Ownership and Control of German Corporations

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Abstract

In a study of the ownership of German corporations, we find a strong relation between board turnover and corporate performance, little association of concentrations of ownership with managerial disciplining and only limited evidence that pyramid structures can be used for control purposes. The static relation of ownership to control in Germany is therefore similar to the UK and US. However, there are marked differences in the dynamic relation – transfers of ownership. There is an active market in share blocks giving rise to changes in control but the gains are limited and accrue solely to the holders of large blocks, not to minority investors. We provide evidence of low overall benefits to control changes and the exploitation of private benefits of control.

Key words: Ownership, control, board turnover, pyramiding, bank control, takeovers
JEL classification: G32, G34

1. Introduction

The UK and US have "outsider systems" of corporate control with large equity markets, dispersed ownership and active markets in corporate control. In contrast, a majority of Continental European capital markets have "insider systems" with small numbers of quoted companies, concentrated share ownership and comparatively low levels of takeover activity. Germany is a good example of an insider system. It has less than 800 quoted companies, compared with nearly 3000 in the UK, and 85% of the largest quoted companies have a single shareholder owning more than 25% of voting shares. Corporate ownership is characterized by a strikingly high concentration of ownership, primarily in the hands of families and other companies. Corporate holdings frequently take the form of complex webs of holdings and pyramids of inter-corporate holdings. Bank influence and control are extensive where shareholdings are widely dispersed.

How does this pattern of ownership affect corporate control? According to Shleifer and Vishny (1986), concentrated share ownership overcomes free rider problems of corporate control that affect stock markets, such as the UK and US, with dispersed ownership. It should therefore be associated with more active corporate governance. On the other hand, according to Bebchuk (1999), insider systems are afflicted by private benefits to the detriment of corporate efficiency and La Porta et al (1999) argue that the German civil code provides weak protection for minorities at the expense of the operation of its capital markets. Ownership concentrations may therefore be associated with weak rather than strong corporate governance.

We evaluate these conflicting views by investigating the relationship between board turnover and corporate performance for firms with different ownership patterns. Kaplan (1994a) has examined this issue and concluded that while management board turnover in Germany is related to performance, neither the size nor nature of ownership has much of an influence. We extend his work by using more elaborate measures of pyramids and a new database on proxy votes. We record how these control vehicles significantly influence the relationship between cash flow and voting rights and relate these new measures of ownership and control to board turnover and performance. We find, first, that board turnover in German firms is similar to that of UK and US firms. Second, there is a close relation between board turnover and poor performance in Germany, as has been

documented in the UK and US. Third, while large blocks of shares held by families are often owned indirectly through other companies i.e. through pyramids, they are only used for control purposes in about one third of cases. Fourth, the relation between managerial disciplining and performance is no worse in widely held firms, where banks exercise significant control, than in companies with large concentrated ownership.

Thus far, both this paper and Kaplan's take a static view of the relationship between ownership and control. However, it has recently been suggested that there may be significant differences in transfers of ownership – the dynamics of control. While there has been virtually no Anglo-American market for corporate control in Germany in the post WW2 period, there is a substantial market in sales of large share stakes. Burkhart, Gromb and Panunzi (1998) point to the advantages of markets in partial share stakes for overcoming free rider problems, but Bebchuk (1999) emphasizes the private benefit problems that they may create. We find that the characteristics of this market are quite different from its Anglo-American equivalent. Block premia are much lower than target bid premia in takeovers in the UK and US, and, while sellers of large blocks of shares obtain benefits, minorities do not share at all in the bid premia. The difference between the bid premium paid to the seller of the large block and to minorities provides an estimate of the control premium enjoyed by block holders in Germany and their private benefits. We find estimates of the private benefits to be significant.

One explanation for low bid premia is that gains to takeover are small as a consequence of significant impediments to managerial control by the new block holder. We document these impediments in several case studies of German takeovers. We examine the extent to which share block sales are associated with managerial disciplining by relating pre-sale performance to subsequent board turnover. We find that board turnover in share block sales is appreciably lower than in takeovers in the UK and US and that there is little relation between board turnover and corporate performance. These observations are consistent with comparatively low gains to ownership changes.

In sum, while static aspects of ownership patterns in Germany do not translate into distinctive forms of control, the dynamics - transfers of ownership - operate quite differently. They reveal a smaller scale of merger benefits, the importance of private

benefits in the German capital market and limitations on the control that acquiring shareholders can exercise.

Section 2 describes the structure of ownership and control of German corporations and the hypotheses tested. Section 3 analyses the static features of German ownership and control: section 3.1 evaluates the significance of concentration of ownership, section 3.2 pyramid ownership and section 3.3 the type of owner, including banks and their proxy holdings. Section 3.4 brings these variables together in regressions of board turnover on the ownership variables.

Section 4 turns from the statics to the dynamics of ownership. Section 4.1 reports bid premiums paid to block holders and minority shareholders in sales of blocks. These are used to estimate private benefits of control to block holders. Case studies of takeovers illustrate the influences on merger benefits. Section 4.2 evaluates the relation between board turnover, performance and sales of share blocks. Section 5 summarizes the results.

2. The structure of German ownership and control and hypotheses tested

In section 2.1 we describe the data sets used and the structure of ownership and control of German corporations. In section 2.2 we describe the hypotheses tested in the paper.

2.1 The structure of ownership and control

Two main data sets were collected for this study. The larger set comprises 171 quoted industrial and commercial companies collected from Hoppenstedt Stockguide in 1990.[1] The companies in Hoppenstedt are a subset of the population of 477 quoted industrial and commercial companies in Germany in 1990. More detailed information on financial performance and board turnover was collected from company accounts on a second sample of 75 firms, derived from the larger sample of 171, for which data were available for the period 1989 to 1994. These 75 companies formed the basis of much of the analysis reported in sections 3 and 4. Information on the remaining 96 companies was unavailable due to incomplete library records.[2]

We also examined case studies of the accumulation and role of large share stakes in three hostile takeovers that took place in Germany: the bid by the Flick brothers and

then Veba AG for Feldmühle Nobel AG in 1988 and 1989 respectively, the bid for Continental AG by Pirelli in 1990 and 1991 and the bid for Hoesch AG by Krupp AG in 1991 and 1992. These were supplemented by interviews with blockholders who had recently acquired control.[3]

Section 2.1.1 describes the ownership of German corporations, including pyramid structures, section 2.1.2. board structure and section 2.1.3 proxy votes and bank representation on boards.

2.1.1 Ownership

Ownership of share stakes was classified by banks, families, industrial companies and different types of institutional investors. Data were collected on the size of ownership stakes above 25%, the type of owner including bank, family and corporation, and changes in ownership through sales of share stakes.[4] Disclosure of stakes smaller than 25% was not compulsory and they were included where available.

The size of holdings has been classified by those starting at 25%, 50% and 75%; these constitute important thresholds which determine the control rights of shareholders. A minority stake greater than 25% provides a blocking minority which may be used, for example, to prevent issues of new shares or the dismissal of members of the supervisory board, and, when the company's constitution requires it, the removal of a voting restriction. A majority stake of less than 75% allows wide control over the management of the firm but is subject to a blocking minority. For example, a simple majority is required to appoint members of supervisory boards when existing contracts expire but may not be sufficient for dismissal during their contract period. In the hostile takeover bid of the German tyre manufacturer Continental by Pirelli, Continental management sought protection by putting a motion to its shareholders increasing the majority required to dismiss members of the supervisory board from 50% to 75%. A stake of 75% is not subject to a blocking minority.

Table 1 describes the number and owners of share stakes larger than 25, 50, and 75% of voting equity in our sample of 171 quoted industrial and commercial companies in 1990. The most striking feature of the sample is that for 85% of the companies there is at least one large shareholder owning more than 25% of voting shares; for 57% of companies there is a majority shareholder and for 22% the holding is sufficiently large

to prevent a blocking minority. In a similar sample of the largest 173 quoted companies in the UK in 1992, we found that only 13% of companies had one shareholder owning more than 25% of issued equity, and 6% had a shareholder with more than 50% of shares.

A second feature of the table is that other German industrial companies account for 27.5% of dominant shareholdings, and families for a further 20.5% in companies with a single shareholder owning more than 25%. German institutional investors, including trusts and insurance companies, account for only 14.7%. Their role is a relatively minor one compared with that played by institutional investors in the UK and US, in part because pension funds are usually unfunded and are financed on an ongoing basis out of firm's own earnings. Equally striking is the modest size of bank holdings that account for less than 6% of share holdings in excess of 25%. Edwards and Fischer (1994) suggest that it is banks' control over proxy votes rather than their own shareholdings that confer control upon them.

Table 1 records only the immediate ownership of the sample of 171 companies. A substantial number of stakes are held by other companies, which are in turn held by other shareholders. This raises questions as to who is the ultimate shareholder, where ultimate control lies, and the motivation for the complex pattern of ownership. We distinguish between two categories of pyramids, those motivated by control, as measured by the ratio of large voting rights to cash flow rights, and those that are simply holding companies.

When large shareholdings were held directly by companies, ownership was traced back through the various layers to the ultimate investors, who were families, the state, banks and foreign companies. Where the number of layers is greater than one, we refer to that complex share holding as a pyramid. We recorded the number of layers in the pyramid and the shareholdings at each level. Thus, we were able to determine the number of stakes at different levels in the pyramid. We classified a pyramid as being a controlling pyramid where there were significant violations of one share one vote using various benchmarks.

We find that families and banks are more prominent at the top of the complex shareholding than at the first level. Family holdings account for 33.0% of ultimate share holdings as against the 20.5% at the first tier reported in table 1. Banks account for 12.0%

of ultimate holdings as against the 5.8% recorded at the first tier in table 1.[5]

Figure 1 illustrates one such pyramid structure at the beginning of the 1990s, although now significantly altered. There were two blocking minorities in Daimler Benz at level 1 held by Deutsche Bank, and Mercedes Automobil Holdings. There were also two blocking minorities in Mercedes Automobil Holdings at level 2 held by Stern and Stella, and they in turn had four blocking minority holdings at level 3.

This case illustrates the potential for acquiring control at low cost - what Bebchuk, Kraakman and Triantis (1999) describe as a controlling minority structure. For example, Robert Bosch GmbH at level 3 has a 25% holding in Stern Automobil that in turn at level 2 has a stake of 25% in Mercedes which owns a stake of 25% at level 1 in Daimler-Benz. As a result, Bosch's cash flow rights in Daimler Benz are 1.56%, where cash flow rights are defined as the product of the shareholdings at the different levels of the pyramid, whereas its voting rights are 25%. The ratio of voting to cash flow rights is therefore 16. Such share holding structures violate the principle of one share one vote (see Grossman and Hart (1988), DeAngelo and De Angelo (1985) and Harris and Raviv (1988)).

To provide more systematic evidence on complex shareholdings, we examined the data available for 38 of the 75 firms. The data include the number of tiers of shareholdings, the size and number of stakes in excess of 25%, 50%, and 75%, and the total of disclosed stakes between 10% and 25%. Using these data we ascertained the number of cases where pyramids were control vehicles, defined as involving a significant violation of one share one vote. For there to be a violation the ratio of voting rights to cash flow rights has to be greater than unity, and the cash flow rights and voting rights have to straddle a critical control level of 25%, 50% or 75%. For example, a voting right of 60% and a cash flow right of 49% allow the holder to cross the critical control threshold of 50%. We found 33 pyramids, where a pyramid is defined as a company in which there is at least one large shareholder holding more than 10% of shares indirectly through another company (see table 2). The mean number of tiers through which the pyramids are held is 2.2, where 0 describes a direct holding. 13 of the 33 companies had two tiers of indirect shareholdings, 10 had three tiers, 5 had four tiers and another 5 had more than four tiers. 11 companies had family share holdings above 75% and in 12 companies Allianz appeared as a

stakeholder reflecting its significance in German corporate holdings. The average size of all stakes in excess of 10% accumulated to 47% at level 1.

In 24 companies the ratio of voting rights to cash flow rights was greater than one. Table 2 shows that the average ratio of voting to cash flow rights was 1.6 in these companies; in 5 cases it exceeded 2. In 10 of the companies, voting rights and cash flow rights crossed one of the critical control levels of 25%, 50% or 75%. Therefore, using this measure of violation of one share one vote, 10 of the 33 pyramids can be described as a controlling pyramid.

Although in 23 of the 33 pyramids no one shareholder used intermediary companies to span a control threshold, coalitions might do so. The three large shareholders in Holzmann - Deutsche Bank (25.9%), Commerzbank (10%) and Hochtief (24.9%) have total holdings of 60.8%, with the remaining 39.2% widely held. Commerzbank and Hochtief together can form a blocking minority. In table 2, coalitions in 30 companies could in principle vote more than 25% of shares, in 19 they could vote more than 50% and in 4 more than 75% of shares. In 13 companies, the coalitions crossed a critical control threshold of 25%, in 11 of 50% and in 4 of 75%.

Another form of coalitions is cross-share holdings. Examining a sample of major German banks and insurance companies which exert an important influence in widely held companies, Adams (1994) found that they protect themselves from hostile takeovers and other forms of outside control via a complex system of cross-share holdings. Our examination of corporate ownership failed to uncover significant cross-share holdings in industrial and commercial companies. However, since companies have traditionally only been obliged to disclose holdings in excess of 25%, some cross-shareholdings may have been disguised. For example, in a court case it was disclosed that Allianz had a 25% shareholding in Bayerische Hypotheken- Und Wechsel-Bank and the latter had about a 5% holding in Allianz. Similarly, Allianz held a 23% Dresdner Bank while Dresdner held a 10% stake in Allianz.[6] Such cross-holdings may promote managerial as against ultimate shareholder control.

2.1.2 Board structure

German companies are governed by a two-tier board structure (see Baums (1994)

and Edwards and Fischer (1994) for a detailed description). The first tier is a supervisory board, composed of shareholder and employee representatives and other stakeholders. The supervisory board appoints the management board, equivalent to the executive directors of a UK or US board, approves the annual accounts and the firm's long term strategy, and can intervene when there is a serious deterioration in the company's fortunes. The chairman of the management board is not a member of the supervisory board and does not normally attend its meetings. The proportion of employee representatives is related to the size of the company and the industry. For our sample it is either one third or one half of the total membership depending upon the legal thresholds which are a function of the size of company.

Board data were collected from Hoppenstedt and Wer ist Wer (the Who's Who of German companies). The data included the composition of supervisory boards and the shareholder or shareholder group responsible for appointing the member of the board, and cases of resignation due to retirement or death. In addition to the name of the individual, the affiliation of board members is provided in the annual reports. Data were also collected on the members of management boards.

Annual average turnover of members of the management and supervisory board, including the chairmen, was calculated for the six financial years from 1989 to 1994 for the sample of 75 companies. Board turnover was defined as the number leaving the board during the year, other than for reasons of death or retirement, divided by the total number of board members at the beginning of the year. Supervisory board turnover in this paper refers only to shareholder representatives and excludes employee representatives whose turnover is expected to be unrelated to corporate performance. In addition, the same data were collected for the sample of companies that were involved in block sales for the three-year period straddling the year of sale.

Table 3 reports representation on the supervisory board of the companies in the sample of 171 in which the dominant shareholder was "another company" or a family. The table shows that representation goes hand in hand with ownership. Where the major shareholder is another company, the shareholder appoints the chairman of the board in more than three quarters of the sample; in addition, about one quarter of all remaining members of the board are appointed by the largest shareholder. Where the shareholder is a

family, the proportions are lower but are still very substantial, with appointments by the family exceeding one third of the chairmen and 16.0% of remaining board members; the latter is equivalent to 25.4% of all non employee members of the board. Moreover, one fifth of chairmen of supervisory boards are independent members who, despite their description, are typically associated with the controlling family.

2.1.3 Proxy votes and board representation by German banks

German banks derive their influence not only from their direct holdings of equities, but also from their holdings of proxy votes. They offer a variety of services including advice and voting on behalf of shareholders in company resolutions. The permission to use shareholders' proxies is obtained annually by the banks, although they must inform shareholders of any impending resolution and their voting intention so as to provide them with the opportunity to vote otherwise. An important advantage of this service is that it can mitigate the free rider problems associated with dispersed ownership. On the other hand, it might exacerbate conflicts between bank and shareholder interests.

We have used a data set on proxy votes collected by Nibler (1998) and data from Gottschalk (1988) and Baums and Fraune (1995).[7] Nibler (1998) provided proxy data for 49 companies in our sample. Using original data sources from commercial registers (Handelsregister) in cities where firms were registered, Nibler collected copies of the protocol of their general meetings. These contain a list of all those attending shareholder meetings, the number of votes cast by each person, and whether these were own shares or proxies. He found that three banks, Deutsche, Dresdner and Commerzbank, held proxies in nearly all of the 93 publicly traded AGs in his sample and voted on average 14.4% of companies' voting equity. In addition, these three banks owned 6.8% of the equity in their own right. In total, the average size of bank proxies in our sample of 49 firms was 17.6%.

The three cases of hostile takeovers illustrate the importance and limitations of bank control in the form of proxy votes and the chairmanship of the supervisory board. In the bid for Feldmühle Nobel by the Flick brothers, Deutsche Bank was able to defeat a hostile change of control by casting proxy votes in favour of a resolution supporting a 5% voting right restriction. It cast 55% of the shares voted although its direct holdings totalled only 8%. The effect was to subject the 38.5% held by the Flick brothers to the voting

restriction and thereby prevent a hostile tender offer. In the case of Continental and the bid by Pirelli, the banks used their proxy votes in favour of motions favouring management entrenchment, for example, the retention of the 5% voting restriction.

However, the influence of proxies should not be overstated. Purchases of shares in the open market by predators led to the withdrawal of proxy votes held by banks. In the bid by Pirelli for Continental, Pirelli was able to withdraw proxy votes from banks by acquiring shares in the market. Similarly, when Krupp acquired 24.9% of the shares in Hoesch from open market purchases, bank influence was much reduced by the withdrawal of proxies.

We would expect proxy votes to be reflected in a high level of board representation by banks and an examination of supervisory boardroom representation of different shareholders in widely held companies confirmed this. We found banks held almost 11.0% of seats and 26.3% of the positions of chairman. Former chairmen of the management boards fill another sixth of the positions; therefore, 'insiders' - managers and banks - control nearly one half of widely dispersed companies.[8]

The three case studies illustrate the potential importance of the supervisory board and bank chairmen. In the case of Continental the chairman of the supervisory board, Dr. Weiss a director of Deutsche Bank, wished to promote merger talks with Pirelli against the wishes of the head of the management board, H. Urban, resulting in Urban's resignation, although there was no evidence of poor corporate performance. In the case of the takeover bid for Hoesch, the chairman of the supervisory board, a director of Deutsche Bank, did not support the head of the management board and instead supported the bid by Krupp, resulting in the head of the management board's replacement. Dr Blaschke, the Chairman of the supervisory board who was a Deutsche Bank representative, initiated the voting by Deutsche Bank for the 5% voting restriction introduced by Feldmühle Nobel.

These three cases suggest a more active role for the supervisory board than that implied by Edwards and Fischer (1994), although not necessarily successful. For example, although the bank was able to limit the voting power of the Flick brothers, the company finally succumbed to a takeover and was broken up as the Flick brothers wished. Similarly, it is doubtful if Deutsche Bank could have stopped the takeover by Krupp and therefore their support might have reflected an acceptance of the inevitability of the outcome rather

than their judgement as to what was best for the target company.

2.1.4 Sales of share stakes

The paucity of hostile takeovers in Germany and the much lower levels of merger activity than in the UK and US suggest that until recently there has been little or no active market for corporate control. However, sales of large share stakes may provide a substitute for the traditional market for corporate control observed in the UK and US. From the sample of 171 companies between the years 1988 and 1991 we found data on sales of shares stakes for 134 companies using information published by Commerzbank's *wer gehoert zu wem.* We classify sales of share stakes by changes in major shareholders, emergence of large share stakes from widely dispersed companies, and the dispersal of large share stakes. We also report the number of cases where the size of share block changes but does not give rise to a change in the major shareholder.

We found a substantial level of turnover of share stakes over the three years 1988 to 1991. In 21.6% of companies a new major shareholder emerged: in 13.4% of these, the major shareholder sold its entire stake as a block, and in 8.2% the company went from being widely held in 1988 to having a large stakeholder by 1991. In a further 3.7% of cases a company with concentrated ownership became widely held. Finally, in 7.4% of cases there were changes in large holdings without a change in the major shareholder.

In aggregate, the turnover of large share stakes exceeded more than 8% per year (i.e. 32.7% over the four years) and compares with the level of takeover activity in the UK of about 4% of the capital stock of the corporate sector, at the peak of takeover activity. It is commensurate with the combined level of takeover activity and share block sales reported for the UK by Franks, Mayer and Renneboog (1999).[9]

The above describes the ownership and control of German corporations. Based on these characteristics we derive three testable hypotheses from the ownership and control literature.

2.2 Hypotheses

Ownership concentration. There is an extensive literature on how performance is related to concentration of ownership. Shleifer and Vishny (1986) provide a theoretical

demonstration that concentrated share holdings can mitigate free rider problems of corporate control associated with dispersed ownership. But as Shleifer and Vishny (1997) observe, there are significant disadvantages as well as advantages to concentrated ownership: "large investors represent their own interests, which need not coincide with the interests of other investors in the firm, or with the interests of employees or managers. In the process of using his control rights to maximize welfare, the large investor can therefore redistribute wealth - in both efficient and inefficient ways - from others" (p. 758). Bebchuk (1999) suggests that in countries where companies tend to have controlling shareholders, private benefits are large. He argues that separation of cash flow and voting rights allows owners to maintain control even where it is inefficient for them to do so.

It is therefore an empirical matter whether free rider benefits outweigh private benefits of control. Edwards and Weichenrieder (1999) examine this proposition by evaluating how Tobin's Q is related to cash flow and voting rights of the largest and second-largest shareholders in a sample of 102 listed German companies. They find that "the largest shareholder in listed companies does obtain private benefits at the expense of minority shareholders". [10] (p. 33)

This paper takes an alternative approach to analysing whether corporate control in Germany is characterised by private benefits and examines the relation between board turnover, performance and ownership. If concentrated ownership overcomes free rider problems of control then we would expect to observe a closer relation between board turnover and performance in concentrated than in widely held firms. If concentrated ownership is afflicted by private benefits then the reverse will hold. In the following hypothesis, we take the agency rather than the private benefits problem as our null. We also distinguish between management board and supervisory board turnover because the two, we argue, are influenced by different factors.

Hypothesis 1: High management board turnover is associated with poor performance in companies with concentrated but not dispersed shareholdings. Supervisory board turnover is unaffected by performance unless it is the result of a failure to monitor the management board.

Nature of ownership. The nature of ownership as well as its scale may be important in the exercise of corporate control. Concentrated ownership may be more effective when it is in the hands of principals, for example families, than it is with agents such as banks or other companies. However, the distinction between corporate control in widely held and concentrated firms may be affected by bank intermediation. In Germany, individual shareholders deposit their shares with banks that can, with appropriate mandates, cast proxy votes. Bank control may therefore overcome free rider problems of corporate control in widely held firms. Alternatively, they may also create their own agency problems with the interests of banks diverging from those of the investors who they represent.[11]

Edwards and Fischer (1994) find little evidence of German banks playing a direct role in the rescue of German firms. They report that "the evidence on German bank behaviour when firms are in financial distress does not support the view that banks are able to reduce the costs of financial distress and bankruptcy by close monitoring and control …" (p.175). However, Gorton and Schmid (1999) find that bank control via share blocks improves performance of companies, as measured by the market-to-book ratio or return on equity. They do not find a relationship with bank proxy holdings and performance in the absence of share blocks.

As described above, pyramid holdings are widespread in Germany. Burkart, Gromb and Panunzi (1997) explain these in terms of the desire of controlling shareholders to minimise their stake and maximise the dilution of outside shareholdings. Pyramids achieve this through a reduction in the ratio of voting rights to cash flow rights and therefore the costs of control. Bebchuk, Kraakman and Triantis (1999) argue that pyramids are control devices for separating ownership and control rights resulting in inefficient retention of control. In contrast, Emmons and Schmid (1998) suggest that pyramids are used less as control devices and more to deal with other governance issues such as relationship-specific investments and joint ventures. Furthermore, the intermediary layers of the pyramid may diminish the ability of ultimate shareholders to exercise control. In the following hypothesis, we test the view that principal controlling shareholders discipline poorly performing management and that pyramids do not dilute that control.

Hypothesis 2: Principals with large share stakes, such as families, have greater incentives to discipline poorly performing management than agents, such as banks or insurance companies. Pyramids are control vehicles that allow ultimate shareholders to discipline management without any dilution of control.

Market for corporate control. As recorded above, while there are few hostile tender offers in Germany, there is a flourishing market in large share stakes. Burkhart, Gromb and Panunzi (1998) justify a market in partial share stakes to mitigate the free-riding behaviour of dispersed shareholders in takeovers, making it desirable for shareholders to acquire as few shares as possible to gain control. They predict a high incidence of auctions for controlling share stakes and lower bid premia compared with full tender offers. Gains to acquirors of large blocks of shares may therefore be large, provided that dominant shareholders can exert unimpeded control by replacing members of the boards of acquired companies. If, on the other hand, control is impeded by the continuing presence of other block holders and minorities or because of restrictions on board turnover then gains to block holders may be modest. In the following hypothesis, we assume that block holders can exercise unimpeded control after acquisition.

By observing price differentials between sellers of blocks and other shareholders, it is possible to measure private benefits of control. Bebchuk (1999) has argued that they are extensive. This points to a distinction between the gains to holders of blocks of shares and minorities. In the UK, takeover rules require that, once 30% of the shares in a target firm have been acquired, other shareholders receive at least an equal if not higher price for their shares. In the US, the courts actively enforce fair price rules. In Germany, there has not historically been an equal price rule and, as a consequence, gains to minorities, as measured by bid premia, can be expected to be small.[12]

Hypothesis 3: Weak regulation of takeovers is reflected in low bid premia for minority shareholders in large block transactions. Differences in bid premia paid to minority and large shareholders are a reflection of private benefits of control. These changes in control are associated with poor performance and high levels of board turnover.

3. Analysis of the relation between board turnover, performance and ownership

This section analyses how board turnover, of both management and supervisory boards, is related to performance and different patterns of ownership. Section 3.1 discusses concentration of ownership, section 3.2 pyramiding and section 3.3 the type of owner, including families, banks and corporations. In section 3.4 we describe results of running regressions of board turnover on performance and the ownership variables.

3.1 Concentration of ownership

We begin by examining hypothesis 1 which predicts a relation between the board turnover in poorly performing companies and concentration of ownership. We compiled data on three measures of performance for the 75 companies; these were dividends per share, net after tax income and abnormal share price returns. The sources of data included annual reports for individual companies from Datastream and Hoppenstedt. Share price returns were measured relative to the DAX. Poor performance was indicated by earnings losses (after all provisions), dividend cuts or omissions, and abnormal returns worse than minus 20% in a single year.

Of the sample of 75 firms, the number of firms that had earnings losses in a particular year ranged from 3 to 16. 29 firms showed losses in at least one year. Up to 27 firms cut or omitted their dividend in a single year. There is considerable variation in earnings losses across time with 1991-1993 being the worst performing years. In 1993, more firms cut or omitted their dividend than reported earnings losses. Most of the subsequent tables use earnings losses as the measure of poor performance.[13]

In our sample of 75 firms, average management board turnover is 11.2% and average supervisory board turnover is 12.6% for the period 1989 to 1994. Partitioning the sample between loss makers and non-loss makers, board turnover for non-loss makers was calculated as an annual average over the six years, 1989-1994, and for loss makers the average of the year of the loss and all subsequent years. Management board turnover for loss making firms was 13.5% compared with 9.8% for non-loss makers, and the difference is statistically significant at greater than the 5% level.[14] Turnover of the supervisory board is similar for loss makers and for non-loss makers, 13.1%

compared with 12.3%.

If we compare average annual management board turnover before and after the year of the loss, we find that board turnover rises from an average of 6.6% in the two years prior to the loss to an average of 13.5% in the year of the loss and subsequent years. Average supervisory board turnover is almost identical before and after the loss. The similarity of supervisory board turnover suggests that poor performance is not perceived as a failure of monitoring or strategy. Our results for Germany are consistent with those found in other countries. Kaplan (1994b) records a significant relation between executive board turnover and earnings losses in Japan, Franks, Mayer and Renneboog (1999) for the UK and Weisbach (1988) for the US. The similarity of German results to those found in other countries suggests that very different legal rules and governance systems may still produce similar governance results (see La Porta et al (1998)).

Table 4 reports the results of partitioning the sample of 75 into closely held and widely held companies, where the latter are defined as not having a shareholder with a stake greater than 25%. There is higher management board turnover in loss making firms compared with non-loss making firms for those that are both widely and closely held; even though the differences are economically large, they are only statistically significant for the closely held sample. However, there is only a small difference in turnover, less than 1%, between loss makers in closely held and in widely held companies suggesting that large share ownership is not important in explaining differences in disciplining. There is therefore no support for hypothesis 1 of a difference in managerial board turnover between companies with concentrated and dispersed ownership.

3.2 Complex shareholdings and pyramiding

Table 5 reports board turnover of companies partitioned by pyramiding and the incidence of loss makers. Management board turnover is higher for loss makers than for non-loss makers within both samples; the differences in board turnover between loss and non-loss makers are very similar, 3.3% for firms with pyramids and 3.6% for those without. Only the latter is statistically significant, but the pyramid sample is small. It is also the case that the difference in board turnover for loss making companies that are part

of a pyramid structure is not significantly different from those that are not. The comparison suggests pyramids make little difference to the level of control exerted by ultimate shareholders. As a result, there is little support for hypothesis 2 that pyramids are control vehicles. [15]

3.3 Type of owner

The previous section recorded that the two owner groups most frequently found at the top of pyramids were families and banks. Hypothesis 2 suggests that families exert direct control over management. The question we examine in this section is whether there are differences in disciplining associated with family as against bank ownership. Such differences might be expected on the grounds that one owner is an agent and the other is a principal.

Using data on the disciplining of management by the supervisory board when corporate performance was poor, we compared the board turnover of companies with large shareholders, represented by banks, families and other corporations. When we measured ownership at the first level, we found that turnover of the management board was 8.9% for bank controlled companies compared with 11.3% for family controlled and 9.3% for other corporate shareholders. The differences were not significantly different. In table 6 the other corporate holdings are traced back to their ultimate shareholders. We find very similar management board turnover in loss making companies with bank owners as with family ownership, 13.5% compared with 12.1%. However, there is some evidence of significantly higher board turnover in loss makers than non-loss makers in companies where banks are large shareholders. This provides some support for banks exerting a disciplinary function, and is consistent with the conclusion of Gorton and Schmid (1999).

Given that many widely held companies are bank controlled, table 4 provides some additional evidence on the relative disciplining of banks as intermediaries versus other corporate intermediaries. We found little evidence of a lower rate of disciplining in widely held companies compared with those with a large shareholder. This would suggest that if banks do control widely held companies, they do not discipline any less (or more) than those that are closely held.

In general, the implication is that, contrary to hypothesis 2, there is little evidence

that disciplining is related to the pattern of ownership, in particular whether the large shareholder is a principal or agent. This might be explained by the fact that banks exert effective control on behalf of dispersed shareholders in widely held companies. Alternatively, agency problems may be so pervasive as to make different patterns of ownership irrelevant to the correction of managerial failure.[16] The similar rate of board turnover in Germany compared with the UK provides some support for the former rather than the latter hypothesis.

3.4 Regression results

We performed more formal tests of hypotheses 1 and 2 by regressing board turnover on performance and ownership for individual companies in individual years. Section 3.4.1. describes the methodology employed and section 3.4.2. the results.

3.4.1. Methodology

We performed three sets of panel data regressions of board turnover on performance and ownership. Firstly, we ran pooled OLS regressions over the entire sample of 75 companies for six years of data. Secondly, we allowed for individual firm ('within') effects using firm specific intercepts. Thirdly, we ran a cross-sectional ('between') regression with individual year intercepts. Interaction terms between performance and ownership variables were included.

The inclusion of a lagged dependent variable was tested using a first difference instrumental variable estimator (see Arellano and Bond (1991)). The coefficient on the lagged dependent variable was positive but statistically insignificant suggesting the use of a static panel data model rather than a dynamic one. Heteroscedastic consistent t-statistics are reported using a White (1980) procedure. We focus mainly on the within firm regressions which complement the cross-section results in sections 3.1 to 3.3, but we also describe the results of alternative specifications where the results differ from those of the within regressions.

Several specification tests of the results were performed. These included (i) corrections for serial correlation of residuals, (ii) control for size of firms as measured by their turnover and (iii) dummy variables for industries. We examined potential collinearity between the ownership and performance measures by excluding the earnings variables

from some of the regressions, and directly regressing performance on the ownership variables.

The board turnover regressions were performed on both management and supervisory board turnover, where the latter excluded employee representatives. Ownership variables were measured at both the first and the ultimate level.

3.4.2 Regression results

Hypothesis 1: Table 7 reports the results of fixed effects (within) regressions of annual management board turnover and supervisory board turnover on earnings losses and an interactive variable of concentration of ownership with earnings losses. The value of ownership is measured both at the first tier in column 1 and at the ultimate level at the top of the pyramid in column 2. Earnings loss is a zero-one dummy that takes the value of one in any year in which a company records a loss. The ownership concentration varies from year to year reflecting sales and purchases of shares reported in section 4.

Table 7 records that earnings losses are associated with an approximately 10% increase in management board turnover in the year of the loss and 7% in the subsequent year. The current earnings loss variable is significant at the 1% level and the lagged term at the 10% level. The first column reports results using concentration of ownership measured at the first tier and the second column ultimate concentration of ownership. The first part of hypothesis 1 predicts that board turnover will be higher in poorly performing firms (earnings loss = 1) in the presence of high concentration of ownership, i.e. a positive effect of the interactive term. When concentration of ownership is only included as part of an interactive term (earnings loss and concentration) in column 1, contrary to the prediction of hypothesis 1, the sign is negative but not statistically significant. In column 2, when ownership is measured at the ultimate level there is some evidence of a negative interrelation effect with performance suggesting that lower levels of concentration of ownership are weakly associated with higher board turnover in loss makers.

Several variants of the above regression were performed. Firstly, different performance measures were used: abnormal returns, accounting earnings, dividends per

share (all continuous variables) and a dummy variable for persistent losses, as reflected in losses in more than one consecutive year. Negative relations with abnormal returns were observed but stronger relations were associated with accounting earnings, earnings losses and persistent losses, all accounting measures. This points to the importance of accounting earnings in identifying poor performance of German firms, consistent with the prediction of Ball, Kothari and Robin (1997). Little or no relation was observed between board turnover and either concentration of ownership on its own or the interaction of concentration with performance.

Secondly, OLS panel regressions were performed in place of the fixed effects, with dummy variables signifying the firm's main industry and with firm size, as measured by turnover. The earnings loss variables remained significant and the concentration of ownership effect remained insignificantly negative. Thirdly, regressions were performed with only a concentration of ownership variable (i.e. no interactive term) to avoid potential biases from a correlation of ownership with performance. The concentration of ownership was again insignificantly negative. Fourthly, time dummy variables were included to establish whether there was a cross-sectional relation between board turnover and ownership concentration. Again there was no evidence of this.

In the case of supervisory board turnover, there is little evidence of a relation with either performance or ownership concentration. The one exception is persistent earnings losses: where there are persistent earnings losses then supervisory board turnover is significantly higher (table not shown). Thus consistent with second part of hypothesis 1, there is evidence that supervisory board members are replaced where they fail to correct poor performance. However, this is not related to ownership concentration and the results were not affected by the level at which ownership is measured or by the inclusion of size and industry dummies.

In sum, contrary to the first part of hypothesis 1, the results suggest little influence of ownership concentration on board turnover as reported in section 3.1. There is some evidence in support of the second part of hypothesis 2 that supervisory board turnover only occurs after persistently bad performance.

Hypothesis 2: We disaggregated the ownership concentration data by type of owner (bank, corporation or family) at the first level of the pyramid and at the ultimate level (bank or family) and included these in regressions on board turnover with performance. Table 8 shows the results using earnings loss as the performance measure. To provide further tests on the role of pyramids we also examined the effect of including a dummy variable for whether there was a pyramid in the ownership structure.

Earnings loss remains highly significant in the management board turnover regressions. However, there is no evidence that any of the ownership concentration variables are significant when ownership is measured at the first level. There is some evidence of a negative influence of bank ownership on management board turnover where ownership is measured at the ultimate level but the result was not robust to alternative specifications reported below.

We carried out several variants of the above regressions. Firstly, we used the different performance variables described above; little influence of different classes of ownership was observed. Secondly, we examined the effect of omitting the performance measures – even then ownership variables remained insignificant. Thirdly, in addition to the ownership concentration variables we included interactive terms of ownership with performance; again no influence of ownership concentration was observed.

We then examined the influence of pyramids in greater depth. We constructed two variables using measures provided in table 2 in section 2.1.1 recording the degree of control exercised by members of a pyramid. The first variable was the ratio of voting to cash flow rights for each company (the average value of which is shown in column 3 of table 2). The second was a dummy variable indicating whether a coalition of shareholders could cross one of the key thresholds of voting power, namely 50% (column 5 of table 2 refers). Neither of these variables was significant.

We performed several tests of the influence of banks' shareholdings including proxy votes on management and supervisory board turnover. Firstly, using the data from Gottschalk (1988) and Baums and Fraune (1995), we included a dummy variable which took the value of unity if banks controlled more than 50% of votes and there were no other large shareholders (including banks themselves) controlling more than 25% of voting

shares. Secondly, we replaced the dummy variable in this regression with the size of the proxy vote. Thirdly, we aggregated banks' direct and proxy votes and included a dummy variable equal to unity when these amounted to more than 25% of voting shares. Finally, we excluded all other ownership variables and ran a regression including only performance and the proxy variable. In no case was there a significant influence of proxies on board turnover. We then used the more extensive data set on bank proxies and banks' own shareholdings from Nibler (1998). We repeated the regressions on management turnover using this new data set. There was some evidence of a negative influence (significant at the 10% level) of banks' proxies on management turnover but not on supervisory board turnover. Overall, contrary to hypothesis 2, but consistent with the evidence from sections 3.2 and 3.3, there is little or no relation between different types of owner, pyramiding structure and board turnover.[17]

The regression results support our earlier cross-section results:

(i) consistent with section 3.1 there is a relation between management board turnover and performance but no relation for the supervisory board except in the presence of persistently bad performance,

(ii) there is no relation between concentration of ownership and management board turnover (section 3.1),

(iii) there is support for the interpretation of the results in section 3.2 that pyramids do not affect the exercise of control or are not control vehicles,

(iv) as reported in section 3.3, there is little or no relation between the type of owner and management or supervisory board turnover and no relation between proxy votes and board turnover.

Kaplan (1994a) also finds a relation between management board turnover and performance. He reports some relation with supervisory board turnover but finds that it is sensitive to the specification of the performance variable. Kaplan (1994a) provides some initial evidence on the influence of ownership on the relation between board turnover and performance. He reports that the relation was not significantly affected by the presence of large share blocks held by families, banks and other investors, or by substantial bank proxy votes. This paper reports that this conclusion remains valid on more detailed investigation, once account is taken of pyramid holdings and new data on proxy votes. Gorton and

Schmid (1999) examine the influence of bank ownership on market to book ratios and rates of return on equity of AGs in 1975 and 1986. They find a positive influence of banks' own equity holdings but not of proxy votes in both years. The influence of banks' holdings exceeds that of other block holders.

4. Sales of share stakes

We now turn to an analysis of the dynamic effects of sales of share blocks. We collected a second sample of 57 block purchases in 38 German companies for the period 1988 to 1997. These data gave us access to the prices at which blocks were traded and allowed us to compare the prices paid to the seller with those accruing to minority shareholders. We also compared the costs of changing control in the German market with bid premia in Anglo-American markets.

Sections 4.1 reports the size of premia paid to selling block shareholders, and returns earned by other, often minority, shareholders. In section 4.2 we measure the extent to which sales of blocks are related to poor performance and the disciplining of management. This provides a test of whether the market in share blocks operates like an American market for corporate control.

4.1 Bid premia paid to selling block holders

In this section we attempt to measure the private benefits of control and the degree of exploitation of non-selling, generally minority, shareholders. There are three parties to a block sale transaction: the seller of the share block, the acquiring company, and shareholders of the acquired company which are not party to the block sale. Using the announced price for the block, we measure the control premium paid to the vendor. We also estimate the gains to other shareholders by calculating abnormal returns over the window surrounding the announcement of the sale of the block. Since controlling block holders will only be willing to sell if they receive an amount equal to the sum of their private benefits of control and the public benefits to all shareholders then the private benefits cannot exceed the difference between the control premium and the gains to other shareholders. In relation to an equal price regulatory rule this can also be interpreted as a measure of the exploitation of minority shareholders.

We estimated bid premia in block sales using a sample from an international database, AMDATA, over the period 1988 to 1997. AMDATA provided the names of acquiring and target companies, the size of the stake, the selling price of the block and the date the purchase was reported to the German stock exchange. In addition, data on board turnover and performance were collected.

We found 85 block purchases. After excluding blocks where data were unavailable, there were 57 cases involving 38 target companies, each block purchase being considered a separate transaction. We checked all our data with original sources including Reuters Business Briefing and Dow Jones data and collected the price of the shares at the time of, and prior to, the block purchase.

In panel A of table 9 we report the bid premium paid to the seller of the block, which is calculated as the difference between the announced purchase price of the block and the share price. The premium is calculated separately for three time windows: 1 week, 1 month and 3 months prior to and including the announcement date. The bid premium is measured relative to market movements as measured by the DAX. Panel A of the table records that the average size of block purchases was 36.32% (median 33.20%). Median abnormal returns were 8.83% for 1 week, 10.51% for 1 month, and 5.87% for 3 months prior to the announcement. All estimates of the bid premium are statistically significant at better than the 1% level.[18]

The premia in share block transactions in Germany are small in relation to those in tender offers in the UK and US. For example, Franks and Harris (1989) report premia to targets in tender offers of 24.0% in the UK and 23.3% in the US. Barclay and Holderness (1991) report abnormal returns of up to 28.6% to shareholders of companies where there was a block trade of at least 5%, and where the company was subsequently acquired. Much lower abnormal returns accrued to targets of block trades that remained independent in the year following the block sale, possibly due to the lower probability of a control change.

In panel B of the table we report the abnormal returns to other (non-selling) shareholders. These are obtained by calculating the return for the period beginning 1 day after the announcement of the block sale and 1 week, 1 month and 3 months prior to the announcement, adjusting for market movements. The median abnormal returns to these

other shareholders for the three windows are small, between -0.69% and 1.45%.[19]

There are three important conclusions from the table. First, as already reported, bid premia paid to selling shareholders are small compared with the US and UK. Even in the largest transactions, bid premia are around half those in the US and UK. Second, other shareholders incur significant discrimination and obtain a virtually zero abnormal return. The absence of an effective equal price rule acts to the serious disadvantage of minority shareholders. Third, there is evidence of significant private benefits of control. However, the size of the private benefits is modest by the scale of total acquisition benefits in the UK and US, as measured by bid premia.[20]

These results provide support for Burkhart, Gromb and Panunzi's (1998) prediction that costs of changing control are lower in share block purchases than full tender offers, possibly reflecting the limited protection of minority shareholders in share block transactions in Germany. An example of this is the undisclosed accumulation of the 24.9% share stake by Krupp prior to the bid for Hoesch. This would have violated the 1989 UK Companies Act requiring disclosure of stakes in excess of 3%, and the UK Takeover Code that requires the price paid to shareholders to equal the highest price paid in the previous twelve months. Likewise, the takeover of Feldmühle Nobel by the Swedish company, Stora, would have violated the UK Takeover Code when Stora launched a discriminatory two-tier offer of DM 567 per share to large shareholders and DM 540 to small shareholders.

There are two possible explanations for the smallness of the bid premia. The first is the absence of minority rules making discriminatory pricing possible and reducing costs of changing control. While this explains the low abnormal returns to other shareholders, it does not account for the low bid premia paid to selling block holders. A second explanation is that the gains to control are limited, possibly as a consequence of the continuing presence of other block holders and minority shareholders and, as Gorton and Schmid (1998) note, co-determination agreements protecting employment contracts.

The three cases of hostile takeovers provide clear evidence of impediments to the exercise of control by acquirors in German takeovers. In Feldmühle Nobel, Veba was unable to exercise control in the face of opposition from the Flick Brothers despite having acquired a shareholding of 61% by early 1990. By early 1992, Krupp had a shareholding

of 62% in Hoesch. However, the merger could not be completed before December 1992 because of opposition in the courts by three small shareholders. In Continental, a proposition to remove the voting right restriction, which was supported by 66% of shareholders led by Pirelli, could not be implemented because of opposition from minority shareholders. Even the supervisory board of Continental, which decided to enter into merger negotiations, had considerable difficulty in forcing the management board to pursue negotiations with Pirelli and eventually had to dismiss the chairman of the management board, Horst Urban, to bring this about.

To gain a better understanding of the impediments to the exercise of control in German acquisitions we undertook a series of interviews with the owner of a large share block of a German company. The owner purchased a block of 65% from a German bank that had amassed a stake from several previous owners. The stake of 65% was gradually increased to 94%. Even with a 94% block, the owner felt constrained in its ability to restructure, for example the management board would not implement the blockholders' wishes to terminate a long standing contract. The company cited three impediments to their ability to exercise control:

- *Presence of minorities.* Minorities can require that transactions with investors holding more than 75% of shares of the firm be undertaken at arms length, i.e. at market prices.
- *Inability to take out minorities.* Removal of the 5% minority through a squeeze out rule is made difficult by the holding of shares in bearer form by banks, which are, as a consequence, in a privileged position regarding the identity of many owners of a company. Also, although a company with more than 95% of shares can compulsorily acquire the minority, a shareholder can seek redress in the courts for what they perceive to be a purchase of shares at unfair prices.[21]
- *Opposition of boards.* Since members of the supervisory board are appointed for fixed periods, it can take a considerable period of time for block holders to gain control of the supervisory board through new appointments. The block holder cited above made it a condition of its initial block purchase that a certain number of supervisory board members resigned. Notwithstanding this, the block holder claims that full control of the management board did not immediately and automatically

follow. Management refused to implement policies where they were felt not to be in the company's interest.

4.2. Management turnover, performance and sales of stakes

Part of hypothesis 3 suggests that sales of share stakes are associated with the disciplining of the management board or a failure of monitoring by the supervisory board. In the UK, Franks and Mayer (1996) report a very high level of board turnover in the two years after takeovers, 90% in hostile takeovers and 50% in agreed bids. However, they do not find a relation between incidence of hostile takeovers and performance of target firms. In contrast in the US, Martin and McConnell (1991) do find a relation between disciplinary takeovers as measured by CEO turnover and poor performance of targets.

Table 10 shows the relation between sales of share stakes and board turnover, using the sample of 75 firms, in the year of the sale and in subsequent years. Supervisory board turnover of loss makers and non-loss makers is significantly higher where there is a sale of a stake compared with no sale: 18.1% compared with only 11.1%. However, the higher turnover is independent of performance; for example, where sales occurred board turnover is slightly higher among non-loss makers than loss makers, 18.6% versus 16.7%.

The level of management board turnover provides a similar picture. Board turnover for loss makers is higher than for non-loss makers for both samples. However, the difference is only statistically significant for the sample with stable holdings. Also, the level of board turnover is higher for loss makers with stable share holdings than for those with sales: 20.9% and 14.0%, respectively. These results suggest that unlike results reported for the US, block sales are not disciplinary in nature and do not act as a substitute for a market in corporate control.

These results are confirmed in a regression of management and supervisory board turnover on performance and changes in share ownership using the sample of 75 companies. Table 11 reports the results using earnings loss as the performance measure. There was no significant relation of either management or supervisory board turnover with share block changes or with the interaction of share changes with earnings losses. There is therefore no support for the assertion in hypothesis 3 that there is high

board turnover in poorly performing companies that involve sales of share blocks.

In summary, we have found a significant level of price discrimination in German share block transactions and low overall gains to target shareholders. These low gains are associated with a weak disciplinary function of share block sales and significant impediments to the exercise of control by the new block holder. The impediments may also explain why we found little relation between ownership concentration and corporate control in section 3.

5. Conclusions

In this paper we report very high levels of concentration of ownership in German firms, particularly associated with holdings by other companies and families, and complex patterns of ownership involving pyramids. Bank ownership is of limited significance in the large proportion of highly concentrated firms but is of importance through proxy votes, voting right restrictions and board representation in the minority of widely held companies with no single shareholder in excess of 25%.

The question that this paper addresses is whether these distinctive ownership characteristics are associated with effective corporate governance or exploitation of private benefits. In some respects, the paper is consistent with a growing body of evidence (Edwards and Nibler (1999) and Kaplan (1994a)) that concludes that, while patterns of ownership of German companies are markedly different from those of UK and US firms, corporate control is similar. Furthermore, we find little relation between concentration of ownership and the disciplining of management of poorly performing firms and little relation between the type of concentrated owner and board turnover.

There are therefore few distinctive features of the static aspects of corporate control in Germany. But there are marked differences in its dynamics. Although there is no hostile takeover market, there is a substantial market in share stakes that superficially bears close resemblance to an Anglo-American market for corporate control. But it differs in two crucial respects. Firstly, it permits price discrimination between sellers of share blocks and other investors and, secondly, the overall gains to merger as reflected in bid premia are low in relation to those in the UK and US. We have used price discrimination to provide evidence on the existence of private benefits of control in German capital markets. The

modest gains to changes to ownership are mirrored in board turnover that is low in comparison to takeovers in the UK and US, suggesting that control benefits for ownership changes in Germany are small in comparison to those elsewhere.

The implication of this paper is that the primary distinction between financial markets does not concern the static relation of ownership concentrations to corporate control as suggested by much of the literature but the dynamic aspects relating to the evolution of ownership and control. Even if flexibility in altering ownership through share block sales in Germany is similar to that in the UK and US through tender offers, flexibility in corporate restructuring is lower and is associated with the existence of significant private benefits of control.

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Table 1: Proportion of Companies with a Single Shareholding in Excess of 25%, 50% and 75% for the Sample of 171 Large Industrial Quoted Companies in 1990

	Proportion of companies with a share stake in excess of: 25%	50%	75%
A. Companies with a large shareholder	85.4%	57.3%	22.2%
the largest shareholder being ...			
1. Another German company	27.5%	21.1%	9.9%
2. An insurance company	1.8%	0.0%	0.0%
3. A trust/an institutional investor	12.9%	6.4%	1.8%
4. A family group	20.5%	16.4%	5.3%
5. A foreign company[1]	9.9%	8.8%	5.3%
6. A bank	5.8%	0.0%	0.0%
7. The German State	1.2%	1.2%	0.0%
8. Other German authorities	3.5%	2.9%	0.0%
9. Unknown	2.3%	0.6%	0.0%
B. Companies without a large shareholding greater than 25, 50 or 75%, respectively.	14.6%	42.7%	77.8%
Total[2]	100.0	100.0	100.0

The table reports the proportion of companies with a large shareholder. Companies are partitioned into those that have one shareholder owning at least 25%, 50% and 75% of the voting equity, respectively. The table partitions large shareholders into various categories including other German companies, insurance companies, trust and institutional investors, families, foreign companies, banks, German state and other German authorities.
Sources: Hoppenstedt and own calculations

[1] Including foreign holding companies.

[2] Discrepancies in the total may be due to rounding errors.

Table 2: Incidence of Controlling Pyramids									
Size of sample	No. of companies with multiple layers of shareholdings, ie pyramids	Ave. ratio of voting rights to cash flow rights (Sample size = 23)	No. of controlling pyramids crossing thresholds of 25%, 50% or 75%	No. with coalitions of investors exceeding thresholds of:			No. of coalitions with controlling pyramids crossing thresholds of:		
				25	50	75%	25	50	75%
38	33	1.6	10	30	19	4	13	11	4

The table provides an analysis of the sample of 38 German firms with multiple layers of shareholdings. Pyramids are defined as companies that are owned by at least one intermediary shareholder, i.e. there are at least two (vertical) shareholdings where the intermediary holds at least a 10% stake. The average ratio of voting to cash flow rights is calculated as voting rights of 25%, 50% or 75% associated with block holdings divided by the product of the shareholdings at different levels of the pyramid. A controlling pyramid is one where the ratio of voting to cash flow rights is greater than one, and the pyramid enables a shareholder to cross a critical control threshold of 25%, 50% or 75%. Coalitions are calculated as the sum of holdings at the first tier in the pyramid.

Table 3: Categories of Shareholders Appointing Chairman and Members of Supervisory Boards in Companies Where the Major Shareholder is "Another German Company" and "Families"				
	Companies where major shareholder is another company		*Companies where the major shareholder is a family*	
Investor or appointing body	*Proportion of chairmen appointed by large shareholder*	*Proportion of supervisory board appointed by large shareholder*[1]	*Proportion of chairmen appointed by large shareholder*	*Proportion of supervisory board appointed by large shareholder*[1]
Another German company	77.8%	27.4%	5.7%	7.2%
An insurance company	2.2%	1.2%	2.9%	1.3%
A family group	2.2%	1.2%	37.1%	16.0%
A foreign company	2.2%	1.6%	0.0%	1.6%
A bank	4.4%	5.5%	5.7%	4.7%
The German State	0.0%	0.0%	2.9%	0.0%
Other German authorities	2.2%	1.4%	0.0%	0.0%
Employees	0.0%	40.3%	0.0%	37.1%
Independent members	2.2%	5.9%	20.0%	6.9%
Unknown	0.0%	15.3%	25.7%	25.1%
Total	100.0%	100.0%	100.0%	100.0%

The table reports the proportion of chairmen and members of the supervisory board appointed by different classes of investors or other appointing bodies. The table also includes the proportion of independent members who are usually, but not exclusively, nominated by the major shareholder.
Source: Own calculations based on Hoppenstedt's Handbuch der Grossunternehmen, Wer ist wer and company accounts.

[1]Excluding the chairman.

Table 4: Supervisory and Management Board Turnover Amongst Loss Making and Non-Loss Making Firms Partitioned by Closely and Widely Held Companies

Panel A: Average Board Turnover

	Closely Held Firms		*Widely Held Firms*	
	Loss Makers	*Non-Loss Makers*	*Loss Makers*	*Non-Loss Makers*
Supervisory Board	13.3%	12.6%	12.3%	11.3%
Management Board	13.6%	10.2%	12.8%	8.5%
No. of Firms	25	36	4	10
No. of Firm Years	141	208	24	60

Panel B: t-statistics of Differences in Board Turnover

	Loss Making Firms		*Non-Loss Making Firms*	
	Supervisory Board	*Management Board*	*Supervisory Board*	*Management Board*
Closely Held Minus Widely Held	0.38	0.24	0.55	0.97
	Closely Held Firms		*Widely Held Firms*	
	Supervisory Board	*Management Board*	*Supervisory Board*	*Management Board*
Loss Makers Minus Non-Loss Makers	0.37	1.96	0.35	1.45

The table records the annual average turnover of management and supervisory board in companies with and without earnings losses. A company is classified as loss making if it makes losses in any year between 1989 and 1994 inclusive. Board turnover is measured for the year of the loss and all subsequent years to 1994 for the loss makers and all years between 1989 and 1994 for non-loss makers. The table records the annual average board turnover partitioned by whether companies are closely or widely held. Closely held companies are those with a single shareholding in excess of 25% in 1989.

Table 5: Supervisory and Management Board Turnover Amongst Loss Making and Non-Loss Making Firms Partitioned by Whether There are Pyramids of Ownership

Panel A Average Board Turnover

	Firms with Pyramids		*Firms without Pyramids*	
	Loss Makers	*Non-Loss Makers*	*Loss Makers*	*Non-Loss Makers*
Supervisory Board	12.0%	11.3%	13.6%	12.7%
Management Board	11.9%	8.6%	14.0%	10.4%
No. of Firms	9	14	20	32
No. of Firm Years	46	80	119	188

Panel B. t-statistics of Differences in Board Turnover

	Loss Making Firms		*Non-Loss Making Firms*	
	Supervisory Board	*Management Board*	*Supervisory Board*	*Management Board*
Pyramid Minus No Pyramid	-0.53	-0.75	-0.65	-1.00
	Firms with Pyramids		*Firms without Pyramids*	
	Supervisory Board	*Management Board*	*Supervisory Board*	*Management Board*
Loss Makers Minus Non-Loss Makers	0.20	1.24	0.45	1.91

The table records the annual average board turnover reported in table 4 partitioned by whether or not there are pyramids of share ownership in 1989. Firms with pyramids have more than one tier of ownership.

Table 6: Supervisory and Management Board Turnover Amongst Loss Making and Non-loss Making Firms Partitioned by Type of Ultimate Large Shareholder

Panel A: Average Board Turnover

	Family Owned Firms		*Bank Owned Firms*	
	Loss Makers	*Non-Loss Makers*	*Loss Makers*	*Non-Loss Makers*
Supervisory Board	11.7%	12.5%	9.0%	13.1%
Management Board	12.1%	9.9%	13.5%	7.3%
No. of Firms	12	11	7	10
No. of Firm Years	51	59	27	53

Panel B: t-statistics of Differences in Board Turnover

	Loss Making Firms		*Non-loss Making Firms*	
	Supervisory Board	*Management Board*	*Supervisory Board*	*Management Board*
Family minus Bank Ownership	0.69	-0.35	-0.18	1.02
	Family Owned Firms		*Bank Owned Firms*	
	Supervisory Board	*Management Board*	*Supervisory Board*	*Management Board*
Loss Makers minus Non-Loss Makers	-0.20	0.67	-1.18	1.87

The table records the annual average board turnover for firms with a single shareholder in excess of 25% partitioned by whether the large shareholder is a family or a bank. Where there are pyramids ownership is traced back to the ultimate owner.

Table 7: Regressions of Management and Supervisory Board Turnover on Performance and Concentration of Ownership.		
Management Board Turnover	*Ownership Measured at the First Tier*	*Ownership Measured at the Top of a Pyramid*
Constant	0.0973 (11.10)	0.0820 (4.57)
Earnings Loss	0.105 (3.99)	0.113 (4.24)
Earnings Loss (-1)	0.0703 (1.87)	0.0847 (2.41)
Concentration of Ownership	-	0.0643 (0.96)
Interactive Term of Earnings Loss and Concentration of Ownership (-1)	-0.0877 (1.08)	-0.166 (1.81)
R^2	0.062	0.067
Supervisory Board Turnover	*Ownership Measured at the First Tier*	*Ownership Measured at the First Tier*
Constant	0.118 (11.71)	0.0862 (2.73)
Earnings Loss	0.0127 (0.48)	0.0150 (0.60)
Earnings Loss (-1)	0.0203 (0.56)	0.0414 (1.22)
Concentration of Ownership	-	0.136 (1.01)
Interactive Term of Earnings Loss and Concentration of Ownership (-1)	0.0610 (0.72)	0.000172 (0.00)
R^2	0.0061	0.013

The table records within (firm effect) regressions of management and supervisory board turnover of 75 German firms between 1990 and 1994 on performance as measured by whether there are earnings losses (a zero-one dummy variable, with 1 for a loss), concentration of ownership as a continuous variable and an interactive term between concentration of ownership and performance. One year lags on variables are described as (-1). Standard errors are heteroscedastic corrected. t-statistics are shown in parentheses

Table 8: Regressions of Management and Supervisory Board Turnover on Ownership Concentration of Different Types of Investor and a Measure of Pyramiding		
Management Board Turnover	*Ownership Measured at the First Tier*	*Ownership Measured at the Top of a Pyramid*
Constant	0.0874 (4.87)	0.111 (6.32)
Earnings Loss	0.110 (4.21)	0.107 (4.09)
Earnings Loss (-1)	0.0488 (1.49)	0.0459 (1.40)
Bank Ownership Concentration (-1)	-0.0163 (0.19)	-0.196 (1.99)
Corporate Ownership Concentration (-1)	0.0642 (0.86)	-
Family Ownership Concentration (-1)	0.0437 (0.53)	0.00732 (0.10)
R^2	0.059	0.061
Supervisory Board Turnover	*Ownership Measured at the First Tier*	*Ownership Measured at the First Tier*
Constant	0.0800 (3.16)	0.0881 (3.73)
Earnings Loss	0.0208 (0.89)	0.0147 (0.59)
Earnings Loss (-1)	0.0433 (1.65)	0.0411 (1.59)
Bank Ownership Concentration (-1)	0.214 (1.23)	0.0998 (0.80)
Corporate Ownership Concentration (-1)	0.0443 (0.27)	-
Family Ownership Concentration (-1)	0.233 (2.14)	0.142 (1.18)
R^2	0.032	0.013

The table records within (firm effect) regressions of management and supervisory board turnover of 75 German firms between 1990 and 1994 on performance as measured by whether there are earnings losses (a zero-one dummy variable, with 1 for a loss), concentration of ownership (as a continuous variable) by different types of investor and a dummy variable taking the value of one when there was a pyramid structure. Where variables are lagged 1 year they are described as (-1). Standard errors are heteroscedastic corrected. t-statistics are shown in parentheses.

Table 9: Block Premia to Vendors and Abnormal Returns to Non-Selling Shareholders in 57 Share Blocks over the Period 1988 to 1997				
Panel A: Block premia for the whole sample				
	Average size of share stake	1 week	1 month	3 months
Mean	36.32%[22]	13.85%	16.21%	9.43%
Median	33.20%	8.83%	10.51%	5.87%
Standard errors		3.21	3.89	4.28
t-statistics		4.31	4.17	2.20
Panel B: Abnormal Returns to Non-Selling Shareholders				
		1 week	1 month	3 months
Mean		2.34%	3.01%	0.03%
Median		-0.69%	1.45%	0.73%
Standard errors		1.18	1.64	2.59
t-statistics		1.99	1.84	0.01

This table reports block premia paid to sellers of large share blocks in 57 share block transactions involving 38 target companies. Panel A of the table reports the block premia measured relative to the DAX over 1 week, 1 month, and 3 months prior to, and including, the announcement date. Panel B reportsabnormal returns to non-selling shareholders relative to the DAX over the same periods.

Table 10: Supervisory and Management Board Turnover Amongst Loss Making and Non-Loss Making Firms Partitioned by Sales of Shareholders.

Panel A: Average Board Turnover

	Sales of Shares		*No Sales of Shares*	
	Loss Makers	*Non-loss Makers*	*Loss Makers*	*Non-loss Makers*
Supervisory Board	16.7%	18.6%	13.1%	10.8%
Management Board	14.0%	10.0%	20.9%	9.5%
No. of Firms	11	11	18	35
No. of Firm Years	27	66	91	175

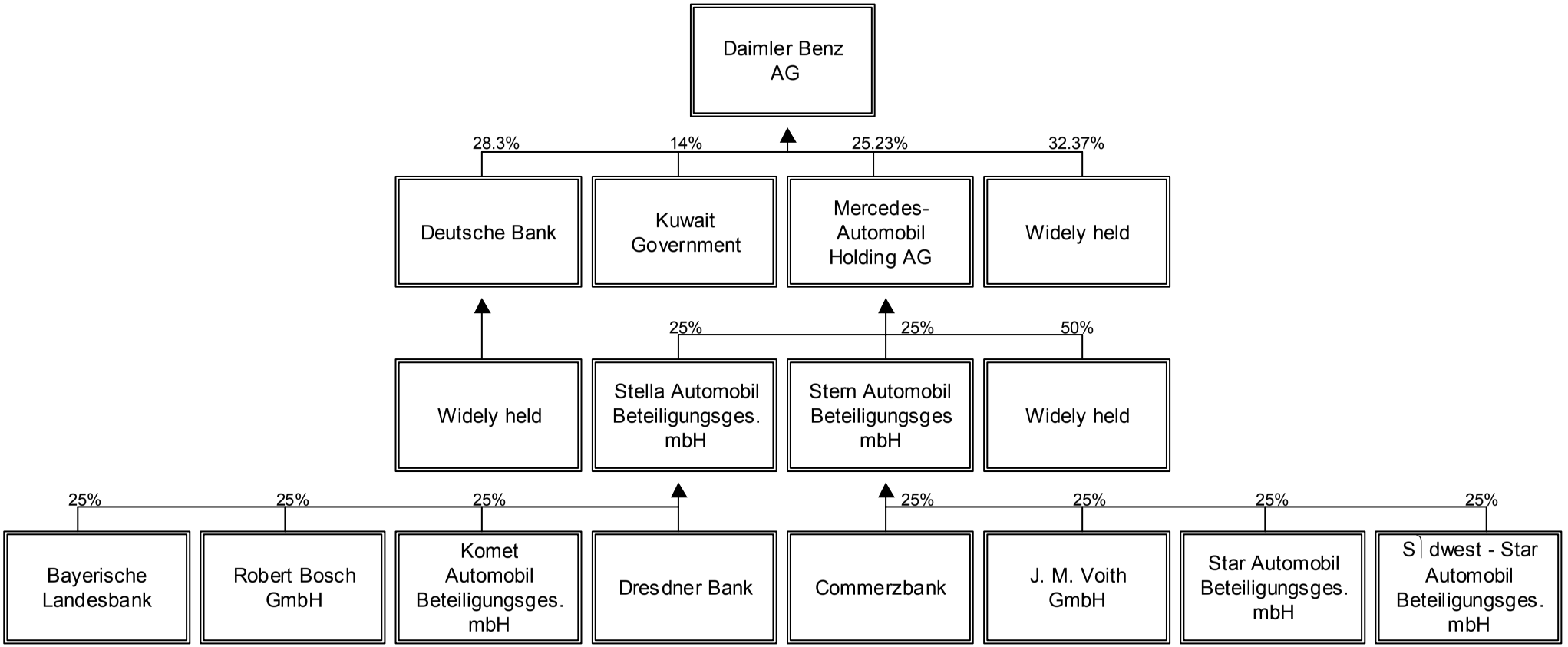
Panel B: t-statistics of Differences in Board Turnover

	Loss Making Firms		*Non-Loss Making Firms*	
	Supervisory Board	*Management Board*	*Supervisory Board*	*Management Board*
Share Sales minus No Sales	0.88	-1.32	2.85	0.28
	Sales of Shares		*No Sales of Shares*	
	Supervisory Board	*Management Board*	*Supervisory Board*	*Management Board*
Loss Makers minus Non-Loss Makers	-0.45	0.84	0.89	4.19

The table records the annual average board turnover reported in table 3 partitioned by whether there are sales of share stakes in any year between 1989 and 1991 inclusive. Where sales of shares occur, board turnover is calculated from the year of the sale onwards.

Table 11: Regressions of Management and Supervisory Board Turnover on Sales of Shares	
Management Board Turnover	
Constant	0.0974 (11.20)
Earnings Loss	0.110 (4.19)
Earnings Loss (-1)	0.0477 (1.40)
Sales of Share Stakes (-1)	-0.0121 (0.33)
Interactive Term of Earnings Loss and Sales of Share Stakes (-1)	-0.042 (0.97)
R^2	0.058
Supervisory Board Turnover	
Constant	0.120 (11.34)
Earnings Loss	0.0124 (0.48)
Earnings Loss (-1)	0.0252 (0.90)
Sales of Share Stakes (-1)	-0.0238 (0.59)
Interactive Term of Earnings Loss and Sales of Share Stakes (-1)	0.0902 (1.13)
R^2	0.0078

The table records within (firm effect) regressions of management and supervisory board turnover of 75 German firms between 1990 and 1994 on performance as measured by whether there are earnings losses (a zero-one dummy variable, with 1 for a loss) and sales of share stakes. Where a variable is lagged by 1 year it is described as (-1). Standard errors are heteroscedastic corrected. t-statistics are shown in parentheses.


Daimler Benz AG
28.3%
14%
25.23%
32.37%
Deutsche Bank
Kuwait Government
Mercedes-Automobil Holding AG
Widely held
25%
25%
50%
Widely held
Stella Automobil Beteiligungsges. mbH
Stern Automobil Beteiligungsges mbH
Widely held
25%
25%
25%
25%
25%
25%
25%
Bayerische Landesbank
Robert Bosch GmbH
Komet Automobil Beteiligungsges. mbH
Dresdner Bank
Commerzbank
J. M. Voith GmbH
Star Automobil Beteiligungsges. mbH
S dwest - Star Automobil Beteiligungsges. mbH

[1] 29 banks and insurance companies were omitted to allow the analysis to focus on the non-financial sector.

[2] The first set of firms (the '171') includes the largest German quoted firms: the average size, based on market values of equity and preference shares, is 2.34 billion DM. Almost 50% fall in the highest quintile of all quoted industrial and commercial companies. The second set of 75 companies were mainly the largest companies in our sample of 171, with an average market capitalisation of 4.29 billion DM; 73% were in the highest quintile of all industrial and commercial companies.

[3] Interviews were arranged with Commerzbank, Deutsche Bank, Deutsche Bank UK, Krupp AG, McKinsey, JP Morgan, Morgan Grenfell, Munger, Tolles & Olson, Warburg, Weickart, Simon, & Westpfahl, WestLB, Veba AG.

[4]Ownership data were collected from Hoppenstedt Stockguide, supplemented by Saling Aktienfuhrer and Commerzbank's *wer gehoert zu wem,* a guide on shareholdings produced triennially.

[5] Gorton and Schmid (1999) report that bank holdings of corporate equity in Germany averaged 6% in 1986; their estimate is therefore similar to our first tier number but below our ultimate holdings.

[6] These shareholdings come from Adams (1994) and were collected by Professor E. Wenger in 1993.

[7] Using data from Gottschalk (1988) and Baums and Fraune (1995) we find that the size of the proxy votes did not change appreciably over a six year period, between 1986 and 1992.

[8] Gorton and Schmid (1999) report that bank holdings influence their supervisory board representation.

[9] In case studies of share block transactions in Germany, Jenkinson and Ljungqvist (1997) report that they are frequently opposed by target management and banks play an important role in helping predators accumulate and avoid the disclosure of large stakes.

[10]In the US, Morck, Shleifer and Vishny (1988), McConnell and Servaes (1990) and Wruck (1989) find that corporate performance, as measured by Tobin's Q, initially rises with low levels of concentration. For example, in Morck, Shleifer and Vishny's study it rises with insider ownership of up to 5%, then declines up to 25%, and then rises.

[11] According to Diamond (1984) banks overcome free-rider problems of information gathering which afflict lending by a large number of dispersed investors. Similarly, Dow and Gorton (1997) argue that bank-based economies can be just as efficient as stock market economies. Hoshi, Kashyap and Scharfstein (1990 and 1991) find evidence of a role for banks in Japan in organizing and financing the rescue of failing companies. Kaplan and Minton (1994) report that Japanese bank directors manage firms in financial distress and that these appointments are associated with the disciplining of management. However, Kang and Stulz (1997) find that bank dependent firms suffered significantly larger wealth losses and invested less than other firms during 1990 to 1993 when the Japanese stock market dropped appreciably. Weinstein and Yafeh (1998) record that close bank-firm ties increased the availability of capital to Japanese firms but did not lead to higher profitability or growth because of banks' market power.

[12] The UK's equal price rule requires that once 30% of a target's shares have been acquired all remaining shareholders must be offered the highest price paid for shares of the target during the previous 12 months.

[13] Ball, Kothari and Robin (1997) show that German managers have significant discretion over the reporting of earnings and tend to use hidden reserves to smooth earnings. In an analysis of the dividend behaviour of German firms, Correia Da Silva (1996) finds that German firms are far more likely to reduce their dividends in the face of temporary declines in earnings than British or American firms. As a result, dividend cuts may not be as good a measure of demonstrably poor performance as earnings losses.

[14] If board dismissal occurs rapidly after the loss then including turnover for subsequent years may understate the level of disciplining.

[15] Pyramiding ownership schemes were widely practised in the utility industry in the US as a means of reducing the costs of control and extracting private benefits. They were made illegal in the Public Utility Holding Act of 1935 as were pyramids for registered investment funds under the Investment Companies Act, 1940. They are not illegal for other companies but minority protection rules make them less valuable than in Germany.

[16] For example, the Krupp family (Alfred Krupp von Bohlen and Halbach-Stiftung), through the Krupp Foundation has a controlling interest but the company is managed by professional managers.

[17] We included all of the variables in regressions that examined the influence of performance, ownership concentrations broken down by different categories of owner, pyramiding and interactive terms with performance, turnover of firms and industry dummies. Overall, the equations provide little explanatory power of supervisory board turnover but strong explanatory power of management board turnover.

Performance is a significant determinant of management but not supervisory board. There is some evidence of a negative influence of bank ownership and pyramiding on management board turnover and of share changes on supervisory board turnover.

[18] There is little relation between the calculated bid premium and the size of stake over a one-week window.

[19] This is consistent with the share price performance of two takeover bids, Continental and Hoesch, which had negative abnormal returns for other shareholders around the announcement date. Only in the third case, Feldmühle Nobel, was there a bid premium, 12.0% before the announcement of the first bid and 12.6% prior to the second bid.

[20] The estimates of private benefits in this section are an upper bound. To the extent that the supply of blocks is imperfectly competitive then vendors will be able to command premia in excess of their private benefits.

[21] This is included in company legislation, Aktiengesetz 1965.

[22] Where several stakes are announced contemporaneously or in close proximity, the amalgamation of these stakes raises the average size to a mean of 43.10% and median of 45.55%.