

## INTERRELATION OF MONEY AND CAPITAL MARKETS

### Meilė Jasienė

Professor, Dr.  
Department of Finance  
Vilnius University  
Saulėtekio Av. 9, LT-10222 Vilnius  
Tel. +370 5 236 61 42  
E-mail: jasiene@takas.lt

### Arvydas Paškevičius

Associated Professor, Dr.  
International Business School  
Vilnius University  
Saulėtekio Av.. 22  
Tel. +370 687 38766  
E-mail: arvydas@paskevicius.com

**Abstract.** *The structure of financial markets is a constantly developing organism displaying an ever-changing pattern of the weight in the overall financial market structure of its constituents such as capital market, money market and the market of financial derivatives as a product of the two markets. The changes and the new developments are caused by a vast number of reasons and factors including the interaction of the markets concerned. The structural changes taking place in the financial markets and the related forecasts are of great importance to the investors and investment portfolio managers. The financial markets of Lithuania have already become an integral part of the global financial system therefore the authors of the present study did not limit the scope of the survey exclusively to the Lithuanian markets and took a broader view by carrying out a survey of the financial market segments such as capital and money markets of a number of Eastern European, Western European, North American States and the Pacific Ocean region, also the trends of the structural developments as well as the factors causing the processes.*

*The purpose of the present study was to assess whether capital and money markets develop in parallel, i.e., the development of one market creates the conditions favourable for the growth and development of the other, or the two markets perform as competitors.*

*The object of the survey: money and capital markets of East European, West European, North American and Pacific Ocean region countries.*

*Methods used: analysis of the research literature, statistical grouping, correlation analysis.*

**Key words:** *money market, capital market, interest rate, share prices.*

### Introduction

Financial markets cover two very closely interrelated markets – the money market and capital market. Both Lithuanian and foreign authors (Rutkauskas, 1998, p. 27; Jasienė, 2001, p. 15; Weston, 1992, p.28) are unanimous in their view that the dis-

tinctive feature of the two markets is the maturity of financial claims and obligations. All securities and loans with the maturity shorter than one year are considered to be money market financial instruments, and the instruments designed to provide long-term, i.e., with the maturity in excess of one year, credit facilities and investment

are defined as capital market financial instruments. The third segment of financial markets – the financial derivative market – has originated on the basis of the capital and money markets.

A number of financial markets theoreticians and practitioners (Rutkauskas, 1998; Jasienė, 2001, p. 21; Foley, 1994, p. 9, et al.) consider money market to include such financial instruments as debt securities with the maturity less than one year including government securities, negotiable certificates of deposit, commercial paper, bankers' acceptances, Eurodollar certificates of deposit, etc.

The capital market securities include ordinary shares and all fixed interest rate securities with no fixed maturity or with the maturity exceeding one year. This category of securities also includes preferred shares and all types of bonds with a maturity in excess of one year.

The value of the derivatives is determined by the expected future value of the underlying financial instruments or their groups. The most common categories of the derivative securities include warrants, options, share-index options, interest rate future contracts, options on future contracts and a number of other even more sophisticated financial derivatives.

Thus in view of the broad range of instruments available to investors a number of issues acquire a specific importance including that of the interaction between the money and capital markets and the possibility to qualify and quantify the interaction. The authors of the paper attempted to address the issue by: 1) ascertaining the importance of the analysis of the interaction between the capital and money mar-

kets; 2) identifying the ratios indicating to which market the development conditions tend to be more favourable; 3) defining, on the basis of theoretical sources, the system of factors affecting the structural changes of the money and capital markets, also the range of ratios providing a basis for the analysis of the effect of the factors upon the structural changes in the capital or money markets; 4) identifying the most significant ratios-indicators affecting the segments of financial markets, such as money and capital markets; 5) retrospectively analysing the development of the indicators characterising the capital and money markets in different countries.

### **Peculiarities of investment in money and capital markets**

From the point of investment period long-term investment essentially does not differ from the investment into short-term securities. Shares, which are normally perceived as a long-term investment, may be purchased and sold on the same day, and a short-term deposit may be extended for an unlimited number of years. Choosing a financial instrument as an investment object an investor often considers the investment duration to a lesser extent, expected return and associated risks being the guiding factors. Ordinarily, investors show a rather low risk tolerance and any riskier instruments are likely to attract the investor's attention only due to their higher return rate of the investment. The minimum acceptable rate of return is called a required return (Smith, 1997, p.9). This rate of return is constantly changing depending on a number of risk factors. The country risk that may be defined in terms of the rating

assigned to the country, the anticipated inflation growth, risk level of the investment object (government, municipality or a public company), investment term and a number of other parameters that affect the required rate of return.

An investor is in all cases free to choose an investment object, therefore the level of the required rate of investment on some financial instruments will have a direct impact upon the preferred rate of return of other instruments. Eventually the choice of financial instruments by investors may be determined by the ever-changing conditions of financial markets, i.e., which markets (money, capital or financial derivatives) are developing faster in a specific historic period of time.

For an investor, specifically the one preferring financial instruments of medium and longer maturity it is of utmost importance to assess the developments in the investment environment that are readily expressed by the dynamics of a number of

macroeconomic indicators. For example, material loss may be imminent in the event where the investor disregards the changes in such factors as interest rates. In 2006, a number of conservative pension funds reported a negative return: Table 1

This was caused by the fact that the major share of the conservative pension funds was represented by debt securities exposed to interest rate risk, i.e., when interest rates go up, the value of debt securities decline. In 2004, the first year of the activity of the Lithuanian pension funds the LIBOR index marked its historic lows: Fig 1

The increase in interest rates observed in 2005–2006 caused the significant decline in the value of debt securities and affected adversely the return of conservative pension funds.

In view of the on-going development on the global scale investors have a choice not only in terms of a financial market segment or financial instruments, he can also choose a region or a country as an object

*Table 1. Return of the Lithuanian conservative pension funds, percent.*

Company	Name of the fund	15-06-2004– 31-12-2004	2005	2006	2007	2008
Aviva Lietuva	Europensija	2.44	1.75	0.18	2.89	4.07
Danske Capital investicijų valdymas	Konservatyvaus valdymo Danske	1.16	3.08	0.10	1.97	3.79
DnB NORD investicijų valdymas	DnB NORD pensija 1	2.83	2.65	0.41	2.54	2.89
Ergo Lietuva	Ergo konservatyvus	2.98	2.70	-0.59	1.19	3.57
Hansa investicijų valdymas	Hansa Pensija 1	2.64	2.22	-0.64	1.92	0.79
Invalda turto valdymas	Konservatyvaus investavimo	4.59	1.10	1.19	2.20	4.85
Invalda turto valdymas	Invalda Nuosaukus	—	—	0.25	2.02	4.95
Parex investicijų valdymas	Parex Pensija 1	—	-0.69	-0.37	1.46	-2.60
SEB investicijų valdymas	SEB Pensija 1	2.31	2.21	0.37	0.60	3.39

Source: Pension and investment funds, 2009.

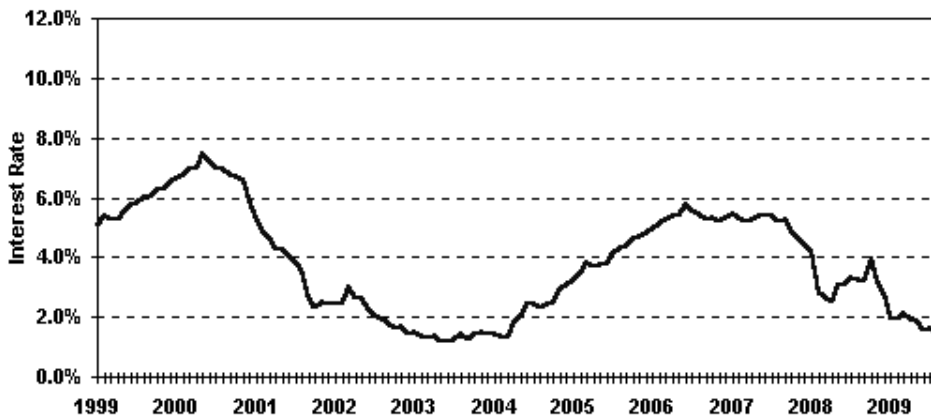


Fig.1. 1 Year LIBOR, proc.

Source: 1 Year LIBOR, 2009. MoneyCafe.com

of investment. There might be a case that the expected (preferred) return of bonds of one country will affect the rate of return of the counterpart financial instruments of another country. An even more striking example is represented by the growth of the interest rates on the global scale that started in March 1988 basically caused by the changes of the interest rates in the USA.

The rise of the interest rates was recorded simultaneously with the strength-

ening of the USD against the German mark. The higher interest rates and the appreciation of the USD was a signal to investors to withdraw their funds invested in the West Germany bonds, and the local German investors then chose to sell their domestic bonds in exchange for foreign debt securities. These developments had a tremendous impact upon the overall situation in the market. It has been noted that the net acquisitions of German bonds then

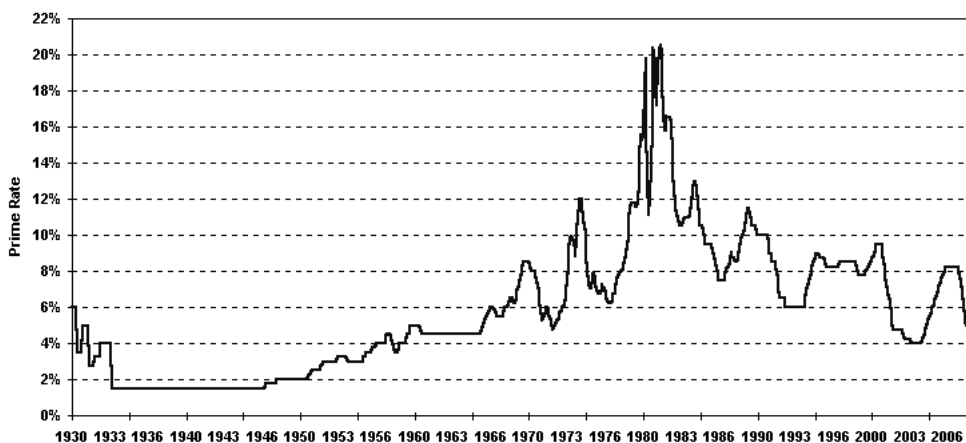


Fig. 2. USA prime interest rates, percent.

Source: Prime Rate History, 2009. MoneyCafe.com.

decreased from DM 35 bn in 1987 to DM 2 bn in 1988, and the purchases of foreign bonds increased from DM 25 bn to DM 54 bn (Money and capital markets..., 1989).

The said examples demonstrate expressly that the investment environment that encompasses the developments not only in the domestic but also in the foreign states may have a material impact upon the financial markets of a specific country, as well as its individual segments.

The objective of the present study as defined was to analyse whether the capital and money markets develop in parallel, i.e., whether a rise of one market results in the conditions beneficial for the development of the other, or the two market compete by overwhelming each other's development, as well as the factors that affect the development of the money and capital markets and their interaction.

To attain the objective as defined above it was considered necessary to define the factors indicative of any conditions beneficial for the development of the money market and showing a positive effect of the investment environment upon the development of the capital market. Such volume indicators as credit volumes or their increase, turnover of the securities stock exchange are slightly inert and are therefore not sufficiently sensitive to reflect the changes in the investment environment factors. In our view such other factors as the development of the share price index and the overnight interbank rate are much more appropriate as they are able to reflect more specifically the trends in the markets under consideration. Since the principal distinction between the money market and the capital market is the maturity of obligations, in this respect the

overnight loan is the financial claim of the shortest term, while the maturity of the obligation assumed in respect of equities is infinite. The interest rate of a short-term, i.e., an overnight loan and its changes constitute one of the fundamental factors affecting the level and trends of other interest rates. The increase of the credit price is indicative of the increase in the demand and/or a fall in the supply of financial resources. Analogically, the rising equity price index is a clear indicator that the equity demand exceeds the supply, and that investors show clear preference to the investing in the capital markets. And on the contrary – the falling equity index will indicate a decline in the investment into the capital market.

Theory offers two assumptions underlying the two patterns in the development of the indicators inherent to the two markets (money and capital). The first could be based entirely and solely on the behaviour of investors. Low interest rates offer the conditions more favourable for the investment into the capital markets in the expectation that the low interest rates will stimulate a rise in the equity indices. And on the contrary – high interest rates accumulate all resources in the money market available for financial investment, which causes a fall in the demand in the capital market and, as a result, the equity index declines. This assumption has been supported by Ž. Rafael and M. Tvaronavičienė (2005).

In the second case it is assumed that a favourable macroeconomic environment and the growth of the national economy cause a parallel rise of both the equity price indices and the interest rates. A growing business attracts investment into the capital market and the low interest rates are a precondition

for the investment into the capital markets by absorbing the available capital resources whereas under the recession conditions an entirely opposite trends in the indicators to be analysed might be rightfully expected: declining equity price indices, and rising price of credit resources, i.e., interest rates. Nevertheless, the interest rate decline mechanism may be way more complicated: on the one hand, under the conditions of economic downturn the credit demand weakens which in its turn lowers the credit price, on the other hand, the interest rates might be pushed up due to a higher credit risk characteristic of economic recession periods.

### **Factors of the capital and money market development**

The authors of the survey expanded the scope of the analysis of the recent trends in the development of the indicators concerned by going beyond the boundaries of Lithuania – the country that due to the peculiarities of its economy may display some completely uncharacteristic patterns in the trends of the indicator development and covered some foreign markets that include both the developed and the developing financial markets. The Lithuanian and the global markets are closely integrated and inseparable therefore any insight into the processes taking place in a specific country necessarily requires an overview of the situation evolving in at least the major regions of the world. 19 countries were sampled for the purpose of the analysis, therefore, for the sake of convenience, the countries to be analysed were categorised as follows:

1. East European States: Czech Republic, Hungary, Poland, Slovak Republic and Lithuania.

2. West European States and Turkey: Denmark, Sweden, Switzerland, United Kingdom, European Union and Turkey.

3. North American States: USA, Canada and Mexico.

4. Countries of the Pacific Ocean region: Japan, Korea, Australia and New Zealand.

With a view to disclosing the trends in the capital and money markets the survey covered a period of 15 years (1994–2008).

In its early stage the survey focused on the factors that affect the movements of the short-term interest rate and equity prices then shifted to the examination of the trends of equity prices and interest rates in the countries under consideration.

The literature on economics fails to offer any unanimous opinion as to which components, or factors, of the investment environment affect the development of the money and capital markets. In his analysis of the capital markets B. J. Foley (1994, p. 1) has distinguished several factors that had produced the most tangible effect upon the development of the capital markets in the past decades. B.J. Foley classifies the factors into two major groups – global factors and internal market factors. In respect of the global factors the author refers to the political goal to create preconditions for each and every citizen to become a co-owner of the companies by splitting equities which reduces their nominal value or other similar means. As the factor that played a major role in this respect the radical turn of the East European economies towards market relations that facilitated an emergence of a number of new and rapidly developing capital markets is considered. Also The development of the capital mar-

ket was also largely affected by the rising global oil prices that attracted funding for the oil extraction businesses in the third world countries and required the creation of a number of new financial instruments specifically tailored for the purpose. Furtheron, the development of the capital market was readily accelerated by a certain revival of the global economy in the eighties, the growth in the real income of residents and the smoothing of the fluctuation of interest rates in addition to the slowing inflation. In an exceptional synergistic way the development of the capital markets was affected by the parallel development of the new financial markets and instruments, on the one hand and the accompanying boost of the computer and communications technologies, on the other.

The development of the global capital markets was, doubtless, to a certain extent affected by the internal changes of the markets concerned including a weakening role of intermediaries – highly rated issuers manage to place their securities for full subscription without referring to banks without great difficulties. Or the process referred to as securitisation whereby banks would “package” and transfer to other financial institutions their debts thus significantly expanding their crediting possibilities. The latter behaviour is widely considered to be one of the major reasons that caused the current financial crisis. Further, a certain impact was produced by the extremely rapid increase in the turnovers of financial derivatives. Although the major part of the increase was generated from speculative games, that, nevertheless, largely expanded the spectrum of the financial institutions and business insurance

instruments. Finally, the internationalisation of capital markets and the striving of stock exchanges of individual states to attract foreign investors led to some liberalisation and relief of the requirements and control exercised and imposed by supervisory authorities.

Aswath Damodaran (2002, p. 94) proposed to classify the risk factors into the market and entity-specific risks. The latter, according to Aswath Damodaran include the reliability of the assumptions underlying investment projects, competition levels, and market risks, according to the author are characterised by currency exchange changes, government policies, interest rates, inflation and the economic development indicators.

M. Schröder (2001, p. 2) in connection to his analysis of the capital markets of the Central and Eastern Europe maintains that the major factors affecting the development of capital markets include such macroeconomic indicators as economic development, savings, labour productivity, inflation and deficit levels. In his opinion an important role for the capital markets is undoubtedly played by the foreign investors that affect the demand-supply balance.

Ž. Rafael and M. Tvaronavičienė (2005) distinguished three groups of conditions or factors that have an impact upon the fluctuations of equity prices. They are the following: 1) principal conditions for entrepreneurship or economic conditions; 2) principal political conditions; 3) principal social-psychological conditions. Specifying the factors assigned to the individual categories the authors also distinguish the volume of the gross national products or



the industrial production index. They also consider the yield of specific shares and its growth rate to be important factors. In this respect the authors of the present study entirely agree with the view of Ž. Rafael and M. TvariJonavičienė that one of the most important factors affecting the changes in the share prices is interest rate, as well as the competing investment instruments such as government securities, bank deposits and others. According to the authors, other factors affecting the movement of the share price indices are inflation, the entry of foreign investors into the market, stability of the economic system, reliability of the financial system, the status of the balance and the currency system. Further, the authors define a number of political factors that include military actions, presidential decrees, new taxes, state programmes in a number of forms and other similar factors. The most important political factors include public treasury and monetary policies. Further, in connection with the definition of the psychological factors the authors refer to such processes as the feelings of the masses and the similar. Proceeding from the analysis of the factors the authors have proposed to analyse the impact of such factors with reference to a number of indicators such as the gross domestic product (at current prices), national budget revenues, national budget expenditures, unemployment rate, foreign direct investment, inflation rate, the average interest of securities issued and distributed in the market, internal public debt, external public debt, average annual interest in litas of term deposits, average annual interest for loans in litas.

I. Pekarskienė (2001) noted that the impact of the macroeconomic environment

upon the securities markets should be related to the acceleration of the economic activity, decrease in the unemployment rates, augmentation of interest rates, dynamics of the GDP, inflation and unemployment rates. For the examination of the impact of the macroeconomic environment upon the securities markets the author has proposed to use the following economic indicators: the real gross domestic product, inflation rate, unemployment rate, external public debt, international investment balance, the average interest rate of government securities, and the interest rate of medium-term government securities.

As contiguous subjects the issues have been also addressed in other research papers (Jasienė and Čapskas, 2008) where the national interest rates were considered to be affected by such factors as inflation rates, the gross domestic product, the country's rating and the interest rates fixed by the European Central Bank.

For the purpose of the analysis of the study the selection of the indicators able to characterise the impact of the investment environment upon the money and capital markets was based on the following two considerations. First, the theoretical analysis and, second, the system of indicators used for statistical purposes. Thus, the analysis employed the following indicators: gross domestic product, consumer price index, gross public debt and the GDP ratio, foreign direct investment, unemployment rate and household savings. Apart from the indicators referred to earlier some significant impact, beyond any doubt, is produced by such factors as the level of the country's economic development and the maturity of financial markets,



as well as those of the region to which the country belongs. However, since the impact of these factors is difficult to assess in terms of the specific quantitative ratios, the latter considerations have been left outside the scope of the survey.

The correlation analysis of the influence of the indicators as referred to above upon the money and capital markets was carried out with reference to the statistical data bases and publications of the Bank of Lithuania, also the information derived from the “Indicator data base” operated by the Department of Statistics under the Government of the Republic of Lithuania, the stock exchange NASDAQ OMX Vilnius, Organisation for Economic Co-operation and Development Databases, the “Statistics Databases” of the Statistical Office of the European Commission (Eurostat). The authors used the data of 1994–2008 in their analysis although in individual cases the dynamic time series were shorter, as, for example, the earliest indices of the Lithuanian stock exchange refer to 1997 when the computation of such indices was started. The correlation analysis of the influence of the indicators upon the money and capital markets showed that the factors in question affect the capital and money markets differently as a result shaping the related competitive environment differently as well. In nearly all countries included into the scope of the survey the gross domestic product had a positive effect upon the capital markets, and a negative impact upon the money markets. The impact of the GDP indicator was defined as follows: in respect of share prices the positive correlation in 13 countries was very strong, in 3 countries – strong, and in 1 country – me-

dium; in respect of the short-term interest rate the negative correlation in 4 countries was very strong, in 2 countries – strong, in 9 countries – medium and in 2 countries – weak.

The comparative weight of the household savings within the household income produced an inverse impact upon the share prices: the negative correlation in 4 countries was very strong, in 4 – of medium strength (in the case of four countries such calculations were not done due to the unavailability of the data on the factor); the direct impact upon the short-term interest rate was concluded as follows: the positive correlation in 3 countries was very strong, in 3 countries – strong, in 4 – of medium strength, and in 1 country – weak (no data for the factor in respect of 4 countries).

The said factors dominate expressly in terms of the diversified impact upon the money and capital markets; however, the impact of other factors under consideration within the survey only confirm the possibility for the markets to compete, although the impact can be defined as very specific and requiring a more comprehensive and detailed analysis of the impact of the individual factors upon the capital and money markets in individual regions and countries.

### **Survey of the development pattern of the money and capital markets**

The share price and interest rate development in 1994–2008 in the Eastern European countries is most expressly demonstrated by the dynamics of the indicators in Hungary:

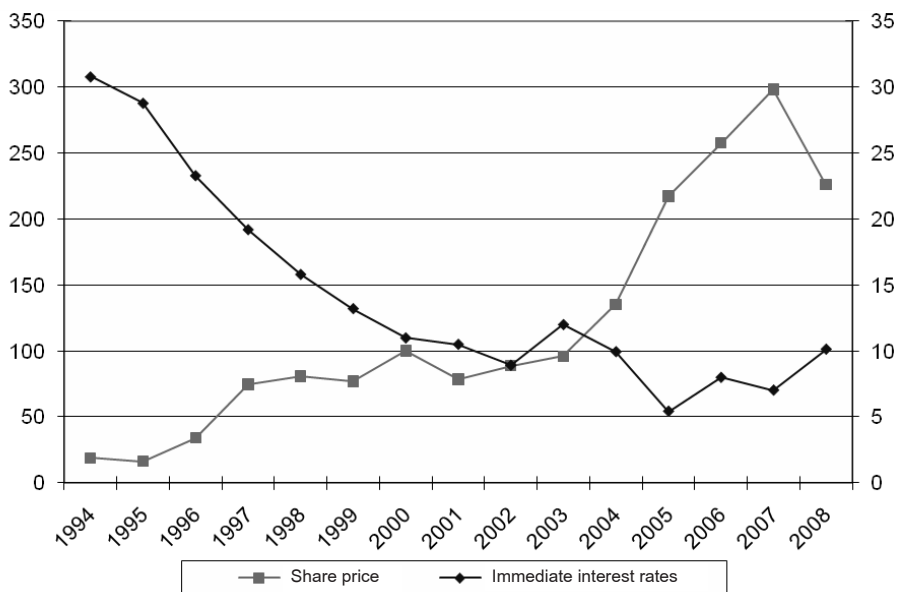


Fig. 3. *Share prices and overnight interest rates in Hungary: development in 1994-2008*

Compiled by the authors of the paper on the basis of the data of the Organisation for Economic Co-operation and Development (OECD.StatExtracts).

As evident from Fig. 3 the share price index and the overnight interest rate move in the opposite directions, i.e., in this case the money and capital markets perform as strong competitors. In Hungary the interest rate and the share price correlation ratio is 0.7509, which indicates the presence of a very strong reverse interdependence. The correlation ratios of the share prices and interest rates of the entire group of countries are presented in Table 2.

It is evident that the trends in all Eastern European countries show a rather similar pattern of the development, i.e., the money and capital markets were developing in accordance with a very similar course. In this context the only exception is Lithuania where the correlation ratio (due to the lack of the data – for a slightly shorter period of time) fails to indicate any dependence between the money and capital markets.

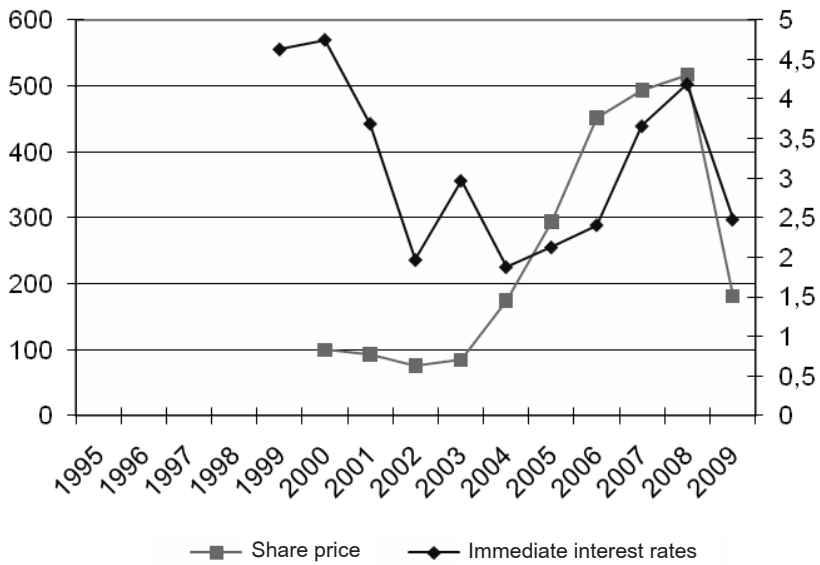
Table 2. *The interdependence of the money and capital markets in the Eastern European countries in 1994–2008*

Country	Share price and an overnight interest rate correlation ratio
Czech	-0.4830
Hungary	-0.7509
Poland	-0.6846
Slovakia	-0.4906
Lithuania	0.0206 <sup>1</sup>

Calculations by the authors on the basis of the data derived from the Organisation for Economic Co-operation and Development (OECD.StatExtracts), the Bank of Lithuania and the Stock Exchange NASDAQ OMX Vilnius.

Unlike in other Eastern European countries the correlation ratio (0.0206) in Lithuania fails to indicate any interdependence between the course of the development of the money and capital markets, although in the first half of the surveyed period the

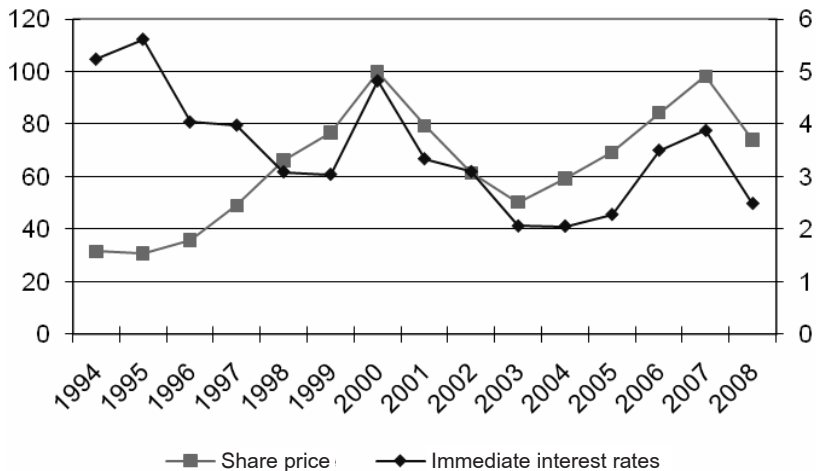
<sup>1</sup> Indicators of 1999-2009 used for the purpose of the calculations.



*Fig. 4. Share price and overnight interest rate development in Lithuania in 1994–2008*

Compiled by the authors on the basis of the data of the Bank of Lithuania and the Stock Exchange NASDAQ OMX Vilnius.

general trends in Lithuania were identical to those in other Eastern European countries. Nevertheless, in 2006–2008 the overnight interbank interest rates leaped and the trends in Lithuania started taking a different course. The latter development in



*Fig. 5. The development of the share prices and the overnight interest rates in euro zone countries in 1994–2008.*

Compiled by the authors on the basis of the data by the Organisation for Economic Co-operation and Development (OECD.StatExtracts).

addition to the shorter period being considered were the main reasons for the absence of the correlation between the short-term interest rates and the share prices in Lithuania and in this respect our country differs from other countries of the same group.

In the Western European countries in the period under investigation the trends were, although less prominent, similar to those in the Eastern European states. Fig.5 shows that it is not difficult to notice that in the period from 1994 to 1999 characterized by the decreasing interests rates the share indices were steadily increasing, i.e., up to 1998–1999 the two indicators were developing in the opposite directions whereas later the dynamics of the two indicators was more or less parallel.

The share price and interest rates ratios of other Western European states and Turkey are presented in Table 3.

**Table 3. The interdependence of the money and capital markets of Western European countries and Turkey in 1994–2008**

Country	Share price and an overnight interest rate correlation ratio
Denmark	0.3126
Norway	-0.2676
Sweden	-0.5048
Switzerland	-0.1189
United Kingdom	-0.1379
European Union	-0.2534
Turkey	-0.6046

Compiled by the authors on the basis of the data by the Organisation for Economic Co-operation and Development (OECD.StatExtracts).

The data presented in Table 3 show that the correlation ratios in all countries except Denmark were negative. In most countries the link between the share price index and the movement of the overnight interest rate

is rather weak. A slightly stronger relation can be observed in Turkey – the country which in terms of its economic development and the trends of the indicators characterising the money and capital markets is closer to Eastern rather than to the Western European countries.

In the next group of countries of North America region the values of the ratios of share prices and the overnight interest rates were similar to those in the Western European states.

**Table 4. The interdependence of the money and capital markets of North American countries in 1994–2008**

Country	Share price and an overnight interest rate correlation ratio
United States of America	-0.2624
Canada	-0.3062
Mexico	-0.5748

Compiled by the authors on the basis of the data by the Organisation for Economic Co-operation and Development (OECD.StatExtracts).

A slightly stronger negative correlation between the indicators under analysis can be observed in Mexico. The graphic representation of the indicators concerned of this country is identical to that of the Eastern European countries and Turkey. Meanwhile the development of the share prices and the short-term interest rates in the United States of America is markedly different from that in the other countries under analysis . Fig. 6 shows a rather prominent fluctuation of interest rates, such as a fall from 6.4 percent in 2000 to 1.82 percent in 2001, or a fall from 4.24 percent in 2007 to 0.16 percent in 2008.

More prominent specific trends can be observed in the individual countries of the

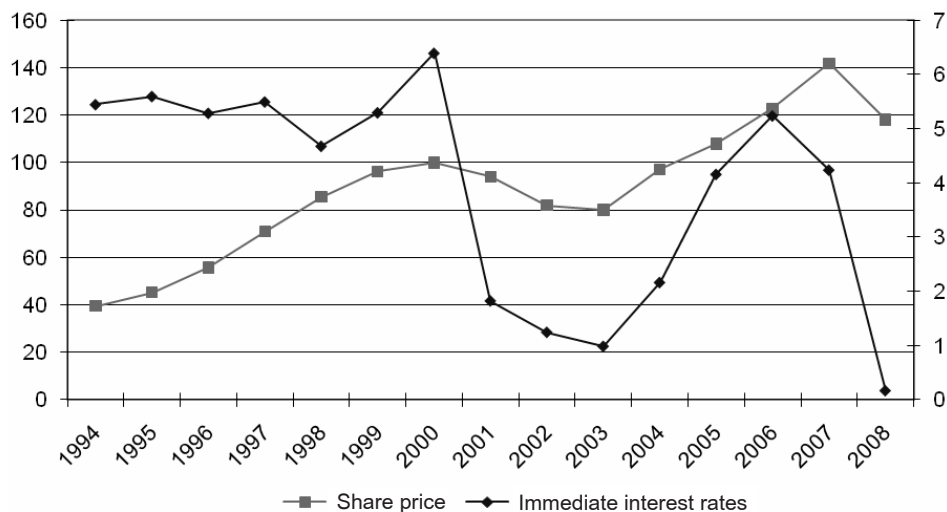


Fig. 6. Share price and overnight interest rate development in the USA in 1994–2008

Compiled by the authors on the basis of the data by the Organisation for Economic Co-operation and Development (OECD.StatExtracts).

last group of the countries included into our analysis – those of the Pacific Ocean region. First, Japan – as seen from Fig. 7. due to a specifically low overnight inter-bank interest rate this indicator shows only a very insignificant fluctuation and the two indicators under consideration are moving virtually synchronically, therefore the correlation ratio of 0.51536 recorded in this country represents the positive dependence and some similarity in the trends of the money and capital markets development in the country.

In Australia the correlation ratio of the share price index and the interest rate is largely similar (0.5555), however, the graphic representation of the link (Fig. 8) is largely different from that of Japan. As seen from the data in the graph, both the share prices and the overnight interest rates in Australia were steadily increasing and it was only in 2008 that the two indicators sank sharply.

The share price and interest rate correlation ratios in the selected countries of the Pacific Ocean region are presented in Table 5.

Table 5. The interdependence of the money and capital markets of the Pacific Ocean region states in 1994–2008

State	Share price and an overnight interest rate correlation ratio
Japan	0.51536
Korea	-0.2331
Australia	0.5555
New Zealand	0.35177

Compiled by the authors on the basis of the data by the Organisation for Economic Co-operation and Development (OECD.StatExtracts).

The data presented in Table 5 show that the correlation ratio of Korea is somewhat closer to that of the USA and Western European countries, and that of New Zealand – to that of Australia and Japan.

To sum up the outcomes of the survey it may be concluded that within the period

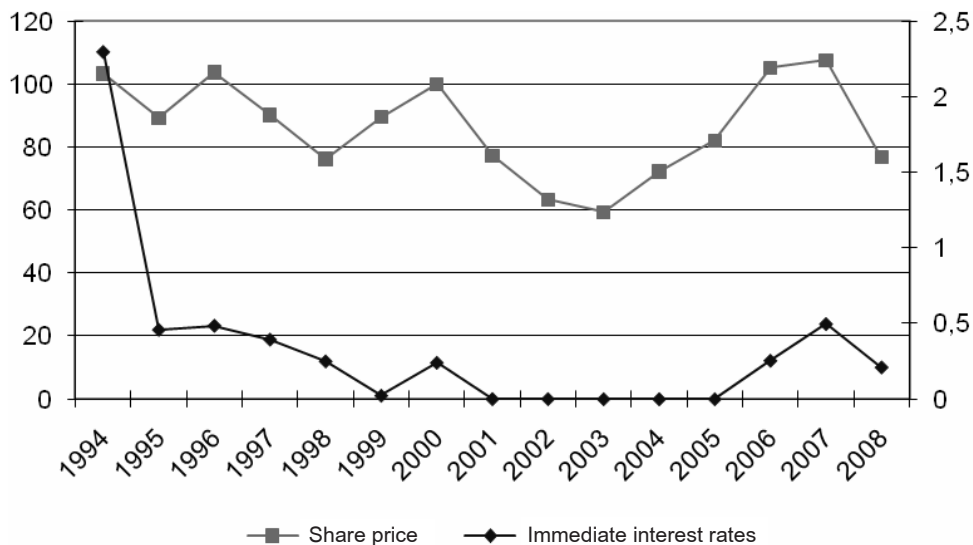


Fig. 7. Share price and overnight interest rate development in Japan in 1994–2008.

Compiled by the authors on the basis of the data by the Organisation for Economic Co-operation and Development (OECD.StatExtracts).

surveyed in most countries of the world the overnight interbank interest rate was moving in the direction opposite to the trends displayed by the movement of share indices, i.e., a hypothesis that the money

and capital markets operate as competitors cannot be ruled out. The analysis that was made also showed that in the younger, still developing economies the negative correlation ratio between the principal capital

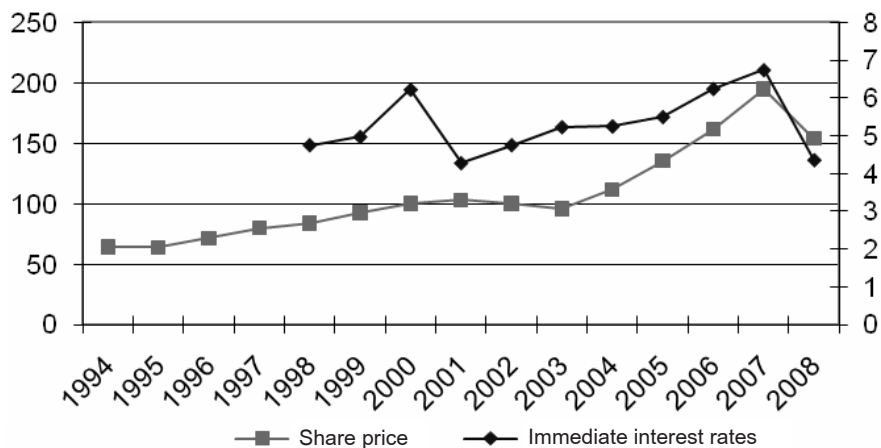


Fig. 8. Share price and overnight interest rate development in Australia in 1994–2008.

Compiled by the authors on the basis of the data by the Organisation for Economic Co-operation and Development (OECD.StatExtracts).

and money market indicators is, in terms of its absolute value, higher than that in the mature and highly developed countries. In other words, in more rapidly developing countries the competition between the capital and money markets is much more manifest. However, the analysis also produced the evidence that in individual countries, such as Japan, Australia and New Zealand the macroeconomic environment creates the preconditions for the share price and the overnight interest rates to move in parallel, i.e., actually the money and capital markets develop by complementing and supplementing each other.

## Conclusions

1. The correlation analysis carried out by the authors of the present paper showed that a number of factors, such as the gross domestic product, consumer price index, the gross public debt in ratio to the gross domestic product, foreign direct investment, unemployment level, household savings in most general cases affect the capital and money markets in a different manner and thus produce a diversified effect upon the competitive environment. In nearly all countries under investigation the gross domestic product was producing a positive effect upon the capital markets, and played the role of a negative factor in the money markets.

2. In Eastern European countries the share index and the overnight interest rates have been developing in expressly opposite directions, i.e., the two markets, the capital and the money markets operated as fierce competitors. In view of the increase of the short-term interbank interest rates

in 2006–2008, and due to a shorter time series and the unavailability of the data in Lithuania this correlation dependence was not established which makes the situation in Lithuania different from that in other Eastern European states; the situation in general is a subject for a more complete investigation.

3. In the Western European states, except in Denmark, the trends in the period under analysis were comparable to those in other Eastern European countries, although they were not so prominent. A somewhat stronger competition between the money and capital markets can be observed in Turkey which in terms of the nature of its economic development and the trends of the indicators characterising the money and capital markets is more comparable to the Eastern rather than to the Western European states.

4. In the North American group of countries the values of the correlation between the share prices and the short-term interest rates were similar to those in the Western European states. A slightly more prominent negative correlation between the indicators concerned is noticed in Mexico in which the general trends of the development of the money and capital markets are identical to those of the Eastern European states and Turkey. Meanwhile the movement of the share prices and the short-term interest rates in the United States of America is conspicuously different from that of the other states surveyed.

5. The analysis of the group of countries attributed to the Pacific Ocean region shows that some specific trends are expressly seen in the individual countries, primarily in Japan in which the capital and money markets



have been developing in accordance with a somewhat similar course.

6. Within the period under examination (1994–2008) in most countries the short-term interest rates were developing in the direction opposite to that of share prices; on this basis it may be concluded that the hypothesis concerning an assumed competition between the capital and money markets may not be ruled out entirely.

7. It was concluded that in more rapidly developing countries the competition between the capital and money markets is more prominent. The analysis also showed that in individual countries, such as Japan, Australia and New Zealand the prevailing macroeconomic environment ensures a parallel development and movement of the share prices and the overnight interest rate, which, as a result, means that the capital and money markets develop as two systems complementing each other.

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