

Corporate Control in Hungary

John S. Earle

Stockholm School of Economics and Central European University

Csaba Kucsera

Loránd Eötvös University Budapest and Central European University

Álmos Telegdy

Budapest University of Economic Sciences and Central European University

10 July 2001

Abstract

In this paper we describe the Hungarian legal framework regulating disclosure of information about listed firms at the Budapest Stock Exchange (BSE), and we analyze the concentration and types of blockholders at these firms for the years 1996-2000. Disclosure rules on the BSE became EU-compatible only very recently, and so far indirect holdings were not reported. The concentration of direct ownership is nonetheless rather high, the largest owner having 46.2 percent on average in May 2000. While this figure is similar to the corresponding levels in continental Europe, it is more unusual that the second and third largest blockholders also have large shares (on average 20.2 and 10.4 at the same date). Concentration was quite stable during 1996-1999, while it decreased somewhat in 2000. The most prevalent type of owner is foreign investor, which had over 50 percent of all blockholdings in 2000, although domestic private blockholders and the state are also present in a significant number of firms.

JEL classification numbers: G34, P31, P52

Keywords: ownership structure, corporate control, transition, Hungary

1. Introduction

The purpose of this paper is to provide a description of the Hungarian legal framework regulating disclosure of information about listed firms at the Budapest Stock Exchange (BSE), and an analysis of the concentration and types of blockholders at these firms for the years 1996-2000. Although Hungary was quick to establish a stock exchange (within two weeks after the first free elections in the post-socialist period, which took place in May 1990), it has been slower to transpose the European Union disclosure rules, the so-called Large Holdings Directive. Only in July 2001 has the BSE become EU-compatible, thus the data associated with this disclosure regime has not been available. We therefore use company-level information on direct holdings to compile a data set that permits us to draw a picture of the ownership structure, also taking into account nonvoting shares held by blockholders.

We find that the concentration of direct ownership is quite high, with a largest blockholder share similar to the corresponding levels of voting power concentration in continental Europe. Unlike those countries, however, the second and third largest blockholders also tend to have large shares in Hungary. Voting power concentration including indirect stakes and voting pacts may be even higher, but this is unobservable in our data. Concentration was quite stable during 1996-1999, while it decreased somewhat in 2000.

We also study the identity of blockholders, motivated by the nature of the privatization process: transfers to unusual types of investors (particularly management and employees) and retention of substantial stakes by the state. We find that the most prevalent type of owner is foreign investor, which had over 50 percent of all blockholdings in 2000, although domestic private blockholders and the state are also present in a significant number of firms.

The paper proceeds as follows. Section 2 provides a brief history of the BSE, with a focus on describing the origins and characteristics of the listed companies, as these form are both the subject of the relevant disclosure rules and the object of our empirical analysis. Section 3 describes the legal framework in detail, with an emphasis on disclosure rules (before and after the EU transposition) but also concerning takeover rules, quorum and voting thresholds, and minority investor protection. Section 4 contains the empirical centerpiece of the paper: description of our compilation of a database on ownership structure and analysis of blockholder concentration and identity. Section 5 is a brief conclusion.

2. Short History of the Budapest Stock Exchange

Among the post-communist countries, Hungary was the first to re-establish (or newly

establish) its Stock Exchange, doing so in June of 1990.¹ This important step in the liberalization of the economy took place only two weeks after the first free elections, but it was initially a mostly symbolic action, as the exchange grew only very gradually.

By the end of the year of its founding, the number of listed companies was only 6, as Table 1 shows. By the next year the listed companies on the Budapest Stock Exchange (BSE) increased to 20, and to 66 by 1999, the year with the most listed companies. At the end of 2000 there were 60 listed companies. Capitalization in relation to GDP peaked at 36.7 percent in 1997, and then fell to 28.3 percent at the end of 2000. While small in comparison with the USA and UK, the two countries with the largest capitalization-GDP ratios (151 and 161 percent in 1998), the BSE magnitude is similar to continental European Union countries, and among the transitional countries it is the largest.² BSE turnover (defined as the ratio of the volume of transactions to the beginning and end-of-year average capitalization) was over 100 percent starting with 1996, with a maximum value in 1998 of 212 percent.³

Turning from general features of the BSE, we now describe more specific characteristics of the listed companies, since these form the sample for our study of ownership structure. Table 2 shows that between 1996-2000, the average ever-listed firm had an employment size around 2000; there were also some listed brokerages with very low numbers of employees. Concerning industry categories, presented in Table 3, most firms belong to financial services, computers and telecommunications (25.6 percent), followed by light industry (17.9 percent). Heavy industry accounts for 18 percent, and other services (trade, hotels) have a share of 21.8 percent out of the total firms.

Our assessment of the origin of the listed firms is shown in Table 4. Unusually for a transition economy, a sizable number (22) of the ever-listed firms were never state-owned: 10 were born private before 1990, 12 greenfield investments already in the transition. With respect to those privatized, we tabulate three methods of privatization: management-employee buyouts (MEBOs, or MRPs in the Hungarian usage), public offerings (IPOs) and direct sales. The most popular method was direct sales to investors (44 cases) but IPOs were also common (27 cases). A total of more than 200 Hungarian firms were privatized to their employees in the 1990s, but only 4 were listed, according to our data.

Concerning the current situation at the BSE, after the crash in April 2000, neither the

¹ The Budapest Stock Exchange was first established in 1864, and it operated until 1948. Closing it and nationalizing its property was among the first actions of the communist government.

² For a description of the transitional countries' stock exchanges and a comparison with the developed and developing countries, see Claessens and Djankov (2000).

index nor turnover has recovered. There is some speculation that the BSE, despite being among the healthiest and most dynamic of the accession countries, may merge with a larger EU stock exchange market as accession approaches, a development that would be consistent with the general pattern of consolidation in the industry.

3. Legal Framework and Disclosure Rules

In this section we provide a description of the regulation of the stock market in Hungary. We put special emphasis on the disclosure rules, which have the purpose of protecting small shareholders. Also we discuss the implementation of the European Union's Large Holding Directive, which establishes a common minimal standard of disclosure for all the member and accession countries.

3.1 Disclosure rules

By contrast with the speed with which Hungary established a stock exchange, the legislation of the capital market has tended to lag, as compared to many other transition countries. The main problem concerned disclosure rules, which were not in conjunction with the European Commission's Directive 88/627, which provides instructions to the member and accession countries to harmonize their disclosure rules. Only recently has the Parliament finished a comprehensive overview and modification of the finance-related acts – including Securities Act from 1996 and Company Act from 1997. The transposition of the EU Directive enters into force on 18 July 2001. In the following part of this section we discuss the main features of the two regulations.⁴

3.1.1 Disclosure rules of listed firms until July 2001

According to the Company Act (114/97), any owner who acquires shares which increase his or her holdings above 25% + 1, 50% + 1 and 75% + 1 vote, has to notify the Company Court and the Company Gazette within 30 days. The owner is not allowed to exercise his or her voting rights related to the newly acquired shares until he or she satisfied the disclosure obligation. The disclosure has to be made only if the owner crosses the thresholds from below.

³ We have only a rough measure of yearly capitalization (the mean value of the beginning and end-of-year value). A more precise measure may alter this result, but it will probably not change its magnitude.

⁴ Obviously over the time period which we discuss empirically in Section 4 (1996-2000), the old regulation was in force. Thus, for understanding our findings, the knowledge of the main features of the old regulations are necessary.

The Securities Act (111/96) also regulates disclosure. Every listed firm is required to publish the “Yearly Report” (by 15 February), which includes all changes in the ownership structure, which exceeds 5 percent of the equity share.⁵ Also, the firm is obliged to issue an “Extraordinary Report,” if the management’s equity holdings change (by any amount).

The third requirement is regulated by the "Regulations for Listing, Continued Trading and Disclosure," created by the Stock Exchange Council. According to it, the yearly and regular report (issued every quarter or half a year, depending on the class of the listing) has to contain the name and accurate holdings of each shareholder possessing more than 5 percent of the company’s shares. Also, the issuer is required to inform the BSE in an Extraordinary Report if any owner holding more than 5 percent of the shares increases or decreases his or her holdings by more than 5 percent. The issuer has to make its announcement within 30 minutes during trading hours, or until 8.30AM of the next trading day, if the exchange of shares was realized after trading hours.

This piece of regulation is very strict, but it is contingent upon the registration of the newly acquired shares. If the owner does not register them, she will not be able to exercise her voting rights related to these shares. However, by this way she can withdraw voting shares, increasing her voting power in an indirect way. Through this mechanism, the shareholder can increase her voting power without notifying the public. Another way to avoid publicity is to acquire shares via nominees: the real owner can stay behind the curtain.

Comparing the three pieces of regulation, the one set by the BSE is the strictest (it requires more details and provides a shorter announcement period). However, the relatively small penalties in the case of violations create doubts about compliance of the regulation (HUF 100,000 – 1 Mln).⁶ Moreover, it is not the owner of the shares, but the issuer company that is subject to the penalty, although the latter may not know about the changes in the ownership unless they are announced. The wedge between the penalty and the owner further weakens the possibility of enforcement.

Finally, we emphasize that the regulation valid until July 2001 is based on equity, not voting power. Thus, non-voting shares and preference shares, which may make a difference between equity holding and voting power, are not taken into account.

3.1.2 Disclosure rules of listed firms valid from July 2001⁷

⁵ In this case the change of the equity holding, not of the voting power is subject to disclosure.

⁶ The Huf/Euro exchange rate was around 260 in the first part of 2001.

⁷ As mentioned above, this regulation enters into force on 18th of July, after which there is a 60 day period

A fundamental change in the regulation consist in the fact that the new rules pertain to the disclosure of voting power. Shareholders must reveal their identities and cannot hide behind nominees. The law requires the disclosure of “acquisition of influencing interests.” Thus, both direct and indirect shares (and their joint influence), are subject to disclosure.

Second, it is the shareholder’s obligation to notify the Hungarian Financial Supervisory Authority (HFSA), and also the firm's management board.⁸ The period of announcement is two calendar days. In case of violation the sanctions have also changed, the new penalty being between HUF 500,000 and 100 mln. Additionally, the shareholder has to initiate the publication of the change of her holdings “immediately” in the following places: the newspaper used for announcement (of national circulation), the webpage of the company (if it exists), the “Hungarian Capital Market” (Magyar Tőkepiac-official newspaper of the BSE) and the homepage of the BSE.⁹ The issuer is also required to inform the BSE about changes related to the voting rights.

Finally, the thresholds for the obligation of disclosure have also changed:

- crossing of 5 and 10 percent¹⁰
- between 10 – 50 crossing each 5 percent
- crossing of 75 and 90 percent

The disclosure has to be made when crossing from both below and above. Again, the unit of measurement is voting power, not equity holding.

3.2 Takeover Rules¹¹

As well as in the disclosure obligations, takeover rules also took as the basic unit the voting holdings instead of equity holdings. The mandatory bid rule has also changed. In the previous legislation, that bidder who intended to acquire 33% + 1 share (calculated as percent of equity) had to make a mandatory bid for 50% + 1 share. Under the new regulation the threshold did not changed (although it is calculated now a percent of voting power), but the

available for every shareholder to publish their voting holdings.

⁸ According to an HFSA official, most likely the organization will develop a publicly available database on the ultimate holdings of the companies.

⁹ In order to protect small shareholders the BSE intends to set up an "Issuer Information Project", which is going to manage information regarding the disclosure of any reported price-sensitive information. The issuer must inform the BSE within 30 minutes, and this information is embargoed from further spreading. Then there are 60 minutes available for the BSE to decide on the possible suspension of the trade for a limited period also set by the BSE.

¹⁰ The lower threshold may be modified to 2 percent by the Company Statute.

¹¹ Initially, the Company law set the takeover rules. After July 2001, this regulation was changed by the Modification of the Finance-Related Acts (50/2001). In this section we compare the two regulations.

bidder has to make the mandatory bid for all voting shares. If there is no shareholder owning at least 10 percent of the voting right, the mandatory bid threshold decreases to 25 %. The bidder can not discriminate among shareholders. The time period for the bid is 30 to 60 days.

Not only the size of the bid, but also the sanctions are rather stringent. The violator's ownership rights are suspended until it decreases its holding under the threshold. The HFSA can sanction the violator of a fee between Huf half a million to 100 million depending on the severity of the violation. In the case when the bidder cannot obtain majority of voting rights, it is not obliged to accept the offers. The bidder can receive sensitive information on the company in order to make the bid. In case the bid fails (or it is not made), the bidder cannot use the sensitive information.

The Managerial Board cannot do any action which would disturb the public offering process (e.g. rising the base capital, or buying own shares for the company, etc.). They are obliged to comment and evaluate the offer for the shareholders.

3.3 Quorum and Voting Thresholds

There are several exclusive competencies of the shareholder's meeting. These rights cannot be altered in the company statute, but it may add additional competencies. In addition, the statute may specify threshold levels for particular decisions, which may be higher (but not lower) than those set by the law. By law, the quorum is 50% + 1 vote. However, the company statute may increase it.

The most important exclusive rights of the shareholder's meeting are:

- creation and modification of the statute (75% + 1 vote)
- decision on the modification of the legal form (75% + 1 vote)
- decision on the transformation or termination without legal successor of the company (75% + 1 vote)
- election and removal of the members of the MB, SB and the auditors, decision on their remuneration
- decision on the transformation of share type
- acquisition of own shares, acceptance of the public offer for the company's own shares

3.4 Small-shareholders' protection, minority rights

Except for some points, the Hungarian regulation does not distinguish between small and large shareholders, although there are some rules created in order to protect their interests.

In addition to the above mentioned regulations, the Company Act and Securities Act set the following protection of the small shareholders:

A. Company Act

- As we mentioned in the previous section, decisions on essential issues require at least 75 % + 1 votes
- Small-shareholders together, representing at least 10 percent of the voting rights can initiate new topics to the agenda of the shareholder's meeting. In the case when the company has a majority owner, the limit for the right of initiative is 5 percent. (The company statute may decrease these thresholds.)
- Every shareholder is entitled to participate, request information and make comments at the shareholder's meeting
- Every shareholder is entitled to probe the shareholder's register, and can require a copy about his or her record.

B. Securities Act

Investment service enterprises are obliged to:

- inform the client about his or her rights and duties prior to the purchase of shares
- assess the level of risk related to the shares to be purchased
- to fulfill orders with the same content in chronological order
- to give preference to transactions of the principal to own-account transactions.

4. Description of the Data, Concentration of Ownership and Types of Owners

In this section we present our data, measures of the concentration of ownership and the prevalence of different types of owners. Also, we compare the Hungarian findings with the developed countries' numbers, relying on the summaries in Becht and Mayer (2000) and Becht and Röell (1999).

The data on blockholdings of the listed companies come from the Company Fact Book, published yearly by the BSE and Bank and Tőzsde. We have analyzed this information, categorized owners, and entered the data electronically for the period 1996-2000. For all years the data come from May or June. The data has only direct holdings, as only the new regulation will make it possible to obtain data on ultimate holdings. Information on non-voting shares held by blockholders is available, however, and we took into account this information, but we could not take into account non-voting shares of the small shareholders

(less than 5 percent ownership). This may change the base of computing voting rights, but there is nothing that can be done to improve these estimates with currently available information.¹²

We first look at the total holding of blockholders (defined as owners having at least five percent of the voting shares). This variable shows what fraction of the total ownership may function as a controlling device. As Table 5 shows, this was rather stable between 1996 - 2000, having a median of 65-76 percent, depending on the year. The minimum and maximum values for blockholding ownership show that there is a large interfirm variation: Some firms are owned totally by blockholders (the maximum is very close to 100 percent), while others are in the hands of small investors (the minimum varies between 5.7 and 25.3 percent). According to this measure, ownership was the most concentrated in 2000, when both the median and the minimum value were the highest.

In Table 6 we look at the percentile distribution of the same variable. The ownership structure is concentrated: Most firms' blockholders possessed majority of the firm's shares already in 1996 (70 percent), and the ratio of firms with the total blockholding over 50 percent has increased by 10 percent in 2000. The number of firms without blockholders has also declined from 11.4 percent to 6 percent of the total. Overall, we can observe a slow tendency towards further concentration of the total blockholding. Compared to the continental Europe and the Anglo-Saxon countries, it is clear that the ownership structure resembles the first group, at least in this respect. Taking the numbers at face value, however, the Hungarian structure is less concentrated than most of them. With the exception of the Netherlands, all EU countries have a higher share of companies with over 50 percent of total blockholdings.¹³

The next measure we employ is the holding of the first, second, third and the cumulated fourth to seventh blockholder, presented in Table 7. Unlike the sum of blockholdings, the time variation of the separate ownership of blockholders is small and it does not have a clear tendency. The holding of the largest owner is between 42 - 47 percent, for the second between 16 - 20 percent, for the third between 9 - 12 percent and the cumulated holdings of the fourth to tenth owners are between 10 - 13 percent. Again, this structure resembles more closely the continental European pattern than that of the Anglo-Saxon countries. If the

¹² According to several BSE officials, these are the best data available on blockholdings of the listed companies.

¹³ One should keep in mind that the numbers are not completely comparable, because in Hungary only direct holdings are included (as we discuss in the previous section), while in the other countries the numbers present ultimate holdings. Including indirect holdings would probably raise the Hungarian firm's ownership concentration.

criterion is the holdings of the largest owner, then Hungarian firms have a medium level of concentration, by European standards. Austria, Belgium, Germany and Italy all have largest owner's share exceeding 50 percent, while Spain, France, the Netherlands and Sweden are below 45 percent. However, in these countries the second owner of the firms has ownership of 3 – 11 percent, while the figure is around 20 percent in Hungary.

Another measure of concentration is the percentile distribution of the largest owner. As Table 8 shows, only a minority of the companies had an owner having majority of the shares. The percentiles of the largest owner were stable during 1996-99, and the concentration decreased in 2000. In the first four years of the analysis, 40-45 percent of the companies had their largest owner having between 25 and 50 percent of the shares, and only 10-19 between 10-25 percent. In 2000, there was an equalization of these two ranges, both having 28.6 percent of the companies.

Figure 1 to 5 present percentile plots of the largest owner. This way of presenting the holdings of the largest owner is useful for two reasons. First, one can draw conclusions about the concentration of the ownership: if the percentile plot is above the 45-degree line (presenting an equal distribution of firms over all ranges of ownership), then the ownership structure is highly concentrated, and less concentrated if it lies below the 45-degree line. Second, by this method the effect of regulation can be observed: if there is a clustering in the data below a certain threshold, that may be due to certain rights or obligations, such as the right concerning the blocking of decisions or a mandatory bid for all shares above a threshold.¹⁴

In the Hungarian case clustering at the 50 percent threshold is clearly observable for each year. For all years except 1997, there is also clustering at 25 percent, which may be caused by the blocking of the change of the company statute, legal form and decision concerning the termination of the company. Clustering at the other thresholds (10 and 33 percent) are not observable in our data.

Besides concentration, the types of blockholders are also crucial from the corporate governance aspect. This is particularly important in the transitional context where, for historical reasons, there is scope for more types of owners to have significant share than usually present in the developed countries, where the most prevalent type of owner is a small outsider investor. To start with, as most large companies were formerly state-owned enterprises, the state is usually active in these countries. Also, in many countries – including Hungary to some extent – companies were sold (in whole or in part) to their managers and

employees.

Table 9 provides evidence on the presence of these different owner-types. According to our classification of types of owners, that the state (or the municipality) is still involved to some extent in the ownership of firms: even in 2000, 9 firms had state as a blockholder, and 5 as the largest owner. The managers and employees of the firm are also present in the blockholders. In each year there were between 3 and 5 companies where insiders were blockholders, with an average share of 20 – 29 percent. Banks are almost never owners of the listed firms, only in 1998 and 2000 were they blockholders in one company. The most prevalent blockholders are foreigners, whose share in the total blockholdings never fell under 50 percent.

5. Conclusions

This paper has analyzed the ownership structure and regulation of the listed firms on the Budapest Stock Exchange. Our construction of concentration measures using all available data shows that the Hungarian ownership structure resembles more the continental European one than the Anglo-Saxon pattern, and within the former group it has an average concentration. Our results about the concentration of voting power are probably downward biased, however, because the data contain only direct holdings. The most prevalent type of owner is the foreign investor, followed by financial non-banking institutions. The state is also still a blockholder in a number of companies.

References

- Becht, Marco and Colin Mayer (2000): "Corporate Control in Europe," unpublished.
- Becht, Marco and Ailsa Röell (1999): "Blockholding in Europe: An International Comparison," *European Economic Review*, 43, pp. 1049 – 1056
- Claessens, Stijn, Simeon Djankov and Daniela Klingebiel (2000): "Stock Markets in Transition Economies," Financial Sector Discussion Paper No. 5, World Bank, September.

¹⁴ Becht and Meyer (2000) provide these figures for 10 developed countries.

Tables and Figures

Table 1. Evolution of the Budapest Stock Exchange

Year	Number of firms	Capitalization (2000 Huf)	Capitalization (percent of GDP)	Trading volume (2000 Huf)	Market turnover
1990*	6	202.4	NA	75.0	NA
1991	20	349.1	NA	89.6	32.5
1992	23	350.7	NA	54.8	15.7
1993	28	495.5	NA	136.0	32.1
1994	40	467.7	4.2	348.3	72.3
1995	42	660.4	6.0	225.2	39.9
1996	45	1391.7	12.9	985.9	96.1
1997	49	4229.9	36.7	3964.3	141.0
1998	55	3647.7	29.9	8358.8	212.2
1999	66	4551.1	36.1	7535.2	183.8
2000	60	3393.9	28.3**	6834.1	172.0

Source: Monthly Report 2001/May (Budapest Stock Exchange, 2001, pp. 4-5).

Note: *From the 21st of June (as the starting date of the BSE) to the end of year in 1990 and full year for the other years. **Estimation. Market turnover defined as trading volume over capitalization (average of beginning and end-year values). NA: not applicable

Table 2: Number of employees

	N	Minimum	Maximum	Mean	Std. Deviation
1996	44	5	16738	1839.6	3318.6
1997	47	5	14118	1932.9	2812.1
1998	50	1	17454	2319.7	3597.6
1999	63	1	20523	2075.7	3514.3
2000	64	1	18140	1955.2	3245.5

Source: Company Fact Book ('96 – 2000) and the authors' own calculations.

Table 3: Branch categories

	Frequency	Percent
Extraction, energy distribution	8	10.3
Light Industry	19	24.4
Heavy Industry	14	17.9
Trade, Hotels	17	21.8
Financial Services, Computers, Telecom	20	25.6
Total	78	100.0

Source: Company Fact Book ('96 – 2000) and the authors' own calculations.

Table 4: Number of Listed Companies by Method of Privatization

Method	Number of companies
Privatized, by methods:	56
MEBO	4
IPO	27
Direct Sale	45
Private before '90	10
Greenfield	12
Total responses	97

Source: Company Fact Book ('96 – 2000) and the authors' own calculations.

Note: Number of companies: 78. Multiple privatization methods allowed. One firm still has state/municipality majority (89 percent)

Table 5: Total ownership of blockholders

	Number of firms	Minimum	Median	Maximum	Mean	Std. Deviation
1996	39	14.1	71.5	97.6	66.8	21.4
1997	44	5.7	69.8	99.7	65.3	23.6
1998	47	14.8	65.0	99.4	63.4	19.3
1999	60	10.0	75.3	100.0	68.3	21.4
2000	63	25.3	76.0	100.0	69.6	20.1

Source: Company Fact Book ('96 – 2000) and the authors' own calculation.

Note: Blockholder is defined as an owner having at least 5 percent of shares.

Table 6: Total holding of Blockholders: Percentile Distribution

All blockholders	1996		1997		1998		1999		2000	
	Pct.	Cum. Pct.	Pct.	Cum. Pct.	Pct.	Cum. Pct.	Pct.	Cum. Pct.	Pct.	Cum. Pct.
0 - 5%	11.4	11.4	10.2	10.2	11.3	11.3	9.2	9.2	6.0	6.0
5 - 10%	0.0	11.4	4.1	14.3	0.0	11.3	1.5	10.8	0.0	0.6
10 - 25%	4.5	15.9	2.0	16.3	3.8	15.1	3.1	13.8	0.0	0.6
25 - 50%	13.6	29.5	12.2	28.6	11.3	26.4	10.8	24.6	14.9	20.9
50 - 75%	29.5	59.1	36.7	65.3	50.9	77.4	30.8	55.4	28.4	49.3
75 - 90%	29.5	88.6	22.4	87.8	15.1	92.5	35.4	90.8	34.3	83.6
90 - 95%	6.8	95.5	2.0	89.8	3.8	96.2	3.1	93.8	7.5	91.0
95-100%	4.5	100.0	10.2	100.0	3.8	100.0	6.2	100.0	9.0	100.0
Total	100.0		100.0		100.0		100.0		100.0	

Source: Company Fact Book ('96 – 2000) and the authors' own calculation.

Note: Blockholder is defined as an owner having at least 5 percent of shares, except for managerial and state/municipalities ownership where there is no lower threshold.

Table 7: Average holding of 1st, 2nd, 3rd, 4th-7th blockholder:

1996	1 st blockholder	2 nd blockholder	3 rd blockholder	4 th -7 th blockholder
Number of firms	39.0	27.0	14.0	7.0
Mean	46.8	19.9	11.6	11.8
Median	46.0	19.6	10.7	11.2
Minimum	14.1	5.2	5.0	6.1
Maximum	93.8	36.4	25.0	19.5
1997				
Number of firms	44.0	30.0	18.0	10.0
Mean	46.7	16.7	10.8	12.5
Median	44.5	16.2	10.5	9.3
Minimum	5.7	5.3	5.4	5.6
Maximum	99.7	29.0	20.5	21.3
1998				
Number of firms	47.0	37.0	23.0	11.0
Mean	42.2	17.2	10.1	11.4
Median	42.0	16.7	10.0	8.1
Minimum	8.0	5.4	5.3	5.0
Maximum	99.4	30.0	15.6	29.9
1999				
Number of firms	60.0	46.0	29.0	19.0
Mean	45.1	19.3	9.5	12.0
Median	43.6	19.6	9.8	10.3
Minimum	10.0	5.0	5.2	5.5
Maximum	100.0	45.4	17.7	28.3
2000				
Number of firms	63.0	46.0	32.0	21.0
Mean	46.2	20.2	10.4	10.0
Median	43.7	19.5	10.3	8.2
Minimum	11.0	5.6	5.2	5.2
Maximum	100.0	42.5	20.2	28.4

Source: Company Fact Book ('96 – 2000) and the authors' own calculation.

Note: Blockholder is defined as an owner having at least 5 percent of shares.

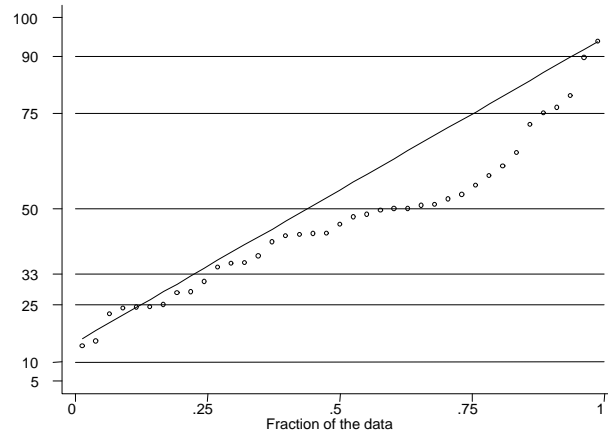
Table 8: Holding of the Largest Blockholder: Percentile Distribution

Largest blockholder	1996		1997		1998		1999		2000	
	Pct.	Cum. Pct.	Pct.	Cum. Pct.	Pct.	Cum. Pct.	Pct.	Cum. Pct.	Pct.	Cum. Pct.
0 - 5%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 - 10%	0.0	0.0	4.5	4.5	4.3	4.3	1.7	1.7	0.0	0.0
10 - 25%	15.4	15.4	9.1	13.6	14.9	19.1	16.7	18.3	28.6	28.6
25 - 50%	43.6	59.0	43.2	56.8	44.7	63.8	40.0	58.3	28.6	57.1
50 - 75%	28.2	87.2	31.8	88.6	34.0	97.9	33.3	91.7	30.2	87.3
75 - 90%	10.3	97.4	2.3	90.9	0.0	97.9	6.7	98.3	7.9	95.2
90 - 95%	2.6	100.0	0.0	90.9	0.0	97.9	0.0	98.3	3.2	98.4
95-100%	0.0	100.0	9.1	100.0	2.1	100.0	1.7	100.0	1.6	100.0
Total	100.0		100.0		100.0		100.0		100.0	

Source: Company Fact Book ('96 - 2000) and the authors' own calculation.

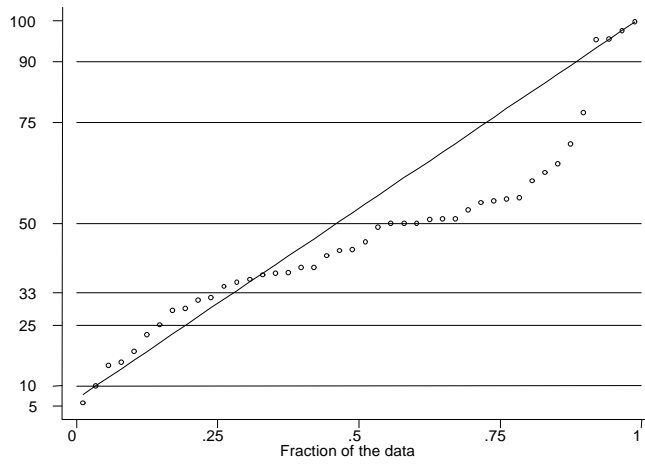
Note: Blockholder is defined as an owner having at least 5 percent of.

Figure 1: Percentile Plot of Largest Direct Owner in 1996



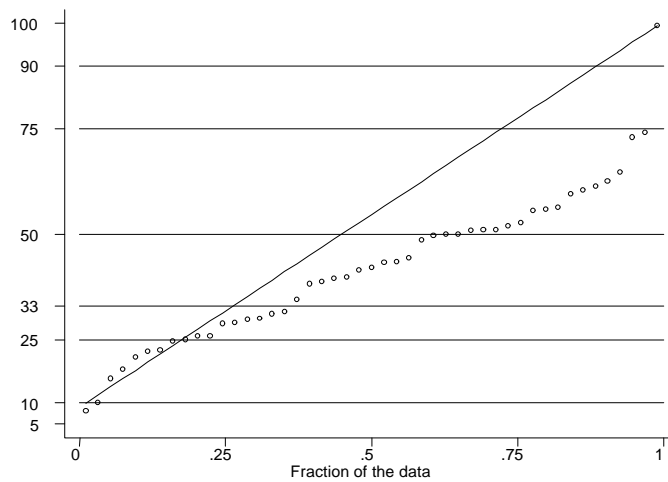
Number of cases: 39

Figure 2: Percentile Plot of Largest Direct Owner in 1997



Number of cases: 44

Figure 3: Percentile Plot of Largest Direct Owner in 1998



Number of cases: 47

Figure 4: Percentile Plot of Largest Direct Owner in 1999

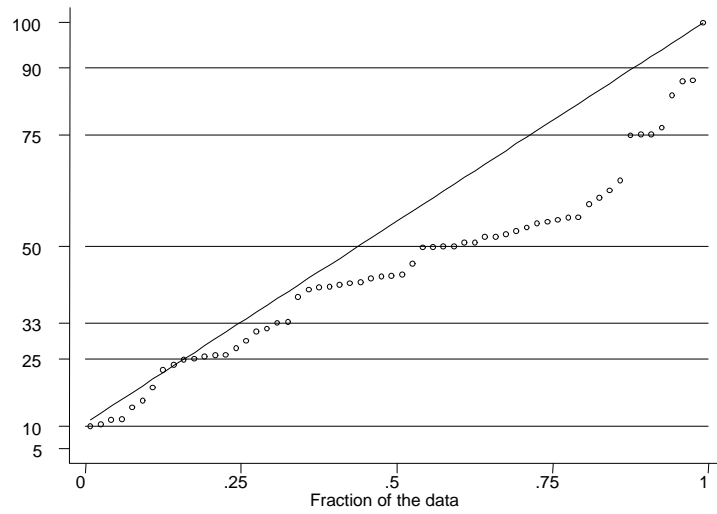


Figure 5: Percentile Plot of Largest Direct Owner in 2000

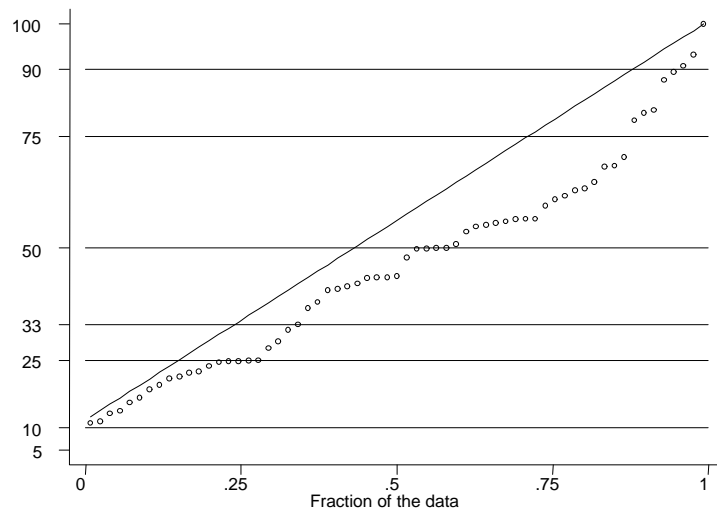


Table 9: Types of Blockholders

	N	Min.	Mean	Median	Max	Std. Dev	Largest blockholder
1996							
Hungarian Non-Fin. Comp. Banks	8	5.0	17.3	14.8	49.7	14.8	2
Financial Non Banks	12	9.3	21.4	15.6	56.2	14.6	4
Foreign Individuals	56	5.0	32.0	25.4	93.8	23.8	26
State or Municipalities	11	14.1	30.4	26.9	58.7	13.9	6
Managers / ESOP (MRP)	3	19.6	29.0	24.0	43.3	12.6	1
All blocks 1996	90	5.0	29.0	23.4	93.8	21.1	39
1997							
Hungarian Non-Fin. Comp. Banks	12	6.3	19.5	15.3	49.0	13.9	3
Financial Non Banks	15	5.3	23.3	12.8	56.3	17.9	8
Foreign Individuals	61	5.0	31.3	22.5	99.7	26.0	28
State or Municipalities	3	5.6	24.0	6.1	60.4	31.5	1
Managers / ESOP (MRP)	15	5.4	16.0	15.7	36.2	8.7	3
All blocks 1997	3	6.8	22.2	16.5	43.3	18.9	1
All blocks 1997	109	5.0	26.4	16.5	99.7	22.6	44
1998							
Hungarian Non-Fin. Comp. Banks	16	5.0	19.7	19.1	41.4	11.8	6
Financial Non Banks	1	12.7	12.7	.	12.7	.	0
Foreign Individuals	18	5.0	21.2	11.8	56.4	18.0	6
State or Municipalities	65	5.0	26.5	19.0	99.4	21.1	25
Managers / ESOP (MRP)	6	7.1	33.2	32.0	60.4	26.7	3
All blocks 1998	14	5.3	18.2	19.4	38.8	10.8	6
All blocks 1998	4	9.9	22.5	18.5	43.3	15.1	1
All blocks 1998	124	5.0	24.0	17.4	99.4	18.9	47
1999							
Hungarian Non-Fin. Comp. Banks	19	5.0	21.7	19.7	45.4	13.4	7
Financial Non Banks	23	6.0	20.6	13.1	56.4	17.5	6
Foreign Individuals	89	5.0	26.5	20.9	100.0	21.7	33
State or Municipalities	8	5.9	29.9	22.5	60.9	24.4	4
Managers / ESOP (MRP)	19	5.0	26.6	15.7	87.1	27.0	8
All blocks 1999	6	9.7	18.5	11.5	43.3	13.3	2
All blocks 1999	164	5.0	25.0	15.6	100.0	20.9	60
2000							
Hungarian Non-Fin. Comp. Banks	22	6.5	21.2	18.8	50.9	12.7	8
Financial Non Banks	1	6.5	6.5	.	6.5	.	0
Foreign Individuals	27	5.6	25.0	16.5	68.4	19.6	11
State or Municipalities	87	5.2	27.6	20.2	100.0	23.2	31
Managers / ESOP (MRP)	17	5.8	20.4	14.0	60.9	17.2	6
All blocks 2000	9	10.0	43.2	25.7	93.1	35.6	5
All blocks 2000	5	11.2	20.6	12.1	43.3	14.0	2
All blocks 2000	168	5.2	26.1	18.0	100.0	21.8	63

Source: Company Fact Book ('96 – 2000) and the authors' own calculation.

Note: Blockholder is defined as an owner having at least 5 percent of shares.