



8000 Utopia Parkway
Queens, NY 11439
www.stjohns.edu

Volume 12, Number 2

Journal of Emerging Markets

Summer 2007



Herding in Dual-share Stock Markets:
Evidence from China

Haigang Zhou

The Influence of the Development
of Reference Interest Rates in
Choosing Investment and
Debt Financial Tools for
Corporations – Case of the
Czech Republic in 1997-2002s

Dr. Petr Polák

Review Article:
World Economic Situation and
Prospect 2007. United Nations,
January 2007

Dr. Maximo Eng

Book Review:
Recent Financial Crises: Analysis,
Challenges and Implications.
Lawrence R. Klein and
Tayyeb Shabbir (eds.)

The Editors

Journal of Emerging Markets

Sponsorship

Journal of Emerging Markets is co-sponsored by the Emerging Markets Traders Association, New York City and The Peter J. Tobin College of Business, St. John's University, New York. In the future, *Journal of Emerging Markets* will add Continuing Institutional Supporters, on an annual basis.

Editorial Policy

Journal of Emerging Markets is a refereed journal that publishes the results of significant basic or applied research focused on the emerging markets, economic-financial developments in developing countries and transitional economies and the relation between emerging and international capital markets. Articles on emerging markets concerning their government policies, institutional frameworks and other environmental factors affecting their economic conditions and financial market activities are welcome. The principal audience for *Journal of Emerging Markets* consists of academicians and business professionals interested in the operation and structure of emerging markets. *Journal of Emerging Markets* also seeks to publish articles that will be useful to those working in the markets on an ongoing basis, including bankers, portfolio managers, accountants, attorneys, government officials, central bankers, officials in international organizations, multinational business executives and economic and financial researchers.

Editorial Offices

The Peter J. Tobin College of Business, St. John's University, 8000 Utopia Parkway, Queens, NY 11439, USA. Telephone (718) 990-7305, Fax (718) 990-1868.

Subscriptions

The annual subscription fees (three issues—Spring, Summer and Fall/Winter): Institutions \$110; individuals \$60; academic libraries \$90. Single copy and back issues for the current and past volumes are available. Please write to the Editorial Offices. Prices include airmail delivery to the United States and Canada. Subscribers located elsewhere pay additional \$8 per year. Changes of address should be directed to the Editorial Offices.

Advertisements

Advertisements of books, journals or conferences should be directed to *Journal of Emerging Markets*, The Peter J. Tobin College of Business, St. John's University, 8000 Utopia Parkway, Queens, NY 11439, USA.

Submission Information

Three copies of submitted manuscripts (with cover letters) and a submission fee of U.S. \$40 made payable to *Journal of Emerging Markets* should be forwarded to Editorial Offices at the above indicated address. Manuscript Style Guide requests and other requests for information should be directed to Editorial Offices.

No responsibility for the views expressed by authors and reviewers in *Journal of Emerging Markets* is assumed by the Editor or publisher, The Peter J. Tobin College of Business, St. John's University.

Copyright ©1996 by Center for Global Education (Journal of Emerging Markets ISSN 1083-9798).

All rights reserved; no part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the publisher.

Journal of Emerging Markets

Volume 12, Number 2

Summer 2007

Contents

Herding in Dual-share Stock Markets:

- Evidence from China 5
Haigang Zhou

The Influence of the Development of Reference

- Interest Rates in Choosing Investment and
Debt Financial Tools for Corporations –
Case of the Czech Republic in 1997-2002 16
Dr. Petr Polák

Review Article:

- World Economic Situation and Prospect 2007
United Nations, January 2007 26
Dr. Maximo Eng

Book Review:

- Recent Financial Crises: Analysis, Challenges and Implications.*
Lawrence R. Klein and Tayyeb Shabbir (eds.) 29
The Editors

Journal of Emerging Markets

Institutional Sponsors

JPMorgan Chase

Merrill Lynch
New York & London

Emerging Markets Traders
Association

The editors express appreciation for support provided by
all who appear on this page.



THE PETER J. TOBIN
COLLEGE
OF BUSINESS

Journal of Emerging Markets

Volume 12, Number 2

Summer 2007

Editors

Maximo V. Eng

Francis A. Lees

Editorial Board

Michael M. Chamberlin
Executive Director
Emerging Markets Traders Association

Lawrence R. Klein
Department of Economics
University of Pennsylvania, U.S.A.

Robert Annibale
Vice President
Citibank N.A. London

Maximo V. Eng
St. John's University, U.S.A.

James C. Baker
Kent State University, U.S.A.

Edward B. Flowers
Communications Editor

Nicholas Bruck
International Development Enterprise
Associates, Washington, D.C.

Martin S. Fridson, CFA
International Consultant

George S. Dallas
Managing Director
Standard & Poor's London

Francis A. Lees
St. John's University, U.S.A.

H.M. Scobie
European Economics and Financial Centre, U.K.

Regional Editors

Stanley J. Lawson
Caribbean, Central America

Boris Milner
Russia and CIS

Sung R. Lee
North East Asia

Lucjan T. Orłowski
Central Europe

Ricardo P. Leal
Mercosur, South America

David K. Ding
South East Asia

Robert A. Clark
Africa

Associate Editors

H. Kent Baker
The American University

Robert Grosse
The American Graduate School of
International Management

Robert J. Boldin
Indiana University of Pennsylvania

Halil Kiyamaz
Rollins College

Kam C. Chan
Western Kentucky University

Mitchell Ratner
Rider University

K. C. Chen
California State University Fresno

Tulin Sener
State University of New York at New Paltz

Steven M. Dawson
University of Hawaii

Gokce Soydemir
University of Texas – Pan American

The Peter J. Tobin College of Business

Richard Highfield
Dean

Charles Clark
Associate Dean

The Influence of the Development of Reference Interest Rates in Choosing Investment and Debt Financial Tools for Corporations – Case of the Czech Republic in 1997-2002

Dr. Petr Polák

VŠB – Technical University of Ostrava, Czech Republic,
and Swinburne University of Technology,
Melbourne, Australia; e-mail: petr.polak@vsb.cz
Jasminova 1617, 70800 Ostrava 8, Czech Republic,
or: 4 Driffield Crescent, Sassafras,
Victoria 3787, Australia. Phone: +420-737-824570

Kamil Kocurek

České energetické závody (ČEZ), a.s., Praha, Czech Republic, âEZ
office in Sofia, Bulgaria;
e-mail: kamil.kocurek@cez.cz
Slavickova 12, 70200 Ostrava 1, Czech Republic.

Abstract

This paper focuses on the development of reference interest rates in the Czech Republic after the currency crisis of May 1997 and covers the period to the years 2002/2003 (that is to the time just before the country's entry into the European Union) when the currency exchange of the Czech koruna (CZK) and interest rates were stabilised. The relatively high volatility of Czech reference interest rates in the late 1990's influenced the development of company debt financing, forcing companies to become more sophisticated and dynamic in their use of debt instruments and hedging tools as they attempt to manage the subsequent interest rate risk. In this paper, the situation in three model corporations is also described – the first, a solvent company with a foreign owner (Moravian-Silesian Heating Company – MSHC, renamed to Dalkia Morava in 2002), the second, a solvent company with the Czech state as its majority owner (North Moravian Power Company – NMPC), and the third with domestic capital, which had economic problems during the given period (Vítkovice, a.s.), plus a big insurance company as a specific and very important institutional investor in domestic financial markets.

Key words: Reference interest rates, interest rates hedging tools, bonds, commercial papers, yield from financial operations, cost of external financing, Czech Republic, Central Eastern Europe

JEL classification: N 240

I. Introduction

The scarcity of specific studies addressing the impact of interest rate changes in the Czech Republic – especially in the years following 1997 – on corporate financial decisions provided the impetus to undertake this research. Unlike the relatively stable rates of Eurozone markets, the Czech Republic has in recent years experienced a precipitous decline in the inter-bank rate PRIBOR. During the period of relatively high interest rates (1997 and 1998), Czech companies scrambled to find alternative sources of financing to be able to avoid expensive short- and long-term bank loans. The range of alternatives included CP programs for short-term and bonds for long-term financing. From 1999 onwards, with lower interest rates, companies with cash surpluses have needed to find much more sophisticated instruments (especially from the point of view of tax regime applied to the yield) to increase their profit from financial operations. The relatively high volatility of the reference interest rates has encouraged a significant rise in the use of interest rate hedging instruments in the Czech financial market since 1997.

II. Influence of the reference interest rates evolution on corporate sector

Unlike the relatively stable rates of Eurozone markets, the Czech Republic has in the period under consideration, i.e. 1997-2002, experienced a precipitous decline in the inter-bank rate PRIBOR. In the years 1997 and 1998, the Czech economy was hit by a number of external as well as internal unfavourable factors. At the beginning of 1997 the Czech koruna was a relatively strong currency, its strong exchange rate, however, was not founded on macro-economic data, but only on currency policy – short-term investors concentrated too much on the high interest rates of the domestic market. Interest rates at this time moved around 12% p.a. In May 1997 foreign speculators led an attack on the Czech currency. This raid was led by two groups of speculators. The first group was made up of devaluation speculators who created a short position in CZK and waited for devaluation. The second group consisted of interest speculators, who had a long position in CZK from the past, which they rashly began to fear about. The Czech National Bank (i.e. central bank) immediately began to intervene on behalf of the Czech koruna, through operations on the free market and indirectly by increasing interest rates. Nevertheless, this attempt was unsuccessful and the Central Bank was forced to introduce a “floating regime” for the Czech currency after two weeks. Consequently, currency policy carried out to protect the koruna exchange rate led to a robust growth in interest rates. The result was a slowing down of all economic activities, a hindering of investment and a worsening financial position for many companies.

At the beginning of 1998, the short-term interest rates on the money market were characterised by a gradual drop from its high level from the end of the previous year. But the trend of dropping interest rates was negatively influenced by the Russian financial crisis and the inner-political situation (an early parliamentary election). After the situation calmed down, another – August 1998 – crisis broke out in Russia, which gradually hit emerging markets as well. The influence of this turbulence on the Czech money market was only short-term and interest rates could continue in their ascending trends, which enabled a very favourable influence on inflation and a total recovery of the situation on the other financial markets. The interest rates in The Czech Republic have gradually dropped since the year 1999 as a consequence of a favourable development of the inflation level, economic recovery, and expectation of entry to the European Union (in May 2004).

During the period of relatively high interest rates (1997 and 1998), Czech companies scrambled to find alternative sources of financing to be able to avoid expensive short- and long-term bank loans. The range of alternatives included Commercial Paper programs for short-term and bonds for long-term financing. As Figure 1 illustrates, the reference interest rate in the Czech Republic declined sharply since 1997. As a result, Czech corporations were forced to operate in a relatively unstable

interest rate environment until 2000, in comparison with their Eurozone counterparts. The average 3-month Dutch AIBOR (since 1999 the EURIBOR, as a result of the introduction of the Euro currency) is presented for comparison

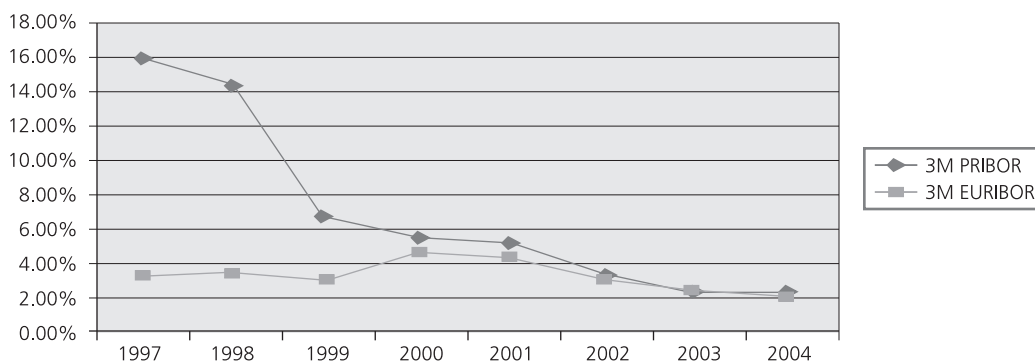


Figure 1: Comparison of the development of the 3M reference interest rates for Czech and Dutch (i.e. since 1999 Euro) markets, yearly averages in % p.a.

Source: Czech Central Bank, De Nederlandsche Bank N.V.

As Polák (2005) argued, the unstable interest rate environment at the end of the 90's forced Czech businesses to choose differing strategies during periods of high and low interest rates, and even expand the tools used to eliminate risk caused by such interest rate variation. During periods of relatively high reference rates (particularly 1997 and 1998, and in terms of EURIBOR rates, even 1999 and 2000), businesses seeking financial resources looked for alternatives to short and long-term credits. In the Czech Republic, such alternatives include most notably, commercial paper issues for short and mid-term financing. For long term financing, there are alternatives to loans, namely the issue of corporate bonds. As Tables 1 and 2 show, corporate bond issues are not very wide spread, despite the inverted profile of IRS yield curve (in the years 1997-1998) for attracting fixed coupons under the appropriate PRIBOR rate. The reasons behind this include a lack of confidence from the side of investors, and at the same time, a lack of willingness from the issuers to go into long-term commitments in an environment of high and volatile interest rates.

	1997	1998	1999	2000	2001	2002
Loans	1 149.6	1 135.4	1 085.7	952.4	974.5	949.8
from loans provided to corporations in bln. of CZK	986.4	917.4	851.2	720.0	631.5	555.6
in%	85.8%	80.8%	78.4%	75.6%	64.8%	58.5%
from long term loans provided to corporations in bln. of CZK	327.5	335.8	336.2	316.8	289.2	236.1

Table 1: Advancement in volume of loans provided to the clients of Czech based banks, in billions of CZK, as at the end of respective year

Source: Czech National Bank

	1997	1998	1999	2000	2001	2002
Corporate bonds in NV	8.65	17.95	40.00	53.01	53.04	57.04

Table 2: Advancement in volume of corporate bonds (in nominal value) registered at the Prague Stock Exchange, in billions of CZK, as at the end of respective year

Source: Reuters, ABN Amro Bank N.V.

In terms of commercial paper issues, there are no central statistics. This is because such securities issues needn't be approved by the SEC. Besides this, in the Czech Republic, this program is only for debtors who belong to companies with prime credit risk ratings

III. Foreign exchange and interest rate hedging, debt financing

Czech banks have been at the forefront of treasury developments in the Central and Eastern European region, offering their corporate clients a whole range of treasury products, including options. They also play a big role in keeping clients up to date about currency and interest rate risks. Since the Czech economy depends heavily on foreign trade (exports in 2002 were 55% of GDP, with almost 60% of this to the euro zone), mostly with the euro zone countries, exporters in particular have had to adjust their approach towards hedging instruments because of the reinforced Czech koruna. The most frequently used product in foreign exchange assurance is the currency forward. The market in currency options in koruna has developed over the past nine to ten years. At first, the main trading was in plain vanilla options, but gradually the offer was extended to include barrier and exotic options. To hedge interest rate risk operations, companies tend to use forward rate agreements (FRA) and interest rate swaps (IRS), in addition to instruments based on interest rate facilities, such as cap and floor options. The high volatility of reference interest rates has influenced enormous progress in using such tools since 1997.

III.1 The marked ambivalence of interest rates on the Czech market since 1997 has led companies to behave more cautiously and use hedging tools

	31.12.2000	31.12.2001	31.12.2002	31.12.2003
Forward rate agreement	487.3	925.7	973.0	1012.6
Interest rate swap	398.6	760.7	1020.6	1067.9
Interest rate futures	4.1	0	0	0
Total of IR hedging tools	890.0	1686.4	1993.6	2080.5

Table 3: Advancement in volume of main interest rate hedging tools used by clients of Czech banking sector in the years 2000-2003, in billions of CZK

Source: Czech National Bank

	as of 31.12.1997	31.12.1998	31.12.1999
Forward rate agreement	132	337	423
Interest rate swap	180	220	294
Interest rate futures	31	26	4
Total of IR hedging tools	343	583	721

Table 4: Advancement in volume of main interest rate hedging tools used by clients of Czech banking sector in the years 1997-1999, in billions of CZK – rounded estimation from CNB graphs

Source: Czech National Bank

As tables 3 and 4 show, a marked yearly increase in interest rate hedging tools for bank clients in the Czech Republic is evident for the years 1997-2002. During the periods of high PRIBOR and PRIBID reference rates in 1997 and 1998, businesses tried first and foremost to take advantage of the

negative inclination of FRA and IRS rates of return (which means that long term annual interest rates were lower than short term rates). This effort is especially clear in the issue of corporate bonds in 1997 and 1998. Bond issues in 1997 had fixed interest rates, which means that on the day of issue, an interest rate swap was placed on the entire amount of the issue, where the original floating PRIBOR + margin p.a. was exchanged for a fixed rate. In 1998, just two companies in the utility sector chose different paths. On March 5th, 1998, the Northern Moravian Power Company (NMPC), issued 1 billion CZK in bonds at a floating 6M PRIBOR + 0.40% p.a. In June of the same year, and under the same conditions, Southern Moravian Gas Company issued 700 million CZK in bonds. Both of these companies bet on the future decline in the PRIBOR rate, and they were proven right. However, at the time of their issue, they were going against market forecasts. Nonetheless, NMPC ensured itself against a potential rise in the 6M PRIBOR purchase cap with a strike price of 11.60% p.a. All in all, five caps were purchased on semi-annual coupons, however with premium payment requirements. Of these caps, only one was called, the very first coupon in September 1998, when the 6M PRIBOR was at 14.51% p.a., and the company actually paid 11.60% p.a.

The period since 1999 is characterised by the sharp continual decline of the PRIBOR rate, and in comparison with the previous two years, the positive slope the IRS curve (which indicates that annual interest rates for the longer term were higher than for the short term) and a noticeable growth in the issue of corporate bonds. But even at this time, there were companies that hedged against interest rates by issuing IRS bonds. The above-mentioned NMPC conformed to this trend, by exchanging its original floating interest rates from its 1998 issue for a fixed interest rate swap in 2001. In addition to that, Belgian owned company Glaverbel issued 3 billion CZK in bonds in 2000, and Škoda auto in the same year issued 50% of its 10 billion CZK with floating coupons. After 1999, corporations feared again that floating coupons would suffer from return of rising interest rates in the near future. This forecast did not come true; interest rates continued their falling trend.

III.2 Debt Financing

It is supposed that a company chooses such debt financing that would have the lowest costs for financing (including subscription and administrative costs). Discussions were carried out on the grounds of the Czech Association of Corporate Treasurers in recent last years on this given theme, encouraged by one of the authors (Polák). Parallel, it is possible to analyse the proportional amount of cost interest paid in regards to external sources of financing – the issuing of bonds and bank credit. For this purpose, it is also possible to state the quality indicator of financial management in areas of company debt activities, and the interest costs for external financing.

$$CEF = \frac{IC}{BL + B} \times 100\%$$

CEF – costs of external financing

IC – interest cost (profit and loss statement)

BL – bank loans (balance sheet), average state at the beginning and end of period

B – bonds issued (balance sheet), distinguished by time

In Tables 5 – 7 costs of external financing development is illustrated in % p.a. in three selected companies – Northern Moravian Power Company (NMPC), Moravian-Silesian Heating Company (MSHC), since the year 2002 the company has used a new name – Dalkia Morava, and Vítkovice. In the cases of Vítkovice and NMPC, we are dealing with companies with mostly state ownership in the years under observation. Their position in relation to financial intermediaries on the Czech financial market was however and is by no means different. The North Moravian Power Company is the most important distributor of electrical energy in the Czech Republic from the point of view of sales and

profit, and has a BBB+ rating from Standard & Poor's. From the point of view of its position, the North Moravian Power Company has an excellent position in the area of obtaining external financial means for its activities, as in investing in financial market means, whose intermediary has established a certain credit risk for the bank. Vítkovice is in a different position, financing its production was ensured by credit from the state Consolidation Bank through the means of the company Osinek.

	1997	1998	1999	2000	2001	2002
CEF Development	18.33%	14.43%	9.36%	7.08%	5.49%	5.41%

Table 5: Costs of external financing of North Moravian Power Company in % p.a.

Source: Annual report of North Moravian Power Company

	1997	1998	1999	2000	2001	2002
CEF Development	14.14%	10.15%	10.52%	9.77%	9.58%	NA

Table 6: Costs of external financing of Moravian-Silesian Heating Company in % p.a.

Source: Annual report of . Moravian-Silesian Heating Company

	1997	1998	1999	2000	2001	2002
CEF Development	16.20%	16.09%	12.29%	5.36%	8.83	NA

Table 7: Costs of external financing of Vítkovice in % p.a..

Source: Annual report of Vítkovice

The achieved results of these companies can be compared with the development of the 3M PRIBOR reference rate as an average in the following years – see Table 8. From these rates, the interest paid by bank clients derives at times of making use of bank credit. as well as the rate of coupons for the bonds issued.

	1997	1998	1999	2000	2001	2002
3M PRIBOR	15.97%	14.33%	6.84%	5.36%	5.18%	3.55%

Table 8: Development of the 3 months PRIBOR reference rate in % p.a. yearly average

Source: Czech National Bank

At NMPC and MSHC two different strategies were seen. In 1994, MSHC issued bonds at a total nominal value of 350 million korunas (that is 3,500 bonds at a nominal value of 100,000 CZK each) with a fixed coupon of 13% p.a. The bonds were paid in the year 1999. In connection with the development of interest rates, part of the bonds, at an amount of 24 million CZK, were successfully bought back in the year 1996. A second issuing of bonds followed in October 1997, when the bonds were issued at a total nominal rate of 2 billion CZK with a fixed coupon of 13.90% and maturity in October 2002.

In the years 1997 and 1998 – as is shown in the Table 6 – MSHC made an about-face in the swap curve, when long-term interest rates (in the case 5-year IRS) were lower per year than an appropriate 3, or if need be 6, months PRIBOR rate, from which cost interests are derived in cases of changeable interest rates. In other years, however, these fixed coupons, especially in the second issuing of bonds, recorded a higher cost load than there was in the NMPC case. And even despite this reality, the company succeeded to buy back part of its own bonds at an amount of 830 million Czech korunas. What's more – for a nominal value plus aliquot interest yields only. NMPC chose the opposite strategy and issued bonds on 5.3.1998 at a value of 1 billion Czech korunas for a variable 6M PRIBOR rate + 0.40 % p.a. The bonds matured in March 2003. That is why it has profited since the year 1999 from a favourable drop in the short-term interest rate. Nevertheless even in the case of NMPC there were fears

about a reverse growth in interest rates in March 2001 for the exchange of changeable coupons for fixed IRS funds. In the table, cost stagnation is seen for financing in the year 2002 as opposed to the year 2001 for the reason of fixed coupons. The slight drop cost indicator for financing in the case of MSHC in the years 2000 and 2001 is due to a drop in changeable rates for short-term interest and the mentioned promissory notes programme in July 1999. In the year 2001, two joint-stock companies – North Moravian Power Heating Company and Karviná Heating Company – were incorporated into one and called Dalkia Morava. The joint-stock company Vítkovice issued bonds at the same time with a fixed coupon of 13.50% p.a. at an amount of 1 billion Czech korunas and in June 1995 with maturity in the year 2000. The costs for external financing of Vítkovice are further marked by a high margin above the average PRIBOR for credit provided to companies by the state's Consolidation Bank and by private local banks. This margin moves from 3% per annum above the PRIBOR.

In conclusion, it is possible to confirm this second partial influence that a company has chosen debt financing, for which the lowest costs for financing are paid – above all, this means interest and other costs (for example, subscription). The cases of NMPC and MSHC clearly illustrate two different strategies which companies accepted after the currency crisis in May 1997, when reference interest rates reached very high levels.

MSHC – as a considerable number of Czech companies – used the purchase of mid-term and long-term swap, which carry a certain risk in the case of a future drop in interest rates. In years of high reference interest rates – 1997 and 1998 – MSHC paid interest, which was lower than the real PRIBOR rate. This advantage has been nevertheless lost since the year 1999, in which a dramatic drop in reference rates took place. This drop then carried on in other years as well up to today. On the other hand, NMPC was one of few companies which abandoned its own bonds of variable coupons during issuing. That is why interest costs for financing moved high above the costs of MSHC and above the PRIBOR in their year of issuing NMPC at the same time, fearing a growth in interest rates, ensured a cap type operation with a strike price at 11.60% p.a. for the five first half-years of coupon payment. The bonus for this interest option was paid at an amount of 50 million Czech korunas in total. Nevertheless, the changeable coupon has enabled NMPC to profit since the year 1999 from the favourable drop in reference rates.

III.3 Other costs for providing financing

By providing long-term and short-term financing, in addition to paying interest, a whole number of other fees and costs were brought into consideration. The amount of these costs is not commonly determined from the current account statements that are the financial parts of a company's annual report. Such costs may include, for example, accountants' and lawyers fees, arrangement fee, costs of printing of the offering circular and of security-printing the securities where they are issued in definitive bearer form, and the due diligence process.

IV. Investment strategy

It is supposed that a company will chose an investment instrument which will ensure it the greatest yield up to the time of maturity or sale. An indicator of financial management was also set (by authors) in the fields of corporate investment and in the yields from financial operations.

$$YFFO = \frac{IY + S(SS) - S(SD)}{FP} \times 100\%$$

YFFO – yield from financial operations

IY - interest yield (profit and loss statement)

S (SS) – sales on the sale of securities (profit and loss statement)

S (SD) – sale of securities and deposits (profit and loss statement)

FP – financial property (balance sheet), average state at the beginning and end of period

	1997	1998	1999	2000	2001	2002
YFFO Development	11.40%	15.14%	7.27%	2.46%	4.89%	6.12%

Table 9: Yields from the financial operations of the Northern Moravian Power Company
Source: Annual Report. Northern Moravian Power Company

	1997	1998	1999	2000	2001	2002
YFFO Development	9.48%	10.17%	8.38%	5.15%	5.02%	NA

Table 10: Yields from the financial operations of the Moravian-Silesian Heating Company
Source: Annual Report. Moravian-Silesian Heating Company

	1997	1998	1999	2000	2001	2002
YFFO Development	13.88%	8.84%	3.71%	0.21%	1.95%	NA

Table 11: Yields from the financial operations of Vítkovice
Source: Annual Report. Vítkovice

The yield from financial operations for selected joint-stock companies is illustrated in % p.a. in Tables 9 to 11. A special case in this group is the MSHC, which has been in the hands of foreign investors since 1997, and is part of the company Dalkia, which was the power division of the French company Vivendi. After problems with the media division of the concern Vivendi, the state energy giant Electricité de France appeared among the owners of the company Dalkia. The MSHC, similarly as NMPC, before the takeover by foreign owners were among the most important companies in the Czech Republic from the point of view of attained sales and profit, and this position is still improving at the present time. The attained results of these companies can be compared with the development of PRIBID reference rates as an average for the individual following years. This rate is – simply said – in our conditions, the maximum that companies can achieve in koruna deposits through a bank. The development of the tri-monthly PRIBID rate is shown in Table 12.

	1997	1998	1999	2000	2001	2002
3M PRIBID	14.15%	13.94%	6.62%	5.23%	5.08%	3.46%

Table 12: Development of the 3 months PRIBID reference rate in % p.a. yearly average
Source: Czech National Bank

In the year 1997, the company concentrated on short-term term deposits, which had high interest payments, especially in the time of the currency crisis in the Czech Republic in May and June 1997. PRIBID reached the highest average values in the shortest time periods – for one week it was 15.42% p.a., 2 weeks – 15.19% p.a. It is possible to say that the year 1997 witnessed the use of simple, very short-term, deposit instruments. From this point of view, for revaluating free money funds companies did not need any specialised Treasurer. In the year 1998, there was a change in Law No. 588/1992 of the Law Code about value added tax, in the wording of later regulations, that enabled companies to invest to a greater extent into safe securities with a higher yield than for term deposits, such as Treasury bills, deposit promissory notes of international banks with a rating even greater than the Czech Republic has (in the initial stages, in particular – Citibank, BNP – Dresdner Bank, Deutsche Bank). From the year 1997, there have been regular seminars by Czech banks for their important clients (among which are the above mentioned duo MSHC and NMPC), which are informed in particular about new, sophisticated banking products offered to corporate clients. Because of this and due to the personal approach of dealing bank staff towards their most important clients, an

information gap has grown in the areas of financial market instruments between the financial department staff of the most important companies and other companies.

This is amplified the most by the establishment of the Czech Association of Corporate Treasurers, founded in February 2001 and was connected to the discussion and working group activities of the Treasury staff of the most important companies. Among the founding members of the Association we can find staff from MSHC and NMPC. The other members are the collected staff of the most important companies in the Czech Republic, such as Transgas, Czech Telecom, Unipetrol, Škoda Auto, and important utility companies. In the year 1998, in the North Moravian Power Company, a specialised Treasury staff associate could devote full-time investment in free money instruments, which would ensure appropriate financial operations and the investment requirements of the company. In particular, of the two mentioned in the paragraphs above, NMPC has had a growth in yields from financial operations as opposed to the year 1997 (and in spite of a drop in interest rates). There was a similar situation in MSHC, where the centralisation activities of the Treasury were gradually carried out in MSHC and its subsidiaries (especially Heating Station in Karviná), since the year 1999.

In the year 1998, MSHC yields from financial operations were more than 3% lower than average 3M PRIBID. This was caused by the fact that MSHC keeping a large amount of funds in German marks to pay for invoices of the Finnish Company FW-Ivo Power engineering, which carried out a revamping of the equipment of the Olomouc Heating Station. Due to delays in investment and the consequent later invoicing, the funds in German marks (DEM) were valorised, but at an average rate of 10% p.a. lower than for the Czech koruna at that time. In the year 1999, Vítkovice began to also valorise its free money funds according to its annual report at a volume of tens of millions of korunas through Citibank deposit promissory notes.

In the year 2001, NMPC made a change in its Treasury staff. This change was marked by riskier methods in valorising free money funds by investing in Polish state bonds issued in Polish zloty (PLN). Higher interest rates for PLN than for CZK, together with a favourable shift in the currency exchange at the time of yield payments enabled NMPC to achieve a high yield value in the years 2001 and 2002 from financial operations, and in the year 2002 even above the PRIBID.

At the conclusion of this discussion, it is interesting to compare the above mentioned yields of industrial companies with the financial position of the technical reserves of Czech Insurance Company Inc. (Česká pojišťovna. a.s.) – see Table 13.

	1997	1998	1999	2000	2001	2002
3M PRIBID	14.15%	13.94%	6.62%	5.23%	5.08%	3.46%

Table 13: Yields from the financial investment of technical reserve funds of life and non-life insurance in the Czech Insurance Company in % p.a.

Source: Annual Report of Czech Insurance Company

This type of yield at insurance companies is made up mostly of high yields from fixed interest instruments (mostly bonds), for which there consequently was a drop in interest rates in Czech Insurance Company long-term investments with fixed interest instruments. In the years 1998 and 2000, there was a more considerable negative affect on the yield of the possession of property securities, and most of all, in the form of losses from revaluating or realizing Pragobanka Bank and IPB bank shares. It is necessary to calculate the "Yields of the Assets of Financial Reserves from Life and Non-life Insurance" with the yields presented, to understand the yields after the deduction of corresponding costs for financial positions.

V. Conclusion

Evolution in Czech corporate debt financing has been driven by changes in the requirements of suppliers of capital, with institutional and other non-bank investors replacing traditional banks. Investors have become increasingly sophisticated, favoring less regulated instruments. Increased volatility in the reference interest rate has also influenced capital raising decisions, and increased the use of hedging instruments to manage the resulting interest rate risk.

A company, as an investor, can certainly select an instrument which will bring it the highest net revenue from the tax regime and interest-bearing points of view. It is interesting in this connection to compare the investment activities of industrial companies, which have aimed mostly on the instruments of money market, with an insurance company that has invested a greater part of its technical reserves into fixed interest-bearing instruments of the capital market (mostly into bonds). For this reason, the insurance company reached revenues under the PRIBID and vice versa in the period of a reversal in the revenue curve of long-term rates (using the IRS rates).

At the same time, the company, as a debtor, tried to minimise interest and other costs in parts of debt financing. In the environment of volatile interest rates, debtors could select two basic strategies – to fix its paid interest by means of an interest swap or to leave the variable interest rate connected to the PRIBOR. The primary sense in choosing one of these strategies was to minimise interest rates, for reasons of the dramatic drop in interest rates. The variable interest rate has shown to be better in the period following the year 1999. Other costs for short-term and long-term debt financing are comparable.

The paper is published due to the Czech Grant Agency support (grant GACR No. 402/05/2758 "Integration of the financial sector of the new EU member countries into the EMU").

VI. References

- Czech National Bank. *Annual reports 1997-2003*. Praha.
- Czech National Bank. *Annual reports on banking supervisory activities 1997-2003*. Praha.
- Czech National Bank *Banking sector stability report*. Praha 2004.
- Czech Insurance Association. *Annual reports 1997- 2003*. Praha
- European Commission 2003, *Comprehensive Monitoring Report of the European Commission of 5 November 2003 on the State of Preparedness for EU Membership of the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovakia*, 675 final, Brussels: European Union.
- Moravskoslezské teplárny, a.s. *Annual reports 1997-2002*. Ostrava.
- Polák, P., 2005, An Appreciation of the Impact of the Development of Financial Markets on Financial Decisions made by Corporations in the Czech Republic, *Investment Management and Financial Innovations Journal*, 2(2), pp. 8-17.
- Polák, P. & Swagerman, D., 2003, The Financial Markets in The Czech Republic and The Netherlands – Compare and Contrast. *Treasury Management International*, April, pp. 22-27.
- Poloušek, S., 2004, *Reforming the Financial Sector in Central European Countries* (Palgrave Macmillan, London).
- Severomoravská energetika, a.s. *Annual reports 1997-2002*. Ostrava.
- vejnar, J., 2002, Transition economies: Performance and challenges, *Journal of Economic Perspectives*, 16(1), pp. 3–28.
- Vítkovice, a.s. *Annual reports 1997-2002*. Ostrava.