-owned enterprises.



Graph 3-6: Number of IPOs and the Value of Capital Raised in China in the Years 2004–2010
Source: Ernst & Young (2011)

Table 3-8 lists the basic characteristics of initial public offerings in China in the years 2008–2010.

IPO CHARACTERISTICS	2008	2009	2010
Number of deals	97	159	440
Capital raised (US$b)	17.5	51.5	129.8
Average deal size (US$m)	180.4	324.1	295.1
Top five sectors (number of deals)	Materials (26) Industrials (24) Consumer staples (8) Retail (8) High technology (7)	Industrials (34) Materials (22) Consumer staples (19) High technology (18) Consumer products (15)	Industrials (103) Materials (97) High technology (70) Consumer staples (44) Healthcare (28)
Top five sectors (capital raised)	Industrials ($8.8b) Materials ($3.0b) Consumer staples ($1.8b) Retail ($1.0b) Energy ($0.8b)	Industrials ($19.7b) Materials ($5.4b) Real estate ($5.2b) Media&entertain. ($4.8b) Energy ($3.5b)	Financials ($51.1b) Industrials ($20.1b) Materials ($18.5b) High tech. ($10.6b) Healthcare ($6.1b)

Table 3-8: Basic Characteristics of IPOs Issued in China in the Years 2008–2010
Source: Ernst & Young (2011)

3.5. Summary and Prospects for Further Development

Analysis of IPO trends on world markets indicates that, in the period 2004–2007, IPO-based financing of corporate growth gained in importance on both developed and *emerging markets*. A record number of IPOs on world markets and the largest capital value within the last sixteen years was seen in 2007. More than 40 % of all IPOs around the world appeared on *emerging markets*. This is obviously a completely different situation than ten years ago, when the IPO segment was dominated by the American and European markets, and the largest *emerging markets* (Brazil, Russia, India and China) attracted only 5 % of globally generated capital.

The worldwide economic crisis of 2008 suppressed interest in new IPOs, particularly in developed economies. In the following year, the number of IPOs around the world was the lowest in the last sixteen years, as most companies postponed any action waiting for the economic situation to improve and become more conducive to further development. This interaction confirms the fact that IPO activities tend to track the underlying economic cycle. In a growing economy, share-generated capital becomes available as a result of high profit expectations harboured by issuers and investors alike.

As the economy of most countries is beginning to revive, interest in the IPO approach from businesses and investors is again on the rise. In the next few years, it can be expected that the arena of initial public offerings will

be dominated by visionary companies operating on *emerging markets,* for which the execution of an IPO will constitute the key element in securing the capital essential to further expansion. Investors will then get the opportunity of participating in future growth and profit greatly from a rise in share value.

B. INITIAL PUBLIC OFFERING: THEORETICAL APPROACHES

INDIVIDUAL OBJECTIVES

Discuss the principal reasons for IPO implementation

Analyse the structure and scope of IPO costs

Discover specific phenomena associated with IPO – underpricing and long-term underperformance following an initial public offering

Explain the principal approaches to business valuation

CHAPTER 4. REASONS FOR IPO IMPLEMENTATION

The literature offers many reasons why a company should enter the capital market through an IPO. All those reasons can be divided into three basic groups:

- ***raising external equity for further growth of the company,***
- ***securing benefits for existing shareholders,***
- ***securing non-financial benefits from IPO implementation.***

Discussing the main reasons for IPO implementation, most authors, e.g. Chemmanur and Fulghieri (1999), Ritter and Welch (2002), Paleari et al. (2006), mention ***the raising of funds necessary for the company's expansion without restrictions associated with debt financing***. The primary securities market offers an opportunity to raise capital from a large number of previously unknown investors. As a result, more capital is accumulated than a single investor, or a limited number of investors, would be able or willing to provide. Public trading of shares provides a great advantage to both the issuers, to whom the shares issued provide a long-term source of financing, and to the investors, who can sell the shares purchased at any time on secondary markets and thus recover the desired liquidity, i.e. the money they invested. The short-term financial resources of individual investors are thereby transformed into long-term resources, which then make it possible to implement large-scale development investments.

In a general sense mentioned by, for example, Pagano (1993) and Black and Gilson (1998), another reason for IPO implementation is to ***give an advantage to existing shareholders***, who, if their shares are publicly traded, will find it easier to sell their shares in the company on public capital markets. An initial public offering may therefore be an exit strategy for venture capital funds and a way of realising profits on investment.

The final reason, which is usually subordinate to the previous two, is to ***gain a non-financial advantage from IPO implementation*** in the form of, for example, greater interest from the media in publicly traded companies

(Maksimovic and Pichler, 2001; Ježek, 2004). IPO is therefore associated with positive effects in the area of marketing.

In addition to the above benefits, there are also considerable costs and obligations associated with IPO implementation that can generally be considered ***disadvantages of this form of financing***. Some costs are directly associated with the process of taking the company public and listing it on a public securities market (stock exchange), such as the cost of the IPO process itself and the costs of regular disclosure of information about the company. Other costs may be indirect in nature and may include, for example, the costs associated with underpricing (Oxera, 2006; Paleari et al., 2006).

Public issue is also associated with ***non-financial disadvantages***. Generally speaking, the company's operations will be scrutinised more closely and critically after it enters public capital markets. On one hand there will be the company's shareholders, whose different responses to the company's financial performance may affect the price of its shares. On the other hand there will be undecided investors, analysts, banks, business partners, competitors and other entities monitoring the company's performance for various reasons and comparing it with other companies in the given sector. An ongoing requirement for the regular disclosure of information is one condition of public tradability. Yosha (1995) concluded that although the costs associated with IPO implementation are appropriately high, companies that are sensitive to information disclosure will often decide against implementing it specifically because of the obligation of regularly disclosing information.

INITIAL PUBLIC OFFERING	
ADVANTAGES	**DISADVANTAGES**
• raising external equity for further growth of the company	• direct and indirect costs associated with going public
• capital structure optimisation and reducing the risk of over-indebtedness	• direct and indirect costs associated with the public tradability of stocks
• increased bargaining power and credibility in dealing with banks	• an increased number of shareholders
• recovering the desired liquidity of publicly traded stocks	• loss of decision-making autonomy
• an opportunity to address the problem of generational replacement	• the risk of leakage of strategic information
• greater interest from the media in publicly traded companies	• the risk of being acquired through a hostile takeover

Table 4-1: Advantages and Disadvantages of IPO Implementation
Source: own processing

A company may choose to grow by buying other companies, but the tables may turn and the company may find itself in the position of a company being bought, i.e. a company being acquired through a hostile takeover (Ježek et al., 2004). This situation can be blocked to some extent by issuing a limited number of shares through the initial public offering. In any case, the new shareholders will have the opportunity of participating in the company's management and the right to be informed about what is going on at the company.

CHAPTER 5. THE COST OF GOING PUBLIC

The entry of a joint-stock company onto a public capital market by means of an IPO is accompanied by a host of direct and indirect costs that necessarily influence business decisions concerning the utilisation of this form of financing. This chapter is devoted to an analysis of the structure and scope of IPO costs on global equity markets. Oxera (2006) and Kaserer and Schiereck (2007) suggest that IPO costs may be divided into two categories:

- ***costs of IPO implementation,***
- ***costs associated with the public tradability of shares.***

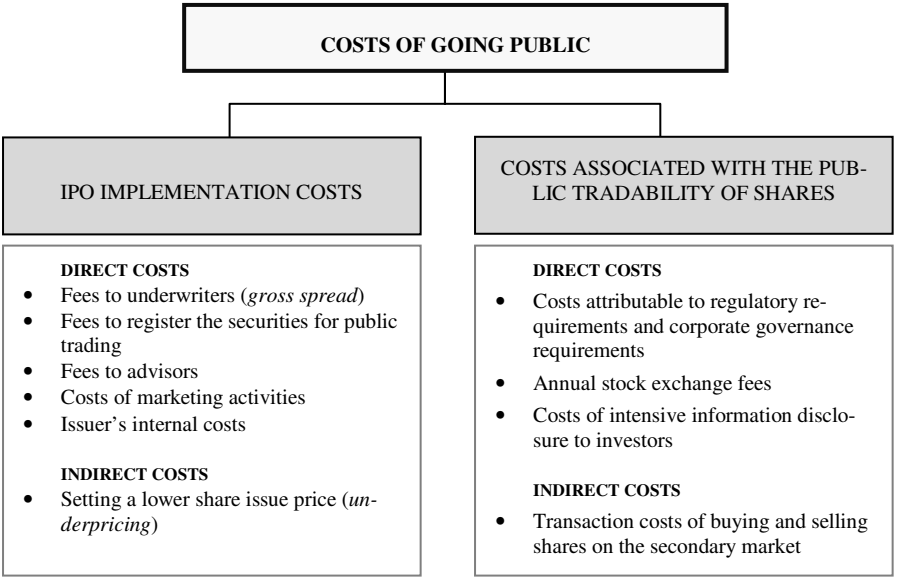


Figure 5-1: The Costs of Going Public
Source: own processing based on Oxera (2006) and Kaserer and Schiereck (2007)

5.1. IPO Implementation Costs

The costs of IPO implementation include all direct and indirect costs associated with the actual initial public offering process. ***The direct implementation costs*** of an IPO include:

- underwriting fees (referred to as *gross spread*),
- fees payable to professional advisors for accounting, legal and other advice,
- fees to register the securities for trading on public capital markets,
- the cost of marketing activities (i.e. presentation of the company to prospective investors),
- the internal costs of the issuer related to IPO preparation.

An indirect implementation cost of an IPO results from a low share issue price, known as *underpricing*.

5.1.1. Direct IPO Implementation Costs

The most significant item in the direct implementation costs of an IPO are generally ***the fees paid to underwriters,*** which constitute their compensation. Such costs are commonly referred to in the English language literature as *gross spread,* which is the difference between the price at which the underwriter buys the shares from the issuer and the price for which the shares are initially offered to the public. Gross spread is usually expressed as a percentage of the volume issued (the initial share price multiplied by the number of shares offered). Empirical studies analysing the size of gross spread on individual equity markets indicate that it is higher on U.S. markets than on European markets. For example, Torstila (2003) drew the following conclusions from his research:

- on U.S. markets, the average gross spread is about 7.5 % with a median value of about 7 %;
- on European markets, the average gross spread is about 3.8 % with a median value of about 4 %.

Ritter (2007), who studied gross spread on U.S. markets in the period 1980–2006, states that most American IPOs involve underwriting fees amounting to 7 % of the volume issued. Research conducted by the consult-

ing company Oxera[1] in Great Britain led to similar conclusions: the difference in underwriting fees between the American and European markets is approximately 3 percentage points. This means that the underwriting fees for a GBP 20 million share issue would be approximately GBP 700,000 (3.5 % of the volume of the issue) on European markets and around GBP 1.3 million (6.5 % of the volume of the issue) on American markets.

Other implementation costs include ***fees to register the shares for trading*** on public capital markets. The aforementioned studies indicate that although the amount varies on different markets it usually does not exceed 0.05 % of the issued volume. It can, therefore, be noted that the registration fees for the public trading of shares represent only a negligible proportion of the total IPO cost.

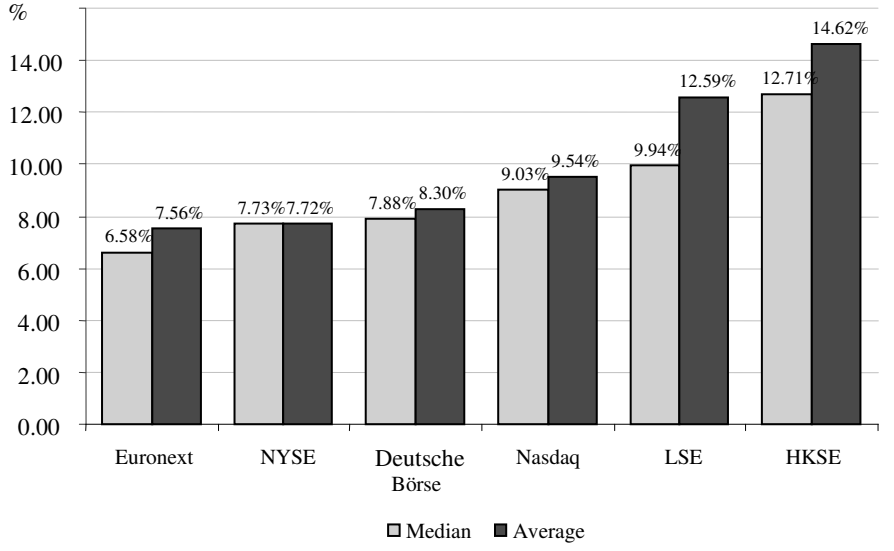
The remaining direct costs of IPO implementation are ***fees payable to professional advisors*** for legal, accounting and other advice, ***costs of marketing activities*** and ***internal costs*** of the issuer related to IPO preparation. These costs can, in aggregate, typically be put at 3–6 % of the volume of the issue. It should, however, be noted that their actual amount is always individual and depends on the specifics of the given issue, such as its size, as well as the issuer's readiness for entry onto the capital market. Unlike underwriting fees and the registration fees for public trading, these costs are usually not published and are therefore difficult to quantify.

The following section analyses ***the magnitude of direct implementation costs for IPOs on major equity markets***, i.e. Deutsche Börse, London Stock Exchange, Euronext, New York Stock Exchange, Nasdaq and Hong-Kong Stock Exchange. This analysis draws primarily on a study by Kaserer and Schiereck (2007), which compares the cost of IPO implementation on the markets listed above. The study analysed a total of 2,299 new issues launched between 1 January 1999 and 31 March 2007. Data on each issue was obtained from the appropriate issue prospectus and registration documentation. The overall implementation costs obtained with respect to all the issues could therefore be divided into just two categories: the underwriting fees and other direct costs of implementation. As regards other implementation costs, the pertinent data was available only for some issues, and concerned professional fees, fees for the admission of shares to public trading, and the cost of marketing activities. The data on costs incurred by the issuer

[1] The company analysed share issues launched at the London Stock Exchange, New York Stock Exchange, Nasdaq, Euronext and Deutsche Börse between 1 January 2003 and 30 June 2005.

internally in the preparation of the IPO was not taken into consideration for the purposes of the said comparison.

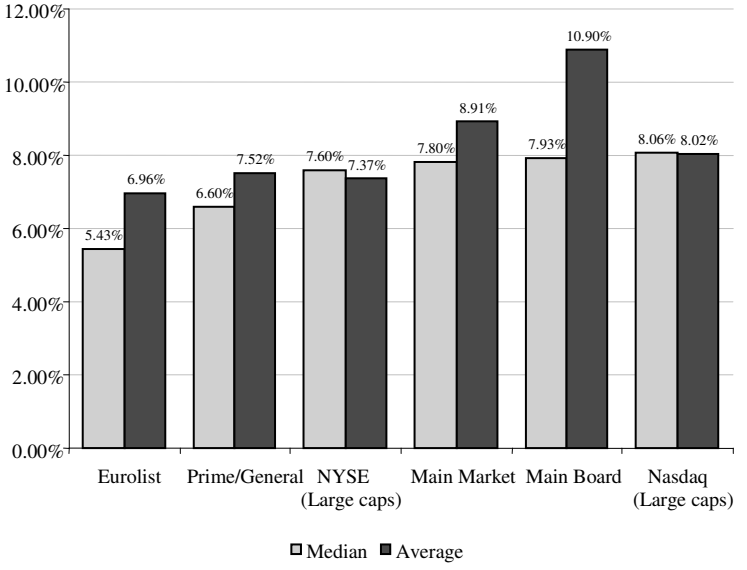
Graph 5-1 compares the median and the average of total direct implementation costs for IPOs on major equity markets. In terms of the median, the lowest direct implementation cost for an IPO relative to the volume issued is on the Euronext (6.6 %), followed by NYSE (7.7 %) and Deutsche Börse (7.9 %). Nasdaq and LSE are characterised by median values for direct IPO implementation costs of 9.0 % and 9.9 % respectively. HKSE can be said to be the most expensive market to implement an IPO, with a median of direct implementation costs for IPOs amounting to 12.7 % of the volume issued. Looking at the average direct costs of IPO implementation, the order of the markets studied remains the same, although the differences in the values for the Euronext, NYSE and Deutsche Börse markets are extremely small.



Graph 5-1: Comparison of Direct Costs of IPO Implementation on the Main World Markets
Source: Kaserer and Schiereck (2007)

As regards the comparison of IPO implementation costs, it must be stressed that their actual amount, expressed in relative terms (as a percentage of the volume issued), is always influenced by the specific features of the individual issue, and in particular its size. Graph 5-2 shows the direct

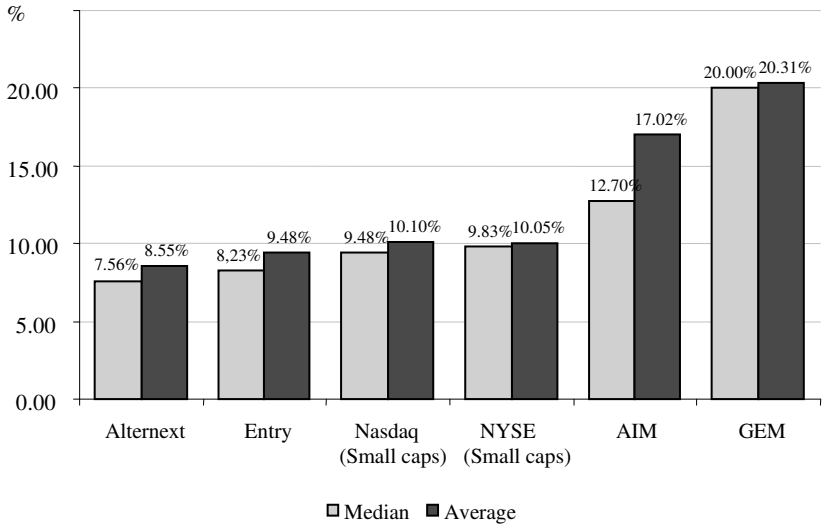
costs of IPO implementation for large caps, the market capitalisation of which typically exceeds EUR 100 million. The median direct costs of IPO implementation are lowest in the Eurolist market segment (5.4 % of the volume issued), followed by the Frankfurt-based Prime/General Standard (6.6 % of the volume issued). These are followed by further market segments of the stock markets analysed, with median direct costs of IPO implementation ranging from 7.6 to 8.1 %. Graph 5-2 further shows that, as regards average IPO implementation costs, the Main Board at HKSE can be said to be the most expensive.



Graph 5-2: Comparison of Direct Costs of IPO Implementation for Large Caps on the Main World Markets
Source: Kaserer and Schiereck (2007)

Graph 5-3 shows the direct costs of IPO implementation for small caps, the volume of which typically does not exceed EUR 100 million. The median direct costs of IPO implementation are lowest in the Alternext market segment (7.6 % of the volume issued), followed by the German Entry Standard (8.2 % of the volume issued). The U.S. Nasdaq and NYSE markets are associated with IPO implementation costs in the region of 9.5 % and 9.8 % of the volume issued, respectively, in the case of small caps, followed by the London Stock Exchange market segment referred to as AIM, with me-

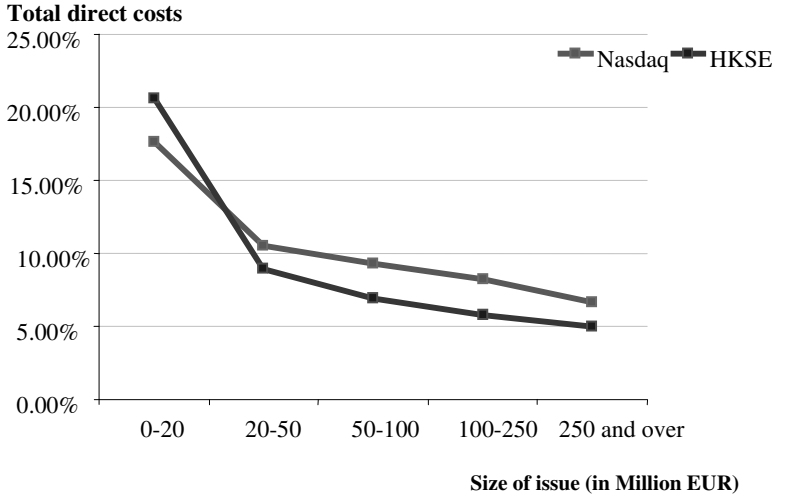
dian direct costs of IPO implementation amounting to 12.7 % of the volume issued. The most expensive market segment for small caps appears to be GEM at HKSE (20.3 % of the volume issued).



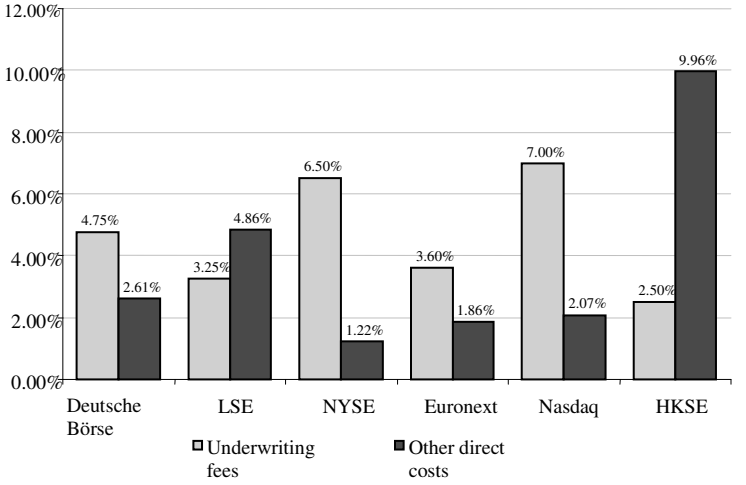
Graph 5-3: Comparison of Direct Costs of IPO Implementation for Small Caps on the Main World Markets
Source: Kaserer and Schiereck (2007)

The results of the study conducted by Kaserer and Schiereck (2007) further indicate that ***the total direct costs expressed in relative terms (as a percentage of the volume issued) decrease as the volume of the issue increases***. This is due to the fact that a certain proportion of the direct costs of implementation (e.g. fees payable to legal advisors and auditors, marketing costs) are fixed in nature. Graph 5-4 shows the direct costs of IPO implementation depending on the size of the issue at Nasdaq and HKSE.
Graph 5-5 shows median underwriting fees and other direct costs on the main world markets. Underwriting fees constitute the largest direct IPO cost on the Deutsche Börse, NYSE, Euronext and Nasdaq markets. In this context, it should be noted that European markets are associated with significantly lower underwriting fees than U.S. markets, with fees on the latter being around 7 % of the volume of the issue. Other direct costs related to IPO implementation are lowest at NYSE (1.2 % of the volume of the issue). Euronext, Nasdaq and Deutsche Börse are associated with other direct costs in the region of 2.0 % of the volume of the issue. The said costs are highest

on the LSE and HKSE markets; at HKSE they even significantly exceed the underwriting fees.



Graph 5-4: Direct Costs of IPO Implementation Depending on Issue Size
Source: own processing based on Kaserer & Schiereck (2007)



Graph 5-5: Median Underwriting Fees and Other Direct Costs on the Main World Markets
Source: Kaserer and Schiereck (2007)

5.1.2. Underpricing

Empirical research examining developments in the market prices of shares shortly after their IPOs often reach the conclusion that ***issuers offer their shares in IPOs at prices lower than those at which such shares are initially traded on the secondary market***. According to Loughran, Ritter and Rydqvist (1994) and Paleari et al. (2006) this phenomenon is referred to as '***underpricing***'. The explanation as to why shares are usually underpriced in IPOs is usually based on the asymmetry of information between the individual entities taking part in the initial public offering. From the issuer's perspective, the underpricing of shares at issue represents an ***implied cost of the IPO***, because the company, or rather the original shareholders (when secondary shares are being offered), obtain less funding. *Underpricing* can be expressed in two different ways. The first approach only takes into account the difference between the issue price and the market price of the shares on the secondary market. In this case, the underpricing of shares at issue can be expressed as follows:

$$U = \frac{\left(P_1 - P_E\right)}{P_E} \cdot 100, \quad (5\text{-}1)$$

where U = underpricing in %,
P_1 = share price at COB[2] on the first day of trading of the issue on the secondary market[3],
P_E = issue price of the share.

Note: If the market price of the share (P_1) is lower than its issue price (P_E), a negative value will be obtained in the calculation of underpricing (U), and in this case we can conclude that the shares were overpriced at issue.

[2] Close of Business (Day).
[3] In the calculation of underpricing, some authors apply the initial price at which the shares were first traded on the secondary market.

As some time always elapses between the moment the issue price is set and the moment the issue begins to be traded on the secondary market, during which equity markets continue to evolve, the change in share prices can be reflected in the calculation of underpricing. Underpricing adjusted with a view to equity market developments represents a second approach. The following formula can be used to calculate the underpricing:

$$U_M = \left[\frac{(P_1 - P_E)}{P_E} - \frac{M_1 - M_0}{M_0} \right] \cdot 100, \quad (5\text{-}2)$$

where U_M = *underpricing* adjusted for market index developments in %,
M_1 = market index at COB on the first day of trading of the issue on the secondary market,
M_0 = market index at COB on the day preceding the first day of trading of the issue on the secondary market.

The costs related to IPO underpricing can be determined using the following formula:

$$UC = (P_1 - P_E) \cdot MC, \quad (5\text{-}3)$$

where UC = costs related to the underpricing of shares in the IPO,
MC = issue size (market capitalisation of the IPO).

Table 5-1 expresses underpricing on selected equity markets in 2005–2006. Two findings arise from the table. Firstly, the difference between the calculation of underpricing without reflecting the market index (formula 5-1) and when reflecting the market index (formula 5-2) is negligible. Secondly, the initial revenue, or rather underpricing, differs greatly on different markets. According to empirical research, the ***size and age of the issuer plays a decisive role in the level of underpricing***.

Stock Exchange	DeutscheBörse		Euronext		HKSE		LSE		New York	
	Prime/ General	Entry	Eurolist	Alternext	Main Board	GEM	Main Mar-ket	AIM	NYSE	Nas-daq
Sample	42	36	53	52	74	8	49	362	78	207
Underpricing (in %)										
Mean	5.7	10.7	5.1	2.4	10.4	6.7	5.3	17.1	9.7	11.0
Median	2.2	0.3	3.6	0.0	6.3	2.6	2.9	9.4	5.5	6.6
Min	-9.5	-6.0	-9.0	-24.5	-81.4	-12.0	-47.1	-56.5	-23.5	-38.9
Max	25.7	100.0	23.0	44.0	88.6	30.7	25.7	350.0	120.8	140.5
Index-adjusted underpricing (in %)										
Mean	5.7	10.8	5.1	2.3	10.5	7.1	5.1	17.0	9.6	11.0
Median	2.7	0.7	3.4	0.2	5.6	2.4	2.5	9.2	5.3	6.5
Min	-8.5	-5.8	-8.2	-24.8	-80.1	-11.7	-47.3	-56.7	-24.7	-38.5
Max	26.3	99.3	22.9	43.4	89.4	32.2	25.5	350.2	120.8	140.6

Table 5-1: Underpricing on Selected Stock Markets
Source: Kaserer and Schiereck (2007)

Table 5-2 indicates the amount of underpricing and the total implied cost incurred by issuers in connection with underpricing in the USA in 1990–2010.

Year	Number of IPOs	Underpricing	Total implied IPO cost
1990	110	10.8 %	USD 0.34 billion
1991	287	11.9 %	USD 1.50 billion
1992	412	10.3 %	USD 1.82 billion
1993	509	12.7 %	USD 3.52 billion
1994	404	9.8 %	USD 1.47 billion
1995	458	21.2 %	USD 4.38 billion
1996	675	17.2 %	USD 6.80 billion
1997	473	14.1 %	USD 4.54 billion
1998	284	21.7 %	USD 5.25 billion
1999	477	70.9 %	USD 36.94 billion
2000	381	56.3 %	USD 29.69 billion
2001	79	14.2 %	USD 2.97 billion
2002	66	9.1 %	USD 1.13 billion
2003	62	12.1 %	USD 1.00 billion
2004	174	12.3 %	USD 3.86 billion
2005	160	10.2 %	USD 2.64 billion
2006	157	12.1 %	USD 3.95 billion
2007	160	13.9 %	USD 4.95 billion
2008	21	6.4 %	USD 5.65 billion
2009	41	9.8 %	USD 1.46 billion
2010	96	8.9 %	USD 1.87 billion
1990-1998	**3,612**	**14.8 %**	**USD 29.62 billion**
1999-2000	**858**	**64.4 %**	**USD 66.63 billion**
2001-2010	**1,016**	**11.6 %**	**USD 29.48 billion**
1990-2010	**5,486**	**22.0 %**	**USD 125.73 billion**

Table 5-2: Underpricing and the Total Implied Cost of an IPO in the USA 1990–2010
Source: Ritter (2011a)

Underpricing has a further negative impact on the influence of the original shareholders in the company, because in order to obtain the requisite funds the company will have to issue more new shares. In other words, in the absence of underpricing the company could obtain the requisite funds by issuing a smaller number of shares, whereby the current shareholders' influence in the company would not be weakened as much. ***The significance of underpricing is therefore in direct proportion to interest in the company's share capital being offered in the form of shares of stock.***[4]
The impact of underpricing on the amount of funds obtained and the equity stakes of the original shareholders of the company can be illustrated using the following example.

Example

Let us consider an initial public offering with the following characteristics:
- number of shares issued prior to the IPO = 14,000,000,
- gross proceeds from the IPO = EUR 60,000,000,
- *free float*[5] = 30 %,
- current shareholders will not sell any shares.

Let us further assume that the following situations may occur on the market:
a) there is no underpricing,
b) the underpricing equals 15 %.

Assuming that the ***gross proceeds required from the IPO are to be EUR 60,000,000,*** the parameters of the issue are indicated in Table 5-3 below.

[4] For instance, if the shareholders decide to sell 20 % of their shares and the underpricing is estimated as equalling 10 % of the market value of the shares, the loss represents 2 % of the market value of the company. If the company were to offer its entire share capital to investors, the loss would represent 10 %.

[5] *Free float* represents the number of issued and outstanding shares.

IPO PARAMETERS	NO UNDERPRICING	UNDERPRICING TO THE AMOUNT OF 15 %
Issue price of the shares at IPO	10 EUR/share	8.5 EUR/share
Number of shares issued	6,000,000	7,058,824
Number of shares after IPO launch	20,000,000	21,058,824
Gross proceeds from the IPO	**EUR 60,000,000**	**EUR 60,000,000**
Shareholding of the original shareholders in the company after the IPO launch	**70.00 %**	**66.48 %**

Table 5-3: Parameters of an Issue in the Case of Gross Proceeds from the IPO to the Amount of EUR 60,000,000
Source: own processing

If the ***free float requirement is 30 %***, the parameters of the issue are as indicated in Table 5-4.

IPO PARAMETERS	NO UNDERPRICING	UNDERPRICING TO THE AMOUNT OF 15 %
Issue price of the shares at IPO	10 EUR/share	8.5 EUR/share
Number of shares issued	6,000,000	6,000,000
Number of shares after IPO launch	20,000,000	20,000,000
Gross proceeds from the IPO	**EUR 60,000,000**	**EUR 51,000,000**
Shareholding of the original shareholders in the company after the IPO launch	**70.00 %**	**70.00 %**

Table 5-4: Parameters of an Issue in the Case of a 30 % Free Float
Source: own processing

The above example shows that underpricing has a negative impact on the wealth (i.e. equity stakes) of the original shareholders. If the same gross proceeds are to be obtained by means of an IPO while the shares issued are underpriced, a higher number of shares needs to be issued, whereby the ownership structured is diluted to a greater extent and the original shareholders' equity stakes in the company become smaller. However, if the issuer is willing to offer only a limited number of shares to the public, the company, or rather the original shareholders (where secondary shares are offered), will obtain lower proceeds from the IPO, and this will in turn have a negative impact on the costliness of the initial public offering expressed as a percentage of the volume of the issue.

Even though underpricing is theoretically viewed as a significant indirect cost of an IPO, issuers do not always strive to reduce it purposely as a primary objective. For instance, research conducted by Oxera (2006) indicates that the managers of the companies analysed did not view underpricing as a significant IPO cost for the following reasons:

- the sale of shares by current owners on the public market was not the main reason behind the IPO, and underpricing therefore had a small effect on the wealth of the current shareholders,
- managers viewed underpricing as a tool increasing the likelihood of the IPO's success,
- the possibility of gaining higher-than-average profits during the first day of trading on the secondary market attracts media interest and boosts the issuer's publicity. In this context, underpricing was viewed as more of a benefit than a cost.

5.2. Costs Related to the Public Tradability of Shares

Following the successful launch of an IPO, the issuer and investors incur further costs related to the trading of shares on the secondary market. These include, in particular, the following:

- costs related to regulatory requirements and corporate governance requirements,
- annual stock exchange fees,
- transaction costs of buying and selling shares on the secondary market.

The costs of intensive disclosure of information to investors and corporate governance requirements may have both a positive and negative impact on the costliness of an IPO. Their existence increases investors' trust in new issues, and investors are therefore willing to pay a higher price for the shares. If investors have very little information for their investment decisions, they will presumably require a higher return on investment, which will be reflected in the risk premium amount. On the other hand, compliance with stringent rules results in further costs for the issuer.

In addition to fees for the admission of shares to public trading, publicly traded companies must also pay ***annual stock exchange fees***. Research conducted by Oxera (2006) and Kaserer and Schiereck (2007) shows that, as is the case for fees for the admission of shares to public trading, annual stock exchange fees have only a very small impact on the costliness of an IPO, and as market capitalisation increases, annual stock exchange fees decrease as a percentage.

Investors who require a certain net yield are usually willing to accept a higher share price provided that there are lower ***transaction costs of buying and selling shares on the secondary market***. Transaction costs incurred by investors from trading on the secondary market thus have an impact on the market price of the shares and, therefore, on total IPO costs.

Transaction costs related to trading on the secondary market may be divided into explicit (direct) and implied (indirect).

Explicit transaction costs include, in particular, brokerage fees for the purchase and sale of securities (e.g. fees payable to securities traders) and tax on security yields. Implied transaction costs are related to market liquidity and include, for instance, the difference between the selling and buying price of the shares at the time and exchange rate fluctuations. Oxera (2006) draws the following conclusions:

- ***direct costs*** differ significantly on individual stock exchange markets. They are lowest at the London Stock Exchange,
- ***indirect costs*** are lowest at the NYSE, followed by Deutsche Börse, Euronext, LSE and Nasdaq,
- ***total costs*** related to trading on the secondary market are lowest at NYSE and LSE. Costs at Euronext and Deutsche Börse are roughly the same, and are highest at Nasdaq.

5.3. Costs Related to SEO

If a publicly traded company decides to launch a further share issue, a '*Seasoned Equity Offering*' ('SEO'), it incurs further costs, a basic analysis of which is presented in this chapter.

Seasoned Equity Offerings		Deutsche Börse	LSE	Euronext	NYSE	Nasdaq	HKSE
Sample	1,764	68	48	66	489	981	112
Size of emission (EUR mil.)	Mean	798,045	602,964	491,611	272,569	129,418	27,209
	Median	176,674	n.a.	46,673	168,808	78,768	4,291
Total flotation costs	Mean	n.a.	n.a.	4.21%	4.35%	6.16%	3.87%
	Median	n.a.	n.a.	4.02%	4.64%	6.05%	2.86%
Gross spread	Mean	3.02%	2.08%	3.50%	3.81%	5.16%	1.99%
	Median	3.00%	1.80%	3.83%	4.25%	5.26%	2.03%
Other expenses	Mean	n.a.	n.a.	1.20%	0.54%	1.01%	2.23%
	Median	n.a.	n.a.	0.81%	0.34%	0.60%	1.00%

Table 5-5: Costs Related to SEO on Selected Equity Markets
Source: Kaserer and Schiereck (2007)

The structure of costs related to an SEO is similar to that of costs related to an IPO; however, they tend to be significantly lower because the company is already listed on the public capital market and the launch of the newly issued shares onto the market does not involve such a complicated

process as an initial public offering. Table 5-5 contains a comparison of costs related to an SEO launch on selected equity markets between 1 January 1999 and 31 March 2007.

The table shows that underwriting fees constitute the most significant proportion of total costs. They are highest on U.S. markets, though a comparison with European markets does not show a difference as large as for IPO. Other direct costs are relatively (as compared to IPO) low. The median cost usually does not exceed 1 % of the issue volume.

Chemmanur and Jiao (2007) distinguish two indirect costs in the case of SEO: *SEO discount* and *SEO underpricing*.

Discount can be expressed as the difference between the market price of the shares at COB on the last day of their trading prior to the SEO launch, and the issue price of the shares at the SEO. Underpricing is defined as the difference between the issue price of the shares at SEO and the market price of the shares at COB on the first day of their trading after the SEO launch. Both values are usually expressed as a percentage of the issue price of the shares. Research conducted by Altinkilic and Hansen (2003) indicates that the average SEO discount in the 1990s was 3.2 % of the volume of the issue. Chemmanur, He and Hu (2005) show that the average SEO underpricing in the period 1999–2001 was 4 % of the volume of the issue.

CHAPTER 6. FEATURES OF IPOs

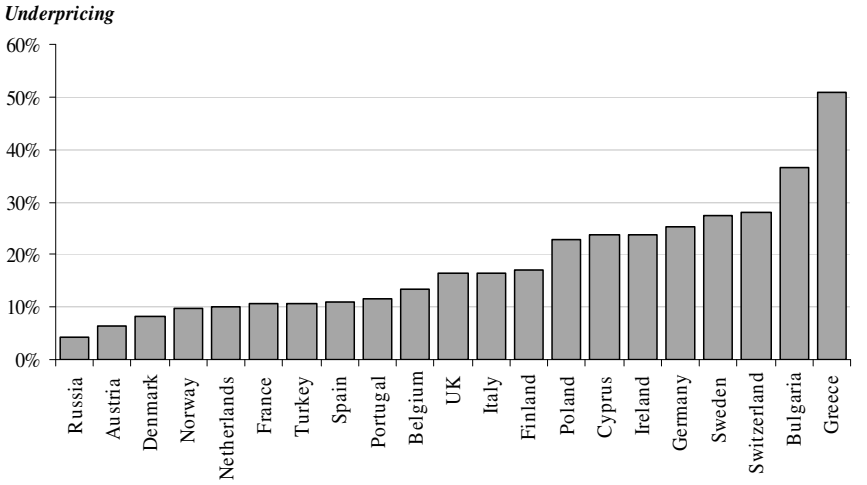
This chapter is devoted to an analysis of specific phenomena associated with initial public offerings on world markets. These anomalies include, first and foremost, ***underpricing*** (undervaluation of the issue price of shares) and long-term ***underperformance*** following the initial public offering.

6.1. Underpricing

As has already been mentioned in the previous chapter, ***most IPOs are associated with a positive difference between the share price created during the first day they are traded on the secondary market and their issue price***. The literature refers to such undervaluation of the issue price as underpricing.

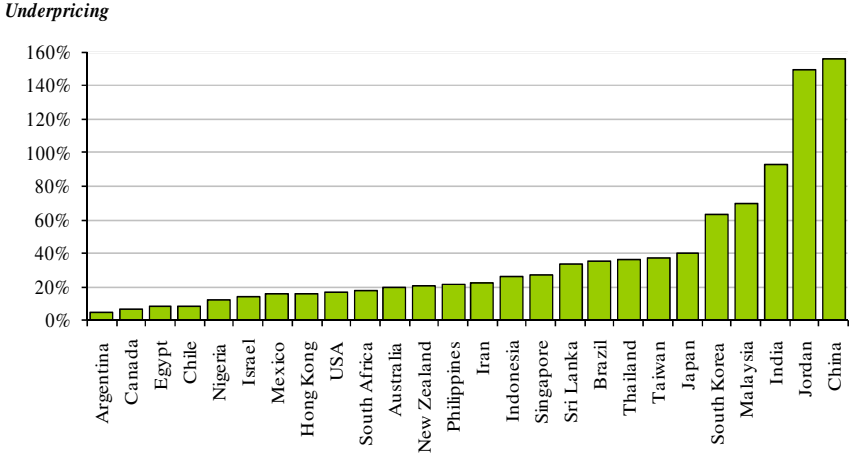
Underpricing is currently one of the most widely discussed topics pertaining to IPOs. Empirical studies show that the initial prices at which shares are traded on public secondary markets are approximately 10 to 15 % higher than those at which they are offered to the public initially. In the case of smaller companies with a shorter history, such differences may sometimes exceed 50 %. On emerging markets, e.g. Southeast Asia, Brazil, Greece and Portugal, underpricing may amount to as much as 80 % during times characterised by large numbers of IPOs (in particular during economic conjecture). On one hand, this fact stimulates investor demand for IPOs, as they are able to realise capital just a few days after the IPO launch.[1] On the other hand, underpricing represents an implied IPO cost because companies, or rather original shareholders (in the case of secondary share offerings), obtain fewer funds as a result.

[1] An alternative term is therefore often used for underpricing: initial return on IPO.



Graph 6-1: Average Underpricing Values in Selected European Countries
Source: Ritter (2011a)

According to Ritter (2011a), who compared underpricing in 47 countries around the world, this tends to be lowest in Russia (4.2 %) and Argentina (4.4 %). The countries with the highest average underpricing value appear to be Jordan (149.0 %) and China (156.1 %). Information on other countries is provided by Graphs 6-1 and 6-2.



Graph 6-2: Average Underpricing Values in Selected Countries Outside Europe
Source: Ritter (2011a)

Table 6-1 shows the average initial return on IPOs depending on issuers' sales in the last 12 months prior to IPO launches on U.S. markets in the period 1980–2010. The table shows that the higher the issuers' sales, the lower the underpricing of their shares at IPO usually tend to be.

Issuers' sales in USD mio	1980–1989		1990–1998		1999–2000		2001–2010	
	No. of IPOs	Average initial return on IPO	No. of IPOs	Average initial return on IPO	No. of IPOs	Average initial return on IPO	No. of IPOs	Average initial return on IPO
sales <10	424	10.4 %	744	17.4 %	334	68.8 %	149	5.5 %
10≤ sales <20	255	8.5 %	392	18.4 %	138	80.7 %	43	7.9 %
20≤ sales <50	495	7.7 %	792	18.7 %	154	75.7 %	143	13.5 %
50≤ sales <100	353	6.6 %	585	12.9 %	87	60.4 %	161	16.3 %
100≤ sales <200	238	4.8 %	451	11.9 %	58	39.1 %	144	14.4 %
200≤ sales	288	3.4 %	641	8.6 %	87	22.6 %	376	10.6 %
Total	**2,053**	**7.2 %**	**3,605**	**14.8 %**	**858**	**64.4 %**	**1,016**	**11.6 %**

Table 6-1: Average Initial Return on IPOs Depending on Issuers' Sales on U.S. Markets 1980–2010
Source: Ritter (2011b)

The impact of underpricing on issuers, or rather their shareholders, has been described in Chapter 5.1.2. The current theoretical approaches to the explanation of this phenomenon are described here. These are most often based on the existence of ***information asymmetry between individual entities involved in the IPO***, namely, information asymmetry between:

- issuers and investors,
- issuers and underwriters,
- various types of investors,
- other entities involved.

Theories of information asymmetry between issuers and investors are based on the assumption that prospective investors possess less information about the actual market value of the shares than the issuers themselves. The fact that it is impossible to assess the quality of the company launching the IPO leads to a situation in which investors are not willing to buy the shares

at market price, and demand underpricing as a reward for the risk they assume by buying the shares. One of the most notable theories based on this presumption is the ***theory of signalisation of the issuer's quality***. According to this theory, 'quality' issuers strive, by significant underpricing of their initial public offering of shares, to send a signal to investors that they in particular can afford such underpricing, thus enabling the initial investors to realise a capital gain from the sale of shares after only several days of their trading on the secondary market. The issuers are aware that investors will remember this and that they will recoup their cost in the form of higher underpricing when they decide to launch another public offering, i.e. an SEO. They presume that in a subsequent public offering of shares, they will obtain capital of significantly higher value than they would have had their shares not been underpriced in the initial offering. The issuers further presume that for 'low quality' businesses, it would be too costly to imitate 'quality' businesses by underpricing their issues as well.

The theory of signalisation of the issuer's quality has been elaborated into many other variants, though these cannot be deemed universally applicable due to their low empirical support. While it has been proven that around one third of issuers does obtain additional capital by means of a further public offering following their initial public offering, no statistically significant relationship has been proven to exist between the extent of underpricing of the initial offering and the extent of underpricing of subsequent offerings. There is currently no clear evidence supporting the presumption that investors act more favourably towards an SEO when the issuer has underpriced its IPOs more than other issuers. We also need to bear in mind the fact that, on an efficient capital market, investors try to evaluate a subsequent share offering based on the current standing and projected future development of the issuer, rather than a single signal from the past – undervaluation of the issue price.

Some authors, e.g. Grinblatt and Hwang (1989) and Bernheim (1991), have concluded through their research that there are other alternative signals sent out by issuers, such as the choice of a renowned lead manager, the choice of a prestigious auditor to audit financial accounts, or an undertaking to pay out dividends (which are not a tax-deductible cost in many countries and as such place a substantial burden on the company's cash-flow), which serve as a strong signal to the market of the adequate profitability of the issuer.

Theories based on information asymmetry between issuers and underwriters are based on the assumption that underwriters are better in-

formed about investor demand for new shares than issuers, which is why they set the issue price of the shares and their underpricing vis-à-vis the projected market price. The extent of share underpricing in this case is the outcome of a compromise between the likelihood of successful underwriting (increased by underpricing) and the fee requested by the underwriters (reduced by underpricing).

Theories based on information asymmetry between different types of investors presume that there are different categories of investors with different access to information. Less informed investors usually demand underpricing. The first of these theories is referred to as the 'winner's curse' and is represented by Kevin Rock (1986). According to this theory, there are two groups of investors:

- informed investors who are able to determine the real value of the issuer's shares, and therefore only invest in underpriced issues,
- uninformed investors who are not able to distinguish between underpriced and overpriced issues, and invest their funds in newly offered shares at random without a detailed examination of them.

In the case of ***the winner's curse,*** uninformed investors will acquire all the shares applied for in overpriced issues because informed investors are not interested. However, if an underpriced issue appears on the market, uninformed investors are interested in it alongside informed investors. In such case, demand for the issue usually significantly exceeds supply, whereby the allocation of shares to investors is significantly limited. As a result, all the investors, including uninformed ones, obtain fewer shares than they applied for. The resultant effect of this situation is usually a ***negative average projected return for uninformed investors***. The investor behaviour described above can be illustrated using the following example.

Example

Let us assume that two companies intend to enter the market by means of an initial public offering of shares. The issues of both companies are of the same size, e.g. 2,000 shares, and are offered at a pre-determined issue price. The first issue is underpriced by 15 %, the second overpriced by 15 %. Let us further assume that there are both informed investors who invest only in underpriced issues on the market and uninformed investors who invest in all issues from time to time. The investors' orders and the likelihood of their satisfaction in the individual issues are shown in Table 6-2.

IPO CHARACTERISTICS	UNDERPRICED ISSUE	OVERPRICED ISSUE
Underpricing / overpricing (%)	15	15
Volume of issue (no. of shares)	2,000	2,000
Demand on the part of informed investors (no. of shares)	1,000	0
Demand on the part of uninformed investors (no. of shares)	2,000	2,000
Total demand (no. of shares)	3,000	2,000
Likelihood of satisfaction of orders (%)	**66.66**	**100**

Table 6-2: Investor Behaviour in K. Rock's Model
Source: own processing based on Podškubka (2007)

The average expected return for uninformed investors will be negative after the first day of trading of the shares on the secondary market ($0.6666 \times 0.15 - 1 \times 0.15 = -0.05$), because shares from the overpriced issue will prevail in their portfolios. As a result, their projected return will not equal the average market return in spite of the fact that they try to invest in the market as a whole. Therefore, if issuers (or underwriters) wish to convince all groups of investors that they should purchase shares, they need to set an issue price lower than the market price of the shares, so as to compensate uninformed investors for losses arising from their lower level of information. Issuers use ***underpricing in this way to attract the interest of uninformed investors***.

Empirical studies aiming to verify the above theory in practice have arrived at the following conclusions:

- Institutional investors are generally better informed about the actual value of the shares on offer than retail investors, and therefore manage to invest in underpriced issues much more often than retail investors.
- The less information investors have concerning the actual value of the issuer, the greater underpricing they demand, and underpricing is a necessary condition to the successful underwriting of all the shares being offered.
- Reduction of the information asymmetry between the individual investor groups usually leads to lower underpricing, which ultimately has a positive effect on the costliness of the issue.
- The effect of the 'winner's curse' is particularly evident in the case of a share subscription at a pre-determined price.

Due to the existence of the information asymmetry between individual investors, less informed investors may make decisions based on choices made by other investors when selecting a suitable investment opportunity. This presumption gave rise to the ***theory of information cascade*** proposed by Ivo Welch (1992). This theory is based on the idea that ***individual inves-***

tors notice how interested other investors are in new issues, and base their selection of the companies to invest their funds in on this. If an investor discovers that other investors are not greatly interested in a particular issue, it may abort an intended purchase even though it may, for example, possess favourable information about the issuer. From this point of view, the role of initial investors is extremely important as they may initiate both a positive and a negative cascade effect. For the issuer, a potential lack of investor interest is understandably undesirable, and it will therefore use underpricing to try to convince a number of initial investors that the shares are a good buy in the expectation that other investors will become interested in the shares and sufficient demand for the shares will be created.

Another theory is based on the existence of ***information asymmetry between underwriters (lead managers) and institutional investors***. At present, the issue price of shares and their subsequent allocation is determined by means of *bookbuilding* in most countries. This process gives the lead manager relatively great discretion in the final allocation of shares to investors. At the beginning of the entire process of determination of the issue price of the shares, the lead manager determines the price spread, or rather the maximum issue price. Following the subsequent road show, the lead manager tries to obtain as much information as possible from investors concerning their estimate of the real share price. However, from the investor's perspective, it may not be advantageous to disclose its actual share price estimate, as such disclosure is likely to increase the issue price. Therefore, if the lead manager wants to learn what investors actual ideas concerning the issue are, it must grant them a certain compensation in return; this may be represented by the allocation of a larger block of shares in issues with a higher initial return. The empirical fact supporting the presumption that institutional investors do actually usually acquire greater shares in issues with a greater return has already been described in the context of the winner's curse.

Empirical studies verifying the validity of this theory have reached the conclusion that lead managers do not reflect information newly obtained from investors in the issue price in full. IPOs with issue prices set above the originally planned price spread brought a significantly higher average initial return than IPOs for which the issue price was determined below or within the planned price spread. The table below shows the average initial return on American IPOs depending on the determination of the issue price below, within or above the price spread in the period 1980–2001.

In addition to the above theories based on information asymmetry between the entities involved in the IPO, there are also ***other theories giving a possible explanation of the existence of underpricing***. Selected theories of this kind are briefly described below.

Brennan and Franks (1995) concluded that the managers of issuers used underpricing to create a ***strong overhang of demand for over offer of shares***. As a result, shares are better allocated to a higher number of retail investors, whereby the liquidity of shares in their subsequent trading on the secondary market is increased. However, this above all provides increased opportunities for the company's management, as retail investors are not so highly motivated to supervise the company's management.

Period	No. of IPOs	Average initial return on IPO	Average initial return on IPO			% IPO with initial return > 0		
			Price below price spread	*Price within price spread*	*Price above price spread*	*Price below price spread*	*Price within price spread*	*Price above price spread*
1980-1989	1,971	7.4 %	0.6 %	7.8 %	20.5 %	32 %	62 %	88 %
1990-1994	1,632	11.2 %	2.4 %	10.8 %	24.1 %	49 %	75 %	93 %
1995-1998	1,752	18.1 %	6.1 %	13.8 %	37.6 %	59 %	80 %	97 %
1999-2000	803	65.0 %	7.9 %	26.8 %	119.0 %	59 %	77 %	96 %
2001	80	14.0 %	7.2 %	12.5 %	31.4 %	70 %	83 %	92 %
1980-2001	**6,238**	**18.8 %**	**3.3 %**	**12.0 %**	**52.7 %**	**47 %**	**72 %**	**94 %**

Table 6-3: Average Initial Return on U.S. IPOs Depending on the Determination of the Issue Price below, within or above the Price Spread in the Period 1980–2001
Source: Ritter and Welch (2002)

A further possible explanation of share underpricing is the ***theory of protection against litigation***. As in the previous case, this theory deems the underpricing of shares deliberate. This is due to the legal systems of certain countries that usually stipulate stringent rules for the disclosure of information concerning companies launching IPOs. In practice, the idea is that company representatives should disclose all the relevant information to prospective investors, in particular through the issue prospectus. Should they fail to do so, they may be running the risk of future litigation initiated by investors. In this case, underpricing is a tool designed to ***prevent further litigation by investors on the grounds of a significant price drop*** poten-

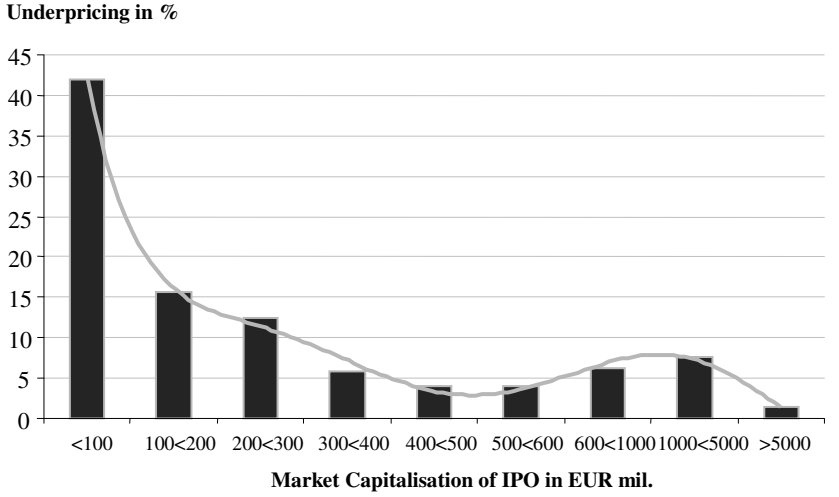
tially caused by the non-disclosure in the prospectus of certain significant facts. Although this explanation of the underpricing of shares is fairly convincing, empirical evidence gathered by Ljungqvist (2004) shows that the theory of protection against litigation can certainly not be deemed to be one of the main causes of short-term underpricing. This conclusion is further supported by Ritter (1998), who claims that countries in which the likelihood of litigation is low, such as Finland, Germany, Japan, Switzerland and Sweden, display a level of underpricing similar to the United States. An extremely stringent act on information disclosure and due diligence applies in the USA (*The Securities Act of 1933*). Therefore, if this theory was correct, underpricing in the USA should be much higher than underpricing in other countries.

One of the final theories is based on the presumption that ***underpricing is a tool used by underwriters to stimulate interest in the trading of new share issues on the secondary market***. They are motivated by subsequent profits from transaction fees.

The above shows that there are currently many theories striving to explain short-term underpricing of issue prices during IPOs. Many of these theories have been supported by empirical research; however, there is no comprehensive theory which would be able to explain the underpricing phenomenon, and in particular the level of it, in every country. The level of underpricing is presumably affected by several complementary factors, and under the conditions in force on the Czech capital market, where raising capital through IPOs is still not very common, ensuring sufficient demand on the part of both institutional and private investors will have to be a priority.

Graph 6-3 shows the dependence between the extent of share underpricing and market capitalisation of IPOs on the main European stock exchanges in 2007. The greatest underpricing was achieved in issues with low market capitalisation, i.e. issues under EUR 100 million. Underpricing decreases as market capitalisation increases. In accordance with the theoretical approaches described above, two basic explanations can be found for this fact. First and foremost, there is smaller information asymmetry between issuers and investors in larger companies, as compared to small companies doing business on specific markets. According to Paleari et al. (2008), the degree of information asymmetry depends directly on the size of the company, and it can be noted that ***share underpricing tends to be greater in smaller companies***. Smaller companies are also usually associ-

ated with a greater degree of business risk, and investors therefore demand greater underpricing.



Graph 6-3: The Relationship between the Market Capitalisation of IPOs and the Underpricing of Shares on Main European Stock Exchanges in 2007
Source: Paleari et al. (2008)

6.2. Long-term Underperformance Following the Initial Public Offering

In addition to share underpricing, the professional community around the world has also been studying the long-term return on shares following their initial public offering. According to Paleari et al. (2006), ***shares of companies following an IPO launch tend to achieve a lower return than shares in other peer group companies***. This period of lower return on shares usually lasts 3–5 years after the initial public offering. This fact was first demonstrated by Ritter (1991), and subsequently confirmed by several other international studies. A long-term lower return on shares in companies following an IPO launch is, therefore, yet another phenomenon associated with initial public offerings.

Ritter (2010) compares the return on shares in U.S. companies that have launched an IPO with the return on shares in peer group companies in the period 1970–2008. A sample of peer group companies includes either companies with the same market capitalisation as that achieved by issuers or

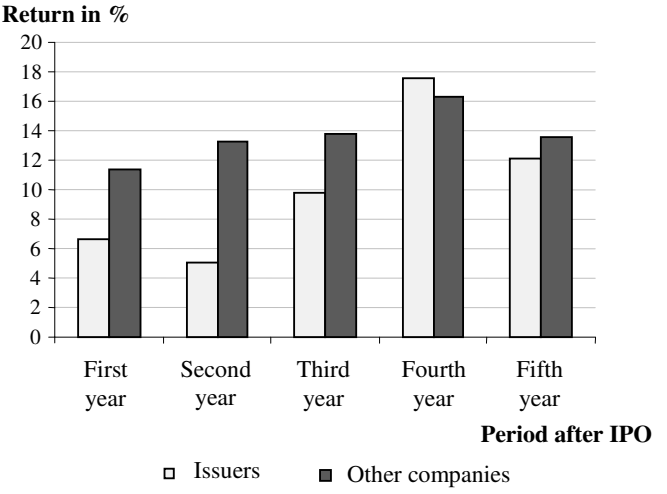
companies with the same market capitalisation and also the same proportion of book and market value. The results are given in Table 6-4, which shows that the level of return on issuers' shares in the five-year period following an IPO is indeed lower than the return on shares in peer group companies. It follows from the comparison between issuers and companies with the same market capitalisation that the return on issuers' shares is lower by an average of 3.5 percentage points per annum. If this comparison also includes companies with the same market capitalisation and also the same proportion of book and market value as the issuers, the return on issuers' shares is lower by an average of 2.2 percentage points per annum.

	First 6 months	Subsequent 6 months	Period after the IPO launch in years					Average over 5 years
			1	2	3	4	5	
Companies that launched IPOs	5.9 %	0.3 %	6.6 %	5.1 %	9.8 %	17.6 %	12.1 %	10.2 %
Companies with the same market capitalisation	5.2 %	5.6 %	11.4 %	13.3 %	13.8 %	16.3 %	13.6 %	13.7 %
Difference	**0.7 %**	**-5.3 %**	**-4.8 %**	**-8.2 %**	**-4.0 %**	**1.3 %**	**-1.5 %**	**-3.5 %**
Number of IPOs	8,252	8,225	8,252	8,364	7,591	6,687	5,815	–
Companies that launched IPOs	6.2 %	0.6 %	7.2 %	7.0 %	10.5 %	17.1 %	10.3 %	10.4 %
Companies with the same market capitalisation and proportion of book and market value	3.9 %	4.7 %	8.9 %	12.6 %	10.9 %	17.9 %	13.0 %	12.6 %
Difference	**2.3 %**	**-4.1 %**	**-1.7 %**	**-5.6 %**	**-0.4 %**	**-0.8 %**	**-2.7 %**	**-2.2 %**
Number of IPOs	7,986	7,946	7,988	7,895	7,105	6,190	5,365	–

Table 6-4: Return on Shares in U.S. Companies after IPO and Shares in Peer Group Companies in the Period 1970–2008
Source: Ritter (2010)

Table 6-4 further shows that the return on the shares of issuers in the first six months after the IPO launch is higher than the return on shares in companies included in the comparison. This phenomenon could perhaps be explained by the strategy of managers and lead managers who frequently

enter into lock-up agreements pursuant to which the original shareholders (most often the company's management) must not sell their interests in the company for a certain period of time following the IPO launch. Such lock-up agreements, which usually apply for a period of 180 days from the IPO launch, are designed to motivate the management of the company to continue to strive to increase the company's market value and also to ensure that the management does not use any information asymmetry to its own advantage, thereby sending a positive signal to investors.



Graph 6-4: Comparison of Annual Return on Issuers' Shares with that on Shares in Other Companies
Source: own processing based on Ritter (2010)

As shown in Graph 6-4, the difference between the return on shares in issuers and shares in other companies decreases over time. The biggest differences can usually be found during the first three years after the market launch of the issue. The return on shares in issuers can also be seen to decline most in the second year after the IPO launch, which could be interpreted as meaning that primarily those investors looking for a relatively quick profit are selling off their shares. This is probably the moment at which companies of a higher quality begin to become separated from companies of a lower quality, which in turn start leaving the market in subsequent years. Due to such separation of 'the wheat from the chaff' on the market, the average return on the shares of issuers in the fourth and fifth

years following IPO launches begins to approach that of peer group companies.

The table 6-5 shows the difference between the return on U.S. IPOs and the CRSP market index return[2], or rather the return achieved by companies comparable with issuers in the period 1980–2008.

Year	Number of IPOs	Average 1-day return	Average return after 3 years		
			Return on IPO	Difference between return on IPO and market index return (CRSP)	Difference between return on IPO and return in peer group companies
1980	73	13.9 %	87.3 %	33.8 %	39.2 %
1981	196	6.2 %	12.2 %	-27.0 %	6.7 %
1982	79	10.7 %	38.2 %	-31.3 %	-17.5 %
1983	449	10.0 %	16.1 %	-37.5 %	-3.8 %
1984	178	3.2 %	46.6 %	-32.1 %	22.0 %
1985	183	6.2 %	5.6 %	-41.3 %	-13.1 %
1986	395	6.1 %	17.6 %	-22.0 %	-0.7 %
1987	283	5.7 %	-2.2 %	-18.5 %	-10.5 %
1988	102	5.7 %	58.5 %	10.5 %	34.9 %
1989	113	8.2 %	49.6 %	14.9 %	13.3 %
1990	110	10.8 %	9.7 %	-36.0 %	-38.7 %
1991	287	11.9 %	31.1 %	-1.8 %	5.8 %
1992	412	10.3 %	37.4 %	-0.2 %	11.2 %
1993	508	12.8 %	44.5 %	-8.4 %	-9.2 %
1994	404	9.8 %	74.3 %	-9.6 %	-1.1 %
1995	458	21.2 %	28.4 %	-58.1 %	-25.8 %
1996	675	17.2 %	25.2 %	-56.9 %	6.6 %
1997	472	14.0 %	58.5 %	-1.7 %	21.6 %
1998	283	21.7 %	23.5 %	5.8 %	-4.9 %
1999	477	70.9 %	-46.5 %	-31.4 %	-59.9 %
2000	380	56.4 %	-60.1 %	-30.9 %	-57.1 %
2001	79	14.2 %	17.8 %	14.4 %	-28.1 %
2002	66	9.1 %	68.6 %	39.0 %	-0.4 %
2003	62	12.1 %	36.1 %	-6.0 %	-7.4 %
2004	174	12.3 %	50.9 %	6.4 %	-7.8 %
2005	160	10.2 %	14.2 %	2.6 %	-9.8 %
2006	157	12.1 %	-28.8 %	-11.2 %	-3.4 %
2007	160	13.9 %	-23.3 %	-4.3 %	2.3 %
2008	21	6.4 %	-14.3 %	-2.9 %	4.4 %

[2] Share index comprising companies listed on U.S. markets, Amex, Nasdaq and NYSE.

Continued table 6-5

Year	Number of IPOs	Average 1-day return	Average return after 3 years		
			Return on IPO	Difference between return on IPO and market index return (CRSP)	Difference between return on IPO and return in peer group companies
1980-1989	2,051	7.2 %	22.5 %	-22.7 %	2.1 %
1990-1994	1,721	11.2 %	45.7 %	-7.0 %	-1.7 %
1995-1998	1,888	18.0 %	34.1 %	-34.0 %	0.8 %
1999-2000	857	64.5 %	-52.6 %	-31.2 %	-58.7 %
2001-2008	879	12.0 %	12.2 %	2.7 %	-6.5 %
1980-2008	7,396	18.1 %	20.9 %	-20.0 %	-7.2 %

Table 6-5: The Difference between Return on U.S. IPOs and Market Index Return and Return Achieved by Peer Group Companies in the Period 1980–2008
Source: Ritter (2011b)

Ritter's research (2011b) shows that the lower return on shares over a period of three years is seen in particular for issuers with sales below USD 50 million prior to the IPO launch. As the table below shows, as company sales prior to IPO increase, the subsequent loss of return on shares decreases.

Issuers' sales in USD mio	Number of IPOs	Average 1-day return	Average return over 3 years		
			IPO	Difference between return on IPO and market index return (CRSP)	Difference between return on IPO and return in peer group companies[3]
sales <10	1,562	25.0 %	-11.6 %	-47.8 %	-29.4 %
10≤ sales <20	776	26.2 %	5.2 %	-36.5 %	-17.4 %
20≤ sales <50	1,555	20.8 %	21.7 %	-21.9 %	-3.4 %
50≤ sales <100	1,149	15.3 %	39.5 %	-3.3 %	5.0 %
100≤ sales <500	1,619	10.8 %	40.0 %	-2.7 %	6.7 %
500≤ sales	653	9.1 %	34.5 %	0.3 %	-3.7 %
sales <50	3,893	23.6 %	5.0 %	-35.2 %	-16.6 %
50≤ sales	3,421	12.0 %	38.8 %	-2.4 %	3.7 %
1980–2008	**7,314**	**18.1 %**	**20.8 %**	**-19.8 %**	**-7.1 %**

Table 6-6: Average Return on Issuers' Shares According to Sales Prior to IPO over a 3-Year Period
Source: Ritter (2011b)

[3] Companies with the same market capitalisation and proportion of book and market values as those of issuers.

The long-term lower return on shares in companies that have launched IPOs does not occur only in the USA, but can also be seen on other world markets. The table below shows the difference between the average 3-year return on investment in issuers' shares and shares in peer group companies on selected world markets. The relative return on investment in IPOs is calculated using the following formula:

$$RR = \left(\frac{1 + R_{IPO}}{1 + R_M} \right) \cdot 100 - 100, \quad (6\text{-}1)$$

where RR = relative return on investment in IPO in %,
R_{IPO} = average 3-year return on investment in shares in companies that have launched IPOs (given as an index),
R_M = average 3-year return on investment in shares in peer group companies (given as an index).

COUNTRY	NUMBER OF IPOS	PERIOD	RELATIVE RETURN
Australia	266	1976-1989	-46.5 %
Austria	57	1965-1993	-27.3 %
Brazil	62	1980-1990	-47.0 %
Canada	216	1972-1993	-17.9 %
Chile	28	1982-1990	-23.7 %
Finland	79	1984-1989	-21.1 %
Germany	145	1970-1990	-12.1 %
Japan	172	1971-1990	-27.0 %
Sweden	162	1980-1990	+1.2 %
Great Britain	712	1980-1988	-8.1 %
USA	4,753	1970-1990	-20.0 %

Table 6-7: Relative Return on Investment in IPOs on Selected World Markets
Source: Ritter (1998)

Using the data in Table 6-7, the relative return on investment in IPOs can be interpreted as a situation in which the investor, having invested its funds in shares in companies that have launched IPOs in, for example, Germany, would own a portfolio valued at 12.1 % less than in the case of investment in shares in other peer group companies.

The above shows that, following IPO launches, shares in most companies do indeed achieve a lower return than shares in peer group companies. There are several explanations for this phenomenon. According to Khur-

shed, Paleari and Vismara (2005), the main explanations appear to be the following:

- market timing theory,
- window dressing (earning management) theory,
- theory of information asymmetry among investors.

The ***market timing theory*** is based on the assumption that ***companies do not enter the capital market at a time at which they have a high growth potential and need to obtain additional funding, but rather when the company's current shareholders deem such entry appropriate***. According to Loughran and Ritter (1995), shareholders strive to enter the capital market when a company has very good financial results, its performance is at its peak and the respective industry is at the peak of its growth phase. They therefore expect that investors will view the actual value of the issuer favourably.

Companies further try to issue shares at times at which there is increased demand and shares are overpriced. This presumption gave rise to the hypothesis that issues launched at times characterised by high numbers of IPOs see lower long-term returns than issues launched at times characterised by low numbers of IPOs. This hypothesis has been confirmed by several empirical studies.

The ***window dressing (earning management) theory*** is based on the assumption that before companies launch IPOs, they attempt, using bookkeeping means, ***'to fix' their accounts so that they can report a performance better*** than their actual performance. Such action leads to the overpricing of share prices. After the IPO launch, it will be impossible for the surveyed companies to achieve the results expected by investors in the long run, and share prices will start dropping. As issuing companies in most developed countries are obliged to compile their financial accounts in accordance with IFRS and to have them audited, this theory cannot currently be viewed as the main cause of the lower return on issuing companies.

The most recent theory striving to explain long-term post-issue underperformance is based on the assumption of the existence of an ***information asymmetry***. Investors have different expectations with respect to the issuer's real value. The issue will be overpriced if there are enough optimistic investors on the market. But some time after the issue date, and with the emergence of new information that helps alleviate the information asymmetry, the pessimistic and optimistic opinions of investors will converge, resulting in a decrease in the shares' price.

The table below records the performance of companies that entered the main European stock exchanges[4] by means of IPO in the period 1996–2007. Accounting data for periods of three years prior to and three years after the IPO launch was compared for each issuer. The IPO is launched by the company at the moment indicated as zero. The data provided in the table represents the median values of the issuers' individual performance indicators.

Table 6-8 and the following graph show that ***the development of sales of issuers exhibits continuous growth in the period under observation***. In companies launching IPOs on any of the given markets, sales increased by around EUR 30 million after three years of the IPO launch, with the exception of issuers conducting IPOs on the AIM market in London. Companies entering this market were mainly small in size. Their median sales prior to the IPO launch were around EUR 5 million, though 3 years after their entry onto the stock exchange, this value increased significantly to around EUR 11 million.

STOCK EXCHANGE	NUMBER OF IPOS	PERIOD PRIOR TO AND AFTER THE IPO LAUNCH IN YEARS						
		-3	**-2**	**-1**	**0**	**+1**	**+2**	**+3**
		Sales (in EUR mio)						
LSE - Official List	385	26.5	29.5	34.4	42.3	54.2	67.9	85.5
LSE - AIM	1,578	3.7	4.3	4.9	5.3	6.3	9.0	11.0
Euronext	905	12.2	12.9	16.0	25.5	33.3	43.8	53.1
Deutsche Börse	564	12.4	14.1	18.3	30.5	45.8	57.8	62.6
Borsa Italiana	204	65.1	82.4	104.5	129.9	138.7	152.2	157.0
		Net profit ('000 EUR)						
LSE - Official List	385	632	842	1,062	2,013	2,642	3,200	3,633
LSE - AIM	1,578	-31	0	-2	-112	-500	-458	-457
Euronext	905	280	417	628	1,110	1,229	987	813
Deutsche Börse	564	228	256	506	402	-962	-2,698	-1,509
Borsa Italiana	204	1,523	2,890	3,551	5,302	5,184	3,641	3,434

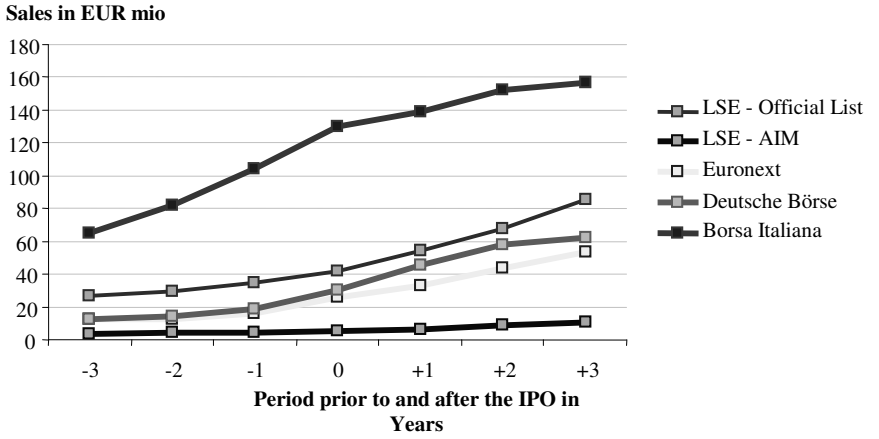
[4] London Stock Exchange, Euronext, Deutsche Börse and Borsa Italiana.

Continued table 6-8

STOCK EXCHANGE	NUMBER OF IPOS	PERIOD PRIOR TO AND AFTER THE IPO LAUNCH IN YEARS						
		-3	-2	-1	0	+1	+2	+3
		ROE (%)						
LSE - Official List	385	16.4	20.6	15.1	9.7	9.9	9.9	8.9
LSE - AIM	1,578	17.0	18.3	14.8	2.3	-6.0	-3.3	-2.9
Euronext	905	14.9	17.4	19.0	13.8	12.1	9.7	8.0
Deutsche Börse	564	16.0	23.9	16.2	2.3	-3.0	-9.5	-3.9
Borsa Italiana	204	8.2	12.0	13.4	7.6	7.2	5.7	4.8
		ROI (%)						
LSE - Official List	385	4.0	6.1	5.3	5.0	5.7	4.4	3.6
LSE - AIM	1,578	-2.4	-0.6	-0.9	-2.6	-7.3	-5.8	-4.0
Euronext	905	3.7	4.4	5.2	5.4	4.3	3.1	2.3
Deutsche Börse	564	2.6	3.3	3.4	1.3	-1.8	-6.5	-3.8
Borsa Italiana	204	2.0	2.9	3.7	3.2	2.7	2.0	1.5
		Debt capital/Equity (%)						
LSE - Official List	385	22.1	32.6	19.4	28.2	28.1	36.2	28.3
LSE - AIM	1,578	20.0	17.7	24.0	14.6	21.5	27.3	14.4
Euronext	905	51.1	61.6	58.1	38.2	52.9	59.2	59.9
Deutsche Börse	564	91.9	65.4	64.3	13.9	15.8	30.5	34.2
Borsa Italiana	204	53.8	55.3	49.3	17.4	23.0	32.3	36.8

Table 6-8: Performance of Companies Joining the Main European Stock Exchanges in the Period 1996–2007

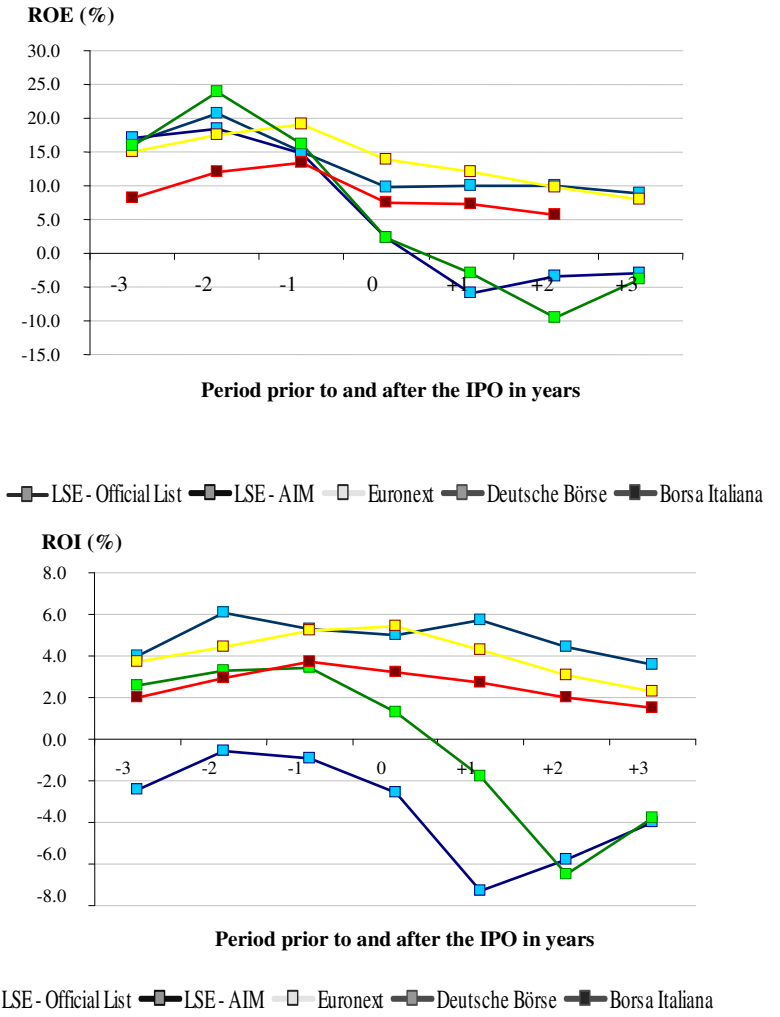
Source: Paleari et al. (2008)



Graph 6-5: Sales Developments at Issuing Companies

Source: own processing based on Paleari et al. (2008)

With the exception of issuers listed on the main market of the London Stock Exchange, the ***net profits*** of all companies dropped in the period after an IPO launch. ***Profitability indicators*** (ROE and ROI) decreased significantly on all the markets studied in the first three years after an IPO launch. This development therefore supports the above theory of a long-term lower return on shares in issuing companies.



Graph 6-6: Development of ROE and ROI Indicators at Issuing Companies
Source: own processing based on Paleari et al. (2008)

6.3. The Relevance of the Market Timing Theory under the Conditions in Force on the Czech Capital Market

In this section, the authors consider the relevance of the market timing theory, which explains the long-term post-issue underperformance of issuers under the conditions in force on the Czech capital market, and compare the data collected with the performance of companies that chose the main European stock exchanges when deciding to implement the strategy of going public.

6.3.1. Material and Methods

Hult et al. (2008) analysed 96 papers reporting the results of performance measurements in firms operating internationally. These papers were published between 1995 and 2005 in international academic journals (Academy of Management Journal, Administrative Science Quarterly, Journal of Marketing, Journal of Marketing Research, Journal of International Business Studies, Management Science, Organization Science, and Strategic Management Journal). An analysis of the results given in Table 6-9 shows that the most frequently used indicators of financial performance within a company are sales-based and return-based performance indicators.
Paleari et al. (2008) measure the financial performance of companies that entered selected European stock exchange markets (London Stock Exchange, Euronext, Deutsche Börse and Borsa Italiana) through an initial public offering in the period 1996–2007 on the basis of the development of the following four indices in a period three years prior to the IPO, three years after the IPO and in the year of the IPO:

- sales volume,
- net profit volume,
- return on equity,
- return on investment.

	Financial performance		**Operational performance**		**Overall effectiveness performance**	
	Performance indicator	Relative frequency of use	Performance indicator	Relative frequency of use	Performance indicator	Relative frequency of use
Company	Sales-based (sales volume, foreign sales/total sales, sales growth)	44 %	Market share	47 %	Reputation	30 %
	Return on assets	40 %				
Strategic business unit	Sales-based	68 %	Market share	46 %	Performance relative to competitors	50 %
	Return on investment	47 %			Perceived overall performance	33 %
Inter-organisation unit	Sales-based	62 %	Productivity	44 %	Perceived overall performance	71 %
	Profitability	31 %	Market share	33 %		
Total	Sales-based	52 %	Market share	44 %	Perceived overall performance	47 %
	Return on assets	29 %	Productivity	20 %	Performance relative to competitors	20 %
	Profitability	26 %				

Table 6-9: Commonly Used Indicators by Performance Type
Source: Hult et al. (2008)

In reference to the above studies, financial performance assessments of companies implementing IPOs on the Czech capital market were performed using the performance indicators shown in Table 6-10. When selecting these indicators, it was necessary to take into account the character of the input data, their availability, and the possibility of comparing them to the results achieved by companies on the main European stock exchange markets.

Financial Performance Indicators	Definition of the Indicator
Change in sales compared to the base year in %	(6-2) $\frac{Sales_{t=n}}{Sales_{t=0}} \times 100$ Sales = Revenues of goods sold + Revenues of products and services sold
Change in Net Profit compared to the base year in %	(6-3) $\frac{Net\ \mathrm{Pr}ofit_{t=n}}{Net\ \mathrm{Pr}ofit_{t=0}} \times 100$
Return on Assets (ROA) in %	(6-4) $\frac{EBIT}{Assets} \times 100$ EBIT = Earnings before Taxes + Interest
Return on Equity (ROE) in %	(6-5) $\frac{EAT}{Equity} \times 100$ EAT = Earnings before Taxes
Change in Basic Earnings per Share compared to the base year (EPS) in %	(6-6) $\frac{Earning\ per\ Share_{t=n}}{Earning\ per\ Share_{t=0}} \times 100$ EPS = Result for the period attributable to the group and to ordinary shareholders / Weighted average number of ordinary shares
Change in Labour Productivity compared to the base year in %	(6-7) $\frac{Labour\ \mathrm{Pr}oductivity_{t=n}}{Labour\ \mathrm{Pr}oductivity_{t=0}} \times 100$ Labour Productivity = Sales / Weighted average number of employees
Change in Weighted Average Number of Employees compared to the base year in %	(6-8) $\frac{Weighted\ Average\ Number\ of\ \ Employees_{t=n}}{Weighted\ Average\ Number\ of\ \ Employees_{t=0}} \times 100$

Table 6-10: Financial Performance Indicators
Source: Marek (2009) and Synek (2000)

The development of absolute financial performance indicators (sales, earning after taxes, earnings per share, labour productivity, weighted average number of employees) is evaluated using horizontal analysis. Change is expressed by the base index. The base year is the year of IPO implementation (*t=0*). Absolute values of indicators in the IPO implementation year are expressed as 100 %, absolute values for the period of three years prior to and three years after IPO implementation (t=-3, -2, -1, 1, 2, 3) are then expressed as a proportion of the values of these indicators in the base year.

The values of the indicators given in Table 6-10 for a specific company in a respective year (t = -3, -2, -1, 0, 1, 2, 3) were also used to calculate the ***characteristic value for the entire period of investigation***. Methods of descriptive statistics were used for this purpose, i.e. the arithmetic mean, median, standard deviation and 'risk adjustment', which takes into account the magnitude of fluctuation of annual values of individual performance indicators over the seven-year period. Šiška and Lízalová (2011) recommend that risk projection be performed by the following modification of the indicator's arithmetic mean (1):

$$Adj\_Indicator = \frac{Avg\_Value}{\sigma + 1} \quad (6\text{-}9),$$

where
σ - standard deviation of the indicator's values over the period t = -3, -2, -1, 0, 1, 2, 3;
Avg - arithmetic mean of the indicator's values over the period t = -3, -2, -1, 0, 1, 2, 3.

If the indicator's values in all the years of investigation are identical, then the fluctuation rate expressed by the standard deviation will be zero and the *Adj_Indicator* will equal the arithmetic mean of the values. If, however, an indicator's values show significant year-to-year fluctuations over the period of investigation, then the standard deviation in the denominator will increase the nominator's value, and the *Adj_Indicator* will attain correspondingly lower values than the arithmetic mean (Šiška and Lízalová, 2011).

Using the indicators selected, financial performance is analysed for a group of six companies that have implemented an IPO strategy within the modern history of the Czech capital market (Table 6-11). These six shareholding corporations and Fortuna Entertainment Group N.V. represent our basic set of issuers. Essentially complete and comparable accounting data published in annual reports and/or in issuers' prospectuses are available for all of these companies with the exception of the company Fortuna (which issued its shares in 2010), and their respective financial performance can therefore be subjected to the appropriate analysis. If a currency other than the Czech currency was used in financial statements, the Czech National

Bank exchange rate of 31 December of the corresponding year was used to convert the values of individual indicators.

COMPANY	DATE OF IPO
Zentiva N.V.	28 June 2004
ECM Real Estate Investment AG	7 Dec. 2006
Pegas Nonwovens SA	18 Dec. 2006
AAA Auto Group N.V.	24 Sept. 2007
VGP N.V.	7 Dec. 2007
New World Resources N.V.	6 May 2008
Fortuna Entertainment Group N.V.	22 Oct. 2010

Table 6-11: Sample of IPOs on the Czech Capital Market, 2004–2011
Source: Prague Stock Exchange (August 2011)

A comparison is made in the text below between the performance of companies that implemented an IPO strategy on the Czech capital market and the results of companies that entered the main European stock exchanges between 1996 and 2007. Any interpretation of the results of the comparative analysis must make provision for the fact that time series data from European markets are available only until 2007 and do not, therefore, reflect the impact of the economic crisis on the issuers' performance. The data used for financial performance assessment of issuers on the Prague Stock Exchange (PSE), on the other hand, also included data affected by the impact of the economic crisis.

Comparison was made using methods of descriptive statistics (arithmetic mean, median). Microsoft Excel software was used for data processing.

6.3.2. Results

6.3.2.1. Sales

It follows from Tables 6-12 and 6-13 that pre-IPO sales in almost all of the companies monitored were increasing, though at different rates. Post-IPO development was a different matter. In some companies, sales showed a significant increase compared to the previous year's figures (ECM, VGP, Zentiva), while in other companies sales showed a slight decrease (PEGAS) or even a marked slump (AAA, NWR). Low values of adjusted arithmetic means suggest major fluctuations of sale levels in all of the companies.

Looking at the course of sales reported by the monitored companies as a whole on the basis of the mean and median values, we note a significant

increase in sales in the pre-IPO period and a subsequent significant decrease in the post-IPO period.

Company	Sales (Millions of CZK)									
	-3	**-2**	**-1**	**0**	**1**	**2**	**3**	***Mean***	***σ***	***Adj_Indicator***
ZENTIVA	5,857	5,940	7,571	**10,674**	11,839	14,003	16,670	10,365	3,835	2.70
ECM	153	157	63	**233**	559	1,020	1,050	462	390	1.18
PEGAS	2,191	2,228	3,176	**3,382**	3,242	3,757	3,259	3,033	550	5.51
AAA	6,879	7,827	9,742	**9,478**	7,735	4,442	5,137	7,320	1,859	3.94
VGP	17	62	72	**182**	321	586	729	281	258	1.08
NWR	37,707	34,529	36,337	**53,712**	29,485	39,845	.	38,603	7,478	5.16
Mean	8,801	8,457	9,493	**12,943**	8,863	10,609	5,369	×	×	×
Median	4,024	4,084	5,373	**6,430**	5,488	4,099	3,259	×	×	×

Table 6-12: Sales of Issuer Companies[5]
Source: own processing

Company	**-3**	**-2**	**-1**	**0**	**1**	**2**	**3**
ZENTIVA	55 %	56 %	71 %	**100 %**	111 %	131 %	156 %
ECM	66 %	67 %	27 %	**100 %**	239 %	437 %	450 %
PEGAS	65 %	66 %	94 %	**100 %**	96 %	111 %	96 %
AAA	73 %	83 %	103 %	**100 %**	82 %	47 %	54 %
VGP	9 %	34 %	40 %	**100 %**	177 %	323 %	401 %
NWR	70 %	64 %	68 %	**100 %**	55 %	74 %	.
Mean	68 %	65 %	73 %	**100 %**	68 %	82 %	41 %
Median	63 %	64 %	84 %	**100 %**	85 %	64 %	51 %

Table 6-13: Horizontal Analysis of Issuer Companies' Sales (IPO implementation year = 100 %)
Source: own processing

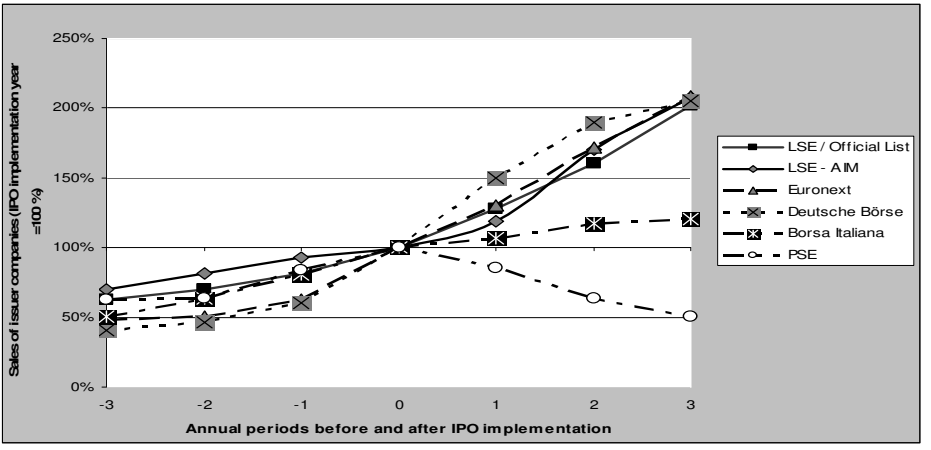
It follows from Table 6-14 and Graph 6-7 that sales of issuers on major European stock exchanges showed continuous growth over the monitored period. The companies that used one of these markets for the initial public offering of their stock doubled their sales within three years of IPO implementation. Issuers who chose Borsa Italiana to go public were an exception. Their sales median three years after the IPO was around 121 % of the base year level. Compared with developments on the main European stock exchanges, the situation on the Prague Stock Exchange seems the least fa-

[5] Note: the symbol **×** means that it would be illogical to complete the given field in the table; the symbol **.** means that the data is either unknown or unavailable.

vourable. The median of issuers' sales on the PSE market was less than 51 % of the base year level three years after the IPO. At this point it is necessary to emphasise the previously mentioned marked differences between individual companies in the development of this performance indicator.

Stock exchange	Annual periods before and after IPO implementation							No. of firms
	-3	-2	-1	0	1	2	3	
LSE/Official List	63 %	70 %	81 %	**100 %**	128 %	161 %	202 %	385
LSE - AIM	70 %	81 %	92 %	**100 %**	119 %	170 %	208 %	1,578
Euronext	48 %	51 %	63 %	**100 %**	131 %	172 %	208 %	905
Deutsche Börse	41 %	46 %	60 %	**100 %**	150 %	190 %	205 %	564
Borsa Italiana	50 %	63 %	80 %	**100 %**	107 %	117 %	121 %	204
PSE	63 %	64 %	84 %	**100 %**	85 %	64 %	51 %	6

Table 6-14: Comparison of Sales Medians of Firms that Entered the Main European Stock Exchanges and the Prague Stock Exchange (IPO base year = 100 %)
Source: Paleari et al. (2008) and own processing



Graph 6-7: Sales of Issuer Companies (IPO implementation year = 100 %)
Source: own processing based on Paleari et al. (2008)

6.3.2.2. Net Profit or Loss

It follows from Tables 6-15 and 6-16 that pre-IPO net profit (defined as EAT) increased significantly in the majority of the monitored companies. In the year of IPO implementation, however, these companies began to become differentiated with respect to the results of their economic performance. One group were companies in which a marked increase in net

profit was observed compared with the previous period (Zentiva, VGP, NWR), while the other group was made up of companies that reported a slight decrease (ECM and Pegas) or even a profound loss (AAA). In the second and third years after IPO, all the monitored companies reported a major drop in profit compared with the base year or experienced an operating loss (with the exception of AAA, which showed a profit for the first time two years after IPO). Low or, in some cases, negative values of the adjusted arithmetic mean suggest, as in the case of sales above, major fluctuations of the values of the monitored indicator in all of the companies. The mean and the median values of EAT of the companies monitored reached their maxima a year after IPO implementation, which underscores the sizeable increases in net profit in the pre-IPO period and its decline in the post-IPO period.

Company	**EAT (CZK Million)**									
	-3	**-2**	**-1**	**0**	**1**	**2**	**3**	***Mean***	***σ***	***Adj_Indicator***
ZENTIVA	440	607	904	**1,680**	1,929	2,289	1,456	1,329	645	2.06
ECM	-181	109	601	**530**	679	-2,424	-1,645	-333	1,131	-0.29
PEGAS	553	551	773	**579**	588	392	549	569	103	5.47
AAA	44	69	198	**-127**	-853	41	128	-71	332	-0.21
VGP	13	501	384	**968**	752	31	662	473	333	1.42
NWR	2,494	2,919	5,223	**9,253**	-1,626	5,847	.	4,018	3,356	1.20
Mean	561	793	1,347	**2,147**	245	1,029	230	×	×	×
Median	242	526	687	**774**	634	217	549	×	×	×

Table 6-15: EAT Development
Source: own processing

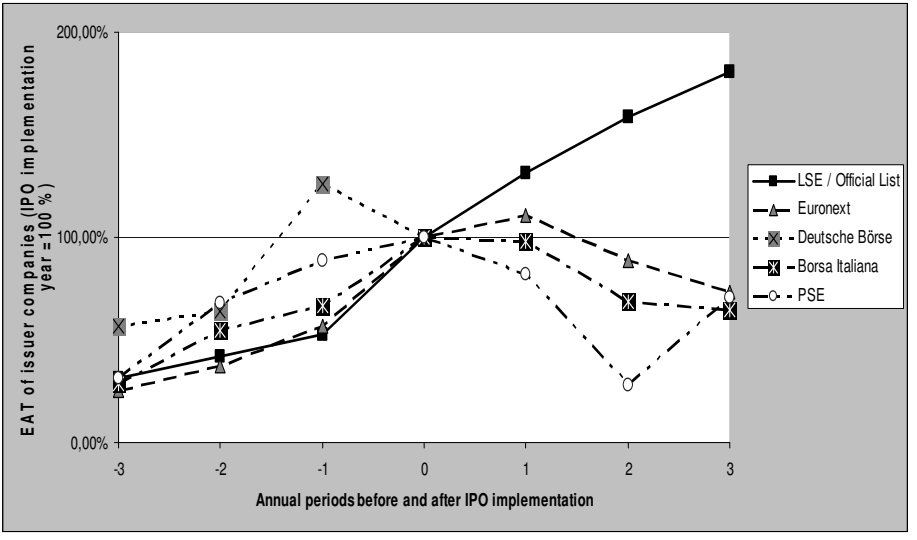
Company	**-3**	**-2**	**-1**	**0**	**1**	**2**	**3**
ZENTIVA	26.19 %	36.13 %	53.81 %	**100.00 %**	114.82 %	136.25 %	86.67 %
ECM	loss	20.49 %	113.34 %	**100.00 %**	128.21 %	loss	loss
PEGAS	95.44 %	95.26 %	133.46 %	**100.00 %**	101.64 %	67.68 %	94.86 %
AAA	×	×	×	**loss**	×	×	×
VGP	1.29 %	51.75 %	39.70 %	**100.00 %**	77.63 %	3.21 %	68.33 %
NWR	26.96 %	31.55 %	56.44 %	**100.00 %**	×	63.19 %	.
Average	26.10 %	36.91 %	62.73 %	**100.00 %**	11.41 %	47.94 %	10.71 %
Median	31.31 %	68.03 %	88.76 %	**100.00 %**	81.95 %	27.99 %	70.99 %

Table 6-16: Horizontal Analysis of Issuer Companies' EAT (IPO implementation year = 100 %)
Source: own processing

With the exception of issuers listed on the main market of the London Stock Exchange, issuer companies listed on most of the stock exchange markets analysed (Euronext, Borsa Italiana, PSE) suffered a decrease in net profits after IPO implementation. Companies listed on the Deutsche Börse reported an operating loss compared with the pre-IPO period, while companies listed on LSE-AIM recorded a loss throughout the monitoring period.

Stock exchange	Annual periods before and after IPO implementation							No. of firms
	-3	-2	-1	0	1	2	3	
LSE/Official List	31.40 %	41.83 %	52.76 %	**100.00 %**	131.25 %	158.97 %	180.48 %	385
LSE - AIM	×	×	×	×	×	×	×	1,578
Euronext	25.23 %	37.57 %	56.58 %	**100.00 %**	110.72 %	88.92 %	73.24 %	905
Deutsche Börse	56.72 %	63.68 %	125.87 %	**100.00 %**	×	×	×	564
Borsa Italiana	28.73 %	54.51 %	66.97 %	**100.00 %**	97.77 %	68.67 %	64.77 %	204
PSE	31.31 %	68.03 %	88.76 %	**100.00 %**	81.95 %	27.99 %	70.99 %	6

Table 6-17: Comparison of EAT Medians of Firms that Entered the Main European Stock Exchanges and the Prague Stock Exchange (IPO base year = 100 %)
Source: Paleari et al. (2008) and own processing



Graph 6-8: EAT of Issuer Companies (IPO implementation year = 100 %)
Source: Paleari et al. (2008) and own processing

6.3.2.3. ROE and ROI

If we assess developments in each of the monitored companies individually on the basis of their ROE and ROI, we see that the profitability of Zentiva, Pegas, VGP and NWR two and/or three years after IPO was at a lower level than the values reported for the IPO base year, while the company AAA had managed to restore its profitability and ECM operated at a significant loss.

The return on equity (ROE) and return on investment (ROI) of the companies as a whole measured on the basis of the mean and median values show an upward trend in the pre-IPO period and a subsequent significant fall (mean) or slight decrease (median) in the post-IPO period.

Company	**ROE**									
	-3	**-2**	**-1**	**0**	**1**	**2**	**3**	***Mean***	***σ***	***Adj_Indicator***
ZENTIVA	53 %	42 %	38 %	**24 %**	20 %	19 %	12 %	30 %	14 %	26 %
ECM	-31 %	15 %	44 %	**16 %**	17 %	-97 %	-206 %	-34 %	82 %	-19 %
PEGAS	25 %	20 %	21 %	**27 %**	24 %	15 %	18 %	21 %	4 %	21 %
AAA	60 %	41 %	40 %	**-11 %**	-367 %	20 %	34 %	-26 %	141 %	-11 %
VGP	18 %	88 %	32 %	**28 %**	18 %	1 %	15 %	29 %	26 %	23 %
NWR	6 %	8 %	52 %	**54 %**	-11 %	29 %	.	23 %	24 %	19 %
Mean	22 %	36 %	38 %	**23 %**	-50 %	-2 %	-25 %	×	×	×
Median	21 %	30 %	39 %	**25 %**	18 %	17 %	15 %	×	×	×

Company	**ROI**									
	-3	**-2**	**-1**	**0**	**1**	**2**	**3**	***Mean***	***σ***	***Adj_Indicator***
ZENTIVA	33 %	28 %	21 %	28 %	14 %	18 %	6 %	21 %	9 %	19 %
ECM	-4 %	11 %	23 %	9 %	7 %	-18 %	-28 %	0 %	17 %	0 %
PEGAS	20 %	17 %	20 %	12 %	10 %	9 %	10 %	14 %	5 %	13 %
AAA	8 %	10 %	13 %	5 %	-3 %	8 %	10 %	7 %	5 %	7 %
VGP	8 %	29 %	18 %	16 %	11 %	3 %	10 %	13 %	8 %	12 %
NWR	7 %	7 %	17 %	29 %	-8 %	18 %	.	12 %	11 %	11 %
Mean	12 %	17 %	19 %	16 %	5 %	6 %	2 %	×	×	×
Median	8 %	14 %	19 %	14 %	8 %	9 %	10 %	×	×	×

Table 6-18: ROE and ROI Development
Source: own processing

All profitability indices on all of the markets monitored showed a downward trend in the three-year post-IPO period. In this respect, we

must underline the significantly higher profit rates of companies listed on the PSE in comparison with those achieved on the rest of the markets analysed. Companies listed on LSE-AIM and Deutsche Börse operated at a loss in the post-IPO period and their return rates are therefore negative.

Stock exchange	ROE							No. of firms
	-3	-2	-1	0	1	2	3	
LSE/Official List	16 %	21 %	15 %	**10 %**	10 %	10 %	9 %	385
LSE - AIM	17 %	18 %	15 %	**2 %**	-6 %	-3 %	-3 %	1,578
Euronext	15 %	17 %	19 %	**14 %**	12 %	10 %	8 %	905
Deutsche Börse	16 %	24 %	16 %	**2 %**	-3 %	-10 %	-4 %	564
Borsa Italiana	8 %	12 %	13 %	**8 %**	7 %	6 %	5 %	204
PSE	21 %	30 %	39 %	**25 %**	18 %	17 %	15 %	6
Stock exchange	**ROI**							**No. of firms**
	-3	**-2**	**-1**	**0**	**1**	**2**	**3**	
LSE/Official List	4 %	6 %	5 %	**5 %**	6 %	4 %	4 %	385
LSE - AIM	-2 %	-1 %	-1 %	**-3 %**	-7 %	-6 %	-4 %	1,578
Euronext	4 %	4 %	5 %	**5 %**	4 %	3 %	2 %	905
Deutsche Börse	3 %	3 %	3 %	**1 %**	-2 %	-7 %	-4 %	564
Borsa Italiana	2 %	3 %	4 %	**3 %**	3 %	2 %	2 %	204
PSE	8 %	14 %	19 %	**14 %**	8 %	9 %	10 %	6

Table 6-19: Comparison of ROE and ROI Medians of Firms that Entered the Main European Stock Exchanges and the Prague Stock Exchange (IPO base year = 100 %)
Source: Paleari et al. (2008) and own processing

6.3.2.4. Other Performance Indicators

The following are other (complementary) indicators chosen for the performance evaluation of companies implementing IPOs on the PSE:
- the weighted average number of employees,
- labour productivity, and
- earnings per share (EPS).

No comparison between changes in these indicators and results attained on the major European stock exchanges was possible as a result of data unavailability. Their values will nonetheless help complement the results on the performance trends of issuers under Czech capital market conditions already collected.

It follows from the data on the ***weighted average number of employees*** that the number of employees increased in the post-IPO period in most of

the companies monitored. Significant increases compared with the IPO implementation year were observed at Zentiva, ECM and Pegas. In contrast, a marked decrease in the number of employees compared with the IPO implementation year (to about one third of the original number) occurred at AAA, while NWR reduced its staff by 13 %. The means and median values of the indicator for the market as a whole are significantly influenced by the high weighting of the latter companies.

Company	**-3**	**-2**	**-1**	**0**	**1**	**2**	**3**
ZENTIVA	.	48 %	67 %	**100 %**	118 %	162 %	210 %
ECM	37 %	34 %	36 %	**100 %**	209 %	280 %	202 %
PEGAS	91 %	95 %	102 %	**100 %**	117 %	117 %	117 %
AAA	46 %	53 %	75 %	**100 %**	38 %	29 %	33 %
VGP	38 %	38 %	50 %	**100 %**	.	.	.
NWR	120 %	114 %	105 %	**100 %**	92 %	87 %	.
Mean	112 %	96 %	95 %	**100 %**	34 %	7 %	49 %
Median	19 %	53 %	70 %	**100 %**	57 %	49 %	52 %

Table 6-20: Horizontal Analysis of the Weighted Average Number of Employees (IPO implementation year = 100 %)
Source: own processing

Company	**-3**	**-2**	**-1**	**0**	**1**	**2**	**3**
ZENTIVA	.	115 %	106 %	**100 %**	94 %	81 %	74 %
ECM	175 %	195 %	74 %	**100 %**	114 %	156 %	222 %
PEGAS	71 %	69 %	92 %	**100 %**	82 %	95 %	82 %
AAA	159 %	155 %	137 %	**100 %**	217 %	163 %	163 %
VGP	25 %	91 %	79 %	**100 %**	.	.	.
NWR	59 %	56 %	65 %	**100 %**	60 %	86 %	.
Mean	57 %	93 %	89 %	**100 %**	64 %	67 %	57 %
Median	85 %	119 %	108 %	**100 %**	102 %	88 %	104 %

Table 6-21: Horizontal Analysis of Labour Productivity (IPO implementation year = 100 %)
Source: own processing

Labour productivity in some of the companies monitored decreased in the post-IPO implementation period (Zentiva, Pegas, NWR). On the other hand, the companies AAA and ECM were able to double their labour productivity following their initial public offering. The mean values of labour productivity at all the companies monitored show a downward trend in the

post-IPO period, the median of the indicator remained at almost the same level for three years after IPO implementation.

The data in Table 6-22 shows differences in earnings per share (EPS) between the companies monitored in the post-IPO period. While companies such as Zentiva, Pegas and VGP repeatedly reported a sharp fall in EPS in the three-year post-IPO period, and the company ECM even suffered a significant loss in EPS, the company AAA revealed a more than seven-fold increase in the value of this indicator. Three years after IPO implementation, the EPS median of the companies monitored was less than 77 % of the base year value.

Company	-3	-2	-1	0	1	2	3
ZENTIVA	.	32 %	54 %	**100 %**	110 %	129 %	83 %
ECM	.	.	.	**100 %**	83 %	×	×
PEGAS	.	.	57 %	**100 %**	9 %	6 %	9 %
AAA	.	.	144 %	**100 %**	×	2,284 %	7,109 %
VGP	.	.	49 %	**100 %**	78 %	3 %	68 %
NWR	.	.	56 %	**100 %**	×	60 %	.
Mean	.	.	54 %	**100 %**	31 %	×	12 %
Median	.	.	50 %	**100 %**	93 %	66 %	77 %

Table 6-22: Horizontal Analysis of Earnings per Share (IPO implementation year = 100 %)

Source: own processing

6.3.3. Discussion

Table 6-23 shows trends exhibited by the monitored indicators on individual stock exchange markets. We can observe that the ***post-IPO performance of companies***:

- ***grows*** on most capital markets with the exception of the PSE if ***changes in sales*** are used for evaluation;
- ***decreases*** on most capital markets with the exception of the LSE if ***changes in operating profit or loss*** are used for evaluation;
- ***decreases*** on all capital markets ***if return on equity*** (ROE) is used for evaluation;
- ***decreases*** or ***stagnates*** on all capital markets ***if return on investment*** (ROI) is used for evaluation.

A decrease or stagnation in issuers' performance in the post-IPO period is also signalled by other indicators of financial performance which were,

however, only calculated for companies that had implemented an IPO strategy on the Czech capital market because other data was not available.
The theory formulated by Loughran and Ritter (1995) that says that companies do not enter the capital market when they have high growth potential and need to raise additional funding, but at the time at which existing shareholders think it advantageous has been ***corroborated by the results of research*** conducted on selected capital markets.

Indicator	Development trends in indicators on stock exchange markets (median values)											
	LSE		LSE-AIM		Euronext		Deutsche Börse		Borsa Italiana		PSE	
	pre-IPO	post-IPO	pre-IPO	post-IPO	pre-IPO	post-IPO	pre-IPO	post-IPO	pre-IPO	post-IPO	pre-IPO	post-IPO
Sales	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↓
EAT	↑	↑	loss	loss	↑	↓	↑	loss	↑	↓	↑	↓
ROE	↑	↓	↑	neg.	↑	↓	↑	loss	↑	↓	↑	↓
ROI	↑	↓	neg.	neg.	↑	↓	→	↓	→	→	↑	↓
No. of employees (weighted average)	.	.	.	.	.	.	.	.	.	.	↑	↓
Labour productivity	.	.	.	.	.	.	.	.	.	.	↑	→
Net income per share	.	.	.	.	.	.	.	.	.	.	↑	↓

Note: symbol ↑ represents upward trend, symbol ↓ represents downward trend, symbol → represents invariable trend, symbol **.** means that the data is either unknown or unavailable.

Table 6-23: Summary of Results – Development Trends of Individual Indicators on Stock Exchange Markets
Source: own processing

An analysis was performed of selected indicators of financial performance over a period of several years (three years prior to the IPO, three years after the IPO and the IPO implementation year). Given the length of the period analysed, the conclusions of the analysis can be considered relatively reliable. However**, *three problematic aspects*** need to be borne in mind:

- Conclusions about the Czech capital market are drawn from performance data for only six companies. Moreover, their financial performance was strongly volatile, as is evidenced by the values of the corresponding standard deviations and 'risk cleaning';
- The performance of companies on other capital markets was evaluated on the basis of only four performance indicators; other measures could not be quantified and included in the given evaluation as a result of data unavailability;

– Only median values of individual indicators of issuers' financial performance were used for company performance evaluation.

This analysis focused exclusively on book profit, i.e. the foremost interest of the owners in generating economic profit was not taken into account.

All the conclusions outlined above can be considered a starting point for further research into the performance of IPO-implementing companies in the following areas:

– A broader sample size of companies analysed to include new issuers on the Czech capital market;
– Research into company performance on other capital markets in the CEE region (with a preference given to the Polish market in view of its importance);
– Evaluation of company performance on the basis of the indicator economic added value (EVA).

CHAPTER 7. VALUATION OF INITIAL PUBLIC OFFERINGS

The success of IPOs is influenced in particular by investor demand for newly offered shares. The issue price of such shares plays a key role when prospective investors decide whether to buy shares of companies first entering the organised capital market. The issuer, or the lead manager, therefore needs ***to perform a valuation of the business***. The result of this valuation is then used to determine the initial price spread that represents the starting point for ***issue price*** negotiations with prospective investors.

According to Stiefl (2005), the following are the most frequent reasons for business valuation:

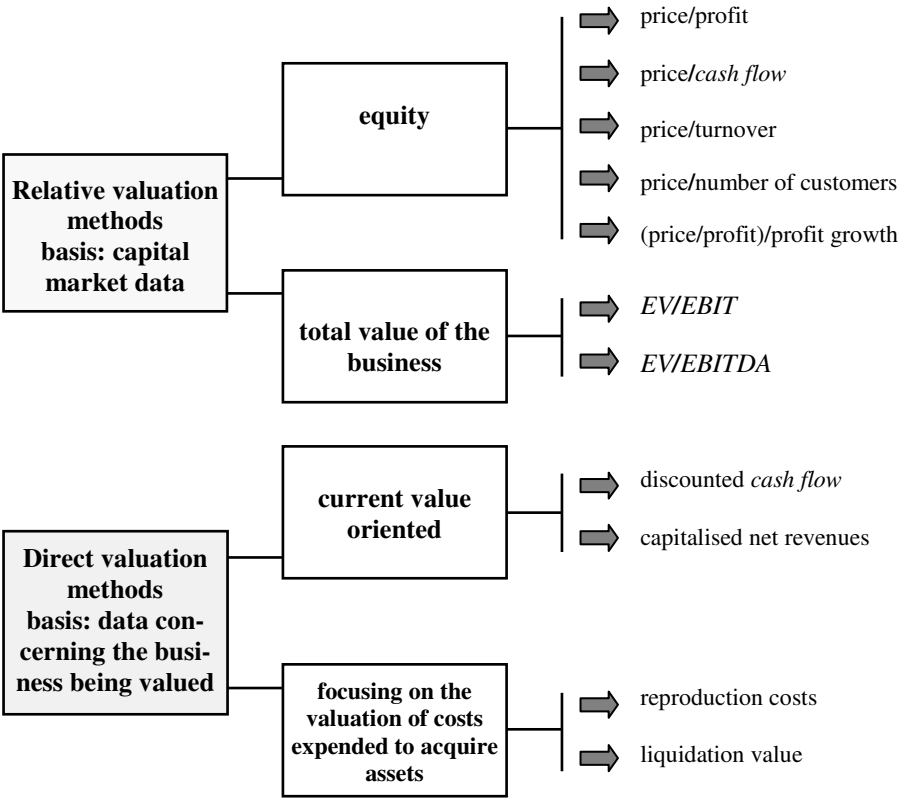
- the sale or purchase of a business as a whole or a part thereof,
- a merger,
- an IPO launch.

Valuation of a business due to an IPO launch is associated with significant risk. One needs to bear in mind that the attainment of a certain level of return on capital invested is fraught with great uncertainty due, for example, to the changing structure of capital. According to Loughran and Ritter (1995), the valuation of the issuing company is also influenced by the decision on the timing of the IPO. Shares may be overpriced if the initial public offering is launched at a time characterised by a large number of IPOs, as the company usually participates in the above-average growth in the prices of other shares.

Arlinghaus and Balz (2001), Pohlücke (2006) and Stiefl (2005) indicate two main approaches to business valuation (see Figure 7-1).

The category ***relative valuation methods*** derives the market value of the business from the market prices of shares in peer group companies. Capital market data pertaining to peer group companies serves as the basis for the valuation in such cases. As regards ***direct valuation methods,*** the projected cash flows of the business are discounted to present value. The basis for the valuation therefore consists exclusively of data pertaining to the business being valued; however, the discount rate that reflects the situation on the

market as a whole is of equal importance to the result of the valuation. Substance value-oriented methods[1] do not play a significant role in the IPO launch process, and will therefore not be dealt with further here.



EV = enterprise value; *EBIT(DA)* = earnings before interest, tax (depreciation and amortisation)

Figure 7-1: Classification of Valuation Methods
Source: Arlinghaus and Balz (2001)

[1] The substance value of an enterprise is based on the principle of reproduction prices. It provides an answer to the question how much the acquisition of the company's assets at valuation would cost.

7.1. Relative Valuation Methods

The second half of the 1990s saw a wave of establishment of companies in developed industrial countries with strategies based on the utilisation of innovations in fields such as information technologies, multimedia, biotechnologies and telecommunications. The establishment of a new economy is mentioned in this context. The projected high profits of the technological companies of the new economy made many investors purchase the shares of these companies issued in specific segments of stock exchange markets.[2] However, it became obvious at the end of the 1990s that fair prices of shares in technological companies exhibit, to a certain extent, a significant discrepancy with the values that could be inferred by means of discounted *cash flow*. Market capitalisation was many times higher than the fundamental value of the businesses established by means of methods oriented towards discounted cash flow. The application of direct valuation methods in new, growth-oriented entities lacking financial track records and perhaps not generating any profit therefore appears problematic. The question is how to adequately reflect such characteristics as above-average growth (of capital requirements, sales, etc.) or a high degree of uncertainty with respect to future development in such methods.

Problems associated with the application of direct valuation methods led to the formulation of ***relative valuation methods***. These are based on the hypothesis that a certain indicator of performance of peer group companies can be viewed as a basis for the valuation of a specific business.

Nowak (2003) and Stiefl (2005) distinguish three categories of relative valuation methods:

- valuation based on the market prices of shares in peer group companies – *Similar Public Company Approach*;
- valuation based on transactions made, i.e. the sales prices of peer group companies – *Recent Acquisition Method*;
- valuation based on the issue prices of shares in peer group companies – *Initial Public Offering Method*.

In all three cases, the enterprise value/EV can be determined as follows: *EV = (peer group company enterprise value/relative value of peer group company) × relative value of the enterprise being valued.* The ratio be-

[2] For example *Neuer Markt* was established in Germany as a specific segment of the *Deutsche Börse*.

tween the enterprise value and the relative value of a peer group company enterprise is referred to as the ***multiplicator***.

Based on Nestler and Kraus (2003) and Stiefl (2005), the following ***four steps for the relative valuation of an enterprise*** can be formulated:

1. ***Analysis of the enterprise being valued*** based on its financial statements, business plans, projected sales, budgets, and possibly also market position.
2. ***Selection of peer group companies*** listed on the regulated capital market. As no two identical business entities can be found on the market, the criteria for the selection of peer group companies play a decisive role in this process. Key criteria for the selection of peer group companies can be said to include turnover growth rate, margin, capital structure, dividend policy and shareholding structure. In terms of operation, the most important criteria are the industry[3], company size, geographical differences, customers, stage of the lifecycle of the company, etc.
3. ***Calculation of peer group company multiplicators.*** The following relative values from accounting records can be used: turnover, Earnings Before Interest, Taxes, Depreciation and Amortisation/EBITDA; Earnings Before Interest and Taxes/EBIT; Earnings After Taxes/EAT and cash flow.[4]

The most frequently used multiplicator is the ***Price/Earnings Ratio***. The enterprise value is determined as a multiple of the multiplicator and projected profit in an ordinary (or subsequent) accounting period. The issue price is then determined as a ratio between the enterprise value and the total number of shares, or as a multiple of profit per share and the multiplicator. Special attention needs to be paid to profit, which, for reasons of comparability, needs to be adjusted, because in practice it is subject to various standards in the process of compilation of accounting records. Moreover, every analyst arrives at different results when planning profit as a result of different future development projections. The advantage of the Price/Earnings

[3] In the same field of business, the composition of output can be expected to be homogenous, together with the degree of integration of the individual production phases, distribution and technological processes.

[4] Non-financial relative values represent an alternative: the number of customers or number of visits to company webpages. The 'number of visitors to company webpages' was used as a relative value in enterprise valuation in the late 1990s, i.e. at the peak of speculation within the *new economy*. This made it possible to value even enterprises with zero profit, and sometimes even losses. However, non-financial values need to be used with great caution for the purpose of valuation because they do not reflect differences in return and cost structure between peer group companies and the enterprise being valued.

Ratio multiplicator lies in the ease of its calculation, often applied in practice. Its disadvantage lies in the difficult selection of peer group companies. For instance, a situation may occur in which no peer group company exists, or comparability with companies listed on the stock exchange may be limited by the fact that the enterprise being valued is in an earlier development stage associated with higher projected turnover and profit gains. The ill-judged application of a multiplicator will then lead to a determination of enterprise value that is lower than would be appropriate in the given situation. On the other hand, the fact that shares in peer group companies are often overpriced also needs to be taken into consideration, and it is then misleading to reflect this 'premium' in the valuation of the issuing company. Further, the multiplicator can only be applied if the company is reporting profits.

Application of the ***Price/Earnings to Growth Ratio/PEG Ratio*** is meaningful primarily in companies for which high profit gains can be expected. The prospective growth of enterprise value is thereby reflected in the valuation. The higher the *Price/Earnings Ratio*, the higher the expectations with respect to the growth of profit in the enterprise being valued.

The reporting of losses by many companies in the *new economy* entering the stock exchange led to the formulation of multiplicators based on profit or number of customers. The ***price to sales ratio*** multiplicator measures the company's equity against projected turnover in an ordinary or subsequent period. The idea is that sales embody a future revenue potential which is at a low level in an ordinary year due to extraordinarily high investments. This multiplicator may be easy to calculate, but its weakness lies in the presumption that prices of shares in peer group companies evolve at a stable rate in respect to their turnovers. This presumption places high demands on the realistic comparability of companies in the peer group. This comparability problem equally applies to the ***market capitalisation per customer*** multiplicator, which is used primarily in companies involved in telecommunications and financial services with large numbers of end customers.

The enterprise value can also be determined using a cash flow-based multiplicator, i.e. the ***price to cash flow ratio***. The advantage of this multiplicator lies in the elimination of influences affecting profit, i.e. the reflection of different accounting standards in its calculation.

In addition to multiplicators oriented towards the direct quantification of equity, multiplicators designed to value the company as a whole, i.e. as a sum of the value of equity and third party capital, can also be used. As

regards the definition of the issue price, the relevant equity is given as the difference between the enterprise value and the fair value of debts. Turnover or profit applied to satisfy providers of equity and debt capital are used as a basis for quantification of the value of the enterprise as a whole. *EBIT* and *EBITDA,* in particular, are often applied. This helps eliminate influences such as different financial structures and related interest costs or the depreciation method chosen.

An overview of the relevant multiplicators used for the valuation of enterprises conducting IPOs is provided in Table 7-1.

4. ***Integration of multiplicators with company data***. An indicator of company performance (profit, turnover) is multiplied by the median multiplicator of peer group companies. The multiple provides the enterprise value, which is then used to infer the issue price of shares.

Multiplicator	Advantages	Disadvantages
Price/Earnings Ratio (P/E Ratio)	• Easily accessible database of peer group companies exists • Easy calculation, frequently used in practice • Reflects individual differences in revenue situations	• Limited comparability of the enterprise being valued to companies included in the *peer group,* for the following reasons: o higher rate of growth of turnover and profit of the enterprise being valued – application of unadjusted multiplicator leads to a lower valuation o existence of a 'premium' at which shares of established peer group companies are traded – it is not desirable to reflect the same in the valuation process o different indebtedness levels of peer group companies – investors demand higher return for higher indebtedness • Impossible to apply to companies with zero profits or losses
Price/Earnings to Growth Ratio	• Explicitly reflects projected growth of profit per share	• Analogous to *Price/Earnings Ratio* multiplicator
Price/Sales Ratio	• Easy application	• Does not reflect different financial structures within the *peer group* • Does not reflect the specific revenue situation of companies within the *peer group* dependant on, for example, lifecycle stage
Market capitalisation/number of customers	• Analogous to *Price/Sales Ratio* multiplicator	• Analogous to the *Price/Sales Ratio* multiplicator
Price/Cash Flow Ratio	• Better comparability of cash flow indicator in the international context (is not influenced by different accounting standards)	• Influenced by the level of indebtedness of companies included in the *peer group*

Table 7-1: Selected Multiplicators and their Advantages and Disadvantages
Source: own processing based on Arlinghaus and Balz (2001) and Nestler and Kraus (2003)

The procedure for the valuation of an enterprise using the market prices of shares of peer group companies is shown in the example below:

Example

An information technology company launches an IPO. The analyst is to determine the value of the enterprise and the issue price of its shares. To this end, the analyst decides to apply a valuation method based on the market prices of shares of peer group companies. The risk and growth profiles of the enterprise are substantially comparable with those of the companies included in the peer group (all the companies are listed on a regulated capital market). The procedure used to calculate the value of the enterprise and the issue price of its shares is shown in the table below.

Peer Group	**Company A**	**Company B**	**Company C**	**Company D**	**Company E**
Share price (€)	44.00	70.00	22.00	55.00	6.00
Number of shares issued	10,000,000	7,500,000	4,300,000	4,000,000	3,400,000
Market capitalisation (€)	440,000,000	525,000,000	94,600,000	220,000,000	20,400,000
EAT (€)	6,660,000	9,435,000	880,000	1,250,000	368,000
Turnover (€)	55,500,000	62,900,000	11,000,000	12,500,000	3,200,000
Cash flow (€)	7,326,000	7,548,000	616,000	1,500,000	515,200
Price/Earnings Ratio (multiplicator 1)	66.07	55.64	107.50	176.00	55.43
Price/Sales Ratio (multiplicator 2)	7.93	8.35	8.60	17.60	6.38
Price/Cash flow Ratio (multiplicator 3)	60.06	69.55	153.57	146.67	39.60
multiplicator 1 - median					**66.07**
multiplicator 2 - median					**8.35**
multiplicator 3 - median					**69.55**

Continued table 7-2

Peer Group	**Company A**	**Company B**	**Company C**	**Company D**	**Company E**
The Enterprise Value and the Issue Price					
EAT (€)					750,000
Turnover (€)					7,500,000
cash flow (€)					915,000
Planned no. of shares to be issued					2,500,000
Enterprise value 1					49,549,550
Enterprise value 2					62,599,364
Enterprise value 3					63,642,687
Median enterprise value					**62,599,364**
Issue price (€)					**25.04**

Table 7-2: Calculation of the Enterprise Value and Issue Price
Source: own processing based on Stiefl (2005)

Based on data concerning the company's operations, it was possible to determine the value of the enterprise (€ 62.6 mil.) and to infer the issue price of the shares (€ 25.04). The utilisation of the median value of the multiplicator excludes the possibility of reflecting extreme values. The results show that prospective investors would have to pay 8.35 times the projected annual turnover for the enterprise. If the enterprise has a 10 % return on sales, the return on capital invested would be 83 years!

The calculation also shows the ***disadvantage associated with relative valuation methods:*** irrational responses of the market determine the value of multiplicators and, therefore, the market value of companies in the peer group. If fair values of shares in companies included in the peer group are falling, the market value of the enterprise being valued also decreases, and according to Stiefl (2005), the 'burst bubble' effect occurs.

7.1.1. Direct Valuation Methods

Direct valuation methods are based on the thesis that the price of the enterprise is derived from prospects for its development. Such prospects are represented by the projected cash flow from the investment, i.e. the value of

the funds that may be taken out of the company by owners and creditors without disrupting its future development.

In accordance with Arlinghaus and Balz (2001), the most commonly used direct valuation method can be said to be the ***Discounted Cash Flow/DFC*** method. Three different variants can be applied as follows:

- ***equity value*** – in this case, only payments made directly to the owner are taken into consideration;
- ***enterprise value*** – cash flows to providers of both equity and debt capital are taken into consideration. Equity value is subsequently determined as a differential value, i.e. by subtracting debt capital from the total entity value;
- ***adjusted present value/APV*** – first of all, entity value is determined on the basis of equity financing only. The value obtained is then adjusted for potential tax aspects arising from the actual capital structure of the enterprise. Following the deduction of debt capital, the equity value can then be obtained in the third step.

Given the differences in taxation of individual legal forms, it can be noted that the most accurate result can only be obtained by means of the *APV* method. However, because of their greater ease of application, the first two methods, in particular the quantification of the total entity value, are usually preferred in practice.[5] According to Arlinghaus and Balz (2001) and Stiefl (2005), the procedure applied in the valuation of an enterprise using the *DFC* method can be divided into ***five steps***:

1. ***Free cash flow planning for a limited time period,*** usually corresponding to a strategic planning period (generally 5–10 years). Planned sales are used to compile a sales plan, which then serves as the basis for a detailed cost plan. Investments need to be taken into account in addition to operating costs. Interest costs are not taken into account when calculating results of operations. The algorithm for the calculation *free cash flow* is provided in Table 7-3.

[5] Arlinghaus and Balz (2001) quote the results of research undertaken in 1999. It showed that of 14 banks acting as lead managers for 58 % of companies listed on the German *Neuer Markt*, only one used the *APV* method. The other banks applied a method oriented towards the quantification of equity value or total equity value.

Sales of own products and services*	
-	consumption**
-	costs of sales and administration**
-	depreciation
=	**Operating results before interest and tax**
-	income tax for 100 % own funding
+/-	depreciation; change in provisions
=	**Gross cash flow**
-	investments in fixed assets
+/-	change in net working capital
=	**Free cash flow**

* assumption: sales = revenues
** assumption: costs = expenses

Table 7-3: Calculation of Free Cash Flow over a Period of One Year
Source: own processing based on Arlinghaus and Balz (2001) and Stiefl (2005)

2. ***Planning of terminal value,*** which can, with a view to the endless planning horizon, be referred to as fixed income (perpetuity). This part of the calculation has to be given adequate attention because entity value consists largely of the terminal value. It is assumed that the enterprise is in a stabilised condition, which can be described by means of a constant, or constantly growing, cash flow.[6] The cash flow growth rate is derived from values projected for the industry or for the entire economy, as the case may be.
3. ***Discounting cash flows to present value*** using a defined ***discount rate*** as of the valuation date. It should be pointed out in this context that the discount rate has a direct effect on the entity value because the higher the discount rate, the lower the entity value. With a view to the planned financial structure of the enterprise, the discount rate can be determined as the *Weighted Average Cost of Capital*/WACC. Assuming that the financial structure of the enterprise does not change during the planned period, the *WACC* can be determined as follows:

$$i_{WACC} = r_e \times \frac{E}{A} + r_d \times (1-T) \times \frac{D}{A}, \qquad (7\text{-}1)$$

[6] Disproportionate growth is therefore not expected to occur in the subsequent period.

where i_{WACC} = weighted average cost of capital,
r_d = costs of debt capital,
r_e = costs of equity capital,
T = corporate tax rate,
D = debt value,
E = equity value,
A = total assets value.

The rate of return required by equity providers can be determined by means of the *Capital Asset Pricing Model*/CAPM.[7] The following formula can be applied to calculate the rate of return required by debt capital providers reflecting risks associated with the investor's claims:

$$r_d = \left(r_f + R\right), \qquad (7\text{-}2)$$

where r_f = return on risk-free investments,
R = risk premium.

4. ***Calculation of total enterprise value*** as the sum of current values of projected cash flows in the first and second phases:

$$EV = \sum_{t=1}^{n} \frac{FCF_t}{\left(1 + i_{WACC}\right)^t} + \frac{FCF_{n+1}}{\left(i_{WACC} - g\right)} \times \frac{1}{\left(1 + i_{WACC}\right)^n}, \qquad (7\text{-}3)$$

where EV = enterprise value,
FCF_t = free cash flow during period t, whereby $t = 1, 2, \ldots, n$,
FCF_{n+1} = terminal value of free cash flow (perpetuity).

[7] For more details on the CAPM model see, for example, Synek (2003, pp. 301–303 and 325–327).

i_{WACC}	=	weighted average cost of capital,
g	=	projected speed of growth terminal value of free cash flow,
n	=	duration of the phase in years.

5. ***Quantification of equity value*** as the difference between enterprise value and fair value of interest-bearing debt capital. The fair value of interest-bearing debt capital stems from the balance compiled as at valuation date.

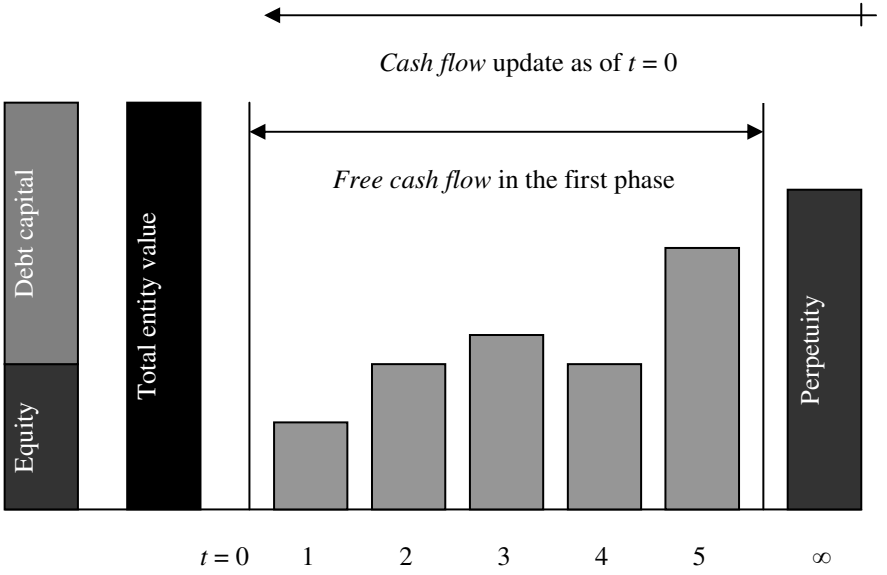


Figure 7-2: Process of Enterprise Valuation Using the DCF Method
Source: own processing based on Stiefl (2005)

The procedure to be employed in the valuation of the enterprise using the *DCF* method is shown in the example below.

Example

The financial analyst of a manufacturing company has compiled a 6-year financial plan:

Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Sales	2,878	2,966	3,062	3,168	3,237	3,301
Consumption of materials	1,678	1,741	1,792	1,859	1,890	1,918
Personal costs	569	579	597	612	621	632
Depreciation	134	140	140	148	162	169
Other costs	78	83	90	94	87	94
Interest costs	20	20	21	21	22	22
EBT	**399**	**404**	**423**	**434**	**455**	**465**

Table 7-4: Selected Items from Planned Profit and Loss Account (in thousand EUR)
Source: own processing based on Stiefl (2005)

Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Fixed assets	514	526	554	585	643	645
Stock	517	535	554	567	578	584
Accounts receivable	496	512	531	543	554	560
Funds	48	48	48	48	48	48
Total assets	**1,574**	**1,621**	**1,687**	**1,743**	**1,823**	**1,837**
Equity	978	1,004	1,044	1,076	1,127	1,120
Debt capital	428	438	454	466	486	505
Accounts payable	122	126	130	133	136	137
Other liabilities	45	53	59	67	74	75
Total liabilities	**1,574**	**1,621**	**1,687**	**1,743**	**1,823**	**1,837**

Table 7-5: Selected Items from Planned Balance Sheet (in thousand EUR)
Source: own processing based on Stiefl (2005)

The analyst is to determine the entity value using the *DCF* method. The following assumptions were defined for that purpose:

- the record date for enterprise valuation is 1 January 2010,
- the corporate tax rate is 25 %,
- year 2015 is the starting point for the calculation of perpetuity,
- r_d (debt service cost) = 8 %,
- r_e (rate of return required by equity providers) = 10.5 %,

- equity = 60 %; debt capital = 40 %,
- the condition of the enterprise is stabilised in the year 2016, the terminal value of cash flow is projected at € 380 thousand, working with a constant 4 % cash flow growth rate,
- debt capital as of 31 December 2009 is € 418 thousand.

Based on the planned balance sheet and P/L account, the development of investments and net working capital is derived for the purposes of quantification of free cash flow:

Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Fixed assets as of 1 January	519	514	526	554	585	643
(-) depreciation	134	140	140	148	162	169
(+) investments	**129**	**153**	**168**	**179**	**220**	**172**
Fixed assets as of 31 December	514	526	554	585	643	645

Table 7-6: Development of Investments 2010–2015 (in thousand EUR)[8]
Source: own processing based on Stiefl (2005)

Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Stock	517	535	554	567	578	584
(+) accounts receivable	496	512	531	543	554	560
(-) accounts payable	122	126	130	133	136	137
Net working capital as of 31 December	890	921	955	977	997	1,007
Change in net working capital	**110**	**31**	**34**	**22**	**20**	**10**

Table 7-7: Development of Net Working Capital 2010–2015 (in thousand EUR)[9]
Source: own processing based on Stiefl (2005)

[8] Data concerning fixed assets as of 1 January 2010 was taken from the balance sheet compiled as of 31 December 2009.

[9] Data concerning net working capital as of 1 January 2010 was taken from the balance sheet compiled as of 31 December 2009.

All the relevant data for the calculation of free cash flow in the first phase is now available:

Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
EBT	399	404	423	434	455	465
Interest costs	20	20	21	21	22	22
EBIT	419	424	444	455	477	487
Tax	105	106	111	114	119	122
Results of operations	**314**	**318**	**333**	**341**	**358**	**365**
Depreciation	134	140	140	148	162	169
Investments	129	153	168	179	220	172
Change in net working capital	110	31	34	22	20	10
Free cash flow	**209**	**274**	**271**	**288**	**280**	**352**

Table 7-8: Development of Free Cash Flow (in thousand EUR)
Source: own processing based on Stiefl (2005)

Calculation of the discount rate, subtraction of interest from free cash flow to obtain current value and quantification of total enterprise value and total equity value follow:

$$i_{WACC} = 10.5\% \times 0.6 + 8\% \times (1 - 0{,}25) \times 0.4 = 8.7\%$$

Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Free cash flow	209	274	271	288	280	352
Discount factor $v = 1/(1+i_{WACC})^n$	0.91996	0.8463	0.7786	0.7163	0.6589	0.6062
Current value	192	232	211	206	185	213
Sum of current values						**1,239**

Table 7-9: Sum of Present Values of Free Cash Flow (in thousand EUR)
Source: own processing based on Stiefl (2005)

The second phase decisive for the determination of the enterprise value occurs in 2016. Assuming perpetuity at a level of € 380 thousand, working with a constant 4 % growth rate, the terminal value of the company calculated at current value will be:

$$\text{Terminal value} = \left(\frac{380}{0.087 - 0.04} \right) \times \frac{1}{1.087^{6}} = \textbf{€ 4,901 thousand}$$

We arrive at the total entity value based on the sum of present values of projected cash flow in the first and second phases, i.e. € 6,140 thousand (= €1,239 thousand + €4,901 thousand). Equity value is given as the difference between the enterprise value (€ 6,140 thousand) and the value of interest-bearing debt capital (€ 418 thousand). It therefore equals € 5,722 thousand.

7.2. Discussion of IPO Valuation Methods

The basis for the determination of the issue price, which influences investor demand for newly offered shares and, therefore, the success of the IPO in a decisive manner, is the valuation of the issuing company itself. The theory distinguishes two approaches to enterprise valuation – ***relative methods*** based on capital market data concerning peer group companies, and ***direct methods*** based on the discounted value of the projected cash flows of the enterprise being valued.

The ***main advantage of relative valuation methods*** can be seen in the contemporary nature of the data used as the basis for the valuation. The prognosis for its development does not usually exceed one year. Another advantage can be seen in the reduction of the demands posed by the entire valuation process, which makes it more expedient. The principal ***disadvantage*** of the multiplicators used can be seen in the possibility of selecting unsuitable criteria for the selection of peer group companies. Further problematic aspects of relative valuation methods can be mentioned pursuant to Arlinghaus and Balz (2001), Nestler and Kraus (2003) and Stiefl (2005):

- they do not reflect the unique nature of the business entity;
- there may be an absence of peer group companies in some cases;
- the most common multiplicators (*Price/Earnings Ratio* and *Price/Cash flow Ratio*) cannot be applied if the company is not generating a profit or has a negative cash flow;
- they do not reflect objective criteria in the valuation process. Companies in certain industries may be significantly overpriced or underpriced at a particular time as a result of the moods prevailing on regulated capital markets. If share prices drop, so does their fair value. Relative methods

do not, therefore, value the enterprise as such, but rather the market and the conjectural situation at the given moment;[10]

– it is possible to select the valuation multiplicator that will lead to the highest possible price without reflecting the results of alternative approaches.

The limited reliability of relative valuation methods is reflected in, for example, the IDW S1 valuation standard published by the German *Institut der Wirtschaftsprüfer*. Pursuant to the standard, it is necessary to view relative valuation methods as merely complementary to methods oriented towards present value. However, such interpretation of relative valuation methods is contrary to international accounting standards. According to IAS and US-GAAP, relative valuation methods are referred to as *'best practice'* and, according to Ritter and Welch (2002), they are the methods most commonly used in the USA to value companies that intend to go public with their shares.

In contrast, and as indicated by Pohlücke (2006), ***direct methods,*** in particular the *DCF* method working with equity value, are the standard in enterprise valuation for IPO purposes in Europe. ***The main advantage*** of the discounted cash flow concept is the fact that data pertaining directly to the enterprise being valued is taken into account in the determination of its present value. Unlike multiplicators, developments in cash flows are reflected systematically over a longer period of time that is not limited to just one or two years. This means that, for example, the investment phase or loan repayment phase can be duly reflected and evaluated. Nevertheless, not even direct valuation methods can eliminate uncertainty with respect to the prediction of free cash flows in the first phase and the definition of the moment at which the enterprise becomes stable as the basis for the quantification of terminal value. Further, manipulation of input data cannot be ruled out, although it is more easily uncovered by outside entities thanks to a greater degree of transparency (as compared to multiplicator-based valuation). The application of the *DCF* method cannot be used without the existence of peer group data because the appropriate discount rate for the adjustment of projected cash flows can only be determined on this basis.

Despite the above shortcomings, the *DCF* method can be said to represent a universal valuation concept that can be applied to companies operating in any industry and at any stage of their lifecycle. It allows for a com-

[10] In the late 1990s, small Internet companies were thereby able to attain higher fair values than, for example, Daimler Chrysler, and investors often invested their funds in extremely vaguely formulated business plans.

parison of various enterprise financing alternatives in the form of *equity value*, and provides a response to the question as to how a company must develop for the issue price of its shares to be sustainable.

C. THEORETICAL AND PRACTICAL ISSUES RELATING TO IPO IMPLEMENTATION UNDER THE CONDITIONS IN FORCE ON THE CZECH AND POLISH CAPITAL MARKETS

INDIVIDUAL OBJECTIVES

Identify the main conditions for successful implementation of initial public offerings

Discover the practical approaches of issuers to IPO implementation on the Czech capital market

Identify factors influencing IPO decisions on the Polish capital market

Compare the theoretical models of corporate decisions about IPO-based financing with the results of empirical research

CHAPTER 8. CONDITIONS FOR IPO IMPLEMENTATION

The objective of this chapter is to identify the main conditions for successful implementation of initial public offerings. These fall into three categories:

- ***macroeconomic conditions***,
- ***microeconomic conditions***,
- ***conditions related to IPO volume and structure.***

8.1. Macroeconomic Conditions

From the macroeconomic point of view, the right time to execute an IPO is when sufficient demand for company stock exists on financial markets. Given the fact that a financial system is part of the economic system, stock market performance is bound to be strongly influenced not only by the present state of the economy, but also by the anticipated future development of both national and global economies. Since their behaviour is cyclical, it is necessary to take the economic cycle effect into consideration when issuing shares (and other securities as well). This chapter therefore describes ***the basic trends on financial markets during the individual stages of an economic cycle***.[1]

At the end of an economic slump (point 1 in Figure 8-1), the economy, having gone through a period of deflation, is generally in a state of very low prices, low interest rates and a low level of domestic product. Most businesses report only meagre profits, or even losses, and hardly any dividends are being paid. Investment activities are stifled, with most companies curtailing production and investing only as necessary to stay in business. Only the most optimistic investors foresee an economic upturn and begin to acquire shares, which at this point are at their long-term minimums.

[1] Based on the literature, Rejnuš (2008).

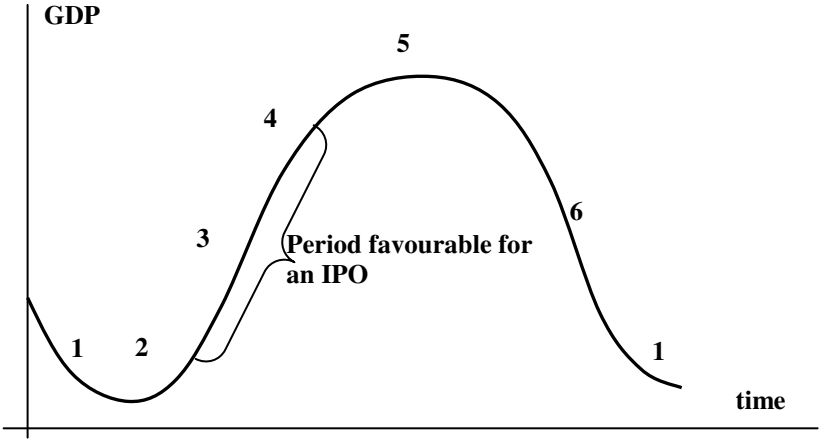


Figure 8-1: Development of Gross Domestic Product in Relation to Individual Phases of an Economic Cycle[2]
Source: Rejnuš (2008)

When the economic slide ceases, the increase in production is first evident in those products and services that are indispensable to people's lives, and which most of the population have lately had to do without as they have been postponing purchases. Companies gearing up for production start hiring additional workers. Interest rates, labour, raw materials and energy are still relatively cheap, and the slow ramping-up of production has no undesirable effect on inflation. However, the incremental increase in production means that more money is flowing into workers' households. This causes growing demand for goods and services, which supports a gradual resurgence of some economic sectors, particularly industrial enterprises. These developments tend to change people's expectations as to when the crisis will end, and how the economy will accelerate during the forthcoming recovery. Investors react to these positive signs by buying more equities, the prices of which begin to creep upwards (point 2 in Figure 8-1).
Other sectors of the economy are slowly revived in the subsequent period. The increase in production does not yet cause inflationary pressures however, and interest rates remain relatively low. However, the available manufacturing capacities are being utilised to a greater extent, while the economy is reviving to perform across the entire spectrum, including the still

[2] This represents only a short period abstracted from the growth factors of potential economic output.

somewhat sluggish service sector. Overall output now approaches total production capacity, perhaps even exceeding it in some cases. Many companies therefore decide to expand, usually by resorting to external financing, either by borrowing from a bank or by floating new securities. ***From the macroeconomic point of view, this period is considered very favourable to the implementation of an initial public offering*** (item 3 in Figure 8-1).

With investment projects coming to fruition, the number of companies expanding production is on the rise, particularly in engineering, construction and related industries. In time, this situation leads to a shortage of skilled labour. High employment and frequent wage increases fuel consumer spending, now including luxury items and major purchases. This, together with greater consumption of materials by manufacturing companies, begins to overheat the economy. Interest rates climb rapidly for loans and bonds, both of which are being sought to expedite the completion of projects undertaken to improve production efficiency by lowering costs and increasing productivity. Stock prices at this stage are already extremely high because of the large profits generated by public companies. ***This period, when companies deliver excellent performance with good economic results, and the sector in which they operate is at the peak of its growth, provides an increasingly stronger motivation for businesses to enter the capital market with an IPO.*** The economy at this time is just before its apex (point 4 in Figure 8-1).

The hikes in interest rates imposed by the central bank, combined with a widespread notion that the economy will soon enter a contraction phase, will gradually permeate the financial sector, too. This affects the commercial banks bearing the risk of outstanding business loans as well as other financial institutions, particularly those that have invested their own funds or the funds of their clients in equities. The problem is that rising interest rates reduce the intrinsic value of shares, which investors begin to perceive as overpriced, and that higher interest rates on loans or newly issued bonds take a greater toll on the corporate bottom line. This triggers an increasing number of sale orders from both small individual investors and large institutional investors. Investors then move to liquidate equities in their portfolios, creating an oversupply on the stock market accompanied by a decline in prices. ***These are the reasons why most investors have no interest in initial public offerings and this form of financing represents an extremely risky proposition for companies*** (point 5 in Figure 8-1).

Convulsions on the stock markets ensue. With steeply rising supply, the prices of shares begin to fall precipitously. Panic starts to spread among investors, which causes prices to drop even more rapidly. As companies are mutually interconnected, and as stock is held in the portfolios of commercial banks, investment funds, mutual funds and a multitude of other financial institutions, all these entities suffer a decline in the value of their assets. These losses eventually reach the individual investors at the household level. Having lost a sizeable portion of their assets, and with many struggling to make payments on their debts to commercial banks, households begin to cut back on their demand for goods and services. Production slows down substantially and companies slash prices in an attempt to offload goods and services, thereby opening the door to deflation. A number of firms, unable to service their debts, declare bankruptcy. Unemployment rises steadily.

The only investors that make a profit in this situation are those that have acquired high- quality, long-term, fixed-interest obligations, the prices of which now go up as interest rates go down. At this time (point 6 in Figure 8-1), they are still the best investment, though some investors are already thinking about selling them to secure funds for future purchases of equities. These are still depressed, but could soon rebound as the economy enters the next phase of its cycle. ***This phase will be a revival, followed by economic growth conducive to the sale of additional shares through an IPO.***

8.1. Microeconomic Conditions

From the issuer's perspective, the conditions for implementing an IPO fall into five categories:

- the company's position on the market,
- financial accounting and reporting,
- financial health,
- corporate governance,
- the company's presentation to investors.

A company contemplating entry onto the capital market through an initial public offering should operate in an attractive growing sector as perceived by potential investors, to whom it should present ***a convincing 'investment story'***. According to Ježek et al. (2004), it should essentially be the company strategy transformed, in line with classical marketing principles for the introduction of a new product, into a model that will unfailingly impress investors, analysts, customers and business partners, the media, and

its own employees. For the most part, companies that resort to IPOs are ***in the growing stage of their lifecycle***. It should be kept in mind that putting money into new shares represents a significant risk for investors, and if they are to accept this, they must be offered participation in potential growth. The company should therefore have the following:

- an attractive and distinctive line of products and services with readily verifiable past successes,
- a substantial share of the overall market,
- a high degree of competitiveness,
- a diversified portfolio of suppliers and customers.

In the Czech Republic, a company contemplating financing its growth by means of an IPO has to adopt the ***International Financial Reporting Standards*** (IFRS), formerly known as the International Accounting Standards (IAS). Section 19 para. 9 of the accounting act[3] became effective in the Czech Republic as of 1 May 2004. It imposes on commercial enterprises issuing securities registered on a regulated securities market in member states of the European Union the obligation of using the International Financial Reporting Standards, as modified by European Community laws, in keeping and balancing books of account. Section 23a of the act on accounting, which requires the use of International Financial Reporting Standards in the preparation of consolidated statements for annual reports by consolidated accounting units that issue securities registered on a regulated securities market in member states of the European Union, is also effective from the same date.

Transition to the International Financial Reporting Standards is, therefore, a prerequisite for implementing an IPO. The issuing company is not only required to keep accounts in accordance with IFRS after the issue date, but in order to comply with the act on capital market operations[4] it must also submit ***financial statements in accordance with IFRS*** for at least three consecutive accounting periods preceding the period in which the application for the admission of shares onto the public market is submitted. The IFRS implementation process, inclusive of re-formatting financial statements to international standards, usually takes several months and represents the most time-consuming task in the preparation of an IPO.

[3] Act no. 563/1991 Sb., The Accounting Law, as amended.
[4] Section 65 of Act no. 256/2004 Sb., The Capital Market Operations Law, as amended.

The company should also have ***a system of quarterly financial reporting*** in order to comply with the obligations arising for the issuer from the acceptance of its shares for trading on a regulated market.

Recommendations based on Ježek et al. (2004) suggest that a corporate candidate for an IPO should display the following level of financial health:

- company sales should grow by at least 20–50 % annually for 3–5 years before the planned IPO launch, and its volume in the final period prior to entry onto the capital market should be at least EUR 30 million,
- the company should have a positive cash flow from operations and a positive economic result before subtracting cost interest and income tax,
- the ratio of earnings before taxes to sales receipts should exceed 10% and/or be higher than the market average.

The conditions of a successful IPO from the issuer's standpoint also include compliance with ***the requirements of corporate governance***. This term covers the mutual relations of corporate management, the Board of Directors, shareholders and other stakeholders, as well as the manner in which company objectives are achieved and its activities monitored. The subject of corporate governance as a factor in buttressing investor confidence is becoming more and more important. The recent scandals surrounding the failures of such companies as *Enron* and *WorldCom* have brought the need to reform the present rules of corporate governance and accounting standards to the forefront of many discussions, not merely in the United States, but around the world. The most serious problem appears to be a lack of transparency in corporate dealings, coupled with the small degree of management responsibility for its consequences.

Efforts to formulate a comprehensive and properly worded set of rules are unfolding on both the national and international level. The initiatives channelled through the *Organisation for Economic Cooperation and Development* (OECD), the European Union and the United States of America, which clearly endeavour to strengthen the rights of shareholders and other interested parties while indirectly reinforcing corporate competitiveness, are particularly noteworthy.

Corporate governance initiatives at the OECD level have focused on defining the general rules of proper business management. This effort has resulted in the publication of ***Principles of Corporate Governance*****,** which aspire to:

- create an effective legal framework for proper management,
- protect and facilitate the exercising of shareholders' rights,

- ensure equal treatment of all shareholders,
- strengthen the rights of shareholders,
- promote the accessibility and transparency of corporate information, with a particular view to the financial situation, activities, ownership and management,
- provide for the accountability of the Board of Directors.

Since the rules of corporate management should reflect the specifics of each organisation and its constituents, the OECD rules are worded so broadly that the individual aspects may be finalised at the time of implementation on the national level, hopefully ending up with a set of rules ideally suited to the prevailing business climate. In the Czech Republic, the international standards of *corporate governance* were promulgated through the ***Corporate Governance Code***, intended primarily for companies whose securities are listed on a regulated market. The Code was created at the initiative of the Securities Commission and is based on the above-stated principles of the OECD.

From the perspective of ***ownership structure and corporate management,*** potential issuers should also be characterised by the following:

- a transparent organisational structure with a clearly defined management system and responsibilities for each commercial and administrative area,
- experienced, convincing and stable top management (changes in the management should not be made in the period just before the launch of an IPO or just after its completion),
- an equally strong second (lower) tier of management,
- a fast and precise decision-making process,
- clearly defined ownership positions without conflicts of interest,
- no existential dependence on a single person,
- proven methods of company value assessment for the shareholders' benefit.

The final area of basic conditions for executing an IPO from the issuer's standpoint is ***corporate public image***. The company should have no problem appearing on public capital markets, and should readily embrace ***information openness*** as well as ***professional investor relations***. The company has to recognise that shareholders and investors need access to regular, reliable, comparable and sufficiently detailed information, all instrumental to their decision-making.

8.2. Requirements for the Volume and Structure of an Issue

To organise a smooth initial public offering, it is necessary to ensure that it has an adequate volume, computed by multiplying the number of shares offered by their initial price. In theory, initial public offerings with low market capitalisation are easier to underwrite, but for an IPO to be successful and stable after its placement on a public market, it is imperative to generate sufficient interest among investors. Their interest in an IPO usually increases as the issue volume goes up.

Volume requirements are stipulated by the legislation of the country in which the IPO is executed. In the Czech Republic, the law governing capital market activities[5] defines the minimum volume of stock issues as EUR 1 million. However, given the current situation on the Czech capital market, where it is not yet customary to raise money in this manner, such a small volume would not be suitable for public trading. ***Issuing shares can be realistically considered when the volume reaches tens of millions of EUR.*** Consultation with securities dealers indicates that the volume of an issue should be at least EUR 30 million. However, this figure is only approximate, as picking a specific number requires consideration of the business sector in which the company operates. When choosing the size of an issue, it should be noted that the lower the volume, the higher the relative cost (as a percentage of volume). As has already been mentioned, the relative cost of an IPO decreases with increasing volume.

The minimum number of shares to be accepted for public trading on the Czech capital market is set at 25 % of the issuer's total number of shares. However, consultation with securities dealers suggests that the number of offered shares should be within 30–40 % of the company's registered capital to ensure good liquidity of the issue.

As far as ***the issue structure*** is concerned, this will always depend on the reasons the company wants to undertake the initial public offering. If the reason is a need to raise money for further development, the IPO will typically consist of ***primary shares*** (i.e. newly issued shares), although it may be complemented by some secondary shares (i.e. shares issued previously) for greater liquidity of the issue. If the IPO is motivated by a desire on the part of the existing owners to sell their holdings, then the issue will consist of ***secondary shares.*** If an initial public offering contains secondary

[5] Section 65 of Act no. 256/2004 Sb., The Capital Market Operations Law, as amended.

shares, which can be regarded as more risky on the Czech capital market than a primary share offering, the management should buttress investor confidence by not selling its potential stake in the company.

CHAPTER 9. PRACTICAL APPROACHES TO IPO IMPLEMENTATION ON THE CZECH CAPITAL MARKET

The aim of this chapter is to identify the principal characteristics of initial public offerings performed on the Czech capital market in its modern history, and to identify the attitudes, opinions and experiences of each issuing company. The following research was performed to achieve this goal:

- secondary research of relevant information sources, i.e. primarily the prospectus and annual reports from the issuing company,
- primary research in companies that implemented an IPO on the Czech capital market.

9.1. Principal Characteristics of IPOs on the Czech Capital Market

No initial public offering was implemented in the modern history of the Prague Stock Exchange until 2004.[1] Since that time, a few companies that have conducted an IPO in the Czech Republic can be identified. These companies were the subject of research aiming to identify the main characteristics of initial public offerings performed in the Czech Republic in the years 2004–2010.

The following have been selected as the ***principal characteristics of IPOs***:

- the number of shares issued before and after implementation of the IPO,

[1] The reasons for the low number of IPO in the Czech Republic are described in publications by Liška, Gazda (2001) and Meluzín, Zinecker (2009).

- the structure of the subscribed shares (the ratio between primary and secondary shares in the initial public offering, including the over-allotment option),
- free float (part of share capital that can be publicly traded and is not owned by strategic investors),
- the structure of investors (the proportion of institutional and retail investors in the subscription of shares in the initial public offering),
- the size of emission (the total number of subscribed shares multiplied by their issue price),
- gross proceeds of the company from the IPO (the number of newly issued shares multiplied by their issue rate),
- IPO costs (broken down into charges to subscribers and other direct costs),
- the company's net income (the part of the proceeds from the IPO that the company uses to finance its development),
- underpricing (undervaluation of the issue price of the shares).

An overview of the principal characteristics of initial public offerings conducted on the Czech capital market in the years 2004–2010 is shown in Table 9-1.

The research results show that IPOs on the Czech capital market are held exclusively by ***multinational companies of the holding type*** that are engaged in business in the Czech Republic, though their parent company is located abroad in a country in which it is common for companies to use a capital market to obtain the necessary financial resources. For this reason, these IPOs were mostly realised in the form of the ***dual listing of shares*** on a domestic and foreign stock market.

Regarding the ***structure of the shares*** offered in IPOs, most initial public offerings were found to take the form of a combined IPO in which investors were offered both primary and secondary shares. The money obtained by selling newly issued shares was used mainly for the further development of the issuing companies and to repay their debts. Offers of secondary shares were mainly associated with withdrawing venture capital from the company and the appreciation of its investment by selling shares on the stock market. The total ***number of shares*** offered in these IPOs did not exceed 50 % of the registered capital of the company in most cases.

Charakteristics of IPO	Issuing Company						
	ZENTIVA	ECM	PEGAS	AAA	VGP	NWR	FORTUNA
Date of the IPO implementation	28.6.2004	7.12.2006	18.12.2006	24.9.2007	7.12.2007	6.5.2008	22.10.2010
Number of shares before the IPO (pc)	33,806,334	2,460,000	7,419,400	50,000,000	15,000,000	250,239,999	50,000,000
Structure of the subscribed shares							
primary shares (pc)	4,329,896	1,275,000	1,810,000	17,757,875	3,278,688	13,500,000	2,000,000
over-allotment option (pc)	0	127,500	0	0	304,362	0	0
secondary shares (pc)	5,670,104	315,030	2,575,000	0	0	69,513,344	13,830,000
over-allotment option (pc)	1,500,000	0	657,750	0	0	12,452,001	1,194,670
Total number of subscribed shares (pc)	11,500,000	1,717,530	5,042,750	17,757,875	3,583,050	95,465,345	17,024,670
Number of shares after the IPO (pc)	38,136,230	3,862,500	9,229,400	67,757,875	18,583,050	263,739,999	52,000,000
Free float	30.16%	44.47%	54.64%	26.21%	3.28%	36.20%	32.74%
Structure of investors							
institutional investors	100.00%	90.00%	90.00%	61.00%	-	90.00%	90.00%
retail investors	0.00%	10.00%	10.00%	39.00%	17.00%	10.00%	10.00%
Issue rate (EUR/share)	15.21	47.00	27.00	2.00	15.25	16.56	4.30
Size of emission (EUR)	174,898,087	80,723,910	136,154,250	35,515,750	54,641,513	1,581,144,777	73,206,081
Gross proceeds (EUR)	65,851,350	65,917,500	48,870,000	35,515,750	54,641,513	223,593,750	8,600,000
IPO costs (% of emission size)							
charges to subscribers	4.00%	5.00%	3.50%	2.96%	-	3.00%	2.50%
other direct costs	2.60%	1.86%	3.78%	3.78%	-	2.61%	-
total	6.60%	6.86%	7.28%	6.76%	9.00%	5.61%	-
Company's net income (EUR)	58,670,430	61,119,875	42,000,000	33,115,750	49,723,777	175,667,489	-
Final rate on 1st day of trading (EUR/ share)	15.82	52.50	28.22	2.00	15.60	17.81	4.32
Underpricing	4.02%	11.70%	4.53%	0.05%	2.30%	7.55%	0.47%

Table 9-1: The Principial Characteristics of the IPO on the Czech Capital Market in the Years 2004-2010

Source: own processing

The main group of investors were institutional investors from the European Union. Their interest usually exceeded the number of shares offered to an extent that allowed the issue manager to exercise an option for the subscription of additional shares. Retail investors usually received 10 % of the total number of shares offered in the IPO.

The size of issue was very different, with a minimum value of EUR 35.5 million, a maximum value of EUR 1.58 billion, and a median of EUR 80.7 million. Calculations showed that the total direct costs of an IPO on the Czech capital market range from 5.6 to 9.0 % of the volume of emission. The ***fees of the issue manager*** represent the largest cost item, amounting to 2.5 to 5.0 % of the volume of emission for the IPOs analysed. No definite conclusion can be made about the size of the indirect cost associated with an IPO, known as underpricing, under Czech conditions. This value varied considerably for individual issues.

9.2. Research into the Practical Approaches of Issuers to Financing in the Form of IPO

Qualitative research was also conducted in companies implementing IPOs on the Czech capital market to identify practical approaches to this form of financing. A semi-structured interview was held with four issuers who expressed their attitudes, knowledge and experience with this form of financing. The topics of the interviews were:

- factors affecting the decision to enter the public capital market,
- preparation for implementation of the IPO,
- the selection of partners for implementation of the IPO,
- the course of the IPO process,
- the structure and size of IPO implementation costs,
- reasons for implementing the IPO on the Czech capital market,
- retrospective evaluation of the implementation of the IPO.

In accordance with theoretical approaches to IPO, issuing companies reported that one of the main reasons for its implementation was the acquisition of capital without having to discharge it. This enabled them to optimise capital structure and reduce the cost of obtaining additional capital, particularly of a debt character. Companies give great weight to the fact that successful implementation of an IPO increased their credibility with banking institutions, which offered them more favourable credit terms, including lower interest rates, than in the period before implementation of the IPO.

A significant impetus to the realisation of IPOs came from the owners of the surveyed companies, and particularly from a venture capital fund, who used IPOs to exit their investments. Companies indicate that, in this case, admission to public trading with shares on stock markets was their long-term goal for which they had been gradually preparing.

Another reason for implementation of an IPO, which is not often emphasised in the professional literature, is the fact that the admission of shares for trading on the stock market is one of the attributes for successful activities of the company and its management. The entrance of a company onto the capital market is linked to increased publicity and direct or indirect knowledge of the supply of its products and services, which ultimately has a positive impact on its goodwill. Companies with shares traded on the stock exchange are generally regarded as the most successful in the field in which they operate.

With regard to the financial disadvantages of IPOs, the surveyed businesses agree that initial public offerings are associated with high costs for external advisers, for internal human resources and new processes in the enterprise that are associated, in particular, with periodic reporting obligations. Issuers point out that the total costs of an IPO, which are usually expressed as a percentage of the issue volume, do not represent a unique reward for obtaining the necessary financial resources, as in the case of loan financing.

Issuing companies do not consider underpricing a significant expense of the IPO, but perceive it rather as a tool to increase the likelihood of IPO success. Issuers agree that underpricing helps to ensure sufficient demand from institutional and private investors for shares offered in the IPO. The possibility of capital gains during the first days of trading shares on the secondary market attracts media attention and increases publicity for the issuer.

As access to capital markets requires transparency of current and past information on the activities of the company, the surveyed companies report that their management spent most of its time preparing the IPO, which was to some extent reflected in retarding the growing business of the company. It should be noted that the IPO process contains a retrospective evaluation of company activities and its in-depth examination by legal and financial auditors. To make an initial public offer it is, therefore, necessary to have legal and financial certainty for all businesses that are part of the issuing company.

The surveyed companies indicate that another more demanding activity in the IPO process is the creation of a prospectus, which describes both the past and present of the issuing company and outlines its future. It should be noted that all data presented in the prospectus should be based on demonstrable facts. After the creation of this document, it is necessary to ensure its presentation to investors, which means the establishment of a new department for relations with investors and the organisation of a road show consisting of a personal meeting with potential investors, particularly investors of an institutional nature.

The issuing companies stated that the main reasons for implementing an IPO on the Czech capital market was the fact that the Czech Republic is a major market for their business and also a market opportunity related to the low number of IPOs on the Czech capital market.

The surveyed companies agreed that entering the capital market through an IPO should be a natural part of business development, and should not be viewed solely as a source for obtaining the funds needed for a specific investment. When deciding on the implementation of an IPO, it is also not possible to consider financial criteria alone, since the entry of the company onto the capital market, in comparison with other forms of financing, is an irreversible process for which the company must be prepared in the long term.

CHAPTER 10. PRACTICAL APPROACHES TO IPO IMPLEMENTATION ON THE POLISH CAPITAL MARKET

This chapter ***compares the theoretical models of corporate decisions about IPO-based financing with the results of empirical research conducted on the Polish capital market.*** The aim of the research was to identify factors that influence decisions and the implementation of IPOs on the Polish capital market.

A secondary analysis of data published in the Web of Science and SCOPUS citation databases reveals a lack of questionnaire-based research into companies that have completed an IPO on the Polish capital market. This method of research allows a comparison of the attitudes of managers in the issuing companies with theoretical approaches. The Polish capital market is regarded as the most developed in the CEE region, and this is evident from the number of IPOs it has absorbed in recent years (see Table 10-1). The Warsaw Stock Exchange ranks among the European bourses that handle the largest volume of IPOs. In fact, Poland is the only capital market in the CEE region that is conducive to quantitative research.

Country	Number of IPOs
Poland	330
Czech Republic	6
Hungary	11
Slovakia	1

Table 10-1: Number of IPOs on the Capital Markets of the Visegrad Four Countries in 1998–2009

Source: Paleari et al. (2008; 2009; 2010)

10.1. Material and Methodology

The following was required to achieve the research objectives:

- The collection of secondary data, i.e. the results of theoretical and empirical research into the factors underlying managerial decisions about IPOs.
- The collection of primary data on companies that have completed an IPO on the Polish capital market.
- A comparison between the attitudes of managers in the issuing companies and the theoretical approaches described in the literature.

The method employed in formulating theoretical approaches to IPOs was ***a secondary data analysis*****.** The source of the secondary data was primarily English-language academic literature. This is because the financing of companies through Initial Public Offerings has a long-standing tradition in Anglo-Saxon countries, and represents an academic topic that has been the subject of numerous theoretical and practical studies. The sources of information were mainly monographs, prospectuses and articles published in scientific journals or presented at international conferences and included in their proceedings.

The empirical research was ***quantitative*** in nature and was conducted in the form of a ***questionnaire-based inquiry*** in companies that have completed an initial public offering of shares on the Polish capital market. The sample covered the companies that had entered the Warsaw Stock Exchange general market through an IPO in the years 2007–2009. The rationale for the time limitation of capital market entry through an IPO was to obtain meaningful information from executives who have had recent personal exposure to the IPO process. The list of respondents, compiled from the information available on the webpages of the Warsaw Stock Exchange (www.gpw.pl, January 2011) and from publications authored by Paleari et al. (2008; 2009; 2010), comprised a total of 107 companies.

The questionnaire, prepared in the Polish language, consisted of five separate parts:

- reasons for entering the capital market through an IPO,
- factors influencing IPO timing,
- pricing the shares below their value (underpricing),
- signalling the issuer's quality,
- IPO-related disadvantages.

The data was collected in two stages. In early 2010, a questionnaire accompanied by a cover letter was sent to all the companies on the survey list. The individuals who participated in filling out the questionnaire held the position of Chairman of the Board or Chief Financial Officer. The respondents were asked to indicate, on a scale of 1 (unimportant) to 5 (very important), ***how important the specified reasons were to the company management/owner in taking the decision to proceed with an IPO.*** A completed questionnaire was returned by 8 companies. To improve the response rate, the questionnaire was put into electronic form and sent by e-mail in April 2010 with a request for completion to the people who had not responded the first time around. This approach yielded another 13 completed questionnaires, meaning that the return rate from the selected group of respondents reached 19.6 %.

The data from the survey was analysed by statistical methods appropriate for its type and quantity. The basic evaluation was performed by statistical descriptive methods. Categorical data was analysed using contingency tables and evaluated by the M-V chi-square test adjusted to a small number of frequencies in the individual categories. The multivariate methods applied were a canonical analysis and a correspondence analysis. The normality of the data was checked by the Kolmogorov-Smirnov test, and its conversion to normality performed by a logarithmic transformation. The data was evaluated at the significance level of $\alpha = 5$ %. The program Statistica.CZ Version 9 was used to perform the statistical processing.

10.2. Results

The presentation of research results follows the questionnaire sequence.

10.2.1. Reasons for Going Public

Ritter and Welch (2002), who studied reasons for implementing an IPO, concluded that there were three kinds of reasons to start trading shares publicly. First, companies ***seek external capital*** for their continued growth. This reason is also supported by earlier papers, such as those published by Modigliani and Miller (1963), Scott (1976), and Myers (1984), who do not concentrate solely on IPOs. These authors argue that there is an optimal capital structure, and that companies act to achieve it. Companies have a preference for the least expensive source of money and opt for more expensive financing only when the cheaper source has been exhausted. Com-

panies following this model would presumably execute an IPO at a stage of their lifecycle at which additional external capital could help achieve an optimal capital structure. A more general reason for conducting an IPO is to ***secure benefits for the existing shareholders*** who can, if the shares are freely traded, sell their portion of the company ownership on an open market. In this sense, the initial public offering may be a way of taking venture capital out of the company and cashing in an investment by selling the shares on the stock market. The last reason, usually subordinate to the first two, is to start an IPO for non-financial benefits, such as the greater attention the media gives to publicly traded companies.

The results of this empirical research suggest an agreement between theory and practice in some respects, while highlighting certain differences in others (Table 10-2). The respondents in the issuing companies, in accordance with theoretical precepts, identified the ***raising of external equity*** to finance investments as the main reason for executing an IPO (average significance level for this reason: 4.86; relative frequency of respondents expressing agreement with this rating: 95.24 %). The second most important reason for implementing an IPO is ***the availability of publicly traded shares for future mergers and acquisitions*** (3.81; 76.19 %). This level of significance is surprising given the limited theoretical interest in this particular aspect. The newly issued shares allow the issuer to become either an acquirer or a target, especially in stock-financed transactions. Other important reasons for conducting an IPO include ***publicity and corporate image enhancement*** (4.00; 66.67 %), ***greater attractiveness of the company as an employer*** (3.71; 61.91 %), and ***the establishment of company market value*** (3.71; 61.91 %). The issuing companies do not typically see the IPO as a tool for the direct reduction of company debt (2.38; 61.90 %), but rather as an instrument ***for strengthening its negotiating position in dealing with prospective providers of external capital*** (3.71; 66.67 %). The research results further indicate that ***the exit of venture capital funds*** is not among the major reasons for conducting an IPO on the Polish capital market (1.95; 80.95 %). The respondents have the same attitude towards ***the problem of succession*** (1.38; 90.48 %).

Reason for going public from the theoretical perspective	Level of significance from the empirical research perspective		
	Low	Medium	High
Raising external capital for investments *(Ritter and Welch, 2002; Paleari et al., 2006)*			×
Availability of publicly traded shares for future acquisitions and mergers *(Brau, Francis, Kohers, 2003)*			×
Good publicity, company image enhancement *(Maksimovic and Pichler, 2001; Ježek, 2004)*			×
Greater attractiveness of the company as an employer *(Haubrok, 2006)*			×
Establishment of the company's market value *(Ellingsen and Rydqvist, 1997)*			×
Stronger bargaining position with providers of external capital *(Rajan, 1992)*			×
Reducing the cost of capital *(Rajan, 1992)*	×		×
Reducing company indebtedness *(Paleari et al., 2006)*	×		
Diversification of existing shareholders' equity portfolio *(Pagano, 1993)*	×		
Exit of venture capital funds from the company *(Black and Gilson, 1998)*	×		
Solving the problem of succession *(Black and Gilson, 1998; Mello and Parsons, 1998)*	×		

Table 10-2: Reasons for an IPO – Theory and Practice on the Polish Capital Market
Source: authors' findings

10.2.2. Factors Influencing IPO Timing

Ibbotson and Jaffe (1975) and Ritter (1984) demonstrate that initial public offerings have a cyclic nature. There are three theoretical explanations for the phenomenon of IPO timing. The first postulates that ***companies enter the capital market under favourable economic conditions*** that support their continued growth and development (Loughran and Ritter, 1995; Ritter and Welch, 2002). The second theory asserts that ***companies initiate IPOs at a time when other businesses are also entering the capital market*** (Choe, Masulis and Nanda, 1993). The final explanation for IPO timing is derived from the company lifecycle theory. This is based on the idea that ***companies issue shares when they reach a certain point in their lifecycle and need capital for further growth*** (Choe, Masulis and Nanda, 1993; Lowery, 2002).

The empirical results (Table 10-3) show that the most important factor in choosing the right moment for an IPO is ***the current need for capital for continued company growth*** (average significance level for this factor:

4.38; relative frequency of respondents expressing agreement with this rating: 90.48 %). In timing a public offering, the companies also take into account ***the conditions in the issuer's business sector*** (4.10; 80.95 %), ***macroeconomic growth*** (4.14; 76.19 %), ***stock markets rising*** due to an optimistic mood among investors (4.10; 76.19 %) and ***investors' interest in this type of business*** (3.81; 71.43 %). They attach less importance to ***interest in IPOs by other companies in the same business sector*** (2.62; 52.38 %). A surprising discovery was the respondents' characterisation of ***the interest in IPOs by companies in other business sectors*** as the least important factor in IPO timing selection (1.81; 80.96 %).

Factors influencing IPO timing from the theoretical perspective	Level of significance from the empirical research perspective		
	Low	Medium	High
Current need for capital to finance further company growth *(Choe, Masulis and Nanda, 1993; Lowery, 2002)*			×
Conditions in the issuer's business sector *(Pagano et al., 1998)*			×
Macroeconomic growth *(Loughran and Ritter, 1995; Ritter and Welch, 2002)*			×
Rise of stock markets due to optimistic mood among investors *(Ritter and Welch, 2002)*			×
Investors' interest in this type of business *(Paleari et al., 2006)*			×
Interest in IPOs by other companies in the same business sector *(Choe, Masulis and Nanda, 1993)*		×	
Interest in IPOs by companies in other business sectors *(Choe, Masulis and Nanda, 1993)*	×		

Table 10-3: Factors Influencing IPO Timing – Theory and Practice on the Polish Capital Market
Source: authors' findings

10.2.3. Pricing the Shares below their Value (Underpricing)

Loughran, Ritter and Rydqvist (1994) and Paleari et al. (2006) provide abundant evidence that companies frequently sell IPO-issued shares at a price lower than their prices when first traded on the secondary market. This phenomenon is known as underpricing, and is one of the most widely discussed issues surrounding initial public offerings. Theoretical explanations of this phenomenon are mostly based on the existence of ***information***

asymmetry between the parties participating in the offering, i.e. issuers, investors and underwriters.

The results of this research (Table 10-4) document the respondents' belief that underpricing basically ***rewards investors for the risk*** they assume when they buy shares in an IPO (average significance rating for this factor: 4.10, relative frequency of respondents expressing agreement with this rating: 90.48 %). ***A greater probability of IPO success*** (3.86; 66.67 %) and ***an assurance of sufficient demand*** in the offered shares from investors, particularly institutional investors (4.05; 66.67 %), were identified as additional reasons for the lower pricing of these shares. Theories claiming that discounted pricing of IPO shares brings about ***a reduction in marketing costs*** received minimal support (2.14; 76.19 %). These issuers also take a negative view of the notion that underpricing acts as protection against future investor-driven litigation in the case of a large drop in the post-IPO share price (2.43; 57.14 %).

Factor explaining the existence of underpricing from the theoretical perspective	**Level of significance from the empirical research perspective**		
	Low	**Medium**	**High**
Reward for risk assumed by investors in an IPO *(Rock, 1986)*			×
An instrument increasing the probability of IPO success *(Oxera, 2006)*			×
Increased demand for shares from institutional investors *(Rock, 1986)*			×
Increased demand for shares from retail investors *(Rock, 1986)*			×
Attracting a large number of investors *(Brennan and Franks, 1997)*			×
An instrument stimulating interest in post-IPO trading *(Boehmer and Fishe, 2001)*			×
Convincing a few early investors that buying shares is advantageous in order to trigger a 'snowball' effect *(Welch, 1992)*		×	
A tool to reduce IPO marketing costs *(Habib and Ljungqvist, 2001)*	×		
Reducing the risk of investor-driven litigation resulting from a large drop in the post-IPO share price *(Drake and Vetsuypens, 1993)*	×		
Compensating investors for correct disclosure of the fair share price they are willing to pay *(Stoughton and Zechner, 1998)*	×		

Table 10-4: Factors Explaining the Existence of Underpricing – Theory and Practice on the Polish Capital Market

Source: authors' findings

10.2.4. Signalling the Issuer's Quality

The theory of signalling the issuer's quality is likewise based on the existence of ***information asymmetry between issuers and investors***. Leland and Pyle (1977) claim that ***the sale of employees' shares*** and ***the sale of a large portion of the basic business capital*** in an IPO send a negative signal to potential investors. Other authors focus on factors viewed as positive signals by investors. In general, ***working with reputable underwriters*** (Booth and Smith, 1986; Carter and Manaster, 1990; Carter, Dark and Singh, 1998), ***with reputable accounting and auditing firms*** (Titman and Trueman, 1986; Beatty, 1989; Michaela and Shaw, 1995), and ***utilising venture capital financing*** (Megginson and Weiss, 1991; Barry et al., 1990) serve as strong signals or assurances that the entity preparing to go public is of a high quality.

The literature mentions three more examples of positive signals. First, Welch (1989), Allen and Faulhaber (1989) and Chemmanur (1993) argue that only 'good' issuers can afford to send a signal to investors by means of sizeable ***underpricing***, that it is precisely such companies that can afford such a discount and allow the first investors to realise a capital gain by selling the shares after only a few days of trading on the secondary market. Second, Courteau (1995) and Brau, Lambson and McQueen (2005) believe that a commitment on the part of the issuing company and its shareholders ***not to sell their shares*** for a sufficiently long period of time after the IPO signals a conviction about the quality of their own company, thereby increasing its credibility with investors. Finally, Teoh, Welch and Wong (1998) claim that ***a history of high profits*** is a signal of good performance in the future.

The research shows (Table 10-5) that the respondents considered presentation of ***very good economic results*** in the period preceding the IPO (average classification: 4.48, relative frequency of respondents expressing agreement with this rating: 90.48 %) and ***the management's commitment not to sell its stake in the company for a certain time after the IPO*** (4.33; 85.71 %) to be the most important positive signals for investors. In terms of the working partners implementing an IPO, ***the selection of a reputable underwriter*** and ***an auditing firm*** (3.86, 3.71; 66.67 %) gives the transaction the greatest credibility. Conversely, ***the sale of a large portion of the basic capital*** in an IPO has been marked as conveying a negative signal about the quality of the issue (1.95; 76.19 %).

Activity signalling the issuer's quality from the theoretical perspective	Level of significance from the empirical research perspective		
	Low	Medium	High
Presentation of excellent financial performance in the period before the IPO *(Teoh, Welch and Wong, 1998)*			×
The management's commitment not to sell its stake in the company for a certain period after the IPO *(Courteau, 1995; Brau, Lambson and McQueen, 2005)*			×
Using the services of a reputable issue manager *(Booth and Smith, 1986; Carter and Manaster, 1990; Carter, Dark and Singh, 1998)*			×
Using the services of a reputable auditing firm *(Titman and Trueman, 1986; Beatty, 1989; Michaely and Shaw, 1995)*			×
Sale of company management shares *(Leland and Pyle, 1977)*		×	
Using the services of a reputable legal counsel *(Grinblatt and Hwang, 1989)*		×	
IPO as a way for a venture capital investor to exit the company *(Megginson and Weiss, 1991; Barry et al., 1990)*		×	
Setting the share issue price below the market price *(Welch, 1989; Allen and Faulhaber, 1989; Chemmanur, 1993)*		×	
Sale of a large portion of the registered capital *(Leland and Pyle, 1977)*	×		

Table 10-5: Activities Signalling the Issuer's Quality – Theory and Practice on the Polish Capital Market
Source: authors' findings

10.2.5. IPO-related Disadvantages

This part of the research sought to determine what importance the issuing companies attach to the individual aspects characterised as IPO disadvantages. ***The main disadvantages associated with IPOs are*** (Ježek, 2004; Paleari et al., 2006; Yosha, 1995):

- the costs incurred in IPO preparation and execution,
- expansion of the company ownership structure with additional shareholders,
- loss of decision-making autonomy,
- risk of strategic information leakage,
- compliance with a periodic reporting duty.

The research showed (Table 10-6) that in deciding to undertake an IPO, the respondents took into account, first and foremost, ***the time and expense involved in the entire IPO process*** (average significance level for this as-

pect: 3.24 and 3.14; relative frequency of respondents expressing agreement with this rating: 52.38 % and 42.86 % respectively). Among the aspects that had a lesser influence on IPO decisions were ***compliance with a periodic reporting duty*** (3.29; 47.62 %), ***ensuring the transparency of the company*** (3.10; 42.86 %) and ***fear of IPO failure*** (3.00; 38.10 %). An interesting finding is that many of the aspects indicated as IPO disadvantages had little bearing on decisions in the surveyed companies. There was no empirical support for ***the fear of limitation or loss of company control*** (2.62; 61.90 %), ***the expansion of the shareholder structure*** (2.33; 61.90 %) or ***the fear of strategic information leakage and its misuse by the competition*** (2.86; 47.62 %).

IPO disadvantages	Level of significance from the empirical research perspective		
	Low	Medium	High
IPO-related demand on time *(Ježek, 2004; Paleari et al., 2006)*			×
IPO-related costs *(Oxera, 2006; Paleari et al., 2006)*			×
Compliance with a periodic reporting duty *(Oxera, 2006; Paleari et al., 2006)*		×	
Ensuring corporate transparency *(Oxera, 2006; Paleari et al., 2006)*		×	
Fear of IPO failure *(Ježek, 2004; Paleari et al., 2006)*		×	
Fear of limitation or loss of company control *(Maug, 1996)*	×		
Expansion of shareholder structure *(Ježek, 2004)*	×		
Fear of strategic information leakage and misuse by the competition *(Yosha, 1995)*	×		

Table 10-6: Influence of IPO Disadvantages on the Decision to Implement an IPO – Theory and Practice on the Polish Capital Market
Source: authors' findings

10.3. Discussion

The results of the empirical research suggest that theoretical approaches to the IPO process are fully applicable under the conditions in force on the Polish capital market, which can be described as the most developed in Central and Eastern Europe. However, the respondents' input also indicates that there is a need for additional information to complement and broaden the existing theoretical models of IPOs.

Based on the empirical research, the following conclusions may be presented as new insights:

- In addition to raising capital for continued company growth, enhancing its image and gaining advantages for existing shareholders, the availability of publicly traded stock for potential mergers and acquisitions is another significant reason to initiate an IPO.
- Completion of an IPO tends to strengthen the company's negotiating position in respect of providers of external capital. This can be expected to lower the cost of debt financing.
- In choosing an opportune time for an IPO, companies take into account the current need for capital for further growth and development, the present and projected state of the national and global economy, conditions in the business sector in which they operate, and investors' interest in their type of business. They attach less importance to the interest that other companies operating in the same type of business may have in IPOs. In most cases, the interest that firms from other business sectors may have in this subject does not have an appreciable effect on IPO timing.
- Issuing shares at undervalued prices (underpricing) is perceived by the respondents primarily as a reward to investors for the risk they assume in buying IPO shares. Other important reasons for setting a lower share price in an IPO may be a desire to increase the probability of IPO success and to ensure sufficient demand for the shares from investors in general, and institutional investors in particular.
- The respondents indicated that the most important positive signals for investors are evidence of very good economic results in the period preceding the IPO and the management's commitment not to sell its stake in the company for a certain period after the IPO. In terms of partners for an IPO, the selection of a reputable underwriter and a reputable audit firm definitely sends a positive signal to potential investors. A negative signal, from the investors' viewpoint, is a situation involving the sale of a large portion of the company's basic capital.
- Deliberations about whether to undertake an IPO are extremely sensitive to the question of the time and expense involved. The fear of limitation or loss of company control, shareholder structure expansion, and concerns about strategic information leakage being misused by competitors are not perceived as negative externalities of an IPO.

A comparison of the theoretical approaches with the results of our empirical research demonstrates that the theoretical model of the IPO process

is, in principle, applicable to the conditions in force on the Polish capital market, while at the same time highlighting the existence of certain differences. The empirical results made it possible to formulate new insights as contributions towards a better understanding of corporate financing strategies, particularly under the specific conditions of the CEE region.

This summary may be considered a starting point for subsequent IPO research elaborating and expanding on the individual statements.

CONCLUSION

This final chapter contains a summary and a discussion of the results obtained. These are presented chronologically, following the order of the individual chapters.

The introductory chapter defined the specifics of joint-stock companies and provided an overview of the sources that this type of legal entity can utilise in raising the capital needed for investments in corporate development. The results of this research indicate that issuing securities on public capital markets is an important form of financing such developments. Stocks and bonds issued on these markets are characterised by tradability. This is a great advantage both for the issuers, whose equity-based securities create long-term monetary sources, and for the investors, who can sell the acquired securities at practically any time and revert to the desired liquidity. In this way, the short-term monetary resources of individual investors are converted into long-term financial resources capable of supporting extensive developmental investments. Since securities are purchased by a large number of investors, a company can generate a greater volume of capital than any one individual would be willing or able to provide.

In the next section, the book discusses present attempts to define the concept 'Initial Public Offering'. A secondary analysis of relevant papers, mostly foreign, reveals that the definitions of the majority of authors emphasise the fact that the company offers its securities, or shares in the narrower sense of the word, to the public for the first time, while simultaneously entering a regulated public securities market, usually represented by a stock exchange. The fact that an IPO may be executed only by an issuer whose shares are not being traded on the public securities market at the given time is of key importance. Depending on the origin of the shares offered in an IPO, a distinction can be made between offers of primary shares and secondary shares. In an IPO of primary shares, the issuer offers newly issued shares and, by selling them, generates the funds needed for its business activities. In an offering of secondary shares, the money raised goes to the existing shareholders, whose shares are listed on a secondary public securities market for the first time in the IPO. An IPO of primary

shares can be said to make sense for a company that finances development from its own external sources. Such a company seeks the necessary funds by issuing new shares, although possibly complemented by some secondary shares (i.e. shares issued prior to the IPO) for greater attractiveness and liquidity.

As the analysis of IPO activities on world markets demonstrates, financing corporate development by issuing an IPO has lately grown in importance, be it on the capital markets of developed industrial countries or the emerging markets of countries such as Brazil, Russia, India and China. However, in the countries of Central and Eastern Europe, the practice is still rather marginal. The exception is Poland, whose capital market is widely regarded as the most developed in the CEE region. This is exemplified by the number of IPOs executed on the Polish capital market in recent years. The Warsaw Stock Exchange is currently one of the European stock exchanges with the largest number of completed IPOs.

The professional literature cites a number of financial and non-financial reasons for a company to enter the capital market by means of an IPO. Most of the authors agree that the principal reasons for this step are to generate the necessary funds for company development without the restrictions inherent in credit financing, to boost corporate image/publicity, or to reduce risk concentration by diversifying the equity holdings of the company's present owner. The results of this research reveal that it is usually a combination of reasons that leads a company to execute an IPO. At the present time, companies resort to this form of financing because of a need for capital, and because some existing shareholders want to sell their stake in the company (venture capital, for example) through an IPO.

Deliberations concerning a potential IPO should recognise that issuing shares on a public capital market involves a number of expenditures for the issuer. IPO-related costs fall into two categories, namely implementation costs and share tradability costs. The implementation costs include all direct and indirect expenses incurred in the process of the initial public offering of shares. The largest item in the direct implementation costs are usually the underwriter's fees. On most of the analysed markets, these ranged from 3 to 7 % of the issued volume, which represents more than half of all direct implementation costs. Since the difference between the underwriters' fees on the American and European markets are about three percentage points, this disparity has a major impact on IPO cost comparisons between these two markets. Other direct implementation costs include fees to professionals for auditing, legal services and miscellaneous consultation, fees

to register the shares for trading on public capital markets, marketing costs (presenting the company to potential investors), and the issuer's internal cost of IPO preparation. These costs may be approximated at 2 to 5 % of the issued volume for the analysed markets in general. It should be noted, however, that the actual amount is always individual and affected by the specifics of the particular offering, such as its valuation and the issuer's readiness to enter the capital market. As a rule, on all the analysed markets, the increasing volume of the issue causes the direct implementation costs to rise in absolute terms and decline in relative terms (as a percentage of volume). This is because certain portions of the direct implementation costs (such as the costs for auditors, legal advisors and marketing) are of a fixed nature.

One indirect implementation cost of an IPO is underpricing, that is issuing shares at undervalued prices. The research results indicate that most IPOs exhibit a positive difference between the share pricing established during the first day of trading on the secondary market and the introductory price. This fact stimulates investors' demand for the shares in initial public offerings, because a capital gain can be realised within a few days of the purchase. On the other hand, underpricing represents an implicit IPO burden, since the companies (or the original shareholders in a secondary offer) end up getting a smaller amount of money. The average amount of underpricing on the markets analysed ranged from 5 to 10 % of the issued volume. The explanation as to why the shares in an IPO are usually undervalued is most frequently based on the existence of an information asymmetry between the participants in an initial public offering, that is to say issuers, investors and underwriters.

IPOs display another peculiarity in addition to underpricing – lower share profitability in the long run. An analysis of secondary sources indicates that over a period of 3 to 5 years following the IPO, the issuers' equities tended to have a lower return than those of other comparable companies. Of the possible explanations for this phenomenon, the strongest empirical evidence points to the market timing theory.

The third section of the book starts by listing the main conditions for the successful execution of an IPO on the Czech and Polish capital markets. These may be divided into three basic categories: macroeconomic conditions, microeconomic conditions, and conditions pertaining to the size and structure of the offering. From the macroeconomic point of view, a situation favourable for an IPO arises when demand for new shares of stock

exists on financial markets. This usually occurs in the ascending portion of the economic cycle, i.e. in the period of economic boom.

The conditions for an IPO launch from the issuer's viewpoint (micro-economic conditions) can be arranged into several sub-categories, such as the company's market position, its financial accounting and reporting, its financial health, corporate governance, and the company's public image. A company contemplating entry onto the capital market with an IPO should be in a growing stage of its lifecycle. In the area of accounting, implementation of International Financial Reporting Standards is imperative to a company planning to finance its development with an IPO on the Czech capital market. It is desirable for such a company to show growth in all major financial indicators for several periods preceding the planned capital market entry, including sales revenues and cash flow from corporate operations. Another prerequisite for a successful IPO from the issuer's perspective is compliance with the requirements of corporate governance.

The final group of conditions relates to the structure and magnitude of the IPO. Under Czech conditions, the size of the IPO should be at least 30 million EUR. However, this figure is quoted only for the purpose of reference, as the actual size has to take into account the type of business in which the company operates. As for the structure of the issue, this will always depend on the reasons why the company wants to undertake an initial offering of its shares. If it needs to raise capital for further development, then the IPO will consist of primary shares, though possibly complemented by some secondary shares for greater liquidity. If the IPO is motivated by the sale of an existing owner's stake, then the issue will consist of secondary shares.

The intention of the next chapter was to identify the principal characteristics of the initial public offerings that have appeared on the Czech capital market in recent history, and to examine the approaches, attitudes and experiences of the companies that implemented them.

The results of this research reveal that these IPOs were executed solely by multinational corporations organised as holdings, which engage in business activities within the territory of the Czech Republic, though their parent corporations are headquartered elsewhere, typically in countries in which tapping into capital markets for financial resources is customary. For this reason, IPO implementation mostly took the form of dual listing on the domestic and foreign stock markets. With regard to the structure of the IPO-listed shares, it was found that most initial public offerings had a combined character, meaning that the investors were offered both primary and

secondary shares. For the most part, the funds raised by the sale of newly issued shares were used by the issuers for further development and debt repayment. The offer of secondary shares was mostly a matter of withdrawing venture capital and cashing in an investment by selling shares on the stock market. The main group of investors were institutions from the countries of the European Union. The total direct costs of the IPOs on the Czech capital market were calculated to be in a range of 5.6–9.0 % of the issued volume. The largest single item were the IPO manager's fees. In the IPOs analysed, these amounted to 2.5–5.0 % of the issued volume.

The companies that executed an IPO on the Czech capital market were included in a piece of qualitative research conducted with the intention of learning how they handled this method of financing in practical terms. The issuing companies stated, in conformance with the theoretical approaches to IPOs mentioned above, that one of the main reasons for the offering was a need to raise some capital free of mandatory repayment. It allowed them to optimise the capital structure and reduce the cost of securing additional capital, particularly in the form of debt. The companies greatly appreciate the fact that a successfully executed IPO enhanced their credibility with banking institutions, which subsequently offer more favourable credit terms than they did previously, such as a lower interest rate. A major impetus to undertake an IPO came from the owners of the monitored companies, and specifically of the venture capital fund, who took advantage of an IPO to liquidate and cash in their investment. Companies profess that, in this case, it was their long-term goal to register shares for public trading on the stock exchange, and that they had been systematically preparing for it. Another reason stated for the implementation of an IPO, although not one propounded in the professional literature, was the fact that the acceptance of shares for trading on a stock market is a hallmark of success for both the company and its management. Companies whose shares are actively traded on a stock exchange tend to be viewed as the best in their professional field.

As for the financial disadvantages associated with IPOs, the polled companies agree that initial public offerings of shares are burdened with high costs for external consultants, for internal human resources, and for new procedures within the company. An interesting insight is that the issuing companies do not perceive underpricing as a significant IPO-related cost, but rather as a tool to boost the likelihood of its success. Since entering the capital market requires transparency of information about the company's past and present activities, the interviewed companies agree that their management spent a greater portion of its time preparing for the IPO,

which resulted in a perceptible slow-down in otherwise intensive enterprise activities inside the organisation. The interviewed companies also report that another demanding task in the IPO process is to prepare a prospectus describing the company's past and present plus a general outline of its future. After this document is prepared, it is imperative to present it to investors (which in reality means setting up a new department for investor relations) and put on what is known as a road show, that is to arrange personal meetings with all potential investors, particularly those of an institutional nature.

The interviewed companies also agreed that entering the capital market with an IPO should be part of the company's natural evolution, and should not be perceived merely as an alternate source of funds needed for a certain project. IPO decisions cannot be simply a matter of financial criteria, because unlike other forms of financing, the company's entry onto a capital market is an irreversible process for which thorough preparation is essential.

Another part of the research into corporate financing through IPOs covered the Polish capital market. Poland operates the most prominent capital market in the CEE region and the only one in the region that allows for quantitative research. The quantitative research was performed by a questionnaire-based survey of those companies that had completed an initial public offering of shares on the Polish capital market. The objective was to identify the factors that influence IPO decisions on the Polish capital market and compare the empirical data with contemporary theoretical models of this critical juncture.

The empirical results suggest a consonance of theory and practice in some respects, while highlighting differences in others. In agreement with the theoretical precepts mentioned earlier, the respondents from the issuing companies identify the raising of external capital to fund developmental investments as the main reason for an IPO. The second most important reason for an IPO is potential use of the publicly traded shares for subsequent mergers and acquisitions. The degree of importance placed on this reason is surprising, given the limited recognition assigned to it by the theory. The newly issued shares make it possible for the IPO-implementing company to become either a recipient or a target, especially in transactions financed by shares of stock. Other important reasons for executing an IPO are for the company to gain publicity, improve its corporate image, increase its attractiveness as an employer, or establish its market value. The issuing companies do not typically see the IPO as an instrument of direct reduction

of corporate indebtedness, but as a way to strengthen their negotiating position in respect of any future provider of outside capital. The research results indicate that, on the Polish capital market, withdrawal of venture capital is not among the compelling reasons for undertaking an IPO.

A subsequent portion of the research studied the factors influencing the exact moment for launching an IPO. The respondents identified an imminent need for growth-sustaining capital as the most important factor in IPO timing. In deciding on its timing, they take into consideration the conditions in the issuer's business sector, macroeconomic growth, and advances in the stock market due to an optimistic mood among investors and their interest in a given type of business. They attach less importance to the interest that other companies in the same business sector may have in executing an IPO. It was surprising to find that interest in an IPO among companies in other fields of business was, in the respondents' view, the least important factor in IPO timing.

With respect to underpricing, the respondents indicate that they perceive it primarily as a reward to investors for the risk they assume by purchasing shares in an IPO. Another significant reason for setting a lower introductory price was to increase the likelihood of the success of the IPO and to ensure that the floated shares will be in sufficient demand by investors, particularly institutional investors. The theory suggesting that IPO shares are underpriced to save on marketing costs received very little support. The issuing companies also take a negative view of underpricing as protection against future investor-initiated lawsuits as a consequence of a precipitous post-IPO drop in the share price.

The next part of the research examined the respondents' attitudes toward the theory of quality signalisation by the issuer. The research results indicate that the most persuasive positive signals for the respondents are evidence of good economic performance in the pre-IPO period and the management's commitment not to sell its stake in the company for a certain period after the IPO. The partnership choices that imply the highest degree of trustworthiness are a reputable IPO manager and an established accounting firm. Conversely, the sale of a large portion of capital in the IPO was classified as a signal affecting the quality perception negatively.

The final part of the research focused on the importance placed by the issuers on the IPO aspects portrayed in the literature as disadvantages. The results showed that the respondents, when making IPO-related decisions, took into account primarily its cost effectiveness and the time-absorbing nature of the entire process. An interesting insight is that many of the as-

pects often claimed to be IPO disadvantages did not have an appreciable influence on decisions within the monitored companies. Likewise, no empirical evidence was found for the fear of loss/limitation of company control, the expansion of the shareholder structure, or concerns about strategic information leakage and its misuse by the competition.

The results of our research are being presented as a contribution towards a more extensive and more precise repository of knowledge dealing with corporate financing through Initial Public Offerings, especially under the conditions in force in the Central and Eastern European region. We trust that the results of this research will prove useful in further scientific exploration of the subject, as well as in corporate and educational practice.

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PUBLISHING REVIEW

The monograph 'Initial Public Offering – Theory and Practice of Czech and Polish Companies' by Tomáš Meluzín, Marek Zinecker and Justyna Łapińska is devoted to the financing of companies through an Initial Public Offering. It is designed both for professionals from the ranks of financial managers and investors and for university students and those taking postgraduate studies. It may, however, also prove extremely useful to the wider economic community. It enables the reader to understand the position and role of IPOs, the benefits and cost structure of IPOs, and approaches to the valuation of IPOs. It also provides a sound overview of trends in the development of IPOs around the world and in individual regions, identifies macroeconomic and microeconomic conditions for the successful implementation of an IPO, and compares IPO practice to date on the Czech and Polish capital markets. The text is written in comprehensible language, while the interpretation of the issue is illustrated with numerous tables and appropriately supplemented by clearly arranged graphs.

The book is comprised of a Preface, Conclusions and three sections: A) Introduction: Joint-stock Companies and Initial Public Offerings, B) Initial Public Offering: Theoretical Approaches, and C) Theoretical and Practical Issues Relating to IPO Implementation under the Conditions in Force on the Czech and Polish Capital Markets. These sections are arranged in an appropriate manner: general definitions are followed by detailed analyses, and the publication finishes with specific applications on the Czech and Polish capital markets. Each section begins with an overview of 'Individual Objectives', which provide extremely good points of reference in studying the book.

Section A is divided into three chapters. Following a characterisation of joint-stock companies, the first chapter presents an overview of basic forms of internal and external financing of company development. Special attention is, logically, devoted to financing from external sources. In the next, extremely short, chapter the authors draw attention to various approaches to the definition of the term Initial Public Offering in the literature and give a definition used thereafter in the book – 'IPO' will be used as shorthand for an initial public offering of shares. This section comes to a close with an extremely illustrative interpretation of trends in the development of IPOs on the global market in terms of their number and volume.

Section B begins with the short Chapter 4, which outlines various motives for companies entering the capital market through an IPO and gives a clear summary of the advantages and disadvantages of the initial public offering of shares. The authors then analyse the structure of IPO costs and give a thorough differentiation of direct IPO implementation costs and indirect IPO implementation costs (underpricing). This chapter will undoubtedly prove interesting both to managers considering an IPO and to investors on financial markets. As a number of specific anomalies are traditionally associated with IPOs on global markets, Chapter 6 is, logically, devoted to the issue of the quantification of 'underpricing' and 'long-term underperformance' on individual stock markets around the world. The authors also consider the relevance of 'Market Timing Theory' on the Czech stock market. The final chapter in this section gives an interpretation of the principal approaches or methods used in the valuation of IPOs.

Section C is a logical culmination to the book as a whole. In Chapter 8, the authors clarify basic conditions for the successful implementation of an IPO, considering macroeconomic and microeconomic conditions and requirements for the volume and structure of the emission. The scope of Chapters 9 and 10 provides a symbolic reflection of the number of IPOs implemented on the Czech and Polish capital markets. Theoretical models of decision-making relating to IPO-based financing are also compared with the results of the authors' own empirical research. The conclusions the authors reach are, in this way, supported by their own extensive research.

The book's graphic design, clear tables, graphs and diagrams are an indisputable positive aspect of the publication. Those interested in further study of the issue of IPOs will also welcome the extensive literary sources on individual aspects of IPOs contained in the book.

I can, on the basis of the above, state that this publication by T. Meluzín, M. Zinecker and J. Łapińska is of a high quality and an extraordinarily

useful source of information for anyone with an interest in initial public offerings of shares, whether from the practical viewpoint of a manager or the theoretical viewpoint of university lecturers and students. In view of the above facts, I unambiguously recommend this book for publication.

Ostrava, 4 December 2011

prof. Ing. Lumír Kulhánek, CSc.

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PUBLISHING REVIEW

Business entities constantly need to adjust to the changes on the market; they need to increase their competitive position; to increase the value of their companies. The investment processes require for capital decisions to be taken, whether to keep the part of the obtained profit or externalise in search of new shareholders. It is the capital with its adequate structure and ways of being managed that can assure systematic growth and development of innovations. Those needs put a significant emphasis on the management of capital as a part of the management process. The capital-related decisions are reflected in shaping both its value and its structure. The book which is reviewed here showcases the process of introducing shares to the public market. It presents the benefit which a company can gain by entering the stock market and what can be obtained by the issuer by using the IPO *(initial public offering*). The work puts emphasis on the possibilities of obtaining capital but also on the increase of the company's credibility and its greater recognition which can be correlated to greater financial results.

In the first chapter it is pointed out that a company which wishes to become an issuer of stock market shares needs to be a joint-stock company. Reorganising a company into a joint-stock one is of particular significance for companies who wish to exist on the stock market. The authors presented the basic features which characterise this type of company's organisation.

The next part of the book presents an overview of the basic sources of financing company's development activities. A correct distinction of internal (self-financing) and external (own and foreign) sources was made. A particular role was given to external sources, which are of attraction for companies when they issue own stocks, obtain subsidies, use credits, loans, leasing, issuing corporate stocks or using hybrid financing.

Further on, the work demonstrates the theoretical background for the IPO which are related to introducing the company into the stock exchange for the first time. It needs to be noted that preparing a public offering and leading to stock quotations is and action which requires significant knowledge of strategic consulting, legal requirements, financial analysis, reorganisation and restructuring of business entities. The offer needs to be reviewed independently for each case, depending on the level of its complexity. The book points out the problem of undervalued initial offerings.

The authors presented a rich set of statistical data. They demonstrated among *inter alia*: the overall number and the value of capital-increasing transactions on the market in the years 1995-2010 and also the basic data regarding the initial public offers of stocks issued on the world market in the years 2008-2010. The work also includes a very interesting presentation of the number of debuts and the value of increased capital in the years 2009-2010 in its geographical spread. This allowed for discovering the ten greatest IPOs in the world.

The reviewed book characterised the IPO market in the USA and Europe, particularly Central-Eastern Europe, the markets of the Middle East, Africa and Asia. It also pointed out the limitations in the transactions of new companies entering the market, especially in the last few recession-stricken years. The summary presents the perspectives of further development of IPO on world markets.

Further on the book discussed the main reasons for realising IPOs, carried out an analysis of the structure and scope of bearing IPO costs, demonstrated the main methods of analysing companies values and compared the direct costs of IPO realisation on the main world's markets. It presented in great detail the results of empirical research concerning the prices of companies' shares in IPO transactions and in cases of starting up new stocks' issuing. An evaluation of the Czech capital market was made based on the example of six chosen companies entering the stock market. This sample is too small to allow generalisation of conclusions for the whole market, nonetheless it delivers certain knowledge in this area. Therefore the directions for further research proposed by the authors can be supported:

- to increase the sample size of the analysed companies in order to take into account the new issuers on Czech market;
- to widen the scope of research by the companies which perform their activities on other capital markets of Central-Eastern Europe (with a preference for the Polish market, due to its significance);

– to deepen the evaluation of companies' results by the economic value added (EVA).

The book presented the basic methods of evaluating the value of stocks in the initial public offering. It described the comparative methods and the discounted cash flow method, showing their advantages and disadvantages. The theoretical assumptions were supported by numerical examples. Further on the work characterised the macroeconomic and microeconomic conditions of IPO realisation. It rightfully pointed out the requirements concerning the size and the structure of stocks issue.

Chapter 9 of the book is a very interesting input for evaluating the functioning of Czech capital market. Since the year 2004 the first initial public offerings have been made on the Stock Exchange in Prague. Since then there can be seven companies identified who became the subject of research aiming at defining the main characteristics of the initial public offerings of shares realised in the Czech Republic in the years 2004-2010. The chapter describes the research relating to the practical approach of issuers dealing with financing their activities in the form of public offering.

The final chapter of the book includes a practical evaluation of IPO on the Polish capital market. It points out the key factors which influence decision-making and realisation of public offers.

As a summary it can be stated that the book *Initial Public Offering: Theory and Practice of Czech and Polish Companies* by Tomáš Meluzín, Marek Zinecker, Justyna Łapińska is a worthy position which should be addressed to a wide range of recipients who are interested in issues relating to the functioning of financial markets. The work can be used by researchers and academic teachers, students of finance, accounting, management and economy. It can also be an interesting literature used by practitioners who deal with companies' finance. The recipients of the book should also include investors who are in search of adequate investments proposed by the stock exchange, because the work shows that despite the financial crisis which happened in many countries IPO can be cost effective and coming on to the stock exchange can enforce the company's position on the market.

Taking into account the significant scientific and applicative value of the reviewed work, its original character and the possibility of using it during academic courses as well as during the practical actions of joint stock companies, I can state that the work fulfils the merit and formal requirements to be printed.

Toruń, 18th Decemeber 2011

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SUMMARY

This book deals with the topic of corporate financing through *Initial Public Offerings*. It aspires to broaden both knowledge and comprehension of this subject. For issuers, it identifies some practical approaches to IPO-related decisions under the conditions in force on the Czech and Polish capital markets.

The introductory chapter delineates the specifics of joint-stock companies and reviews the resources available to such legal entities in raising the capital needed for investments in company development. The term 'Initial Public Offering' is then defined, followed by an assessment of IPO trends in terms of their numbers and the value of the capital obtained by this form of financing on global equity markets. In the next section of the book, the authors survey the most frequently stated reasons for launching an IPO with their respective pros and cons. The book then analyses the IPO structure and the related costs on global equity markets. The following chapter covers the characteristic features of IPOs, these being underpricing and the lower profitability of shares after the initial public offering. This part of the book concludes with a discussion of the methods used to evaluate the issuing companies.

The third part of the book begins with an outline of the main conditions for a successful IPO implementation on the Czech and Polish capital markets. This is followed by the main characteristics of the initial public offerings that have appeared on the Czech capital market, and an articulation of the policies, views and experiences of the companies that implemented them. This section of the book also presents the results of research into factors that influence decisions about a prospective IPO under the conditions in force on the Polish capital market. The results of the empirical research are compared with modern theoretical approaches seeking a solution to this decisive juncture within a company. The final chapter presents a summary and a discussion of the results produced.

Key Words: Corporate Financing IPO, Initial Public Offering, Czech Capital Market, Polish Capital Market

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