2004

Ownership Concentration and Corporate Performance on the Budapest Stock Exchange: Do Too Many Cooks Spoil the Goulash?

John S. Earle
W.E. Upjohn Institute

Csaba Kucsera
Hungarian Academy of Sciences

Álmos Telegdy
Budapest University of Economic Sciences

Upjohn Institute Working Paper No. 03-93

Published Version
Corporate Governance 13(2) (2005): 254-264

Ownership Concentration and Corporate Performance on the Budapest Stock Exchange: Do Too Many Cooks Spoil the Goulash?*

Upjohn Institute Staff Working Paper No. 03-93

John S. Earle
Upjohn Institute for Employment Research and Central European University

Csaba Kucsera
Institute of Sociology, Hungarian Academy of Sciences, and Central European University

Álmos Telegdy
Budapest University of Economic Sciences and Central European University

Revised: February 2004

Abstract

We examine the impact of ownership concentration on firm performance using panel data for firms listed on the Budapest Stock Exchange, where ownership tends to be highly concentrated and frequently involves multiple blocks. Fixed-effects estimates imply that the size of the largest block increases profitability and efficiency strongly and monotonically, but the effects of total blockholdings are much smaller and statistically insignificant. Controlling for the size of the largest block, point estimates of the marginal effects of additional blocks are negative. The results suggest that the marginal costs of concentration may outweigh the benefits when the increased concentration involves "too many cooks."

Keywords: ownership structure, concentration, corporate governance, blockholder, emerging markets, Hungary

Journal of Economic Literature classification numbers: G32, G34

* This research was supported by a CEU Faculty Research Grant. Earlier data collection was funded by the European Union's Phare ACE Program 1998. Collaboration was facilitated by travel support from a USAID Think Tank Partnership Grant. We also thank Michael Barclay, Mike Burkart, Joanne Lowery, and two referees for helpful comments. Correspondence: John S. Earle, Upjohn Institute for Employment Research, 300 S. Westnedge Avenue, Kalamazoo, MI 49007; Tel: 269-385-0435; Fax: 269-343-3308; earle@upjohn.org.

I. Introduction

The effects of ownership concentration on firm performance are theoretically complex and empirically ambiguous. Conceptually, concentrated ownership may improve performance by increasing monitoring and alleviating the free-rider problem in takeovers (Shleifer and Vishny, 1986), but other mechanisms may work in the opposite direction. Most frequently discussed is the possibility that large shareholders exercise their control rights to create private benefits, sometimes expropriating smaller investors.[1] Even the fear of expropriation may limit the ability of firms with high ownership concentration to raise fresh finance through borrowing or new share offerings. Other potential costs of concentration may result if managerial initiative is repressed by excessive monitoring (Burkart, Gromb, and Panunzi, 1997), or if a smaller fraction of liquid shares available to quietly establish a "toehold" raises a raider's costs of attempting a takeover (Kyle and Vila, 1991). The reduced liquidity could also lower the informational value of the firm's share price as a measure of managerial performance (Holmström and Tirole, 1993). Finally, none of these effects may matter if ownership structure tends to be optimally adjusted to firm characteristics, in which case, as argued by Demsetz (1983), there may be no relationship with performance whatsoever.

Empirical studies of the firm performance–ownership concentration relationship have also produced mixed results. Among studies of the United States, Demsetz and Lehn (1985) find no effect of concentration on accounting profits, and McConnell and Servaes (1990) find no effect on the ratio of market value to replacement cost of assets (Tobin's Q), although they do find a positive effect of ownership by corporate insiders and by institutional investors. Demsetz and Villalonga (2001) report a negative but statistically insignificant point estimate

[1] The possibility of expropriation has been discussed by Holderness and Sheehan (1988), Barclay and Holderness (1989), and Shleifer and Vishny (1997), among others.

in their preferred specification where ownership concentration is treated as endogenous; the relationship is negative and statistically significant when estimated by ordinary least squares. On the other hand, Wruck (1989) reports that private sales of blocks of shares, associated with increasing concentration, have a positive effect, although one that is nonmonotonic, on abnormal market returns. She finds, similar to Morck, Shleifer, and Vishny's (1988) analysis of managerial ownership, that returns are increasing in concentration at low levels of concentration, decreasing at moderate levels, and again increasing at higher levels. As the coefficient for low concentration is statistically insignificant, this suggests a roughly U-shaped relationship. An interpretation of these results is that the negative effects of concentration outweigh the positive effects over some ranges of the level of concentration.[2] Holderness (2003, p. 59) provides a summary of the "current learning" on this relationship as follows: "First, it has not been definitively established whether the impact of blockholders on firm value is positive or negative. Second, there is little evidence that the impact of blockholders on firm value—whatever that impact may be—is pronounced."

In this paper, we argue that an important issue in such empirical analyses, albeit one that has received relatively little attention, concerns the implications of alternative measures of ownership concentration. Most research has followed Demsetz and Lehn (1985) in measuring concentration with respect to a group of owners, usually as the total equity share held by the

[2] Among studies of other economies, Leech and Leahy (1991) report inconsistent findings in the United Kingdom, including a negative relationship when performance is measured as profitability; Gorton and Schmid (2000) report that concentration increases the market-to-book ratio and return on assets in Germany, although only the former result is statistically significant; Prowse (1992) finds no relationship, linear or nonlinear, between profitability and ownership concentration in Japan; Claessens and Djankov (1999) estimate an inverse U-shaped relationship in the Czech Republic; Claessens et al. (2002) find a positive effect of cash-flow ownership concentration on the market-to-book ratio but a negative effect when control rights exceed cash flow rights in a sample of Asian firms; and Hovey, Li, and Naughton (2003) find no effect of concentration on Tobin's Q of listed firms in China.

largest five or largest 20 investors.[3] Zwiebel (1995) has provided some indirect theoretical justification for such a group measure by suggesting that a particularly large owner will tend to "create its own space," discouraging other blockholdings from forming, while in the case where a dominant large owner is absent, smaller shareholders may form coalitions to exercise joint control; a measure of the shareholdings of the group of largest blockholders captures either possibility. But the group measure may also obscure some important aspects of interactions among blockholders.

A group of blockholders, for example, may face collective action problems, and they may even quarrel due to differing interests or conflicting views of corporate strategy, as "too many cooks spoil the broth" – or, in this case, the stock. Another possibility is that once a large owner is present, the marginal contributions to managerial monitoring of additional smaller blockholders are small, and the latter may serve only to increase costs of concentration by reducing trading liquidity and informational value of the share price. Moreover, if the additional blockholders do not produce net benefits, then the inclusion of their shareholdings in the concentration variable effectively adds measurement error, thus reducing the magnitude of the estimated performance effect and increasing the standard error. Estimates of the effect of concentration on performance may crucially depend on how blockholders interact and on the measure of concentration employed in the analysis: if there is one large owner with dominant control of the firm, then measuring only its holdings seems to be more appropriate than using the joint holdings of the top five or more owners. On the other hand, if multiple medium-size owners are in fact able to form effective coalitions, then the group measure may be more useful. The lack of attention to the possibilities of interaction

[3] In other studies, Holderness and Sheehan (1988) distinguish majority shareholders, Wruck (1989) measures concentration as total ownership share of all managers and five percent or greater blockholders, Prowse (1992) measures total share of the largest five owners, as do Hovey, Li, and Naughton (2003), and Claessens et al. (2002) focus on the largest shareholder alone.

among blockholders and to the implications for the appropriate measurement of concentration could explain, at least partially, the conflicting findings of previous empirical studies.

We address these issues drawing on data from Hungary, an economy which has, as we show, a high average ownership concentration that is typical of continental Europe and much of the non-Anglo-American economies (see La Porta, Lopez-de-Silanes, and Shleifer, 1999). Around this high average, our data contain cases of quite dispersed as well as extremely concentrated ownership. Contrary to Zwiebel's (1995) predictions, large blockholdings often co-exist within a single firm. Our empirical strategy exploits the availability of panel data for all firms traded on the Budapest Stock Exchange (BSE) between 1996 and 2000 to estimate fixed-effect panel regressions of return on assets and operating efficiency on various measures of ownership concentration. These within-estimators control for unobserved heterogeneity, and they permit us to compare the effect of an increase in the largest shareholding with an increase in the shareholding of all blockholders, as well as some intermediate cases.

We find that only when concentration is measured as the largest shareholding is there a positive, statistically significant effect on corporate performance. Other blockholdings have coefficients that are statistically insignificant and usually negative; the sum of all blockholdings has effects that are estimated to be positive, but they are always statistically insignificant and much smaller in magnitude than that of the largest blockholder. The data show no evidence of nonmonotonicities in the performance–concentration relationship, but they do contain some suggestions of nonlinearities, in that the marginal impact of the largest blockholding may be slightly convex and that the negative effect of additional blockholdings is increasing in the size of the largest blockholder. The latter effect is consistent with the hypothesis that additional blockholdings reduce liquidity. We conclude that the data strongly support the view that agency problems are reduced by ownership concentration—when concentration refers to the largest blockholder—but they provide no evidence that small

blockholder cooperation can substitute for a single dominant shareholder. Furthermore, the results suggest that the presence of additional blockholdings actually tends to reduce value, possibly due to quarreling among blockholders "stepping on each other's toes" and possibly by decreasing liquidity of the firm's shares; both of these possibilities are variants of the "too many cooks" hypothesis.

The topic of interactions among blockholders has only recently begun to receive some attention from researchers on corporate ownership. Zwiebel (1995) models such interactions as a cooperative game to divide control benefits, but does not consider collective action problems and the potential for conflicts among the large shareholders. Gomes and Novaes (2001) also examine bargaining among multiple controlling shareholders and show theoretically that disagreements may diminish or enhance firm value, depending on the firm's characteristics.[4] Empirical studies of blockholder interaction and firm performance are even less common. A recent study of Spanish firms by Gutierrez and Tribo (2002) finds that return on assets is slightly increased when the "control group" has more than one member (although their point estimates also suggest it is reduced when membership is greater than two). In related work, Faccio, Lang, and Young (2001) find reduced dividends associated with multiple owners in Asian economies and a positive impact for some dividend measures in Europe, but their regressions do not control for the size of the largest and additional blockholders' shareholdings. Both of these studies involve cross-section data only, and there is clearly a need for much more evidence.

One possible reason for the lack of attention to the effects of blockholder interaction on firm performance could be an empirical belief that multiple blockholdings are rare, but even

[4] Other theoretical contributions include Bennedsen and Wolfenzon (2000) on the formation of coalitions among large shareholders, Bloch and Hege (2001) on control contests in which the presence of multiple shareholders reduces private benefits, and Pagano and Roell (1998) on mutual monitoring among blockholders from the standpoint of the initial owner rather than share value maximization.

in the United States cases of multiple large owners seem to be rather common. Shleifer and Vishny (1986) report, for example, a mean of 1.4 blocks (defined as 5 percent or greater) among Fortune 500 companies, suggesting that a significant minority of large firms may have such an ownership structure, and Gomes and Novaes (2001) report that 57.2 percent of the small businesses in their sample have multiple large shareholders. In the rest of the world, moreover, the coexistence of multiple blocks appears to be still less unusual. An analysis of the 20 largest firms in each of 27 countries by La Porta, Lopez-de-Silanes, and Shleifer (1999), for instance, finds that the percentage of firms with a 20 percent or greater block that have at least one additional 10 percent or greater block is 40 percent in Denmark and Germany, 37 percent in France and Israel, 50 percent in New Zealand, 57 percent in Sweden, and 75 percent in Ireland.[5] Finally, a recent study of the largest 100 traded companies in Turkey (Demirag and Serter, 2003) finds an average stake of 45.1 percent for the largest owner and 64.5 for the largest five, again implying that multiple blockholding is an empirically significant phenomenon. Our results in this paper suggest that the interactions among these owners may also be economically significant in their effects on corporate performance.

II. Data Description and Estimation Framework

This study analyzes official data published by the BSE (Budapest Stock Exchange and Bank & Tozsde, 1996–2001). These data include basic financial information for the previous year and the percentage holdings of all direct blockholders (defined as any owner possessing

[5] These figures are based on the reported "probability that the controlling shareholder is alone" (La Porta, Lopez-de-Silanes, and Shleifer, 1999, Table VII, page 504); analogous calculations with similar qualitative conclusions are reported for different samples of firms in Faccio, Lang, and Young (2001) and Faccio and Lang (2002). Note that we have selectively cited countries to demonstrate that multiple blockholders are not uncommon in a broad range of economies; other countries tend to show a smaller incidence. On the other hand, the figures exclude cases where each of two or more blockholders has greater than 10 percent but none of them have greater than 20 percent.

more than five percent of the company's shares) for all listed firms.[6] The ownership information pertains to May in 1996 and 2000, and to June in the other years. Because the firm performance measures reflect year-on-year growth, as described below, for consistency we take the average of the ownership variables across years t and $t-1$. The result of this variable construction is that ownership concentration is measured around the middle of the period corresponding to the dependent variable.

Our first measure of concentration is the percentage of shares held by the largest blockholder (C_1). Second, we sum the holdings of the largest and the second largest blockholder (C_2), and third, we cumulate the holdings of the three largest blockholders (C_3). In some specifications, we also measure the second and third largest owners' holdings (B_2 and B_3, respectively) separately in order to estimate their marginal contributions to firm performance; these regressions also include the largest blockholder (obviously $B_1 = C_1$ in our notation). The final measure is the same as that used in much of the previous research on this topic: the sum of all five percent or greater blockholders (C_{all}). Since the ownership structure of the firms on the BSE is very concentrated, this measure is almost identically equal to the commonly employed measure based on the sum of the holdings of the largest five blockholders.[7]

Table 1 presents basic statistics for these concentration measures across all firm-years in the sample. At the median, the largest blockholder owns 42 percent, a figure which is large by Anglo-American standards and within the range of those for other continental European

[6] Although the data pertain to all shares (including, in principal, nonvoting shares) and to direct holdings only (rather than also to indirect, pyramid structures), our interviews with BSE officials suggest that these limitations have very little effect on the calculated ownership structure. Hanley, King, and Toth (2002) provide some documentation of the low extent of interfirm ownership and pyramid structures in Hungary.

[7] About a third of companies in the sample do not even have a fourth blockholder, and the average holding of the fourth blockholder in the whole sample varies in the range of 1.5 to 2.6 percent across years.

exchanges.[8] The data also reveal that there is substantial variation across firms in ownership concentration: despite the large average, the minimum value for the largest owner's holding is 0 (that is, there are firms in which no owner holds at least 5 percent of the shares), and the maximum value is 84 percent.

Insert Table 1 about here.

Given that the holding of the largest blockholder is so large, Zwiebel's (1995) analysis would predict that those of other blockholders would be small, as the dominant blockholder "creates its own space." As shown in Table 1 for our data, the second largest blockholder does in fact tend to have a substantially smaller stake, although one that is still quite large: B_2 = 14.7 percent at the median. And the third is also not negligible, with a median B_3 = 3.9. As a result, the median C_3 is 62.9 percent, substantially larger than concentration measured as C_1. Smaller blockholders tend to be much smaller, however, so there is little difference between C_3 and C_{all}; the latter has a median of 67.2.[9]

We employ two alternative measures of corporate performance: profitability measured as return on equity (*ROE*) and operating efficiency (*OE*). *ROE* is defined as the ratio of before-tax income to value of equity, and *OE* is the ratio of real sales to the average number of employees, with all variables measured over an annual period.[10] These measures have

[8] Becht and Röell (1999) report the median largest voting block at 20 percent in France (on the CAC40); 34 percent in Spain; 43.5 percent in the Netherlands; 45–55 percent in Austria, Belgium, Germany, and Italy; only 9.9 percent for the United Kingdom; and less than 5 percent for both the New York Stock Exchange and NASDAQ. As noted above, Demirag and Serter (2003) estimate mean C_1 at 45.1 percent in Turkey.

[9] This figure is quite similar to those reported for some nearby Central and East European economies: Claessens and Djankov (1999) report a median of 67.2 for C_5 in the Czech Republic, while Telegdy et al. (2002) report a median of 69.2 for C_{all} for firms on the Bucharest Stock Exchange.

[10] Deflation uses 2-digit PPIs. We do not compute *OE* for the banking and finance sector because of difficulty of measuring sales for these firms. As a robustness check, we have also estimated the *ROE* equations dropping this sector, with results very similar to those presented below.

been frequently used as performance indicators in previous research. [11]

Table 2 contains summary statistics for these variables. Both *ROE* and *OE* exhibit substantial variation in their growth and levels, as shown by the large standard deviations. The distribution of *OE* is positively skewed (skewness = 1.36); therefore we use the variable's natural logarithm in our regressions, which also makes the coefficients easier to interpret as proportional effects of changes in concentration. The distribution of *ROE* is fairly symmetric, however, and this variable is naturally in proportionate units. The Table also provides information on employment size, documenting that firms listed on the BSE tend to be large, with a mean number of employees over 2,400. [12]

Insert Table 2 about here.

Our basic estimating equation is the following:

$$Y_{it} = a_i + a_1 C_{it} + a_2 Y_{it-1} + a_3 Emp_{it-1} + \Sigma \alpha_{it} Year_t + e_{i,t},$$

where Y_{it} is alternatively *ROE* or log(*OE*) for firm i in year t and C_{it} represents alternative measures of ownership concentration in several alternative specifications, as discussed earlier. In some cases, C_{it} represents a vector of variables (for instance, ownership by each blockholder separately: B_{1it}, B_{2it}, B_{3it}), and in others the relationship is permitted to be nonlinear and nonmonotonic; these are discussed further below. We include controls for lagged level of performance (Y_{it-1}), lagged employment (Emp_{it-1}), and year ($Year_t$) effects. The use of lagged performance implies that a_1 measures the impact of an increase in C_{it} on the growth in Y_{it}. Employment is a size control, while the year effects take into account aggregate

[11] Another commonly used indicator, share value (or Tobin's Q), would be unreliable in our data due to the low volume of trading on the BSE, similar to most continental European stock exchanges.

[12] The BSE firms are widely distributed across industries: approximately 20 percent are in utilities, 40 percent in manufacturing, 10 percent in banking and finance, and the remainder in various other services.

fluctuations in the BSE and Hungarian economy.[13] Each regression also includes firm fixed effects to eliminate any biases resulting from permanent quality differences across firms; thus, the within estimator relies on the relationship between deviations from mean performance growth and deviations from mean concentration level.[14] Alternative specifications, examined for robustness reasons, are described after the basic regression results in the next section.

III. Regression Results

The results from estimating the performance equation with two different specifications of the dependent variable and four specifications of concentration (C_1, C_2, C_3, and C_{all}) are shown in Table 3. The largest blockholding, C_1, is estimated to have a large, positive impact on growth in both *ROE* and *OE*, the effects statistically significant at the 5 percent and the 1 percent level, respectively. On the other hand, the point estimate for the coefficient on C_2 is considerably smaller, and it is less significant in both equations (at the 5 percent level for *ROE* and 10 percent level for *OE*). The coefficients on C_3 and C_{all} shrink still further, and neither of them is statistically significant for either dependent variable. At the same time, the standard error is roughly constant for all concentration measures.

Insert Table 3 about here.

While providing strong evidence that some forms of ownership concentration tend to increase firm performance, these results are inconsistent with the view that blockholders are easily able to form coalitions to monitor management effectively. Rather, they are consistent with the hypothesis that only the extent of concentration by the top blockholder has a positive effect and that including additional blockholders into the concentration measure reduces this

[13] Although our preferred specification includes these controls, the results are qualitatively similar if we drop them from the equation.

[14] In every specification, the Hausman test supports the use of fixed rather than random effects, implying that the unobserved characteristics are correlated with both concentration and performance.

positive effect. In principle, the reduction in the estimated effect could occur either because the additional blockholders actually decrease performance or because adding them only introduces noise into the concentration measure, which would tend not only to diminish its coeffic ient but also to increase its standard error. The fact that the standard error does not increase suggests that the additional blockholders actually have a negative effect on performance.

To explore the last point more fully, Table 4 reports the results from disaggregating the shareholdings of the three largest blockholders and including them separately in the equations. Consistent with our findings for C_2 and C_3, the second and third largest blockholders have negative point estimates for their effects on corporate performance, although the coefficients are not statistically significant. These results are consistent with the view that additional blockholdings, beyond the largest, reduce firm performance. As we have discussed, this may occur if these additional blockholders are active participants who quarrel with the largest blockholder and among themselves. It may also occur if they are passive but their presence reduces the liquidity of the firm's shares on the market, which decreases the informational value of the share price and increases the cost of a takeover, in both cases lessening the effectiveness of these disciplinary devices.

Insert Table 4 about here.

Next, it is interesting to consider the possibility suggested by Zwiebel (1995) that concentration works differently in situations when the largest blockholder is very large than when it is less dominant. If the largest blockholder has a dominant position such as a majority stake, for instance, then additional blockholders may function only to create annoyances and reduce liquidity, but they seem unlikely to contribute to further monitoring of management. On the other hand, if the largest blockholder holds a weaker position (for instance, a minority stake), then perhaps the additional blockholders would help monitor, and for a given size of

the largest blockholder, they would soak up less of the firm's share liquidity. The first situation corresponds to Zwiebel's (1995) picture of a dominant shareholder "creating its own space," while the second corresponds to his view of coalitions of smaller blockholders cooperating in the absence of a single dominant investor.

To examine this hypothesis, we re-estimate the performance equations in piecewise linear form, including both C_1 and the sum of all other blocks, $C_{all} - C_1$, and interacting both of these variables with a dummy variable $D = 1$ if C_1 exceeds some threshold and 0 otherwise. Zwiebel's (1995) argument implies that additional blockholders may add value below the threshold, while above it they may reduce value or have a negligible impact. Thus, the estimating equation is as follows:

$$Y_{it} = ß_i + ?_1 C_{1it} D_{it} + ?_2 (C_{all,it} - C_{1it}) D_{it} + ?_3 C_{1it}(1 - D_{it}) + ?_4 (C_{all,it} - C_{1it})(1 - D_{it})$$
$$+ ß_2 Y_{it-1} + ß_3 Emp_{it-1} + S\, ß_t Year_t + e_{it},$$

where $?_1 > 0$, $?_2 = 0$, $?_3 = 0$, and $?_4 > 0$ would imply the existence of a regime switch associated with a threshold for the largest blockholder's share below which additional blockholders add value and above which they do not. Assuming a threshold of 50 percent (majority ownership), Table 5 contains the results from estimating this equation with our two dependent variables.

Insert Table 5 about here.

We find no evidence of a regime switch, as the data imply that $?_1 > 0$ and $?_3 > 0$, and $?_2 < 0$ and $?_4 < 0$, in both equations. Estimated $?_1 > ?_3$, so that the effect of share concentration in the largest blockholder's hands is estimated to increase for $C_1 > 50$, although the difference is not statistically significant. The estimated magnitude of $|?_4|$ exceeds $|?_2|$, a difference which is statistically significant in the *OE* equation. This implies that additional blockholders have a larger negative effect when $C_1 < 50$ and is inconsistent with Zwiebel's (1995) prediction. Taken at face value, the results provide more support for the view that additional blockholders

quarrel or interfere with one another than that they reduce liquidity (because the liquidity effect of additional blockholders should arguably be greater when $C_1 > 50$ than when $C_1 < 50$). In any case, the data do not support the view that smaller blockholders are able to form coalitions to control management and increase performance—neither in the presence nor in the absence of a dominant shareholder.

To assess the robustness of these findings, we estimated a variety of alternative specifications. For instance, we re-estimated the regressions dropping some of the controls, such as the lagged value of performance, the lagged value of employment, the year effects, and all of these variables. We also re-estimated the equations with lagged concentration measures, defining them as the average over years $t-2$ and $t-1$. In nearly all cases, the results remain qualitatively similar: only the size of the largest shareholding ever has a significant positive effect on both performance measures, and the estimated magnitude of the effect declines as the shareholdings of additional blockholders are included in the concentration measure.[15]

We also estimated a number of additional non-linear specifications, permitting the concentration effects to enter in a piecewise linear, quadratic, or cubic form. The data showed no evidence of nonlinearity in the performance–concentration relationship. We also respecified the dominant ownership threshold dummy D_{it} at alternative levels of 0.25, 0.33, and 0.40. Again, the results we received were qualitatively very similar to those reported in Table 5.

A further extension to our analysis of ownership concentration considers the possibility that the effects of ownership concentration vary for different types of blockholders, in particular based on domestic or foreign origin. Exploiting the availability of such information

[15] Although the patterns of coefficients remain similar, the statistical significance of lagged concentration is lower in the equations where *OE* is the dependent variable, possibly due to

in these data, however, we find no clear ranking of these two types of owners. As before, only the size of the shareholding of the largest owner is estimated to have strong, consistent effects on firm performance, while the distinction between domestic and foreign ownership appears to be of secondary importance.[16]

Finally, we are able to provide some additional evidence on the liquidity explanation for the finding that only the largest blockholder's share raises performance. Bolton and von Thadden (1998) present a model that implies that concentration impedes the liquidity of share trading, and supporting evidence has been reported by Demsetz (1968) for the United States and by Becht (1999) for Belgium and Germany, but does this relationship hold in our data? To investigate this question, we re-estimate the same equation as above, but substitute annual share turnover (the ratio of the volume of shares traded to the number outstanding), a proxy for share liquidity, as the dependent variable. The estimated coefficient on every concentration measure is negative in all specifications, and it is larger in magnitude and much more statistically significant for C_2 and C_3 than for C_1. Apparently, in the range of our data, a higher share of the largest blockholder has less impact on liquidity than does a higher share of other blockholders, possibly because liquidity is negatively affected only after concentration passes some threshold.

IV. Concluding Discussion

The possible impact of ownership concentration on corporate performance has been a central question in research on corporate governance, but evidence on the nature of the

---

the large loss of observations. The statistical significance remains very high in all of the *ROE* equations.

[16] Another issue of owner type concerns insiders versus outsiders. If the largest blockholder is more likely than smaller blockholders to be a manager or other insider of the company, then the positive impact of the largest blockholding might be due to a reduced owner–manager agency problem, but this would not account for the negative effect of additional blockholdings. In any case, the available data do not permit us to distinguish between insiders and outside owners.

relationship has been decidedly mixed. Partly this may be due to the fact that concentration has costs as well as benefits, and if these vary in strength with the level of concentration, the implication is that the relationship may be nonmonotonic, as argued by Morck, Shleifer, and Vishny (1988) and Wruck (1989). Estimates may also vary with data quality, with the estimation method applied, and due to heterogeneity in the population of firms.

In this paper, we have suggested that another important reason why estimates may vary lies in the extent to which concentrated shareholding is dispersed among a group of blockholders or concentrated in a single dominant owner, an idea that has received little attention in empirical studies. Exploiting the availability of high-quality panel data for firms listed on the Budapest Stock Exchange, we find that increased concentration in the hands of a single large blockholder is associated with improved corporate performance, that increased ownership by other blockholders does not improve performance and may even decrease it, and that there is no evidence of nonmonotonicity in the impact of any measure of concentration on performance.

The idea that the measure of concentration makes a difference is not simply an argument that results are sensitive to measurement considerations, or that one variable is superior to another on measurement grounds alone. Rather, it carries implications for our view of how large owners function and interact. It suggests that different forms of concentration—based on a single large blockholder or on a group of smaller blockholders—have different costs and benefits. Our finding that the marginal value of additional concentration is zero or negative when it comes in the form of an increase in holdings by secondary blockholders implies that the additional blockholders may have costs that outweigh their benefits. This result is inconsistent with most theoretical models of multiple blockholders, in which the latter are assumed to cooperate or monitor each other, enhancing firm value; and it may provide a partial explanation for the empirical regularity that multiple

blockholding, while far from rare, is not the predominant ownership structure in most countries.[17]

Concerning the nature of concentration costs, most attention in previous research has focused on the possibilities that a dominant shareholder expropriates smaller investors (e.g., Shleifer and Vishny, 1997) or stifles managerial initiative (Burkart, Gromb, and Panunzi, 1997). But these costs seem most likely to be associated with concentrated ownership by the largest blockholder, rather than with multiple blockholders each of whom have some influence over the firm. We have argued that multiple blockholders face collective action problems that attenuate any positive effect their additional monitoring provides. Moreover, we have suggested that other costs of concentration may be associated with blockholders "stepping on each other's toes" and with reduced share liquidity. Our finding that the magnitude of the negative impact of additional blockholdings is decreasing in the size of the largest stake tends to support the first of these types of costs, while the finding of a negative relationship of concentration and liquidity provides some support for the latter; both explanations are consistent with "too many cooks" doing a worse job than just one in preparing the goulash.

This Hungarian specialty is prepared by cooks around the world, but are our empirical findings equally generalizable? The BSE is a young market, having been founded in 1989, but it appears to be fairly typical of stock exchanges in continental Europe and throughout most of the world in the degree of ownership concentration, the frequency of multiple blocks, and the liquidity of trading. A more difficult extrapolation would concern the less concentrated Anglo-American–type ownership structures. In an effort to address such

[17] Our reduced form analysis does not distinguish the particular ways in which a blockholder may try to influence firm behavior and enhance value, nor does it account for substitute mechanisms of corporate governance, both because our data do not measure these and because the previous literature has focused on ownership structure. These are caveats, of course, to our results in this paper and to the whole line of research.

distinctions, our analysis permits behavior to vary between companies that have a dominant shareholder and those that do not, and we find there is little difference between them: in both cases it is only the largest shareholding that matters. Of course, it would be interesting to investigate the generalizability of our findings using other data sets from other countries, but that is an effort we leave for future research.

References

Barclay, Michael J., and Clifford G. Holderness (1989), "Private Benefits from Control of Public Corporations." *Journal of Financial Economics*, 25(2), 371-395.

Becht, Marco (1999), "European Corporate Governance: Trading off Liquidity Against Control." *European Economic Review*, 43, 1071-1083.

Becht, Marco, and Ailsa Röell (1999), "Blockholding in Europe: An International Comparison." *European Economic Review*, 43, 1049-1056.

Bennedsen, Morten, and Daniel Wolfenzon (2000), "The Balance of Power in Closely Held Corporations." *Journal of Financial Economics*, 58, 113-139.

Bloch, Francis, and Ulrich Hege (2001), "Multiple Shareholders and Control Contests." Unpublished working paper, HEC School of Management.

Bolton, Patrick, and Ernst-Ludwig von Thadden (1998), "Blocks, Liquidity and Corporate Control." *Journal of Finance*, 53(1), 1-25.

Budapest Stock Exchange and Bank & Tozsde, *Company Fact Book*. Budapest: Budapest Stock Exchange and Bank & Tozsde, various issues 1996-2001.

Burkart, Mike, Denis Gromb, and Fausto Panunzi (1997), "Large Shareholders, Monitoring, and the Value of the Firm." *Quarterly Journal of Economics*, CXII(3), 693-728.

Claessens, Stijn, and Simeon Djankov (1999), "Ownership Concentration and Corporate Performance in the Czech Republic." *Journal of Comparative Economics*, 27(3), 498-513.

Claessens, Stijn, Simeon Djankov, Joseph P.H. Fan, and Larry H.P. Lang (2002), "Disentangling the Incentive and Entrenchment Effects of Large Shareholdings." *Journal of Finance*, 57(6), 2741-2771.

Demirag, Istemi, and Mehmet Serter (2003), "Ownership Patterns and Control in Turkish Listed Companies." *Corporate Governance* 11(1), 40-51.

Demsetz, Harold (1968), "The Cost of Transacting." *Quarterly Journal of Economics*, LXXXII(1), 33-53.

Demsetz, Harold (1983), "The Structure of Ownership and the Theory of the Firm." *Journal of Law and Economics*, 26(2), 375-390.

Demsetz, Harold, and Kenneth Lehn (1985), "The Structure of Corporate Ownership: Causes and Consequences." *Journal of Political Economy*, 93(6), 1155-1177.

Demsetz, Harold, and Belén Villalonga (2001), "Ownership Structure and Corporate Performance." *Journal of Corporate Finance*, 7, 209-233.

Faccio, Mara, and Larry H.P. Lang (2002), "The Ultimate Ownership of Western European Corporations." *Journal of Financial Economics*, 65, 365-395.

Faccio, Mara, Larry H.P. Lang, and Leslie Young (2001), "Dividends and Expropriation." *American Economic Review*, 91(1), 54-78.

Gomes, Armando, and Walter Novaes (2001), "Sharing of Control as a Corporate Governance Mechanism." Unpublished working paper, University of Pennsylvania, Wharton School.

Gorton, Gary, and Frank A. Schmid (2000), "Universal Banking and the Performance of German Firms." *Journal of Financial Economics*, 58, 29-80.

Gutierrez, Maria, and Josep A. Tribo (2002), "Multiple Large Shareholders in Corporate Control: Evidence for Spain." Unpublished working paper, Universidad Carlos III de Madrid.

Hanley, Eric, Lawrence King, and Istvan Janos Toth (2002), "The State, International Agencies, and Property Transformation in Postcommunist Hungary." *American Journal of Sociology*, 108(1), 129-167.

Holderness, Clifford G. (2003), "A Survey of Blockholders and Corporate Control." *FRBNY Economic Policy Review*, 9(1), 51-64.

Holderness, Clifford G., and Dennis P. Sheehan (1988), "The Role of Majority Shareholders in Publicly Held Corporations: An Exploratory Analysis." *Journal of Financial Economics*, 20, 317-346.

Holmström, Bengt, and Jean Tirole (1993), "Market Liquidity and Performance Monitoring." *Journal of Political Economy*, 101(4), 678-709.

Hovey, Martin, Larry Li, and Tony Naughton (2003), "The Relationship between Valuation and Ownership of Listed Firms in China." *Corporate Governance* 11(2), 112-122.

Kyle, Albert S., and Jean-Luc Vila (1991), "Noise Trading and Takeovers." *RAND Journal of Economics*, 22, 1: 54-71.

La Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer (1999), "Corporate Ownership Around the World." *Journal of Finance*, 54(2), 471-517.

Leech, Denis, and John Leahy (1991), "Ownership Structure, Control Type Classifications and the Performance of Large British Companies." *The Economic Journal*, 101, 1418-1437.

McConnell, John J., and Henri Servaes (1990), "Additional Evidence on Equity Ownership and Corporate Value." *Journal of Financial Economics*, 27, 595-612.

Morck, Randall, Andrei Shleifer, and Robert W. Vishny (1988), "Management Ownership and Market Valuation: An Empirical Analysis." *Journal of Financial Economics*, 20(1/2), 293-315.

Pagano, Marco, and Ailsa Roell (1998), "The Choice of Stock Ownership Structure: Agency Costs, Monitoring, and the Decision to Go Public." *Quarterly Journal of Economics*, CXIII(1), 693-728.

Prowse, Stephen D. (1992), "The Structure of Corporate Ownership in Japan." *Journal of Finance*, Vol. 47(3), 1121-1140.

Shleifer, Andrei, and Robert W. Vishny (1986), "Large Shareholders and Corporate Control." *Journal of Political Economy*, 94(3), 461-488.

Shleifer, Andrei, and Robert W. Vishny (1997), "A Survey of Corporate Governance." *Journal of Finance*, 52, 737-783.

Telegdy, Álmos, John S. Earle, Victor Kaznovsky, and Csaba Kucsera (2002), "Corporate Control: A Study of Firms on the Bucharest Stock Exchange." *Eastern European Economics*, 40(3), 6-26.

Wruck, Karen H. (1989), "Equity Ownership Concentration and Firm Value: Evidence from Private Equity Financings." *Journal of Financial Economics*, 23, 3-28.

Zwiebel, Jeffrey (1995), "Block Investment and Partial Benefits of Corporate Control." *Review of Economic Studies*, 62, 161-185.

Table 1: Ownership Concentration on the BSE (% holdings)

Variable	Definition	Mean	SD	Minimum	Median	Maximum
C_1	Largest blockholder	39.4	19.4	0.0	42.2	87.1
C_2	Largest two blockholders	52.9	23.1	0.0	55.9	99.0
C_3	Largest three blockholders	57.7	23.7	0.0	62.9	99.4
C_{all}	All blockholders	60.9	24.6	0.0	67.2	99.4
B_2	Second largest blockholder	13.5	9.7	0.0	14.7	42.5
B_3	Third largest blockholder	4.8	5.1	0.0	3.9	22.7

Source: Budapest Stock Exchange and Bank & Tozsde (1996–2001) and authors' computations.
Note: *N* (number of firm-years) = 168. *N* varies by year, with a maximum of 66 in 1999–2000. A blockholder is defined as an owner directly holding at least 5 percent of the company's shares. SD = standard deviation.

Table 2: Return on Assets, Operating Efficiency, and Employment in the Sample

Variable	Definition	Mean	SD	Median	N
ROE_t	Return on equity (proportion)	0.1186	0.1538	0.1191	168
OE_t	Operating efficiency (mln HUF per employee)	19.8825	23.2861	12.2391	153
Log(OE_t)	Log(operating efficiency)	2.5911	0.8641	2.5046	153
EMP_{t-1}	Average number of employees	2,407	4,010	907	168

Source: Budapest Stock Exchange and Bank & Tozsde (1996–2001) and authors' computations.
Note: Sales are deflated by two-digit PPIs to Hungarian forints (HUF) in the year 2000. ROE_t = pre-tax income/value of equity. OE_t = real sales/average number of employees. OE is not computed for financial institutions. ROE, OE, and EMP are computed using 1996–2000 data. SD = standard deviation.

Table 3: Estimated Effects of Alternative Specifications of Ownership Concentration on Firm Performance

	Dependent Variable			
	ROE_t		$Log(OE_t)$	
Concentration measure	Estimated effects	R^2	Estimated effects	R^2
C_1	0.294**	0.102	0.942***	0.621
	(0.099)		(0.233)	
C_2	0.171*	0.052	0.560**	0.578
	(0.100)		(0.247)	
C_3	0.115	0.039	0.313	0.563
	(0.097)		(0.240)	
C_{all}	0.075	0.033	0.249	0.561
	(0.088)		(0.215)	

Note: N = 168 for regressions using ROE as dependent variable, 153 for regressions using OE as dependent variable. Concentration measures refer to holdings of largest blockholder (C_1), largest two blockholders (C_2), largest three blockholders (C_3), and all blockholders (C_{all}). All regressions include controls for previous performance, employment size, year effects, and firm fixed effects. Financial firms are excluded from the regressions using OE as dependent variable. R^2 = R^2-within. Standard errors (shown in parentheses) are adjusted for heteroskedasticity. *** = significant at 1% level, ** = significant at 5% level.

Table 4: Estimated Impact of Individual Blockholders on Firm Performance

Dependent Variable							
ROE_t				$Log(OE_t)$			
Estimated Effects				Estimated Effects			
B_1	B_2	B_3	R^2	B_1	B_2	B_3	R^2
0.261**	- 0.189		0.113	0.830***	- 0.538		0.629
(0.103)	(0.167)			(0.245)	(0.386)		
0.258**	- 0.179	- 0.046	0.113	0.778**	- 0.361	- 0.776	0.633
(0.107)	(0.183)	(0.352)		(0.251)	(0.429)	(0.815)	

Note: N = 168 for regressions using ROE as dependent variable, 153 for regressions using OE as dependent variable. Concentration measures refer to holdings of largest blockholder (B_1), second largest blockholder (B_2), and third largest blockholder (B_3). All regressions include controls for previous performance, employment size, year effects, and firm fixed effects. Financial firms are excluded from the regressions using OE as dependent variable. R^2 = R^2-within. Standard errors (shown in parentheses) are adjusted for heteroskedasticity. *** = significant at 1% level, ** = significant at 5% level.

Table 5: Performance Effects of Largest Blockholder and Other Blockholders, By Majority or Non-Majority Stake of the Largest Blockholder

Dependent Variable	C_1*D	$(C_{all}-C_1)*D$	$C_1*(1-D)$	$(C_{all}-C_1)*(1-D)$	R^2
ROE_t	0.284**	- 0.074	0.228**	- 0.203	0.115
	(0.113)	(0.129)	(0.134)	(0.193)	
$Log(OE_t)$	0.963***	- 0.133	0.745**	- 0.702	0.633
	(0.268)	(0.296)	(0.311)	(0.435)	

Note: N=168. Concentration measures refer to holdings of largest blockholder (C_1), largest two blockholders (C_2), largest three blockholders (C_3), and all blockholders (C_{all}). D = 1 if the firm's largest owner owns more than 50 percent of the shares, 0 otherwise. All regressions include controls for previous performance, employment size, year effects, and firm fixed effects. Financial firms are excluded from the regressions using OE as dependent variable. R^2 = R^2-within. Standard errors (shown in parentheses) are adjusted for heteroskedasticity. *** = significant at 1% level, ** = significant at 5% level, * = significant at 10% level.