Abstract
The capital market as a source of financing of companies in the Czech Republic is the main issue of this article. The paper surveys the Czech capital market from the perspective of corporate financing, and investigates the causes of low interest of companies operating in the CR in obtaining additional capital through the capital market securities (stocks, bonds). The article presents the current state of the Czech capital market, and the importance of the capital market for the economy. The research itself into the corporate capital structure defines trends in the use of owner’s equity, shares, bonds, and bank loans for financing in selected business sectors. Findings of this article indicate that fundamental changes in the approach of Czech companies to financing through capital market cannot be expected in the near future.

Introduction
The corporate financing theories and the theories of the optimal capital structure have been widely discussed since the publishing of Modigliani and Miller’s article (1958). Their theory was extended by effects of taxation in 1963, by justifying the preference of the debt capital in order to take advantage of the tax shield effect. The research works of Myers, Donaldson, Jensen, Titman, Frank and others contributed significantly to the capital structure theory. In general, there are two major theories related to the capital structure of large companies. In the first theory, managers act according to the shareholders’ interests, e.g., static trade off and pecking order (Myers, 1984; Myers & Majluf, 1984). In the second theory, managers no longer make decisions regarding the types of financing, aiming to maximize the value of the firm to benefit their own interests, e.g., the agency theory (Jensen & Meckling, 1976). [1]

This paper deals with the capital structure of companies in the Czech Republic, focusing on the financing through capital market instruments. The issue of capital structure and capital funding is solved within selected sectors of the Czech economy. The aim of this article is to analyze the current status of the long term financing in the Czech Republic which is based on the continental system of corporate financing characterized by a predominance of debt financing instead of equity financing.

Methodology used in this article encompasses the analysis of the current situation on the Czech capital market and status of corporate financing in the Czech Republic, a literature review, description, retrospective analysis, and a comparison based on the research conducted on the basis of economic results of 600 Czech firms.

1 Basic principles of corporate financing
The modern theory of the capital structure was established by Modigliani and Miller (1958). Kraus and Litzenberger (1973) in their trade-off theory postulated that optimal capital structure involves balancing the corporate tax advantages of debt financing against the costs
of financial distress that arise from bankruptcy risks. Myers (1984) contributed with his theories based on the asymmetric information. The pecking order theory based on informational asymmetry suggests that firms do not have leverage targets. They use debt only when retained earnings are insufficient and raise external equity capital only as a last resort. Brealey and Myers (1996) indicate that the most important source of corporate financing is the private equity consisting of owners deposits and retained earnings. Additional source of financing of great importance is debt, according to them. [2]

The corporate long-term capital structure and its optimization are continuously discussed by both academics and financial managers. The basic question formulated by Myers (1984) “How do firms choose their capital structure?” [3], however, still remains unanswered despite a lot of extensive research.

Depending on the method of raising capital there are generally two types of corporate financing – according to Nobes and Parker (2010) [4], there are significant differences between corporate financing in continental Europe and in Anglo-Saxon countries. European companies get additional capital primarily from banks, whereas companies in the United Kingdom and the United States get additional funds by placement of company’s securities to the capital market. The legal systems of countries also contribute to the method how these two groups of countries get capital. Nobes and Parker (2010) also assume that even in countries where companies are dependent on credit, the few companies listed on the capital market are controlled by shareholders, like banks, the state, or the establishing companies.

Long term financing in the Czech Republic is based on the continental system of corporate financing. It is not customary for Czech companies to use capital markets for obtaining additional sources of financing, for investors it is not common to invest their assets into securities. The Czech economy depends primarily on bank loans.

According to Dvorak (2004) [5], the capital market in the Czech Republic is not an alternative source of financing. Because Czech companies pay free cash to their shareholders only rarely, the financing comes mainly from internal equity (retained earnings). The only alternative is a bank loan, implying that the capital structure reflects only the firm’s needs for external funds. The debt-equity ratio therefore is not a strategic decision of the company, but only an indicator of the company’s ability to generate sufficient cash-flow for the company investments.

2 Determinants of the capital structure

Selection of the corporate capital structure is a complex multi-criterion process. The individual criteria operate often against each other, and the chosen financing strategy depends on a particular company.

Kislingerova ranks among the most important factors affecting the choice of capital structure the cost of capital, company size and stability of earnings (financial leverage), market position (operating leverage), stability or volatility of sales achieved, the structure of company’s assets, financial independence of the company, the dividend policy, etc. [6]

Synek states that the size of corporate capital depends on many factors, particularly on the size of the enterprise, the degree of mechanization and automation, the turnover period of the capital, and the sales organization. [7]

Bauer (2004) in [8] analyses the following determinants of capital structure of listed companies in the Czech Republic: size, profitability, tangibility, growth opportunities, taxes, non-debt tax shields, volatility, and industry classification. He finds positive correlation of the leverage with size and negative correlation with profitability, which is consistent with the
pecking order hypothesis rather than with the static trade-off models. In general, he states that the determinants of the capital structure of the Czech listed companies correspond to listed companies in G7 countries. [8]

One of the latest works concerning determinants of the capital structure is from 2012 (Prasilova). The author examines the effects of internal and external factors on the company's capital structure, like return on assets, the business sector, the company’s growth opportunities, the company’s size, tax and interest rate, the cost of the debt, and the cost of the equity. The findings of the paper indicate that the total gross debt is positively affected by the firm’s age, and negatively affected by return on assets. The author found some evidence for the validity of both capital structure theories, the trade-off theory and the pecking order theory, which is consistent with research results of recent years. [9]

3 The importance of the capital market for economy

There are basically two main functions of capital market in developed countries: pricing and allocation functions. Provided that the capital markets do not meet at least one of these functions, generally these markets indicate possible deficiencies of this market, like distrust of investors or issuers of securities, or lack of liquidity. The other reasons could be a limited size of economy or traditional strength of the banking sector. Historically, there are countries with capital market oriented economies, like the United Kingdom and the United States, and bank oriented economies, like France, Germany, and other European countries, or Japan. The Czech Republic is ranked among the bank oriented economies.

Antoniou [3] brings the basic distinctions between the way how the traditional capital market oriented economies and the bank oriented economies determine their capital structure. There are significant differences among these two groups of countries in legal systems, financial structures, accounting systems, tax provisions, corporate governance practices, etc., all factors are thought to be relevant for corporate capital structure decisions.

As for the Czech Republic, Prášilová (2012) in [9] examines the capital structure and its determinants of Czech companies, while taking into consideration not solely publicly traded companies. Her paper verifies the validity of two basic seemingly opposing theories: a compromise theory and a theory of hierarchical order, and postulates that corporate financial decisions on the capital structure can be interpreted by both theories. [9]

Most authors agreed on the fact that the interconnection of capital markets and the economy of a country is significant and has a positive effect on the economic performance. Provided that the economy relies primarily on the conversion of savings into investments performed by banks, then the performance of the economy and the dynamics of the economic development are slower. [10] According to estimation of the IMF, reduction in stock market capitalization by 10 per cent can cause a decline in GDP up to 0.8 to 3 per cent. [11]

One of the most important features of the capital market oriented financing, unlike the bank oriented financing, is the risk personification. That means that investors risk their own money on the capital market. This risk and uncertainty force them to behave in an appropriate way, whereby stability of the financial system is preserved. [12]

4 Characteristic features of the Czech capital market

The effective markets theory assumes that the market participant can get easily and inexpensively all required information on the effective market. Prices of commercial papers reflect all relevant information, so they have their true value. In actuality, certain information may affect stock prices more quickly than other information. To handle differential response
rates, there are three the most common types of efficiency: the weak-form, semistrong-form and strong-form efficiency. [13]

Results of Hanousek and Filler’s study (2000) characterize efficiency of the Czech capital market as medium form of efficiency. [14] The Czech capital market sets a price of stocks based on available information correctly. They pointed as the deficiencies only legislative gaps which allow the lack of adherence to the rules by issuers of securities.

4.1 Development of capital market in the Czech Republic

The current situation of the Czech capital market is significantly determined by a relatively short history of the capital market in the Czech Republic. Prague Stock Exchange (PSE) as an official stock exchange of the Czech Republic started to trade in 1993, and placement of 955 stock issues followed in the first wave of the coupon privatization. This massive stock issue placement is often seen as one of reasons of the future development of the Czech capital market, which is not as liquid as the other post-transitive economies’ markets. Poland and Hungary can be stated as examples. These countries chose different methods of privatization of the state property (gradualist method in case of Poland, direct sale in case of Hungary). [6] In 1995, the second wave of the coupon privatization placed next 674 stock issues to the PSE. The lack of liquidity of the huge amount of traded companies led to a gradual reduction of traded issues on the official stock exchange market.

There are two regulated capital markets in the Czech Republic: the Prague Stock Exchange and RM-SYSTEM, the Czech Stock Exchange. Both regulated capital markets in the Czech Republic offer trading in domestic and foreign shares, bonds, investment certificates, futures, and warrants. The Prague Stock Exchange is an official Czech capital market, and only the most important companies trade there. RM-SYSTEM is a Czech stock exchange, which is focused primarily on small and medium investors. Derivatives trading in the CR record a relatively small volume.

4.2 Stock and bond markets in the CR

A total of 26 share issues were traded on the PSE at the end of 2011. [15] All issues listed on the stock market till 1997 in the CR were secondary public offering (SPOs). The very first IPO in the short history of the Czech capital market was the issue of shares of joint-stock company Software 602 Inc. in 1997 on the RM-S market. There was one unsuccessful attempt of IPO on PSE market in 2001, performed by steel company Limart a.s. The first successful IPO on the market of the Prague Stock Exchange was carried out in 2004 by pharmaceutical company Zentiva N.V. Since 2004 to date, just 12 issues were realized in the Czech Republic, solely on the PSE.

Source: ČNB [15]

Fig. 1: Number of issues traded on the PSE at the end of period from 2000 to 2011
The market capitalization of shares traded on the PSE was CZK 1,388.0 billion as of 31 December 2010. Share trading on the PSE followed a downward trend for the third consecutive year, falling from CZK 463.9 billion to CZK 389.9 billion, see figure 2. Foreign issues accounted for 42.0% (CZK 582.8 billion) of the market capitalization. The five issues with the highest market capitalization accounted for 84.8% and the ten issues with the highest market capitalization for 96.9% of the total. [15]

Source: PSE [16]

**Fig. 2: Total trade value of securities traded on the PSE from 2000 to 2011 in bill. CZK**

The number of bond issues on PSE was 95 at the end of 2011, including 19 government bonds, 1 municipal bond, and 41 mortgage bonds. The total volume of bond trades on the PSE declined by 9.5% compared to 2009, from CZK 585.7 billion to CZK 529.9 billion. Trading in government bonds accounted for 96.3% of the total volume of bond trades. [15]

A total of 65 share issues and 25 bond issues (of which are 17 government bonds) are currently listed on the second regulated Czech stock exchange market RM-SYSTEM. The total annual trading on the RM-SYSTEM market fell by 12.4% year on year to CZK 9.2 billion in 2010 (from CZK 10.5 billion in 2009). Share trading accounted for almost all this figure. [15]

### 4.3 Liquidity of the Czech capital market

Liquidity of the capital market is one of the most important indicators of the market development. Liquidity of the market is a basic pre-requisite which allows the stock prices to reflect their fundamental value. The capital market liquidity can be measured by various methods, such as trade value/GDP ratio, or trade value/market capitalization ratio [14]. The situation in the Czech Republic in comparison to NYSE Euronext and London SE¹ is indicated in Figure 3.

Source: own elaboration, based on [17], [18]

**Fig. 3: Value of trades/market capitalization ratio: PSE, NYSE Euronext, London SE**

¹ From 2009, London SE data are consolidated into London SE Group after merger with Borsa Italiana.
The comparison of capital market indices of the PSE Czech Republic, NYSE Euronext and London SE indicates that the liquidity of the Czech capital market falls behind the leading European stock exchanges.

4.4 Prospects of the capital market in the Czech Republic

The capital market provides among others the appreciation of the funds intended to finance future pensions. Conditions for investment of funds depend on the specific terms of the pension reform. Generally, the pension reform has significant implications for capital market of a country.

Foreign research studies have shown a mixed effect of pension reforms on the capital market and the gross domestic product of countries where pension reform was implemented. According to the study of pension reform in Chile performed between 1986 and 1996, there was a significant expansion of the capital market after the radical pension reform, based on the private savings schemes. [19]

An interesting outline can be found for example also in Austria, or in Poland. The Austrian capital market experienced a boom in the 80-ies thanks to pension reform in which the funds were required to invest in the titles of the Vienna Stock Exchange. In Poland, pension funds are obliged to invest most of their assets into the domestic securities as well. Nowadays, the Polish capital market is much more developed in comparison to the Czech market. Within the pension reform in the Czech Republic, similar approach is planned for dynamic pension funds. This could substantially help the growth of the Czech stock exchange market.

Some analysts see the cause of a small number of IPOs on the Czech capital market in the fact that the Czech government does not use the stock exchange as a privatization tool. “Although privatization IPOs may not produce the maximum return for the state, their advantage is the absolute transparency of this process and support of the development of regional capital market.” [20]

In conclusion, a question arises whether the idea of support of trading on regional stock exchanges which include both Czech stock exchanges, is not useless in time of growing integration of capital markets. Moudry and Binter in their analysis of the importance of the capital market for the development of the CR claim that the importance of smaller and regional stock exchanges does not decline. Conversely, there is a worldwide process of increasing support of regional stock exchanges along with the consolidation of the largest stock markets. [19]

5 Capital market as an option of corporate financing

The following part of the paper presents results of analysis of capital structure based on own research. Corporate financial data were obtained from the commercial database Albertina. Companies were divided into six groups according to business sector. Economic results of 100 companies with the highest turnover were investigated within each business sector. The aim of research was to define trends in capital structure of companies in different business sectors. Six business sectors were chosen according to classification CZ-NACE (former OKEC).

Owner’s equity represents “the amount that stockholders paid to the company when they bought shares the company sold to raise capital in case of joint stock companies” [21], or the sum of deposited amounts of copartners in case of a limited liability company. Only a joint stock company can get additional capital by issuing shares on the capital market. Table 1 shows ratio of owner’s equity to total assets (or total liabilities) regardless of whether they are
internal or external. Considering the number of traded share issues on the Czech capital market, it is expected that the majority of companies’ equity is formed without a public offering of shares.

From the cross-sectional comparison results that the owner’s equity forms the highest proportion of total assets by the companies from the agriculture, forestry, and fishery sector, and that the ratio is stable over time. A significant growth in the ratio of owner’s equity to total assets can be traced by information and communication sector, banking and insurance institutions, and wholesale and retailing companies. Low volume of equity to total assets in the banking and insurance sector is due to the fact that banks and financial institutions operate primarily with liabilities to clients (customers’ deposits).

**Table 1: Owner’s Equity in % of Total Assets**

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<tr>
<td>Agriculture, forestry, fishery</td>
<td>57.72</td>
<td>58.66</td>
<td>56.87</td>
<td>55.76</td>
<td>55.53</td>
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<td>40.69</td>
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<tr>
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<td>36.59</td>
<td>39.06</td>
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<td>14.44</td>
<td>17.64</td>
<td>31.01</td>
<td>26.76</td>
<td>23.59</td>
<td>32.88</td>
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Source: own investigation

“**A bond** is a long-term contract under which a borrower agrees to make payments of interest and principal on specific dates to the holders of the bond. Bonds are issued by corporations and government agencies that are looking for long-term debt capital”. [21] As Table 2 indicates, it was common to use corporate bonds as a source of financing in the Czech Republic in the given period. Corporate bonds represented only tenths or hundredths percentage points of total assets, and only in particular business sectors like processing industries, information and communication companies, and banking and insurance institutions.

**Table 2: Issued Bonds in % of Total Assets**

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<tr>
<td>Processing industries</td>
<td>0.03</td>
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<td>0.59</td>
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<td>0.00</td>
<td>0.04</td>
<td>0.58</td>
<td>0.60</td>
<td>0.75</td>
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Source: own investigation

**Bank loans** represent another important source of short-term and long-term financing for businesses. The Czech Republic historically belongs to countries where companies primarily rely on bank loans in obtaining of additional financial resources.

Table 3 indicates that ratio of bank loans to total assets varies according to the business sector. Not taking into consideration the banking sector, processing industries, wholesale and retailing, and agriculture belong to business sectors with the highest share of bank loans on total assets. The lowest share of bank loans on total assets during the reference period was recorded by information and communication firms.
Tab. 3: Bank Loans in % of Total Assets

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<td>Processing industries</td>
<td>20.22</td>
<td>17.20</td>
<td>14.71</td>
<td>14.45</td>
<td>17.09</td>
<td>18.29</td>
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<tr>
<td>Banking and insurance</td>
<td>29.95</td>
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<td>25.31</td>
<td>31.49</td>
<td>36.47</td>
<td>37.34</td>
<td>29.87</td>
</tr>
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</table>

Source: own investigation

Conclusion

The Czech Republic is ranked among bank oriented economies which means that companies get additional funding primarily from banks. This situation is significantly determined by a relatively short history of the capital market in the Czech Republic, the legislative reasons, and as well as by traditional behavior of investors typical for continental Europe countries.

Common corporate capital structure is determined by various factors, like the cost of capital, company size, market position, stability of sales, taxes, legislation, industry classification, etc. Therefore, the debt-equity ratio is not seen as the strategic decision of a company, but as a result of many influencing factors.

The importance of the functional capital market for the performance of the economy is indisputable. But in comparison to similar markets in Europe, the Czech capital market does not provide enough liquidity for traded securities. The capital market in the CR is not attractive enough for investors, neither for issuers of shares or bonds. The result is trading only with 26 stock issues on the PSE market.

The aim of the research into the corporate capital structure was to define trends in corporate financing from 1998 till 2010. The results of the research confirmed dominance of bank loans in external financing in comparison to financing by corporate bonds. The differences in typical capital structure among business sectors confirmed dependence of corporate funding on the field of business. Stability of trends in average corporate structure indicates that fundamental changes in the approach of Czech companies to financing through capital market cannot be expected in the nearest future.

Acknowledgements

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Literature


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Strýčková Lenka, Ing.
Kapitálový trh jako zdroj financování společností v České republice je hlavním tématem tohoto článku. Přispěvek se zabývá problematikou českého kapitálového trhu z pohledu podnikového financování a zkoumá příčiny nízkého zájmu firem působících v ČR o získávání dodatečných zdrojů financování prostřednictvím instrumentů kapitálového trhu, jako jsou akcie a dluhopisy. Článek popisuje současný stav českého kapitálového trhu a zabývá se významem kapitálového trhu pro ekonomiku země. Vlastní výzkum týkající kapitálové struktury firem se snaží postihnout trendy ve využívání vlastního kapitálu, akcií, obligací a bankovních úvěrů pro financování dle odvětvového členění. Výstupy tohoto článku indikují, že ani v blízké budoucnosti nelze očekávat výrazné změny v přístupu českých firem k financování podnikatelské činnosti prostřednictvím kapitálového trhu.