INFLUENCE OF DEPOSITARY RECEIPTS ON
COMPANIES’ PERFORMANCE: EVIDENCE FROM EASTERN EUROPE

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INFLUENCE OF DEPOSITARY RECEIPTS ON
COMPANIES’ PERFORMANCE: EVIDENCE FROM EASTERN EUROPE

BY

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Depositary Receipts (DR) are negotiable certificates that represent a foreign company’s publicly traded equity. There is a growing development of DR programs in Eastern Europe in the last decade. The major research question addresses the issue of how capital injection as a result of DRs influences the performance of firms in Eastern Europe. We compare financial performance measures of asset management efficiency, profitability and market value of companies before and after DR program affiliation. Further, the Chow test for equality between sets of coefficients in two linear regressions is applied. There has been a slight influence on the companies’ assets and profitability in the short-run and there has been no influence on companies’ asset performance and sales in the long-run after the DR program announcement. DR program announcement makes a positive effect on the CEE companies’ market value and stock performance the short-run and the negative effect in the long-run.
ACKNOWLEDGMENTS

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CHAPTER 1

INTRODUCTION

An inflow of new capital is vital for firms’ growth in both developed and developing countries. In the era of globalization, companies from emerging markets enjoy the opportunity to search for capital outside their borders. One of the ways for international firms to raise new capital is participation in Depositary Receipts (DR) Programs.

Depositary Receipts were introduced in 1927 in order to facilitate overseas investment. Later, it was shown that DRs can be an alternative to direct investments (Officer and Hoffmeister, 1987). In general, Depositary Receipts are negotiable certificates that represent a foreign company’s publicly traded equity or debt. Depositary Receipts are also called American Depositary Receipts (ADRs), Global Depositary Receipts (GDRs) or Rule 144A securities. These names typically identify the market in which Depositary Receipts are available. ADRs are publicly available to U.S. investors on a national stock exchange or in over-the-counter market; GDRs are generally available in one or more markets outside the company’s home country; and Rule 144A ADRs are privately placed and resold only to Qualified Institutional Buyers (QIBs) in the U.S. QIB PORTAL market.

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2 A QIB generally is defined as an institution (such as an insurance company, registered investment company or pension or employee benefit plan), acting for its own account or for the account of other qualified institutional buyers, that in the aggregate owns and invests on a discretionary basis at least $100
Rule 144A private placements require only limited disclosure of financial statement information unlike the format required for U.S. companies. The rule was adopted in April 1990 to expand the liquidity of the private placement market and to facilitate access to U.S. markets for non-U.S. users that were not willing or able to undergo registration under 1934 Securities Act (Foester and Karolyi, 2000).

DR Programs gained more popularity in the last decade. According to the Bank of New York\textsuperscript{3}, in 1999 almost $22 billion was raised through new DR programs, an amount ten times that were raised in 1990 and the number of DR programs almost doubled, from 836 in 1990 to 1,558 by the end of 2001\textsuperscript{4}.

The possibility to raise equity externally was reinforced by the globalization and deregulation of international stock markets. Since 1980 many developing countries have relaxed capital controls. The 1980s debt crisis highlighted the need to open up capital accounts to develop new sources of external finance that would reduce the reliance on debt. ADRs and GDRs are important alternatives, because they share risks faced by firms in emerging markets and provide new capital (Errunza, 1999).

The first motivation for this study is the growing development of DR programs in Eastern Europe in the last decade. Therefore, the major research question will address the issue of how capital injection as a result of DR programs influences the performance of firms in emerging markets in Eastern Europe, Russian Federation and Turkey.

\textsuperscript{3} Bank of New York’s database lists DR issues from 1982.
Specifically, this research will focus on the Depositary Receipts Program effect on the firms’ profitability, assets performance and market value of the corresponding firm’s stocks.

Further motivation comes from Jain and Kini (1996), who examine changes in operating performance following an initial public offering (IPO). Similar to an IPO, DR programs create an inflow of investment from the capital markets. Equivalently, IPOs and DRs allow the company, which previously sold its shares to foreign investors, to diversify, increase liquidity, and open new potential markets.

**Literature Review**

A number of studies that investigated the DR Programs were published recently. However, more attention was paid to developing Asian, Latin American equity markets and developed European markets. Little research is made about the DR cross-listing of Eastern European companies. There are interesting studies with the emphasis on the ADR programs’ impact on the immediate and the long-term performance of companies in emerging markets, including a study about the effects of DR Programs in Eastern European countries.

Korczak and Bohl (2003) investigated cross-listing implications for companies in the Czech Republic, Hungary and Poland, using an event study methodology and time frame 1995-2001. They found that companies experience a permanent positive value enhancement at the 25% significance level around DR offerings. Korczak and Bohl observe that stock liquidity improves after international listing which indicates that
foreign trading venues attract new investors. Also, they found that the average turnover ratio in the domestic market increased by 34%.

Similarly, Errunza and Miller (2000) have found significant positive returns around the announcement of ADR offerings and long-run returns reduction. They examined 97 global equity offerings in the U.S. by foreign firms and an effect of these issues on shareholder wealth. They find that on average, global equity offerings are not associated with stock price response. However, firms located in emerging markets have negative abnormal returns while those from developed markets have positive abnormal returns.

Another valuable study pertaining to emerging markets by Foester and Karolyi (2000) investigates the long run performance of 333 firms from 35 countries in Latin America, Asia and Europe that raise equity capital in U.S. markets. They find that private placement DR (Rule 144A) issues underperform local markets’ benchmarks of comparable firms in the three years following issuance. Foester and Karolyi show that private placement DR issues underperform their benchmarks, especially those from countries with low home-market accounting standards.

Foester and Karolyi also employ a market segmentation hypothesis, which proposes that the returns performance following exchange listing and Rule 144A global equity offerings will be different for companies from countries with indirect barriers, such as differences in reporting and continuous disclosure requirements (Foester and Karolyi, 2000). In other words, benefit from ADR program will be significant only when the local

---

5 Markets are said to be segmented if they offer different returns for the same unit of risk. Integrated markets offer similar returns for investments that reflect similar measures of risk (Levich, 2001).
market is segmented\textsuperscript{6}. This finding is important for the purposes of this analysis, because most of these companies are Rule 144A offerings.

Smith and Sofianos (1997) conclude that foreign listing is not a zero sum game, where a foreign market’s gains are accompanied by a local market’s losses. Rather, both markets benefit. The combined local and foreign trading volume increase is higher than the local volume prior to the cross-listing.

In summary, there are numerous studies made about DR Programs and emerging markets, but few concentrate on Eastern Europe. These analyses provide evidence that although there is an increase in returns around ADR offerings, in the long-run DRs underperform firms which do not participate in DR programs. The returns difference after entering a DR program is explained by diverse accounting practices and levels of the disclosure in segmented markets.

**DR Program Benefits**

Existing research shows that the cross-listing and participation in the DR programs benefits both markets. First we address how DR Program specifically benefits companies in emerging markets which cross-list in the U.S. According to the Bank of New York, more then 2,000 companies from over 70 countries participate in DR programs. Here are some of the advantages to a non-U.S. company\textsuperscript{7}:

- Expanded market share through broadened and diversified investor exposure with greater liquidity, which may increase or stabilize the share price;

\textsuperscript{6} For further explanation of the market segmentation hypothesis see Alexander, Eun and Janakiramanan (1987).

\textsuperscript{7} An expanded list of advantages as a result of Depositary Receipts Programs can be found at the Bank of New York web page.
- Enhanced international visibility and image of the company;
- Flexible mechanism for raising capital and a vehicle or currency for mergers and acquisitions;
- Improve international delivery of ordinary shares.

There are several DR-related benefits for publicly traded firms: listing lowers the cost of capital, increases the shareholders’ base and the value of the cross-listed company, gives access to foreign markets, plays a disciplinary role on the market, makes stocks more liquid, increases confidence among local investors, and adds visibility, exposure and prestige (Mittoo, 1992).

The U.S. listing also enlarges the shareholder base. Risk is shared among more shareholders, which reduces the cost of capital (this hypothesis is advanced by Foester and Karolyi, 1999). Another feature that serves to reduce the cost of capital is related to information asymmetry. When firms issue ADRs, the increased quantity and quality of information demanded by foreign investors will diminish the existing asymmetric information and lower the cost of equity capital (Erunzza, 1999).

Not surprisingly, if a firm makes it easier for foreign investors to purchase its shares, these investors bear some of the unsystematic risk and the cost of capital falls. DRs will be initiated only by those firms that expect a reduction in their cost of capital sufficiently to offset the listing costs (Doidge and Karolyi and Stulz, 2001).

Firms that are listed on the stock exchange in U.S. gain value because they bypass underdeveloped local capital markets. Through greater liquidity and efficiency of the U.S. capital markets, international companies gain access to capital (Lins, Strickland, and Zenner 2000).
Doidge, Karolyi, and Stulz (2001) compare the value of international firms listed in the U.S. to the value of firms that are not. Controlling shareholders of those listed in the U.S. experience lower agency costs and extract less private benefits. Therefore, ADR firms are able to take advantage of growth opportunities more efficiently.

ADR listing enhances the protection of investors for firms from countries with poor investor protection and reduces agency costs. In particular, firms that list in the U.S. have to file certain SEC reports and are subject to U.S. laws and regulations (Coffee 1999, Stulz, 1999 and Reese and Weisbach, 2002). Thus, DR programs will play a disciplinary role by demanding better managerial performance, training of local personnel, and encouraging technology transfer (Errunza, 1999).

Participation of foreign investors should instill confidence among local investors. The market would become more active and support new issues, including faster pace of privatization (Errunza, 1999).

Finally, the liquidity effect of cross-listing depends on informational linkages and transparency. If trading information in both markets is freely available, new traders are attracted and overall liquidity improves. Cross-listing helps to attract the interest of new investors. Otherwise, order flows migrate abroad and local market quality deteriorates, which results in less liquidity (Domowitz et all, 1998).

**Negative Effects of the Cross-Listing**

Our discussion has so far focused on the benefits of participation in ADR programs for international companies’ listing of their shares in the U.S. Some policy-makers also have fears about the negative impact of cross-listing and stock markets integration. As
markets become more integrated, listing becomes less valuable since the cost of capital is increasingly determined globally (Doidge, C., Karolyi, A., and Rene M. Stulz, 2001). However, international markets continue to be mildly segmented thus allowing for diversification gains (Fisher and Palasvirta, 1990).

The next concern is whether trade in ADRs increases the transmission of the U.S. stock market volatility to the emerging market. Existing research shows that although the interdependence of the world’s markets increases over time, the U.S. stock market acts as a “lead market” (Fisher and Palasvirta, 1990). Hargis (2002) tested how the liberalization affects local market volatility and how the volatility is transmitted from the U.S. In contrast to the fears of policy makers in emerging economies stock markets, volatility is driven primarily by domestic factors and did not increase after opening to foreign investors.

Some policy makers suggest negative effects of DR programs in the foreign countries, namely increased integration reduces benefits from DR programs and increased local market risk as a result of the volatility in U.S. market. However, both evidence and scholarly research suggest that these concerns are not supported.

**Hypotheses**

On the basis of the theoretical framework presented at the literature review two research hypothesis will be tested:

**Hypothesis 1: DR-Related Changes in Assets and Profitability**

Ho: Eastern European companies’ participation in the Depositary Receipts programs and the capital inflow connected with the cross-listing at the U.S. or Western
European stock exchange impacts a short- and a long-run performance of these companies’ assets and profitability;

Ha: There is no difference in the companies’ short- and long-term assets’ and profitability performance after selling its DR shares to investors in developed markets.

**Hypothesis 2: DR-Related Changes in Market Value and Stock Performance**

**Performance**

Ho: Eastern European companies’ participation in the Depositary Receipts programs impacts a short- and a long-run performance of Eastern European companies’ market value and stock performance;

Ha: There is no difference in the Eastern European companies’ short- and long-term market value and stock performance from participation in DR programs.

**The Study Group**

For the purposes of this study, the ADRs of 32 firms from emerging markets are selected: Poland (10 companies), Hungary (7 companies), Russian Federation (6 companies), Turkey (6 companies), Czech Republic (2 companies) and Slovak Republic (1 company). Annual financial statements for each company come from the Worldscope Database. Depositary Programs announcement dates are listed on the Bank of New York web page.

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8 Worldscope database includes information about financials for over 24,000 companies, more than 50 developed and emerging markets, and 10-18 years of historical data.
Methodology

Following Jain and Kini (1996), we compare financial performance measures of asset management efficiency, profitability and market value of companies before and after DR program affiliation.

To verify these results, the Chow test\(^9\) for equality between sets of coefficients in two linear regressions is applied. For this test we use financial ratios for years (-1) and (1). Companies’ annual stocks closing prices before (-1) and after (1) the DR program affiliation from Worldscope Database are obtained and monthly stock returns are calculated. Then, we find the average annual measure of returns for years (-1) and (1). The dependent variable is stock returns before and after the DR program effective date. Independent variables are profitability, asset management and market value ratios.

The Plan of the Thesis

The study consists of three parts. The first part is an introduction, where importance of the topic and research question and hypothesis are stated. Additionally, the first chapter includes a brief overview of the data and methodology. In the second chapter, the sample and the methodology used to test research hypotheses is described. Findings and comparative analysis of IPO and DR programs influence on the companies’ performance are presented in the chapter 3 and conclusions and recommendations are summarized in the chapter 4.

\(^9\) This test was designed by Gregory C. Chow in 1960. See “Tests of Equality Between Sets of Coefficients in Two Linear Regressions.” *Econometrica* 28 (1960).
CHAPTER 2

DATA ANALYSIS

Sample

We are able to identify 32 firms from emerging Eastern European markets\(^\text{10}\) that initiate Depositary Receipts Programs. We study ADRs and GDRs from Poland (10 companies), Hungary (7 companies), Russian Federation (6 companies), Turkey (6 companies), Czech Republic (2 companies) and Slovak Republic (1 company). Monthly stock prices and annual financial statements for the ratios calculation come from the Worldscope Database.\(^\text{11}\) DR Program announcement dates are listed on the Bank of New York web page.

The sample is limited by the availability of financial information. The group of companies whose DR programs are listed on the Bank of New York web page was further restricted to those whose balance sheets, income statements and cash flow statements are available in the Worldscope Database for one or more years before and after the DR initiation.

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\(^{10}\) According to International Finance Corporation (IFC) emerging market is described as such that either belongs to the low- or middle income economy level. There are 81 emerging markets listed in the Emerging Stock Markets Fact book 2000. According to the World Bank, the low income countries level is $745 or less; lower middle income - $746-$2,975; upper middle income – $2,976-$9,205 and high income - $9,206 or more. Income levels are calculated as GNI per capita using an Atlas method. 2001 GNI per capita indicators for the sample countries are as follows: Czech Republic $5,310, Hungary $4,830, Poland $4,230, Russia 1,750, Slovak Republic $3,760 and Turkey $2,530.
Fore the most part, these are companies are listed on the OTC or PORTAL market, the 2 wireless communication companies from Poland and Russia are listed on the NASDAQ and NYSE. The sample consists of companies’ shares of which are sold in the form of GDRs, ADRs and/or Rule 144A on the U.S. and western European stock markets. Table 1 summarizes company, industry and DR initiation information.

### Table 1
**COMPANY, INDUSTRY AND DR INITIATION INFORMATION**

<table>
<thead>
<tr>
<th>Depositary Receipt Issue</th>
<th>Symbol</th>
<th>Industry</th>
<th>Depositary bank</th>
<th>Initiation Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CESKE RADIOKOMUNIKACE-144A</td>
<td>CKRKYP</td>
<td>Broadcasting</td>
<td>BNY</td>
<td>Mar 1998</td>
</tr>
<tr>
<td>Hungarian</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BORSODCHEM RT. - EURO REG S</td>
<td></td>
<td>Chemicals</td>
<td>BNY</td>
<td>Mar 1999</td>
</tr>
<tr>
<td>GRABOPLAST - REG S</td>
<td></td>
<td>HomeConst</td>
<td>DB</td>
<td>Oct 1997</td>
</tr>
<tr>
<td>MOL MAGYAR - 144A and REG S</td>
<td>MGYXY</td>
<td>Energy</td>
<td>MGT</td>
<td>Jan 2001</td>
</tr>
<tr>
<td>PANNONPLAST RT.</td>
<td>PNPSY</td>
<td>Chemicals</td>
<td>BNY</td>
<td>Oct 1997</td>
</tr>
<tr>
<td>PICK SZEGED - 144A and REG S *</td>
<td>PICKYP</td>
<td>Food</td>
<td>BNY</td>
<td>Dec 1997</td>
</tr>
<tr>
<td>ZALAKERAMIA RT. - 144A and REG S</td>
<td>ZALAYP</td>
<td>Building Materials</td>
<td>BNY</td>
<td>May 1997</td>
</tr>
<tr>
<td>Poland</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGORA SA - 144A and REG S</td>
<td>AGO144A</td>
<td>Publishing</td>
<td>DB</td>
<td>Mar 1999</td>
</tr>
<tr>
<td>BANK MILLENNIUM</td>
<td>BBIGYP</td>
<td>Banks</td>
<td>BNY</td>
<td>Jul 1997</td>
</tr>
<tr>
<td>EUROPEJSKI FUNDUSZ LEASINGOWY</td>
<td>EURO144A</td>
<td>Diversified Financ'l</td>
<td>DB</td>
<td>Feb 2000</td>
</tr>
<tr>
<td>POLSKA MIEDZ S.A. - 144A and REG S</td>
<td>KGGPP</td>
<td>Mining &amp; Metals</td>
<td>DB</td>
<td>Jul 1997</td>
</tr>
<tr>
<td>KREDYT BANK PBI S.A.-144A and REG S</td>
<td>KREDYT</td>
<td>Banks</td>
<td>DB</td>
<td>Dec 1997</td>
</tr>
<tr>
<td>MOSTOSTAL WARSZAWA - REG S</td>
<td></td>
<td>Heavy Construction</td>
<td>DB</td>
<td>May 1998</td>
</tr>
<tr>
<td>NETIA HOLDINGS SA</td>
<td>NTIAQ</td>
<td>Fixed Line Comm.</td>
<td>BNY</td>
<td>Jul 1999</td>
</tr>
<tr>
<td>ORFE S.A. - REG S</td>
<td></td>
<td>Retail</td>
<td>BNY</td>
<td>Nov 1998</td>
</tr>
<tr>
<td>POLSKI KONCERN NAFTOWY ORLEN - 144A and REG S *</td>
<td>PSKOY</td>
<td>Energy</td>
<td>BNY</td>
<td>Nov 1999</td>
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### TABLE 1: CONTINUED

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<tr>
<th>Country</th>
<th>Company Name</th>
<th>Industry</th>
<th>Security</th>
<th>Date</th>
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<tr>
<td><strong>Russian Federation</strong></td>
<td>PROKOM SOFTWARE S.A. - REG S and 144A</td>
<td>Software</td>
<td>BNY</td>
<td>Nov 1997</td>
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<tr>
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<td>STALEXPORT - 144A and REG S</td>
<td>Mining &amp; Metals</td>
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<td>Jul 1998</td>
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<td></td>
<td></td>
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<td></td>
<td>CHERNOGORNEFT</td>
<td>Energy</td>
<td>BNY</td>
<td>Mar 1996</td>
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<td></td>
<td>GAZPROM OAO - REG S</td>
<td>Energy</td>
<td>BNY</td>
<td>May 1999</td>
</tr>
<tr>
<td></td>
<td>MOBILE TELESYSTEMS</td>
<td>Wireless Comm.</td>
<td>MGT</td>
<td>Jul 2000</td>
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<tr>
<td></td>
<td>SLAVNEFT-MEGIONNEFTEGAZ PREFERRED – REG S</td>
<td>Energy</td>
<td>BNY</td>
<td>Sep 1999</td>
</tr>
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<td></td>
<td>UNIFIED ENERGY SYSTEMS OF RUSSIA - REG S</td>
<td>Electric Utilities</td>
<td>BNY</td>
<td>May 1997</td>
</tr>
<tr>
<td></td>
<td>YUKOS</td>
<td>Energy</td>
<td>DB</td>
<td>Dec 2000</td>
</tr>
<tr>
<td><strong>Slovak Republic</strong></td>
<td>SLOVAKOFARMA - 144A and REG S</td>
<td>Pharmaceutical</td>
<td>BNY</td>
<td>Dec 2000</td>
</tr>
<tr>
<td><strong>Turkey</strong></td>
<td>AKBANK - 144A and REG S</td>
<td>Banks</td>
<td>BNY</td>
<td>Mar 1998</td>
</tr>
<tr>
<td></td>
<td>GAYRIMENKUL YATIRIM ORTAKLIGI A.S. - 144A and REG S</td>
<td>Real Estate</td>
<td>BNY</td>
<td>Mar 1998</td>
</tr>
<tr>
<td></td>
<td>FINANSBANK A.S. - 144A and REG S</td>
<td>Banks</td>
<td>BNY</td>
<td>Jun 1998</td>
</tr>
<tr>
<td></td>
<td>MEDYA HOLDINGS A.S.</td>
<td>Publishing</td>
<td>CIT</td>
<td>Dec 1998</td>
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<td>TURKIYE IS BANKASI A.S. - 144A and REG S</td>
<td>Banks</td>
<td>BNY</td>
<td>May 1998</td>
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<td></td>
<td>YAPI VE KREDI BANKASI - 144A and REG S</td>
<td>Banks</td>
<td>BNY</td>
<td>Jun 1997</td>
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</tbody>
</table>

Source: Bank of New York web page

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**Evaluating Operating Performance and Market Value**

Financial ratios help to evaluate financial performance over time. In order to test the hypotheses about an effect of DR program on assets, profitability and market value the following ratios are estimated\(^{12}\):

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\(^{12}\) Financial Ratios formulas are based on Brigham, Eugene and M.C. Ehrhardt (2002).
• Asset Management ratios (*Total Assets Turnover Ratio* is calculated by dividing sales by total assets; *Net Return on Total Assets* which equals net income divided by total assets; and *Return on Sales* which is the relationship between net income and sales);

• Profitability Ratios (*Return on Assets (ROA)* is calculated by dividing the net income available to common shareholders by total assets; and *Return on Equity (ROE)* which is the net income available to common shareholders by common equity);

• Market Value ratios (*Price/Earning ratio, Market/Book and Price/Cash Flow ratio*).

To calculate these ratios, annual financials for the year (0), when each separate company from the sample entered the DR Program, the year before entering (-1) and up to two years after (1) and (2) are used. Further, estimates for years (-1, 0), (-1, 1), (-1,2), (0,1), (0,2) and (1,2) are compared. Comparison of differences in selected financial measures for years (-1), (0), (1) and (2), *t*-test for the hypothesis that the population mean is 0 and a probability of a greater absolute value for the *t* value are presented in Table 2. Detailed discussion about results presented in Table 2 can be found in Chapter 3.
<table>
<thead>
<tr>
<th>Type</th>
<th>Years</th>
<th>N</th>
<th>Difference</th>
<th>Stand. Deviat.</th>
<th>t-value</th>
<th>Pr &gt;</th>
<th>t</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A: Return on Assets (ROA)</strong></td>
<td>Y (-1,0)</td>
<td>7</td>
<td>-1.64</td>
<td>4.43</td>
<td>-0.98</td>
<td>0.36</td>
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<td>Y (-1,1)</td>
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<td><strong>Panel B: Return on Equity (ROE)</strong></td>
<td>Y (-1,0)</td>
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<td>0.97</td>
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<td><strong>Panel C: Total Assets Turnover</strong></td>
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<tr>
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<td>Y (-1,1)</td>
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<td>Y (1,2)</td>
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<td>0.12</td>
<td>-0.12</td>
<td>0.91</td>
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<td></td>
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<tr>
<td><strong>Panel D: Return on Sales</strong></td>
<td>Y (-1,0)</td>
<td>7</td>
<td>0.00</td>
<td>0.09</td>
<td>-0.9</td>
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<td>Y (-1,1)</td>
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<td>Y (0,1)</td>
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<td>0.06</td>
<td>0.24</td>
<td>0.89</td>
<td>0.39</td>
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<tr>
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<td>Y (0,2)</td>
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<td>0.17</td>
<td>-1.08</td>
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<td>Y (1,2)</td>
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<td><strong>Panel E: Market/Book ratio</strong></td>
<td>Y (-1,0)</td>
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<td>0.42</td>
<td>1.28</td>
<td>0.26</td>
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<td></td>
<td>Y (-1,1)</td>
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<td>0.67</td>
<td>1.21</td>
<td>0.31</td>
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<tr>
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<td>Y (0,1)</td>
<td>13</td>
<td>-0.28</td>
<td>2.21</td>
<td>-0.46</td>
<td>0.65</td>
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<tr>
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<td>Y (0,2)</td>
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<td>-3.78</td>
<td>6.77</td>
<td>-1.48</td>
<td>0.19</td>
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<tr>
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<td>Y (1,2)</td>
<td>8</td>
<td>-2.76</td>
<td>4.39</td>
<td>-1.78</td>
<td>0.12</td>
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<tr>
<td><strong>Panel F: Price per Share/Earnings per Share ratio</strong></td>
<td>Y (-1,0)</td>
<td>5</td>
<td>4.90</td>
<td>6.96</td>
<td>1.57</td>
<td>0.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Y (-1,1)</td>
<td>4</td>
<td>24.21</td>
<td>45.81</td>
<td>1.06</td>
<td>0.37</td>
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<tr>
<td></td>
<td>Y (0,1)</td>
<td>12</td>
<td>10.65</td>
<td>28.72</td>
<td>1.21</td>
<td>0.23</td>
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<tr>
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<td>Y (0,2)</td>
<td>6</td>
<td>-3.00</td>
<td>4.29</td>
<td>-1.71</td>
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<tr>
<td></td>
<td>Y (1,2)</td>
<td>8</td>
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<td>7.10</td>
<td>0.03</td>
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<tr>
<td><strong>Panel G: Price per Share/Cash Flow per Share ratio</strong></td>
<td>Y (-1,0)</td>
<td>5</td>
<td>2.92</td>
<td>3.12</td>
<td>2.09</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Y (-1,1)</td>
<td>3</td>
<td>14.03</td>
<td>21.44</td>
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<td>Y (0,1)</td>
<td>9</td>
<td>7.38</td>
<td>12.82</td>
<td>1.73</td>
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<tr>
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<td>Y (0,2)</td>
<td>5</td>
<td>0.44</td>
<td>8.76</td>
<td>0.11</td>
<td>0.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Y (1,2)</td>
<td>8</td>
<td>-7.90</td>
<td>13.08</td>
<td>-1.71</td>
<td>0.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Panel H: Net Income/Sales ratio</strong></td>
<td>Y (-1,0)</td>
<td>23</td>
<td>0.82</td>
<td>3.80</td>
<td>1.04</td>
<td>0.31</td>
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</tr>
<tr>
<td></td>
<td>Y (-1,1)</td>
<td>21</td>
<td>-0.54</td>
<td>2.47</td>
<td>-1</td>
<td>0.33</td>
<td></td>
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</tr>
</tbody>
</table>
Testing for Structural Changes

The next step is to analyze whether there has been a structural change in the sample of the Eastern European firms after DR programs introduction. For this purpose we use the Chow Test for equality between sets of coefficients in two linear regressions. The short-run financial ratios for years (-1) and (1) only are used for the test. Companies’ annual stocks closing prices before (-1) and after (1) DR program announcement are collected and monthly stock returns are calculated. Further, the average measure of stock returns for years (-1) and (1) is calculated. Before calculation of annual returns, stock prices are transformed into dollar equivalents. Exchange rates were found at the World Development Indicators database.

The Chow Test combines two multiple regression models, which consist of two equations each. The first model tests for the structural change in the companies’ assets as a result of DR program announcement:

\[ Y_1 \text{ (Before)} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 \]

\[ Y_2 \text{ (After)} = \gamma_0 + \gamma_1 X_1 + \gamma_2 X_2 + \gamma_3 X_3 + \gamma_4 X_4, \]
where \( Y_1 \) (Before) and \( Y_2 \) (After) are annual stock returns for the year before (-1) and after (1) the DR program announcement respectively. \( X_1 = ROA \), \( X_2 = ROE \), \( X_3 = Total \ Assets \ Turnover \) and \( X_4 = Net \ Return \ on \ Total \ Assets \). The sample for the first model consists of 20 observations and 4 variables excluding the constant term: 7 observations for the year (-1) and 13 for the year (1).

We test whether coefficients are the same in each of the samples:

\[
\begin{align*}
H_0 &: \beta_0 = \gamma_0, \beta_1 = \gamma_1, \beta_2 = \gamma_2, \beta_3 = \gamma_3, \beta_4 = \gamma_4; \\
H_A &: \text{Ho is not true}.
\end{align*}
\]

The second model tests for the structural change in the companies’ equity performance estimators as a result of DR program announcement:

\[
\begin{align*}
Y_1 \ (\text{Before}) &= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \\
Y_2 \ (\text{After}) &= \gamma_0 + \gamma_1 X_1 + \gamma_2 X_2 + \gamma_3 X_3,
\end{align*}
\]

where \( Y_1 \) (Before) and \( Y_2 \) (After) are stock returns for the year before and after the DR program announcement respectively; \( X_1 \) is a Market/Book ratio, \( X_2 \) is Price per Share/Earnings per Share and \( X_3 \) is Price per Share/Cash Flow per Share ratios. The sample consists of 14 observations and 3 variables excluding the constant term: 5 observations for the year (-1) and 9 for the year (1).

\[
\begin{align*}
H_0 &: \beta_0 = \gamma_0, \beta_1 = \gamma_1, \beta_2 = \gamma_2, \beta_3 = \gamma_3; \\
H_A &: \text{Ho is not true}.
\end{align*}
\]

Test Statistics used for the Chow Test is \( F_r, n-2k \sim \frac{(SSE_r - SSE_u)/r}{SSE_u/(n-2k)} \)

where, \( SSE_r = SSE \) (Sum of Squared Errors) for all observations, before and after DR announcement and \( SSE_u = SSE_{1(\text{before})} + SSE_{2(\text{after})} \) with \( r \) equals to number of restrictions
in the model, \( n \) is the total number of observations and \( k \) represents the number of independent variables including the constant term.

**Preliminary Analysis**

In order to make sure that the findings are reliable, these models should be correctly specified. The RESET (regression specification error test), CUSUM (cumulative sum of recursive residuals) and CUSUMQ (cumulative sum of squares) tests are used for the specification errors testing. Moreover, to prove the appropriateness of the Ordinary Least Squares estimates, tests for autocorrelation and heteroscedasticity should be performed\(^{13}\).

**Testing for Specification Errors**

The first possible problem is if models are invalid, either in excluding an appropriate variable, in including irrelevant variables or in having the wrong functional form. CUSUM, CUSUMQ and RESET are used to verify that the model is correctly specified\(^{14}\).

RESET is used to compute Ramsey\(^{15}\) (1969) statistics. RESET is an F-test for whether the coefficients on the new regressors are zero. Test statistics are RESET (4) = 2.62 (Model I) and RESET (4) = 0.708 (Model II), which is less that the critical values

---

\(^{13}\) Shazam Econometrics Software is used to test for specification errors, autocorrelation and heteroscedasticity.


F_{3, 12} = 3.49 (Model I) and F_{3, 7} = 4.35 (Model II) from the F-table on the 5% level of significance. Therefore, there is no specification error in either model.

Statistics calculated for both models using CUSUM or QUSUMQ tests is within upper and lower bounds (see Figure 1), which means that models are specified correctly at the 5% level of significance\(^{16}\).

---

**FIGURE 1**
CUSUM and CUSUMQ TESTS

<table>
<thead>
<tr>
<th>Model I:</th>
<th>CUSUM test</th>
<th>CUSUMQ test</th>
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</thead>
<tbody>
<tr>
<td><img src="image1" alt="CUSUM test for Model I" /></td>
<td><img src="image2" alt="CUSUMQ test for Model I" /></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model II:</th>
<th>CUSUM test</th>
<th>CUSUMQ test</th>
</tr>
</thead>
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<tr>
<td><img src="image3" alt="CUSUM test for Model II" /></td>
<td><img src="image4" alt="CUSUMQ test for Model II" /></td>
<td></td>
</tr>
</tbody>
</table>

Source: Shazam Output

Testing for Autocorrelation

Autocorrelation (known also as a serial correlation) occurs in time-series data when the errors associated with the observations in a given period carry over into future time periods. For both models we use the Durbin-Watson test\(^\text{17}\). We consider a test of the null hypothesis that no serial correlation is present ($\rho = 0$). The alternative hypothesis is that $\rho \neq 0$. In case we reject the null hypothesis, the autocorrelation is present in the model. Durbin-Watson test statistics is the following:

$$
\text{DW} = \frac{\sum_{t=2}^{T} (\hat{e}_t - \hat{e}_{t-1})^2}{\sum_{t=2}^{T} \hat{e}_t^2}
$$

The DW will lie in the range of 0 to 4, with a value near 2 indicating no autocorrelation. Two limits $d_u$ and $d_l$ are given in the DW statistical table. We accept null hypothesis and therefore conclude that the model has no-autocorrelation in case $2 < \text{DW} < (4 - d_u)$ and $d_u < \text{DW} < 2$.

The result of the Durbin-Watson test for the first model is satisfactory, because $\text{DW} = 2.0661 < 2.43$ (critical value $(4 - d_u)$ for 4 explanatory variables excluding the constant term and 20 observations at the 1% level of significance. Thus, we accept $H_0$: $\rho = 0$ and conclude that there is no autocorrelation in the first model.

Similarly, DW for the second model equals 2.30, which is less then 2.39 (critical value $(4 - d_u)$ for 3 explanatory variables excluding the constant term and 14 observations at the 1% level of significance. Thus, we accept $H_0$ and conclude that there is no autocorrelation in the second model.

Testing for Heteroscedastisity

Heteroscedasticity means unequal model variances. If the model is heteroscedastic, ordinary least-squares estimators (OSEs) are not efficient, i.e., variances of the estimated parameters are biased. In order to prove that model is heteroscedastic, we perform the Goldfeld-Quandt test. This test involves calculation of the residual sum of squares from each sample after omitting \( d \) observations in the middle and obtaining F-statistics. We can accept hull hypothesis (\( H_0: \delta_1^2 = \delta_2^2 \)) and conclude no heteroscedasticity if the calculated statistics is smaller than the critical F distribution value. Test Statistics for the Goldfeld-Quandt is \( s^2_2 / s^2_1 \sim F_{n_2-2, n_1-2} \), where \( s^2_2 \) and \( s^2_1 \) are second and the first samples variances, respectively.

After omitting \( d \) observations, our first sample consisted of 8 observations and the second included 9 observations. Critical Value from the F-table is \( F_{7, 6} \) is 4.21 at the 5% significance level and calculated F-statistics equals 0.5041. Because 0.5041 is less than the critical value 4.21, we accept \( H_0 \) and conclude that there is no heteroscedasticity.

Similarly, the second model was divided into 2 samples of 5 and 6 observations each. Critical Value from the F-table is \( F_{4, 3} \) equals 9.12 at the 5% level of significance, and calculated F-statistics 1.3680 is less that the critical value 4.21. Therefore, we accept \( H_0 \) and conclude that there is no heteroscedasticity.

In summary, regression assumptions are not violated and the regression model is correctly specified.
CHAPTER 3

RESEARCH FINDINGS

**Hypothesis 1**

Hypothesis 1 examines how the Depositary Receipts program and the capital inflow connected with the cross-listing at the U.S. or Western European stock exchanges impacts short- and long-run performance of Eastern European companies’ assets and profitability.

Comparison of selected financial measured, $t$-test for the hypothesis that the population mean is 0 and a probability of a greater absolute value for the $t$ value are presented in Table 2. We observe negative returns of the *Return on Assets* in the short- and long-run. *Return on Equity* are positive when comparing the year before a DR announcement with the announcement year (-1, 0) and the short-run period (-1, 1). There are also positive abnormal returns in the long run (0, 2 and 1, 2). There is a slight or almost no change in the *Total Assets Turnover, Return on Sales* and the *Net Return on Total Assets* both in the long and the short-run. Relationship of the *Net Income to Sales* is negative for all years after the announcement year (-1, 1; 0, 1; 0, 2; and 1, 2), except years (-1, 0). It is important to note that these measures are not significant. Estimates for some of the ratios are significant at the 0.10 level, for example: *ROA* for years (0, 2), *Net
Return on Total Assets for (1, 2). Net Return on Total Assets is significant at the 0.05 level for years (0, 2).

As the findings reveal, although Eastern European companies experienced an inflow of cash from the capital markets after selling their shares to foreign investors through ADR and GDR programs, they failed to improve their assets performance or increase sales. There has been only a slight improvement in the selected asset performance ratios, such as Total Assets Turnover and Net Return on Total Assets.

There could be several explanations for this phenomenon. First, in line with foreign portfolio investments which include ADRs and GDRs, there was a significant inflow of foreign direct investments (FDI) in the region, which are forwarded directly into improving assets performance. In comparison, ADRs and GDRs are portfolio investments, which are not directly forwarded into the manufacturing directly. Second, obsolete equipment and lack of the managerial experience are major barriers for Eastern European companies to use additional capital inflow from GDRs and ADRs.

Foreign Direct Investments occurs when a firm invests directly to produce or market a product in another country. FDI became a preferred type of investments into Central and Eastern European countries during their transition to the market economy since the late 1980s and early 1990s. Except for the privilege of receiving an investment, which focuses directly on the increase in production, FDI are preferred type of investments for certain companies as they allow management to maintain control over their company’s operations and business strategy. Further, FDI make a positive contribution to companies in recipient countries, because they supply managerial resources, technology and therefore increase employment. As a result, a company’s
productivity performance increases and favors an increase in sales and assets (Hill, Charles, 1999).

The inflow of FDI into Central and Eastern European countries started to increase after 1994 (see Figure 2). First, the state sector in emerging economies collapsed and the developing private sector required an inflow of new capital. Another reason is the need for Eastern European companies restructuring (Konings 2001) for increasing firm’s long-term efficiency.

FIGURE 2
TOTAL FDI IN CZECH REPUBLIC, HUNGARY, POLAND, RUSSIA, SLOVAK REPUBLIC AND TURKEY FROM 1994 TO 2001

Source: World Development Indicators Database 2002
Lack of managerial experience is another example of an obstacle to the efficient use of capital inflows. Although Eastern European companies are making significant progress towards free market institutions, a large number of companies’ senior managers have inherited inefficient business and economics practices, which are still present after the decades of Communist rule. Further, many mid-level managers have not received sufficient training to understand market demands. Because the efficiency of capital inflows utilization depends to a large extent on the managerial decisions, it is difficult to achieve positive indicators of the firm’s performance when neither CEO nor mid-level management is not successful in making correct decisions (Hearing Before the Subcommittee on European Affairs).

Another reason why ADR and GDR programs do not bring a structural change for Eastern European companies’ profitability and asset management is obsolete machinery and outdated production methods. In order to improve their efficiency, firms have to engage in strategic restructuring, i.e., update the equipment and production processes (Konning 2001). As Table 2 indicates, DR programs in Eastern Europe were introduced in 1997-2000. Therefore, even though companies presented in the sample experienced an inflow of capital, it is sometimes takes two or three years to modernize fixed assets and increase sales and asset ratios thereafter.

Overall, hypothesis 1 is partly confirmed. In most cases, there has been a slight influence on the Eastern European companies’ assets and profitability in the short-run and there has been no influence on companies’ asset performance and sales in the long-run after the DR program announcement.
**Hypothesis 2**

Hypothesis 2 tests whether Eastern European companies’ participation in the Depositary Receipts programs impacts the short- and long-run performance of their market value and stock performance. *Market to Book* ratio, relationship of the *Price per Share* to the *Earnings per Share* and the *Cash Flow per Share* are estimated.

The change in the *Market to Book* ratio is positive for the years surrounding an announcement, although it becomes negative in the long-run. It implies that while investors value shares of the company announcing a DR program, starting from the second year following a cross-listing, market value of the company’s shares declines. A possible explanation is that total assets may not reflect inflation. Assets purchased at the prices preceding inflation are listed at their original costs, but their actual values are higher. DR announcement dates begin in 1996. Inflation estimates for the researched countries for this time frame are presented in Table 3. According to Table 3, the level of inflation in Hungary, Poland, Russian Federation and Turkey is decreasing since 1996, but the overall level of inflation in Eastern Europe is high.

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<td>10.63</td>
<td>2.14</td>
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</tbody>
</table>

Source: World Development Indicators 2002
Additionally, comparison of financial measured shows that there is a large increase in Price per Share to the Earnings per Share and the Cash Flow per Share ratio surrounding the announcement year (-1,0; -1,1; and 0,1) and the decline in the long-run. It means that investors are willing to pay more for each dollar of reported profits surrounding the announcement year and view companies’ growth prospects as successful. The decline in investors’ confidence after the second year following DR program can be explained by the vulnerability of Eastern European economies. Russian Federation was going through the financial crisis in 1998\(^{18}\) and countries included in our sample were exposed to the effects of this crisis due to the still strong trade linkages (Table 5). Poland, Hungary and Turkey were affected the most.

The Russian financial crisis had prolonged effects leading to the contraction of the Polish economy over 1998-2000 and a drop in demand for Polish goods (Sidor, Krzysztof). The Hungarian situation is similar in that: food, chemicals, pharmaceuticals and vehicles sectors had a significant drop in exports (Wyzan, Michael). Due to decline of income in Russia, demand for Turkish good declined as well (Uzumcuoglu, Ozhan). All countries included in the sample experienced a capital flight and drop in local stock exchange indexes (see Table 4): Poland recorded 12% drop, Hungary 21%, Turkey

\(^{18}\) Russia's immediate cause of financial crisis was government fiscal imbalances. The Russian government has run persistently high budget deficits. The government has not been able to cover its expenditures with revenues. Therefore, Russian government had to offer high yields on its treasury bills and bonds in order to attract the necessary capital. As a result, the borrowing added a heavy debt service burden to the Russian budget. Debt service expenditures have accounted for more than 30% of total Russian expenditures. The increasing burden of debt service made it difficult, if not impossible to address other budgetary priorities. Payments to workers, soldiers, pensioners, and contractors were deferred, building up arrears. Russia has not been able to pay banks and other investors who hold the government debt, which has created the current crisis (Cooper, William).
almost 25% and Czech Republic 20% drop. Future diversification of trade relations with European Union together with effective economic reforms is believed to create the higher stability on the Eastern and Central European markets (Hearing Before the Subcommittee on European Affairs).

### Table 4
**Changes in the Local Stock Exchange Indexes (Annual %)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech</td>
<td>26.7</td>
<td>-8.2</td>
<td>-20.4</td>
<td>24.2</td>
<td>-2.3</td>
<td>-17.5</td>
</tr>
<tr>
<td>Hungary</td>
<td>170.4</td>
<td>93.5</td>
<td>-21.2</td>
<td>39.8</td>
<td>-11</td>
<td>-9.2</td>
</tr>
<tr>
<td>Poland</td>
<td>89.1</td>
<td>2.3</td>
<td>-12.8</td>
<td>41.3</td>
<td>-1.3</td>
<td>-22</td>
</tr>
<tr>
<td>Russia</td>
<td>n/a</td>
<td>231.6</td>
<td>-41.6</td>
<td>346.8</td>
<td>-2.9</td>
<td>91.4</td>
</tr>
<tr>
<td>Turkey</td>
<td>143.9</td>
<td>253.6</td>
<td>-24.7</td>
<td>485.4</td>
<td>-38</td>
<td>46</td>
</tr>
</tbody>
</table>

Source: Emerging Markets Factbook, 2002

### Table 5
**Percentage Share of Trade with Russia and Total Trade**

<table>
<thead>
<tr>
<th></th>
<th>Exports</th>
<th>Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade with Russia as a % of trade with Europe/World:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>Europe</td>
<td>41.7</td>
</tr>
<tr>
<td></td>
<td>World</td>
<td>7.8</td>
</tr>
<tr>
<td>Poland</td>
<td>Europe</td>
<td>33.2</td>
</tr>
<tr>
<td></td>
<td>World</td>
<td>8.4</td>
</tr>
<tr>
<td>Hungary</td>
<td>Europe</td>
<td>25.6</td>
</tr>
<tr>
<td></td>
<td>World</td>
<td>5.2</td>
</tr>
<tr>
<td>Czech</td>
<td>Europe</td>
<td>11.4</td>
</tr>
<tr>
<td></td>
<td>World</td>
<td>3.2</td>
</tr>
<tr>
<td>Slovak</td>
<td>Europe</td>
<td>7.4</td>
</tr>
<tr>
<td></td>
<td>World</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Source: Emerging Markets Factbook, 2002 and Author’s Calculations
Overall, hypothesis 2 is partly confirmed. On average, DR program announcement makes a positive effect on the CEE companies’ market value and stock performance in the short-run and has no impact in the long-run.

**Structural Changes Test**

In order to confirm the ratio analysis findings and test whether there has been a structural change after the DR programs introduction, the Chow Test is used. This combines two systems of multiple regression equations. Only short-run ratios for years (-1, 1) are used for the Chow test system of equations. Thus, the test is applied to confirm the short-run ratio analysis findings.

The first model tests for the structural change in assets as a result of DR program announcement. F-statistics for the first model is 121.4909, which is larger that the critical value of $F_{5, 10} = 5.64$ at the 1% level of significance. We reject $H_0$, which implies that there have been structural changes in companies’ assets after the DR program introduction. Hypothesis 1 findings reveal that there has been a slight influence on assets and profitability in the short-run after the DR program announcement. Because the Chow test is based on the short-run financial measured, its findings are consistent with results obtained in the ratio analysis.

The second model tests for the structural change in the companies’ equity performance estimators associated with the DR program announcement. Test statistics for the second model is $F = 319.52$, which is larger that the critical value of $F_{4, 6} = 15.2$ at the 1% level of significance. We reject $H_0$, which implies that there have been structural changes in companies’ equity performance after the DR program introduction.
Hypothesis 2 findings show that Depositary Receipts make a positive effect on companies’ market value and stock performance in the short-run. Again, because the Chow test is based on the short-run data, its findings are consistent with the results obtained in ratio analysis.

In summary, the Chow Test reinforces findings, suggesting that there have been the short-run structural changes among Eastern European companies as a result of their DR programs.
CHAPTER 4

CONCLUSIONS

Our study findings are similar to those by Korczak and Bohl (2003) and Errunza and Miller (2000). They show that companies from emerging markets experience a permanent value enhancement and increasing returns around DR offerings and reduction of returns in the long-run. Similarly, Foester and Karolyi (2000) explain why companies participating in DR programs underperform their benchmarks; it is because they come from countries with low home-market accounting standards. We expand Foester and Karolyi’s research results hypothesizing that the assets’ values may not include inflation. Therefore, as our research results show, market value declines from the second year following a cross-listing.

Findings also reveal that ratios calculated on the basis of companies’ assets and sales improve slightly in the short-run. There could be several explanations for the phenomenon why Eastern European companies’ assets’ performance and sales does not improve significantly after the DR initiation. First, in line with foreign portfolio investments which include ADRs and GDRs, there was a significant inflow of foreign direct investments (FDI) in the region, which are forwarded directly into assets. Second, obsolete equipment and lack of the managerial experience are major barriers for Eastern European companies to utilize additional capital inflow as a result of GDRs and ADRs.
Overall, hypothesis 1 is partly confirmed. There has been a slight influence on the CEE companies’ assets and profitability in the short-run and there has been no influence on companies’ asset performance and sales in the long-run after the DR program announcement. Hypothesis 2 is partly confirmed as well. DR program announcement makes a positive effect on the CEE companies’ market value and stock performance the short-run and the negative effect in the long-run. It is important to note that the DR Program effect on equity performance is much stronger that on the assets and sales performance.

Finally, Chow Test reinforces findings, proving that there have been structural changes among these Eastern European companies as a result of DR programs announcement in the short-run. An inflow of capital from foreign capital markets slightly influenced companies’ assets performance and profitability and made a positive effect on the companies’ market value and stock performance.

Overall, two policy applications for Eastern European companies can be formed. First, if the companies’ goal is the assets’ performance improvement, foreign direct investment instead of ADRs and GDRs should be considered. FDI focuses directly on the increase of production as opposed to ADRs and GDRs.

Second, if company pursues the short-run stock performance and market value enhancement strategy, Depositary Receipts Programs are the tool to reach the goal. Moreover, Eastern European companies which come from low inflation countries will experience market value increase in both the short-and the long-run.


