The impact of institutional investors on equity markets and their liquidity

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Chapter 8

Institutional investors and capital markets in transition economies: a comparison between Hungary and Slovenia

8.1 Introduction

Institutional investors have been playing a more prominent role in the financial market over the last few decades. Chapters 6 and 7 illustrated that transition economies are no exception in this respect. The newly established financial institutions like mutual funds show respectable growth rates in these countries year after year. In this chapter, we take another look at institutional investors in transition economies. We focus on the key differences between Hungary and Slovenia with respect to the impact of domestic institutional investors on the domestic equity market, and briefly contrast these to the experiences of some other transition economies.

The comparison builds on the empirical analysis of the preceding two chapters. In addition to the domestic mutual funds, we also consider the importance of foreign mutual funds for the Hungarian and Slovenian capital markets. For this purpose, we use the information that we acquired in interviews with three large Dutch fund managers who invest in Eastern Europe through their emerging markets or Eastern European funds.

Although mutual funds are growing in terms of assets under management in both Hungary and Slovenia, they have affected their respective domestic capital markets in different ways. Foreign institutional investors dominate equity trading on the Budapest Stock Exchange...
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(BSE), which implies that the impact of domestic funds is probably smaller than in Slovenia. The contribution of the units of closed-end funds to the overall trading volume of the BSE is also very small. However, the relative importance of domestic open-end funds is increasing.

In Slovenia, the many administrative barriers have kept foreign investors at a distance. Consequently, the growing domestic mutual funds industry exerts a stronger influence on the equity market. The strongest is the impact of the so-called ‘authorized investment companies’, or PIDs. PIDs are holding ever larger ownership stakes in the listed companies each year. The data suggest that increased ownership concentration decreases the free float of shares and their liquidity. At the same time, shares of listed PIDs account for a not insignificant share of total equity trading on the Ljubljana Stock Exchange (LJSE).

The chapter evolves as follows. In Section 2 we make a general comparison between the Hungarian and Slovenian economies. We present some economic indicators, including indicators that describe the investment environment in the two countries. In Section 3 we compare the impact of domestic mutual funds on the liquidity of the Hungarian and Slovenian equity markets, and relate these findings to the views of foreign mutual fund managers on the liquidity of the two markets. In Section 4 we contrast our findings on the interactions between mutual funds and the equity market in Slovenia and Hungary with the experiences of Poland and the Czech Republic. Section 5 concludes.

8.2 The Hungarian versus the Slovenian economy

Hungary and Slovenia share many features of the former socialist (or communist) economies. One of their common properties is that they have both adopted and implemented many economic reforms over the last decade. Different speeds of implementing reforms and different reform proposals are responsible for the many differences between the two economies today. In this section we focus on the differences in their (macro)economic performance, in the development of the domestic equity market and in the impact of mutual funds on the equity market.

8.2.1 Macroeconomic performance and foreign investment

One of the most obvious differences between the Slovenian and Hungarian economies is size. In terms of total area and population, Hungary is almost five times as large as Slovenia. The selected economic indicators in Table 8.1 show, however, that the two countries are quite similar in terms of their economic performance. Exports and imports as a % of GDP are of a comparable magnitude. The ratio of private credit to GDP, which reflects the level
of development of the basic financial sector infrastructure was close to 20% in both Slovenia and Hungary, compared to less than 10% in many transition economies (Claessens et al. (2000)). While Slovenia has a higher per capita GDP than Hungary, and it has been more successful in controlling inflation, Hungary has experienced faster growth of real GDP in recent years. Hungarian economic growth has been spurred on by foreign direct investment, resulting in a relatively large current-account deficit.

The privatization of social ownership and the reform of the pension system have influenced the macroeconomic performance and financial systems of the two countries. Differences in the privatization process have resulted in diverging developments in the financial institutions. For example, mutual funds are a side-product of the Slovenian ‘privatization’, while they developed independently of privatization in Hungary.

With respect to pension system reform, Hungary started implementing its reform in 1993 and completed it in 1998. As a result, over 330 private pension funds were in operation at the end of 1998. Private pension funds are expected to become important institutional investors in the Hungarian capital market within a few years, with the potential to reinforce the development of the domestic equity market. The liberal regulation of the equity market has attracted additional foreign portfolio investment that has boosted the trading volumes of the BSE. Hungary has witnessed more than USD 20 billion in foreign direct investment over the last 10 years.

Slovenia, on the other hand, delayed its pension reform until 1999. As a result, the first voluntary pension funds were not in operation before the beginning of 2001. In addition, foreign investment in Slovenia over the last decade was almost ten times lower than in Hungary. Complicated, expensive and time-consuming administrative procedures, high taxes and labor contributions, incomplete legislation etc. have frequently been stated as general obstacles to foreign investment in Slovenia.\(^1\) Also, different types of foreign investment are not regulated in the same way. While foreign direct investment (FDI) is desired and (temporarily) limited only with respect to foreign participation in certain sectors (e.g. media, auditing etc.), the legislation on foreign portfolio investment has been restrictive.\(^2\) In February 1997, the Bank of Slovenia introduced custody accounts for foreign portfolio investors. Custody accounts made short-term investments in Slovenian shares particularly expensive (see Rojec (2000) for details). The introduction of custody accounts was the central bank’s response to developments in the second half of 1996, when a combination of high interest rates, relatively low country risk and low stock prices of the privatized companies induced the rapid growth of foreign portfolio investment in

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\(^1\) Rojec (2000) provides a detailed list of administrative barriers to foreign investment in Slovenia, and sketches the ways in which they could be overcome or relaxed.

\(^2\) According to the Foreign Exchange Act of March 1999, a 10% foreign equity share formally distinguishes direct investment from portfolio investment. Rojec (2000) argues that restrictive regulation of (inward) portfolio investment seems to have had a negative impact on foreign direct investment as well. However, the gradual liberalization of portfolio investment that has occurred over the last two years is reducing the harmful effect of restrictions on FDI.
Table 8.1: Selected economic indicators for Hungary and Slovenia, 1996-1998.

<table>
<thead>
<tr>
<th></th>
<th>Hungary</th>
<th>Slovenia</th>
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</thead>
<tbody>
<tr>
<td>Population (million)</td>
<td>10.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Size (km²)</td>
<td>93 036</td>
<td>20 510</td>
</tr>
<tr>
<td>GDP per capita (USD)</td>
<td>4433</td>
<td>4504</td>
</tr>
<tr>
<td>Real GDP growth</td>
<td>1.3</td>
<td>4.6</td>
</tr>
<tr>
<td>CPI</td>
<td>23.6</td>
<td>14.3</td>
</tr>
<tr>
<td>Exports as % of GDP</td>
<td>31.6</td>
<td>43.6</td>
</tr>
<tr>
<td>Imports as % of GDP</td>
<td>37.4</td>
<td>48.0</td>
</tr>
<tr>
<td>Current account deficit as % of GDP</td>
<td>-3.8</td>
<td>-2.2</td>
</tr>
<tr>
<td>Bank loans to firms as % of GDP</td>
<td>17.5</td>
<td>21.3</td>
</tr>
<tr>
<td>FDI flow (USD billion)</td>
<td>1.98</td>
<td>2.08</td>
</tr>
<tr>
<td>FDI stock as % of GDP</td>
<td>32.5</td>
<td>34.8</td>
</tr>
<tr>
<td>Portfolio investment flow (USD billion)</td>
<td>NA</td>
<td>0.97</td>
</tr>
</tbody>
</table>


Slovenia. Limited by the ways in which a central bank of a small economy can neutralize the potentially harmful large-scale effects of short-term (and speculative) foreign financial flows, the Bank of Slovenia tried to protect the value of domestic currency and the interest of long-term investors in this way (Bank of Slovenia (1997)). Portfolio restrictions were slightly loosened in June 1997, and relaxed further in 1999, after the drastic drop of FDI and portfolio investment in 1998. In accordance with the European Association Agreement, which entered in force in February 1999, the restrictions on foreign portfolio investment in Slovenia should be abolished within four years. Unexpectedly, the Bank of Slovenia removed the restrictions already in June 2001. From July 1, 2001 on, the foreign portfolio investment in Slovenia is free. Nevertheless, these restrictions might be held responsible for the difference in the growth of the Slovenian equity market relative to its Hungarian counterpart. We compare the equity markets of the two countries in more detail in the next subsection.

8.2.2 Selected financial indicators

The descriptive statistics we presented in Chapters 6 and 7 suggest that the Hungarian equity market, organized within the BSE, is more developed than the Slovenian equity market, organized by the LJSE. The BSE had a higher level of total market capitalization.
Table 8.2: Returns and volatility on the BSE and the LJSE, 1994 - 1999.

<table>
<thead>
<tr>
<th></th>
<th>BSE</th>
<th>LJSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding period return on the market index (1994-1999)</td>
<td>332%</td>
<td>29%</td>
</tr>
<tr>
<td>Holding period return on the market index (1996-1999)</td>
<td>116%</td>
<td>95%</td>
</tr>
<tr>
<td>Standard deviation of monthly returns</td>
<td>11.5%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Standard deviation of weekly returns</td>
<td>4.8%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Weekly return/weekly standard deviation</td>
<td>69.4</td>
<td>7.4</td>
</tr>
<tr>
<td>Number of IPOs of shares in 1997-1998</td>
<td>35</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Kleindienst (2000b); "Annual reports of capital market supervisory agencies.

The Hungarian versus the Slovenian economy

a larger trading volume and higher equity market returns over the period 1992-1999 (see Figure 8.1 and Table 8.2). Figure 8.1 shows that the only aspect in which LJSE outscores the BSE is in the number of traded securities on the stock exchange. The latter has been larger on the LJSE since 1998 and is a result of the mass listing of 'privatization shares' on the exchange.

The total market capitalization of the BSE was about seven times the market capitalization of the LJSE (in US dollar terms) at the end of 1999. The difference between the two equity markets becomes smaller if the equity market capitalization is expressed as a percentage of GDP. The respective percentages for Slovenia and Hungary (including the shares traded on the OTC) at the end of 1998 were 17.4% and 29.6%, respectively. While trading in shares dominated the BSE early on, bond trading dominated the LJSE in its initial years of operation. The situation on the BSE changed in 1992-1993, when the non-equity market dominated the overall trading volume and market capitalization of the exchange. The relative share of shares in the total trading volume and in the total market capitalization have been increasing since 1994. Nevertheless, the equity market remains a less important segment of the BSE relative to the LJSE, where its share exceeds 70%.

The most striking difference between the BSE and the LJSE is in their respective equity traded value. The two exchanges had comparable performances in this respect up until 1995. The entrance of foreign investors, who massively entered the Hungarian equity market after 1995, boosted the trading volume of the BSE, rising to 23-times the trading volume of the LJSE in 1999 (in US dollars). Increased foreign demand for Hungarian shares also increased market returns on the BSE. In Table 8.2 we see that the holding period returns on the Hungarian stock market index BUX were higher than the respective returns on the Slovenian stock market index SBI. The BUX outperformed the SBI in this period even after correcting for volatility. Table 8.2 also indicates that the ratio of weekly returns to volatility on the BSE exceeds that for the LJSE in the same period.

Even though share prices on the LJSE are less correlated with world markets than the prices on the BSE (see Figure 8.2), high returns and liberal legislation have made the BSE
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Figure 8.1: Total equity traded value (in USD million, upper left panel), total equity market capitalization (in USD million, upper right panel), the number of traded shares (lower left panel), and the percentage of equity market capitalization in GDP (lower right panel) on the BSE and LJSE, 1990-1999. Stocks traded on the OTC market are also included.

a more attractive marketplace for global investors. In a recent study of the determinants of primary equity issues in emerging and developed markets by Aylward and Glen (1999), they find evidence that countries with open entry for foreign investors have more equity issuance relative to countries that restrict foreign entry. Statistics for Hungary and Slovenia support their results.

Since legislation and financial regulation play an important role in the development of domestic equity markets, we consider the financial infrastructure of the two countries next.
8.2.1 The Hungarian versus the Slovenian economy

8.2.1 Financial infrastructure and legal environment

A recent study on the law and finance in transition economies by Pistor et al. (2000) suggests that the investment environment in Hungary does not differ substantially from the investment environment in Slovenia. Pistor et al. (2000) develop a set of investor rights indices and measures of capital market development for a number of transition countries, including Hungary and Slovenia. In Table 8.3 we present selected indices for the two countries. A higher index value means a better environment.

According to the indices for investor protection and the effectiveness of law, Hungary and Slovenia have comparable legal frameworks. Nevertheless, the restrictive rules imposed by the Bank of Slovenia make the Slovenian capital market relatively unattractive for foreign portfolio investors. Institutional (capital) restrictions are the most commonly stated reasons by foreign fund managers for not investing in Slovenian shares. The others concern the smallness of the market and the fact that Slovenian shares are not included in the benchmarks like MSCI and IFC Eastern Europe. Foreign investors owned over 70% of equity on the BSE, and only about 3% in the LJSE at the end of 1999.
Ownership stakes of foreign investors also have an influence on the role of *domestic* mutual funds in Hungary and Slovenia. Typically, the largest foreign investors are mutual funds. Although the asset value of domestic mutual funds is increasing in absolute terms (and relative to the share held by the banks) in both countries each year, banks remain the largest financial institutions in both countries in terms of asset value and the level of financial intermediation performed. As an illustration, the total asset value of Slovenian banks was about four times the total value of mutual fund assets in 1998, and 19 times in Hungary. While the domestic mutual funds recently gained importance in Slovenia (they owned about 25% of equity listed on the LJSE in 1999), they remained relatively unimportant in Hungary where they own about 1% of listed shares. In the next section we compare the domestic mutual funds in the two countries in more detail.

### 8.3 Hungarian and Slovenian mutual funds

Hungarian and Slovenian mutual funds have a short history of less than a decade. Hungarian funds were introduced by the Law on Investment Funds in 1991. Three years later, a similar law was passed in Slovenia. Banks, insurance companies and brokerage firms were typically the founders of the management companies that started the funds in both countries. The shares of mutual funds are widely held, with households owning almost 70% of fund shares in Slovenia, and over 80% in Hungary.\(^4\) Unlike the domestic open-end funds in Hungary, Slovenian funds in the form of PIDs have frequently been viewed as the negative result of Slovenian ‘privatization’. They have been held responsible for wasting valuable assets that should have been transferred to the pension accounts of Slovenian cit-
izens during the process of ownership transformation. Hungarian mutual funds developed independently of the privatization process.

Although the assets of Hungarian mutual funds have grown rapidly, the total asset value of Slovenian mutual funds as a % of GDP exceeds it. In 1996, the assets of mutual funds represented 18% and 5.8% of GDP in Slovenia and Hungary, respectively. In absolute terms, the total asset value of Hungarian mutual funds is still almost half the asset value of Slovenian funds. However, there are more mutual funds in Hungary. In June 1999, there were 61 funds in Slovenia and 92 in Hungary. The asset value of the average Hungarian fund was about half that of the average Slovenian fund in the period 1996-1999 and amounted to USD 16.7 million and USD 32.7 million in Hungary and Slovenia, respectively (see also Chapters 6 and 7).

The internal structure of the Hungarian mutual fund industry is opposite to the Slovenian one. Like in the most developed financial systems, open-end funds are the prevailing organizational form of Hungarian mutual funds today. This has been the case since 1996. Before 1995, the favorable tax treatment of investments in closed-end funds led to their dominance.

In contrast, closed-end funds in the form of PIDs have been the dominant type of mutual funds in Slovenia ever since their introduction in 1994. Slovenian open-end funds operate as regular open-end funds elsewhere, but their asset value relative to PIDs is very small. This relatively unusual structure of the mutual fund industry can be attributed to a few factors that have characterized the Slovenian financial system recently. Amongst them are the general risk aversion of investors towards new financial instruments, limited supply of financial instruments in which mutual funds could (initially) invest, taxation of capital gains on the investment coupons of the open-end funds and damaged reputation due to some irregularities that involved mutual fund managers in the past (Lukovac and Jašović (2000)). The relative importance of open-end funds will change if a large number of PIDs transform themselves into open-end funds. This will become clear by July 13, 2002 when the legally prescribed transition period for PIDs expires. So far, most PIDs have expressed the intention to transform themselves into a holding company.

In the rest of this section, we compare the portfolio structure of Hungarian and Slovenian mutual funds, the role of mutual funds as shareholders, and look at the differences in the impact of mutual funds on the domestic equity market.

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5 See Ribnikar (1998) for a discussion of this alternative privatization.
6 The value of ownership certificates of Slovenian closed-end funds is also included.
7 Excluding real-estate funds.
8 End of 1999 exchange rates were used for conversion.
8.3.1 Portfolio structure of mutual funds

Although there is little difference in how Slovenia and Hungary regulate the portfolio structure of mutual funds, the portfolios of mutual funds in the two countries do differ substantially in two respects. First, mutual funds in the two countries differ widely with respect to their investment in shares.\(^9\) The average Hungarian fund invested only 15% of total assets in shares in the period 1996-1999. This percentage was about the same for open- and closed-end funds. Hungarian funds invest mostly in government securities (about 80% on average). The vast majority of the conventional financial assets of Slovenian mutual funds is in corporate shares (84% on average).\(^10\) The most peculiar part of the assets of PIDs are ownership certificates, which should gradually disappear from their balance sheets. Today, they still account for almost half of PIDs’ total assets. Including ownership certificates, the percentage of assets that PIDs hold in shares falls to 40%. In the case of open-end funds, this percentage is 56%. The respective percentages for Hungarian funds are significantly lower.

Second, while the Slovenian open-end and closed-end funds hold well-diversified equity portfolios, this can hardly be said of the Hungarian funds. Most Hungarian funds held only shares of one company in their portfolios at the end of 1998 (the mode was one), even though more than one fund characterized itself as an equity fund in its name. The infancy of the industry, characterized by relatively conservative fund managers, who need to build up their reputation, and the high volatility of share prices may explain part of the unusual composition of equity portfolios of Hungarian funds.

Diversified portfolios of the Slovenian PIDs are a direct result of the mass privatization process in which PIDs were prescribed an important role. It is not unusual even for small PIDs to hold fifty different shares in their portfolios. Larger PIDs typically diversify their equity portfolios over more than one hundred different shares. Many PIDs became important, if not controlling shareholders in many Slovenian firms. For example, it is quite common for PIDs to hold more than 20% of a firm’s total equity.\(^11\)

However, PIDs are very special blockholders. It has been argued in Slovenia that the primary goal of PIDs is not to maximize the return on their assets. This may be due to the serious agency problems that exist between the owners of PIDs and the management company of a PID. Shareholders of PIDs are neither legally able nor financially motivated to control the management companies. The management companies were in the past able to increase their revenues from PIDs by exchanging ownership certificates for shares (thereby increasing the base for the management fee) and performing such transactions with PIDs shares (mainly in the upper market). Both actions produced a gain for the management

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\(^9\) Funds are allowed to invest at most 5% of their assets in the securities of the same type and issuer. For different types of securities of the same issuer the upper limit is 10% in both countries.

\(^10\) Conventional in this case means without ownership certificates.

\(^11\) These statements are based on the review of PIDs’ prospectuses for listing on the LJSE.
company, its owners or other parties at the expense of the shareholders of PIDs. Some dealings of such a nature were discovered and prosecuted by the Slovenian Securities Market Agency, but they have nevertheless reduced investors' trust in the industry as a whole.

8.3.2 Mutual funds as shareholders

Slovenian mutual funds on average hold much larger ownership stakes in Slovenian companies than the Hungarian funds hold in their domestic companies. At the end of 1998, PIDs held 23.7% of shares of an average LJSE-listed company. The Bank of Hungary reports that mutual funds owned only 1% of shares of the BSE-listed companies at the end of 1998. Such ownership stakes do not allow the funds to exert control in the companies even if they wanted to. By contrast, the ownership stakes of PIDs imply that the latter can play an active role in the management of the companies in their portfolios. Whether or not they have the required expertise and knowledge to do so is another issue.

Due to their peculiar transitional nature, PIDs have ended up playing a dual role in Slovenia. First, their ownership stakes in the listed and non-listed companies suggest that they should act as active shareholders and exert control in the companies they own. Second, PIDs were established to act as financial intermediaries to collect savings and prudently invest them on behalf of small investors. Their second role has been relatively limited so far. They collected ownership certificates but they were unable to completely exchange them for tradable and liquid assets. Namely, the pool of assets that PIDs could bid for was exhausted before all certificates could be exchanged. This leaves a large part of the portfolios of PIDs non-tradable and impairs their role as active portfolio managers. The role of Hungarian mutual funds, on the other hand, looks more straightforward. They claim that they act as portfolio managers.

8.3.3 Foreign versus domestic funds

In the empirical analysis of the impact of mutual funds on the liquidity of the equity markets in Hungary and Slovenia we did not consider foreign mutual funds due to the lack of data. To fill this gap and provide an indication of the properties of foreign mutual funds that invest in Hungary or Slovenia, we contacted and interviewed three Dutch fund managers affiliated with, respectively, the Robeco Group, ABN Amro, and ING Investment Management (IIM). The interviews took place in February 2000.\footnote{The first invests in Eastern Europe via its RG Emerging Markets Fund, while the other two manage dedicated Eastern European funds (EE funds), the ABN Amro Eastern Europe Equity Fund and the ING Emerging Eastern Europe Fund. Robeco entered the Hungarian stock market in 1994. ABN Amro followed in 1995, and IIM in 1996. Only ABN Amro's EEF fund is investing in both Hungary and Slovenia. However, Slovenian stocks represented only 1.1% of the fund's assets (at the time the interview took place).} We asked the fund
managers questions regarding their presence in the two equity markets of concern, their trading patterns and investment strategies, their impact on the market and its liquidity and their control aspirations. Based on their answers, we contrast foreign funds with the domestic funds in Hungary and Slovenia.

Foreign mutual funds are large investors in the local Hungarian equity market. From the aspect of foreign fund managers, the Slovenian equity market is too closed to become driven by foreign investors.\textsuperscript{13} On the BSE, the presence of foreign institutions is large and increasing. Foreign institutional investors already account for almost 75\% of the total trading volume of shares on the exchange. Because the local Budapest market is considered relatively thin, the transactions by foreign funds are typically concentrated in the most liquid shares on the exchange. In addition to buying shares on the BSE, foreign funds are also purchasing GDRs of Hungarian companies in London’s SEAQ. With the expected liberalization of the Slovenian market, the LJSE might resemble the BSE in the future (assuming that Slovenian companies will be attractive enough).

Foreign fund managers characterize themselves as active portfolio managers with long term investment horizons. They also describe themselves as informed, not as liquidity traders. Foreign funds turn over their portfolios between 2 and 4 times a year. Domestic Hungarian funds also view themselves as informed, but the turnover of their assets is lower. Slovenian PIDs, which resemble the equity funds more closely, expect to have a turnover of 0.1 to 0.3 times a year.\textsuperscript{14}

In addition to the arrival of new information, foreign fund managers state liquidity needs and the inflow of money as the most important reasons for trading. Their portfolios are dominated by the liquid, large capitalization shares, with some smaller shares added. The relative shares of individual shares in the particular country portfolio depend on the share’s weight in the relevant market benchmark, but they typically do not exceed 1\% of the share’s market capitalization.

Although the stakes of foreign mutual funds in individual companies seem to be too small for active intervention in management, their managers claim that the funds have a big influence on the management of their companies. Foreign fund managers regularly meet with the management on a one-to-one basis to inform the managers of the firms about their views on the strategy and performance of the firm. Usually, the management listens and reacts to their criticism. If not, foreign fund managers always have the option to 'vote with their feet'. In this respect, they seem to be more active than the majority of domestic Hungarian fund managers, whose ownership stakes are very low. In Slovenia, PIDs directly influence the management of the company via their representation on the

\textsuperscript{13}Note that there were some episodes of (more) intensive trading by foreign investors on the LJSE in the past. The presence of foreigners decreased after 1998. Compared to the BSE, it is very small.

\textsuperscript{14}These turnover ratios stem from the investment policies that PIDs stated in their prospectuses for listing on the exchange.
Supervisory Boards.

Because foreign investors dominate the trading activity on the BSE and have relatively little presence in Slovenia, the impact of domestic funds on the local equity markets in the two countries differs. The two countries may convergence in the future, when foreign funds are expected to comprise most of the demand for Slovenian shares as well.\(^{15}\) Our findings suggest that this has not been the case so far.

### 8.3.4 The impact of mutual funds on the equity market and its liquidity

Hungary has one of the most liquid equity markets of all transition economies (see Claessens et al. (2000)). Nevertheless, the foreign fund managers described the BSE as not very liquid, because they can easily influence the prices of the small-cap shares. The LJSE is one of the least liquid markets according to its equity market turnover, and is viewed as completely illiquid by the foreign fund managers.\(^{16}\) What can we say about the relative impact of domestic mutual funds on the liquidity of the BSE and the LJSE under these circumstances?

Based on the comparison of the key characteristics of Hungarian and Slovenian mutual funds we could expect a different impact. In Hungary, domestic funds have little impact on the equity market due to the limited number of shares in the portfolios of mutual funds. In Slovenia, where foreign funds have little or no impact, the domestic closed-end funds, PIDs, are expected to have a significant influence on the equity market. Slovenian open-end funds, on the other hand, are not expected to have any significant impact on the equity market because their asset base is too small. Since PIDs are the prevailing type of funds and most of them are listed on the stock exchange, we can also expect that trading in shares of PIDs contributes to the magnitude and volatility of the trading activity of the LJSE.

The results of our empirical analysis concur with these expectations. We find evidence that trading in shares of PIDs on the LJSE stimulated the trading volumes in the rest of the equity market. The study of the impact of ownership concentration on the liquidity of the equity market provides evidence that the increasing shareholdings of PIDs and other large shareholders reduce the market liquidity of shares. PID shareholdings reduce the equity market's liquidity even when we control for the cumulative blockholdings and

\(^{15}\)See Ribnikar (2000) for a discussion of the future of the Slovenian stock exchange and domestic financial intermediaries.

\(^{16}\)The fund managers describe market liquidity in terms of the price impact, the size of the free float of stock and the size of transactions they can execute. More precisely, a liquid market is a market in which one can transact in reasonable amounts without influencing stock prices, which has a free float larger than USD 100 million, and which allows for buying/selling a position of 1% of a fund.
For Hungary, we find that the impact of daily open-end fund flows on the stock market index BUX increased over the period 1996-1999, but is not statistically significant. Despite the increasing presence of domestic open-end funds on the BSE, the net flows of money to open-end funds do not show a significant impact on the liquidity of the equity market on the BSE. This might be due to the fact that the average daily net flows, expressed as a % of average daily equity trading volume on the BSE, have been decreasing in recent years. In addition, the net fund flows increase the illiquidity of the stock market, but not significantly so. Surprisingly, the recent net money flows to mutual funds can explain some of the current returns on the stock market index BUX.

Trades in units of Hungarian closed-end funds have become unimportant for the overall trading volume of the BSE. Their contribution has been marginal since 1996, when open-end funds started to dominate the mutual fund industry, and only a few closed-end funds kept their units listed on the BSE. The role of closed-end funds in some other advanced transition economies has also been determined institutionally.

8.4 Institutional investors and stock markets in other transition economies

Mutual funds represent an increasingly important part of the financial systems of Hungary and Slovenia. In this section we compare the experience of these two countries with the Czech Republic and Poland, two other EU candidates. Although these four countries share many historical and economic characteristics, the influence of mutual funds on the domestic stock market differs across the four countries. Because existing empirical research in this area is limited, we can only evaluate the impact of mutual funds on the stock markets of the four countries indirectly. We emphasize the peculiarities of Hungarian and Slovenian mutual funds in their influence on the domestic stock markets and discuss the extent to which these peculiarities also appear in Poland and the Czech Republic.

With the percentage of institutional assets in GDP ranging from 15% to 19%, the Czech Republic, Poland and Hungary are the transition economies with the largest domestic institutional base.\(^17\) Recent empirical research shows that a sound domestic institutional base increases equity market capitalization and turnover in transition economies (see Claessens et al. (2000)). Hence, the size of the equity markets in the three countries relative to other transition economies is not surprising. The development of domestic mutual funds has been largely determined by each country's choice of privatization method. Hungary is

\(^17\) Claessens et al. (2000) provide the latest comparative statistics on the size and development of stock markets in transition economies.
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the only country in which mutual funds developed independently of its mass privatization.

In the Czech Republic, the mass voucher privatization spurred the growth of over 600 closed-end private mutual funds and also resulted in the listing of over 1000 companies on the stock exchange. Privatization funds initially supported and induced the expansion of the local equity market, but the lack of effective supervision of the capital market and of the funds provided fund managers with many opportunities for illegal dealings. Czech fund managers got involved in opportunistic control struggles and took advantage of the option to de-register the funds by converting them into financial holding companies (see Coffee (1999) and Brabec (1999)). A large number of funds evaded regulation in this way and became victims of fraudulent managers who tried to extract private benefits from the funds and the companies they owned. As a result, the asset value of funds dropped substantially in 1996, falling even further in the next two years. At the same time, foreign institutional investors were buying shares of listed privatization funds at large discounts, gaining substantial ownership stakes in many Czech companies. Modification of the securities market and investment fund legislation in 1998, together with the foundation of the Czech SEC, established some order in the financial markets. According to the new legislation, the privatization mutual funds are to be transformed into more transparent open-end funds by the end of 2002. The irregularities involving fund managers damaged the reputation of the securities industry and eroded the confidence in the market, which has been recovering slowly since 1998.

Compared to the Czech Republic, the Polish mass privatization resulted in a significantly lower number of companies being listed on the Warsaw Stock Exchange.\textsuperscript{18} The Polish equity market was one of the few that was able to support the equity offerings for cash. Privatization was delayed until the disclosure rules, fiduciary standards and the rest of the necessary securities market regulation were all in place. Fifteen national privatization investment funds (NIFs) were created by law, and their shares started trading on the Warsaw Stock Exchange in 1997, one year after the certificates of NIFs were admitted to the Warsaw Stock Exchange. Initially, Polish institutional investors invested most of their assets in bonds. This policy was reversed in 1997, when more than half of their assets was already invested in shares.\textsuperscript{19} At the end of 1999, the prices of shares of privatization funds fell sharply, and so did the investors' confidence in the funds.

Overall, Hungary probably provides the most favorable legal and economic environment for domestic institutional investors to gradually develop into an important part of the domestic financial system. The Hungarian situation is peculiar in two respects. First, despite the fact that Hungary has the highest percentage of open-end fund assets in GDP and the most developed pension funds in the region, its domestic equity market is dominated by foreign (institutional) investors. Second, even though Hungary has the largest and most

\textsuperscript{18}See Coffee (1999) for an extensive discussion of the Czech and the Polish privatization experiences, as affected by their respective corporate and securities laws.

\textsuperscript{19}OECD Institutional Investors Statistical Yearbook 1998.
developed organized equity market among transition economies, its domestic mutual funds invest a relatively low proportion of their assets in shares.

With no private pension funds in place and a relatively small equity market capitalization and market turnover, Slovenia represents the other pole within the group of countries that are supposed to enter the EU in the first wave. Slovenia is the only country in the group with an unusual internal structure of the mutual fund industry. The closed-end funds (PIPs) remain the prevailing type of mutual funds in terms of number and asset value, with no legislation to force them to transform themselves into the more transparent open-end form. Do Poland and the Czech Republic share any of these properties?

Poland and the Czech Republic shared the unusual structure of Slovenia’s mutual fund industry, which was induced by the mass privatization programs and which made the closed-end mutual funds predominant. Changes in the investment fund legislation introduced in both countries in 1998, require the Polish and the Czech privatization closed-end funds to transform themselves into open-end funds by the end of 2001 and 2002, respectively. This leaves Slovenia unique in the sense that it is going to be the only country in the group with the closed-end funds dominating the fund industry in the future. Although the asset value of closed-end funds in Poland and the Czech Republic exceeds the asset value of their open-end funds in this transitory period, the following statistics speak for themselves. At the end of June 1999, the net asset value of open-end funds per capita was EUR 146 in Hungary, EUR 94 in the Czech Republic, EUR 58 in Poland and EUR 16 in Slovenia. For comparison, the net asset value per capita in the Netherlands was EUR 4790 in 1999.

Overall, transition economies present an interesting arena for the study of interactions between financial regulation, privatization, the development of institutional investors and the size of the equity markets.

### 8.5 Concluding remarks

In this chapter we have compared the equity markets and the impact of mutual funds on the equity markets in Hungary and Slovenia. Although the two countries faced similar economic conditions at the end of 1980s, the different reforms of the financial system in the last decade have led to different outcomes. One of the differences we focused on is the role of mutual funds within the financial sector and their impact on the equity market and its liquidity.

Our analysis here (and in the previous two chapters) has shown that the impact of domestic mutual funds on the equity market is far less significant in Hungary than in Slovenia. Lib-

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20 According to Brabec (1999) and own calculations.
eral legislation with respect to foreign investment in Hungary has stimulated investment by foreign institutional investors, while the restrictive rules have prevented most foreign mutual funds from entering the Slovenian market. As a result, the Hungarian equity market blossomed while the LJSE remained relatively small. The relatively closed environment offered fertile ground for the development of a particular group of closed-end funds, namely PIDs. We find some evidence that PIDs affect the trading volume of shares on the exchange and their liquidity. If the Slovenian equity market becomes liberalized, the relative importance of PIDs is likely to gradually resemble the role of Hungarian mutual funds.

There are many issues left for future research. Here, we mention four. First, a closer study of transactions by mutual funds in Hungary and Slovenia is required in order to get a better perspective on their impact on liquidity of domestic equity markets. Second, it would be interesting to study the investment behavior of Hungarian funds to find out what are the reasons for their low investment in shares. Third, the potential agency problems within PIDs might be an interesting feature to study. Namely, their wide shareholder base that is a direct result of mass privatization leaves the shareholders of PIDs with little voice and voting power and gives the managers of PIDs more freedom than might be socially desirable.

Finally, we indicated that rules and restrictions may have restricted the growth of the capital market in Slovenia, while the liberal rules in Hungary have achieved the opposite. This is just one indication of how important the legal environment is for the development of the financial structure even in countries that have a similar economic performance.
8.5 Concluding Remarks

In this chapter we have compared the equity markets and the impact of mutual funds on the equity markets in Hungary and Slovenia. While both countries experienced rapid economic growth, the impact of mutual funds on the equity markets has been different. In Hungary, the impact of mutual funds has been significant, while in Slovenia it has been less pronounced.

According to Frey (1999) and our own calculations,