Who controls Germany?
An exploratory analysis

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Abstract

I analyze the most powerful shareholders in Germany to illustrate the concentration of control over listed corporations. Compared to other developed economies, the German stock market is dominated by large shareholders. I show that 77% of the median firm's voting rights are controlled by large blockholders. This corresponds to 47% of the market value of all firms listed in Germany's official markets. About two thirds of this amount is controlled by banks, industrial firms, holdings, and insurance companies. I show that due to current legislation it is clear for neither group who ultimate exerts control over the shareholding firm itself. For the remaining blockholders, only blocks controlled by voting pools and individuals can be traced back to the highest level of ownership. In the aggregate, both groups control only 5.6% of all reported blocks. The German government controls 8%, and it is not clear who ultimately is responsible for the consequences of decisions.

The top five banks and the top three insurance companies are closely related through direct ownership and voting control. Jointly, these eight firms report control over 14% of all listed firms, or a market value of DM 147 billion considering only reported voting blocks. I show that this figure substantially underestimates the true value under control of these blockholders. The reason is that large ownership links exist between the large shareholders that do not trigger legal reporting requirements. Therefore, joint majority control by business groups and their incentives to act in the interests of all shareholders cannot be inferred from published data.

Who controls Germany? An exploratory analysis

It is widely known that German corporations are characterized by highly concentrated ownership and that banks and other financial institutions play an important role. Large shareholders dominate most listed corporations and financial institutions exert control via direct ownership, personnel interlockings, and proxy votes.[1] Detailed knowledge of how German corporations are controlled is essential to evaluate the German system of corporate governance, which has recently attracted great academic and political interest. Put differently, the identity of controlling parties must be known before their incentives to actively monitor corporations can be assessed. Despite the importance of these issues, in-depth empirical descriptions of corporate governance in Germany are rare.[2] To fill this gap, this paper uses the first-ever complete cross-sectional data set of blockholdings of voting rights in German corporations, prompted by new regulation in 1995. It provides a detailed account of how blockholdings in firms listed in the official markets are distributed, what type of economic entity controls them. Additionally, I examine the identity and power of Germany's largest shareholders. To estimate control, I measure both the size of directly held stakes and of ultimate voting control, and provide statistics on the percentage of all firms controlled by large blockholders in terms of voting rights and size-weighted measures.

The remainder of this paper is organized as follows. The legal background and some institutional details are briefly discussed in section 1. In section 2 I describe the data used to analyze voting power. Section 3.1 is devoted to the results from the perspective of listed corporations. It describes the size and distribution of shareholdings across firms. Section 3.2 presents the results from the perspective of individual shareholders. It describes the distribution of control across shareholders, analyzes the power of different shareholder types, and computes the relative power over listed firms for each type. In section 3.3, I analyze the economic importance and identity of Germany's most powerful shareholders. Section 4 discusses the consequences of large voting blocks for shareholder wealth. The final section concludes.

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[1] See Edwards and Fischer (1994) for a comprehensive analysis of financial institutions' involvement in the corporate sector.

[2] See Boehmer (1998b) for a critical discussion of empirical studies on German corporate governance.

1. The German transposition of the EU Transparency Directive[3]

The European Union's Transparency Directive (88/627/EEC) was transposed into German law as part of a securities trading code (*Wertpapierhandelsgesetz*, WpHG, BGBL 30. 7. 1994, I S. 1749ff) that contains a series of measures intended to strengthen Germany's financial markets.[4] The sections based on the EU Transparency Directive became effective on January 1, 1995. The WpHG also provides the legal basis for creating a securities trading commission (*Bundesaufsichtsamt für den Wertpapierhandel*, BAWe). The BAWe formally addresses regulations and penalties relating to insider trading, the real-time publication of price-relevant information (*ad-hoc Publizität*), and the rules for operating securities houses.

1.1 The filing process for voting blocks

The mechanics of the notification process are simple and closely follow the Transparency Directive. The main features of the transposition and the Directive are: the filings are made and published on paper, the shareholder notifies the company of a block and the company notifies (and pays for notifying) the market. This process may take up to 16 days.

1.2 Who has to report voting stakes?

§ 21 WpHG (notifications of direct shareholdings), § 22 (notifications of shares "attributed" to a shareholder because he or she controls the way the shares are voted) and § 41 (first time notification since the law came into force) are the legal "triggers" for the notification process.

- § 21 states that someone crossing 5%, 10%, 25%, 50% or 75% (through purchase, sale or other means) of the votes of a German company listed on an official EU market has to notify according to the mechanisms described above. The requirement does not depend on the share of voting capital controlled but the fraction of the total votes controlled. Voting caps (*Höchststimmrechte*) are not taken into account when computing the percentages (Nottmeier and Schäfer 1997, page 91).

- § 22 is the most complicated piece of the legislation and sets out the rules for "multi-layer" control of voting shares. It defines which indirectly controlled votes are "attributed" to a

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[3] See Becht and Boehmer (1997) and Boehmer (1998c) for a comprehensive review of the legal aspects relating to the disclosure by German companies.

[4] The complete title of the law is "Gesetz über den Wertpapierhandel und zur Änderung börsenrechtlicher und wertpapierrechtlicher Vorschriften" and is part of the second law to promote the German financial markets ("Zweites

shareholder. Becht and Boehmer (1997) show that the current version of §22 is inadequate for providing real transparency on who exerts considerable voting power in German listed companies.

- § 41 is the first-time notification rule that provides the starting stock from which, through tracing changes, future "snapshots" of the ownership structure of the voting stock can be constructed. It states that, unless a notification according to § 21 has already been made before the first general meeting in 1995, shareholders have to report holdings above 5%. The provisions of § 22 also apply to first-time notifications.

1.3 Transparency and the WpHG

Although the provisions of these articles appear rather straightforward, a number of complications arise. Since the provisions of the WpHG leave much room for interpretation, it is not clear for corporations and the BAWe how to comply. Since there are few court rulings to date, the BAWe treats the annotations to the WpHG by Schneider (1995) as binding. Practical issues that arise from the day-to-day implementation of the WpHG are discussed in Nottmeier and Schäfer (1997). The authors are responsible for the implementation of the German transposition of the Transparency Directive at the BAWe.[5] Becht and Boehmer (1997) and Boehmer (1998a) discuss several shortcomings of the implementation and the main findings are summarized below.

1.3.1 Banks' proxy votes are not reported

The German government, in its own annotations to the WpHG, decided that banks have not to report proxy votes (the well known and much discussed *Auftragsstimmrecht* mechanism).[6] This opinion is in agreement with Schneider (1995) and is justified by the fact that §135(5) and §128(2) AktG force banks to consult shareholders, make a voting proposal and, unless the shareholder instructs them otherwise, are afterwards bound by their proposal (Bundestagsdrucksache 12/6679, page 54). Since the banks must stick with their original proposal, it is argued that the votes should not be attributed to the banks because legally it is not under their discretion to decide how the shares are voted. Although there are no precise

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[5] Although their contribution is not legally binding and the authors stress that it reflects their personal views and not those of the BAWe, it is an account of the de facto interpretation and implementation of the WpHG text, legal guidelines issued by the government with the law, and the interaction between the provisions of the WpHG and other legal texts and opinions.

[6] The intentions of the law (*Gesetzesbegründung*) were published in *Bundestagsdrucksache* 12/6679.

figures on how many bank customers actually take advantage of the possibility to instruct their bank, it is alleged that very few customers do. In practice, there is little difference between "free to propose how to vote and not be challenged" and "free to vote."

Baums and Fraune (1995) show that proxy votes give banks majority control over many corporate annual general shareholder meetings (AGMs), including their own for the top five banks. They also document that banks virtually never vote against management proposals. Thus, proxy votes represent substantial control over listed firms. If the spirit of the Transparency Directive were to be applied rigorously, a notification should be required *before* the AGM and the banks would have to report the shares for which they have received no explicit voting instructions. Alternatively, they could be forced to declare on whose behalf they vote the shares.

1.3.2 Votes of investment companies are not attributed to any party

While limited reporting requirements apply to *Kapitalanlagegesellschaften* (investment fund management companies), they neither affect their owners nor the holders of investment certificates.[7] One would expect that the funds invested by investment companies are either controlled by the owners of the investment company or the investors who deposited the funds with the company. In practice the voting stock is attributed to neither group. § 10 Ia explicitly exempts votes owned by KAGs from the requirements of § 22 WpHG. Controlling owners of the investment companies (mostly financial institutions) do not have to notify because it is alleged that the managers of the investment fund act in the best interest of their clients. Holders of certificates do not have to notify because they cannot exert control themselves. Hence, in practice *Kapitalanlagegesellschaften* play the role of making controlling ownership anonymous. Moreover, it seems plausible that the owner can induce the KAG to make a short-term investment in a large stake of a listed firm that is currently in a takeover contest. The stake would not have to be reported if distributed over several KAGs owned by the same bank, but could potentially become pivotal in the contest. Neither would the stakes substantially affect fund performance if held for a sufficiently short period of time. Since such

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[7] German funds are required to keep their equity capital and that provided by fund investors separate. Therefore owners and fund investors are not the same party. In practice most funds are owned by financial institutions. In regard to the reporting of voting control over listed firms, § 10 Ia 3 KAGG specifies the limitation to § 21 WpHG that voting control less than 10% deriving from a fund controlled by the KAG does not have to be reported. This contrasts to the general 5% minimum for other entities.

maneuvers would clearly affect the fate of the target company, they should be disclosed without restrictions for full transparency.

1.3.3 Votes are not always attributed to their de facto owners

When the shareholder of the listed company is not an individual but a company, a voting trust, a family pool, etc., votes controlled by this entity should be attributed to its owners for full transparency. The interpretation of the relevant §21 and §22 allows for too many exceptions and very often the notification requirement does not extend beyond the shareholder company. For example, Nottmeier and Schäfer (1997, page 93) argue that shares held by non-listed firms only have to be attributed to their owner if the owner has majority control over firm. This judgement is based on WpHG §22(3) where "control" is clearly defined and therefore Nottmeier and Schäfer argue that other definitions of "control" found in German or European law are not applicable. This limitation opens the opportunity to hide controlling stakes by dispersing votes over a number of small intermediate holding companies. For example, shares held by unlisted firms with two 50%-owners are never attributed beyond the level of the unlisted firm, because none of the owners is deemed to be "controlling" in these cases. Thus, if two individuals control 100% of a listed corporation via two unlisted holding companies, of which each individual owns 50%, they jointly have full control over the listed firm, but do not have to notify it.

1.3.4 Dormant voting rights are not reported

As recommended by Schneider (1995), the official annotation to the WpHG, only the control of voting rights, as opposed to cash-flow rights, is reported to the BAWe. Therefore, dormant voting rights such as those associated with preference shares (*Vorzugsaktien*) do not have to be reported, even though it is legally mandated that preference share obtain regular voting rights once the preferential dividend is not paid in two consecutive years.

1.3.5 Summary

In sum, the German WpHG does not provide full transparency of control because several control rights are not reported. Additionally, the concentration of voting control will be understated because not all cross-ownership links are publicly known. For example, family pools are only considered an entity if a formal and explicit voting contract exists. Thus, when interpreting the figures below it is important to realize that they only provide a lower bound on both stake size and the concentration of control. Given the substantial concentration

documented below despite these limitations, however, this bias is favorable in that it tends to make the results stronger.

2. Data and sample construction

2.1 Sample

The analysis is based on data from BAWe (1996), the first-ever official cross-sectional "snapshot" of the distribution of voting blocks in Germany on September 30, 1996. It contains the cumulative result of all notifications up to this date according to §§ 21, 22, and 41 WpHG since 1 January 1995. By year-end 1996, 436 firms trade in the official market segments in Germany. All of these firms should have declared any blockholders controlling 5% or more by early 1996. The BAWe (1996) report, however, includes only 402 German companies. Therefore, 34 companies or 7.6% of all officially listed firms had not received any notifications or had failed to report them since the WpHG came into force. To obtain a more complete data set, I investigate the missing firms.

First, Deutsche Telekom went public in October 1996 and was not traded in September. An additional 17 firms were included in later versions of the BAWe report, even though their filings had in several cases been made before September 1996. For an additional 11 firms, I find ownership information in *Hoppenstedt's Konzernstruktur-Datenbank* (KSD).[8] For six firms (Bremer Vulkan, Georg, Arn., Marschollek Lautenschl. und Partner AG, Terrex Handels-AG, Traub AG, and Würzburger Hofbräu AG I was not able to find any reliable information and excluded them from the analysis below. The final sample includes 430 firms and consists of the original 402 from BAWe (1996), 17 from BAWe (1997), and 11 from KSD. For all firms I cross-checked KSD and BAWe data to eliminate errors and to confirm reported figures. I also discarded all stakes below 5% that are included in BAWe (1996) but not attributed to some other controlling party. These filings are not required by law and are most likely erroneous notifications.

The BAWe has taken the data from the WpHG notifications and tabulated them. While it would enhance transparency, the breakdown of the "attribution reason" is not published.

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[8] KSD contains mostly ownership information, but not always voting information as used in this analysis. The eleven firms I found on KSD are the following: Amira Verwaltungs AG, Commerzbank AG, Custodia Holding, Garant Schuh AG, IWKA Industrie-Werke Karlsruhe Augsburg AG, Leica Camera, Mannesmann AG, Merck, MLF Holding AG, Quante AG, Westag & Getalit AG. Out of those, Amira, Custodia, Leica, Merck, Quante, and Westag have substantial blockholdings (greater than 5%) that were not reported to the BAWe by May 1998.

Instead, the BAWe publishes the aggregate of direct and attributed shares representing the total percentage of shares the notifying company controls. In addition, it reports the fraction of total votes that are indirectly controlled and hence attributed to the shareholder. From these figures, I calculate voting blocks in the reporting listed firm following Becht and Boehmer (1997). Since the direct and attributed shares cannot simply be summed up to avoid double counting, I trace all direct stakes to their ultimate reporting owner to manually determine total block ownership. This process requires knowledge of the ownership and control relations between the reporting shareholders and is based on various editions of KSD, *Hoppenstedt's Handbuch der Aktiengesellschaften*, and *Wer gehört zu wem?*, a triennial publication by Commerzbank.

The difficulty of appropriately assigning voting blocks is best illustrated using an example. Suppose that shareholder A owns 10% directly and 5% indirectly, and shareholder B owns 5% directly. Then the following information can be inferred from the BAWe publication:

Shareholder	Direct holdings	Attributed holdings
A	10%	5%
B	5%	

It is not immediately obvious whether 10% or 15% of the investigated firm are held by reporting shareholders. If B is controlled by A, then the only voting block of 15% would be assigned to A and represents the total fraction of votes controlled by large shareholders. If A and B are unrelated, one voting block of 15% would be assigned to A, and another one of 5% to B, and a total of 20% is controlled by large shareholders.[9] Thus, the relation between B and A determines the number of voting blocks that are assigned in the process and the inferred concentration of control. This example also illustrates the substantial information content that is lost in the BAWe publications by not reporting the attribution reason (which, in the first example, could state that the 5% attributed to A are directly held by its subsidiary B).[10]

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[9] Such a situation could arise, for example, if the votes controlled indirectly by A belong to shareholders that individually fall below the reporting threshold of 5%.

[10] Such difficulties also occur in the sample. For example, the sum of voting blocks of Jute-Spinnerei und Weberei Bremen is 100.03% if we use the standard procedure. K. H. Rehkopf controls 50.134% without holding a direct stake and the BAWe report further shows two direct stakes of 49.9% and 50.084%. Thus, if the filings are correct, it must be the case that Rehkopf controls part of both direct stakes. Unfortunately, this information cannot be inferred from the BAWe data. The resulting error is, however, very small and we assign one block of 50.134% and one of 49.866%.

2.2 Descriptive statistics for size measures

Table 1 contains descriptive statistics for the size variables used to weight voting power in the following analysis. Each cell reports the mean, the median, and the number of nonmissing observations. I use four different measures to approximate size and discuss their shortcomings below. These variables are generally measured at year-end 1995. In the few cases that had no information at that time, they are measured in 1996.

Sales refer to total sales during the fiscal year. The biggest drawback is the limited comparability across industrial firm, banks, and insurance companies. Due to their important role in the German economy neither industry should be excluded from the analysis. Following the definitions in § 23 GWB, I use one tenth of total assets for banks and net premium receipts for insurance companies to make sales figures usable for comparisons across these industries. Therefore, comparisons based on sales are easiest to interpret within the three groups, but not across.

Cash flow refers to after-tax profit plus depreciation during the fiscal year. This definition leads to the fewest exclusions because both items are available for almost all firms. Subtracting interest and taxes would lead to substantial reductions in the sample size.

Employees are the number of employees reported in the annual report.

Market values are calculated on the basis of outstanding equity by the end of December 1995. The sample firms have up to three classes of shares outstanding (ordinary shares, preference shares without voting rights, and registered shares with or without transfer restrictions and other special rights). All firms have at least one class listed in the official Frankfurt market, triggering mandatory reporting to the BAWe. To calculate the value of nontraded shares, I make the following assumptions: (1) ordinary shares trade at a premium of 20% relative to preference shares, and (2) registered shares trade at the same price as ordinary shares. The premium of around 20% for voting shares is supported by several studies and own calculations. The second assumption cannot be supported empirically, because registered shares and another class are rarely listed simultaneously for the same firm. The individual market values of traded shares are reported in the columns *MV1 traded* up to *MV3 traded*. *MV traded* refers to the sum across all traded classes of shares, and *MV total* is the sum over all classes under the two assumptions above.

The sample firms without missing observations together have DM 1743 billion in sales, DM 134 billion cash flow, 3.9 million employees, and a total market value of DM 1025 billion.

Table 1 further disaggregates the sample into banks, insurance companies, and industrial firms, and also shows the size measures for stratifications according to their medians. Comparing the sales figures across these groups may partially reveal their different definitions: bank ‚sales' substantially exceed the average, while the corresponding figure for insurance firms is substantially below the mean. Cash flow and employee figures are closer together, except for insurance companies. Since all three variables depend strongly on reporting practices and especially on the degree of consolidation of annual reports, it seems that the available data significantly understate the size of insurance companies. Consequently, all stakes held in these firms will be understated when weighted by one of these three variables. Fortunately, using market values overcomes this bias. The last column shows that the average market value of equity across all sample firms is DM 2.4 billion, that of banks is DM 4.2 billion, and that of insurance companies is DM 6.3 billion. Furthermore, the difference between traded and total market value is small, so that the assumptions used to compute the total are of little practical relevance. Given the discussion above, I will give interpretations of results based on market values the greatest weight in the analysis below, but continue to show other size measures for comparison.

3. The concentration of voting control

The objective for this and the following section is to describe the concentration of voting control over listed firms in Germany. To this end, I use two approaches. First, concentration is measured across firms. This approach ignores the identity of shareholders in that the results do not depend on the number of shareholders. Put alternatively, whether all blocks are held by the same entity or each block has a different owner does not affect the estimated distribution of ownership across firms. Second, concentration is measured across shareholders. This approach is independent of the number of (target) firms, but takes into account the identity of shareholders. Both approaches have their own merits: the former is relevant from an investment perspective, while the second one is better suited to answer governance-related questions. In this paper, the primary focus is on the latter approach.

3.1 Voting control from the firms' perspective

All results in this section are based on aggregation across the 430 sample companies. For all 430 firms, 707 different shareholders control 907 stakes directly, and 514 different entities control 755 voting blocks in these companies. This corresponds to an average of 2.1 notified direct stakes and 1.8 notified voting blocks per company. Table 2 presents the empirical

distribution of the number of stakes and voting blocks per firm. Seven firms have no shareholder controlling more than 5% of voting rights. About 48% of the sample firms (206) have only one major (direct) shareholder and 58% (249) have only one (voting) blockholder. More than 5 direct stakes and more than 4 voting blocks per firm are rare, each accounting for only 4% and 3%, respectively, of the sample firms. Additionally (not shown in the table), the median size of the largest stake is more than three times that of the second largest, and the median size of the largest voting block is more than four times that of the second largest. Thus, most firms are controlled by a dominant shareholder and not by a coalition of several parties.

3.1.1 The magnitude of direct stakes and voting blocks in percentages

Table 3 shows the distribution of the size of direct stakes and voting blocks across firms. It reports summary statistics on the aggregate blockholdings, the smallest, largest, median, and mean stake for each firm, and additionally on the interquartile range, standard deviation, and concentration of stakes per firm. For example, the upper left cell shows that on average 69.88% of each firm's voting rights are held by large shareholders. The average of mean direct stakes is 47.6% and the mean voting block is 53.0%. In half the firms the smallest direct stake exceeds 25.0%, while the largest stake exceeds 54.0%. In 75% of the firms, the largest stake exceeds 26.0%. The smallest voting block exceeds 45.9% in half the firms and the largest voting block is beyond 29.6% in three quarters of all firms.

The last two columns report concentration measures for the largest holding and all holdings per firm. The first measure is computed as the largest holding squared, the latter is the sum of all squared holdings (assuming stakes that are not reported are sufficiently close to zero). Both for direct stakes and voting blocks the difference between the two columns is relatively small. Since smaller shareholders add little concentration, this implies that control over the typical firm is dominated by just one shareholder. In sum, these results confirm the general view that control is highly concentrated in Germany.

Figure 1 and Figure 2 show the frequency of direct stakes and voting blocks, respectively. An interesting observation emerges with respect to both, because stakes and blocks are clustered at 25%, 50%, 75%, and 95% of the votes. These "steps" correspond to the blocking minority (that can be used to block statute changes), a simple majority and a supermajority. Since the supermajority can be set higher than 75% in the company statute, voting blocks of less than 25% could also represent a blocking majority. The fourth peak at 95% corresponds to the

minimum percentage for complete control over a firm, including buying out the remaining 5% of shareholders at below-market consideration. The figures suggest that block sizes are carefully and deliberately chosen and that control, as opposed to financial participation, is an important issue for stakeholders.

3.1.2 Differences in control over industrial firms and financial institutions

The previous section has focused on the distribution of individual stakes within and across firms. In this section, I analyze the distribution across industries and size groups to investigate potential differences in concentration across these groups. Table 4 presents the mean, median, minimum, and maximum of the sum of stakes, the largest stake, and the number of stakes per firm. For example, the upper left cell reports the means of these variables related to direct stakes for the whole sample. It implies that the average percentage of voting shares controlled by large (i. e., reporting) shareholders is 69.88%. Out of this total, the largest stake averages 55.28%, and the average firm has 2.11 large (direct) shareholders. The second column reports the corresponding medians, which are close to the means. The third and fourth columns report the minimum and maximum, respectively. The remaining four columns contain the corresponding statistics on voting blocks. This analysis reveals few differences between the control structure of banks, insurance firms, and the full sample. I do find that large firms have somewhat smaller stakes held by large shareholders, but on average the sum of voting blocks is still above 68% and the largest voting block above 55%.

3.2 Voting control from the shareholders' perspective

All results in this paragraph are based on aggregation across the 707 direct stakeholders and 514 blockholders, respectively, who control voting rights in excess of 5%. Table 5 shows that 88.7% of all direct shareholders and 85.0% of all blockholders control just a single stake. The remaining parties control up to 24 direct stakes and up to 25 voting blocks. This distribution indicates that a few investors may have substantial impact on several firms. To measure the importance of their influence, I use three different approaches. First, I calculate aggregate control based only on percentage holdings. Second, I weight all stakes and voting blocks by the size measures discussed above. I present averages, totals, and the total as a percentage of all listed firms to put these figures into perspective. Third, I measure the relative power of each shareholder by examining the rank of his stake relative to other shareholders in the same firm, and by calculating the average control concentration of the firms he is controlling. For each approach, I consider differences across industrial firms, banks, and insurance companies.

3.2.1 The magnitude of direct stakes and voting blocks in percentages

Table 6 shows the percentage of all shares controlled by large shareholders. The first row indicates that 835 different entities have filed holdings with the BAWe. The 907 reported direct stakes correspond to 69.88% of all shares issued by the 430 sample firms and the 755 reported voting blocks control 70.16% of all shares. The remaining rows present the corresponding figures for different shareholder types. Banks hold 109 direct stakes and 116 voting blocks in the sample firms, corresponding to 7.14% and 7.82% of outstanding equity. The last two columns reveal that the average direct stake held by banks is 28.16% and that the average voting block is 28.98%. The largest fraction of listed firms is controlled by industrial firms (26%), followed by individuals (13%), banks (8%), holdings (7%), insurance companies (5%), and investment firms (4%). Two foreign nations (Iran and Kuwait) hold stakes in German firms.

Table 7 presents the same analysis for 374 industrial firms. The major blockholders are industrial firms (30%), individuals (15%), holdings (8%), and banks (5%). Table 8 shows that the 30 listed banks are primarily controlled by other banks (50%), the government (6%), and insurance firms (5%). Finally, listed insurance companies (Table 9) are controlled by other insurance companies (44%), banks (11% including bank-controlled investment firms), industrial firms (11%), and other investment firms (6%).

3.2.2 The relative power of different shareholder types

To uncover potentially different motives in holding and controlling equity interests, I first sort the percentage stakes in each sample firm by magnitude and compute their rank. Next, I calculate for each shareholder the average rank of his investment and the number of total reported stakes in his target. Analogously, I calculate a Herfindahl index by summing the squared stakes (blocks) for each firm, and compute the average for each shareholder.

Table 13 contains the results for direct stakes and voting blocks. For example, 514 shareholders own voting blocks with an average rank of 1.82 out of 2.7 blocks. The average concentration of the target firms' ownership is 0.36 (median 0.30). Concentration measures based on direct stakes yield an estimate that tends to show less than the true concentration, because several direct shareholders may be controlled by the same parent. Nevertheless, for the different shareholder types direct stakes and voting blocks yield similar results and I will concentrate the following discussion on voting blocks. Several observations emerge from Table 13. First, blocks controlled by industrial firms have a high rank (the average is 1.34) in

listed firms with highly concentrated ownership (the average Herfindahl index is 0.54). Banks and insurance companies typically command blocks of relatively low rank (1.95 and 2.07, respectively) in firms with average concentration (0.35 and 0.38, respectively). In contrast, individuals control low-ranked stakes (2.33) in firms with a low concentration (0.24) and the largest number of blocks (3.5). Comparing these findings with Table 6 reveals one source of these differences. While industrial firms command blocks that average 61%, the average size for the remaining groups is much smaller (banks: 29%, insurance firms: 28%, individuals: 27%). Thus, the high concentration of the targets of industrial firms seems to be caused primarily by the size of their own stakes, implying that they are typically in control of their targets. Individuals typically have sizable blocks as well, but are dominated by another blockholder. Finally, banks and insurance firms typically hold the second place as well, but are nominally less important because of the higher concentration in their targets.

3.2.3 The magnitude of size-weighted direct stakes and voting blocks

So far, my analysis has focussed on the size of percentage blocks without regard to the attached economic value. In this section, I weight blocks by various size measures to assess the concentration in terms of value. I first analyze means and medians of size-weighted stakes before looking at totals, both as a percentage of listed firms and in absolute terms. Table 10 presents means and medians of size-weighted stakes. The first four columns show direct stakes weighted by sales, cash flow, employees, and market value, respectively, and the remaining four columns show the corresponding figures for voting blocks. Each cell contain the mean, median, and number of different shareholders (the denominator in the means calculations). For the whole sample, notifying shareholders on average control a market value of DM 950 million, out of which DM 681 million are due to directly held stakes. In terms of the other size measures, blockholders on average control DM 1437 million in sales, DM 120 million in cash flow, and 3923 employees. The remaining rows present the corresponding figures for different types of shareholders. On average, the German government, foreign governments, banks, and insurance firms control the largest amount of market value. The other size measures show about the same ranking of shareholder types.

Table 11 provides information similar to that in Table 6, except that stakes are now weighted by the size of the target firm. While all blockholders jointly control 71% of listed equity (Table 6), their voting rights govern only 42% of aggregate sales of listed firms, 46% of their cash flow, 46% of their employees, and 47% of their market value. Thus, for the voting blocks of all reporting shareholders, the controlled share of aggregate size is substantially

lower than the controlled share of aggregate voting rights. The subsequent rows of Table 11 reveal that his is mainly due to industrial firms, holding/investment firms, individuals, and foundations. The reverse is true, however, for banks, the governments, and especially insurance companies. The latter control only 4.6% of all listed shares, but 7.9% of all listed market value. These results suggest that banks, governments, and insurance companies command few, but relatively high-valued voting blocks.

To corroborate this observation, I calculate the aggregate market value controlled by the various shareholder types. Each cell of Table 12 contains the aggregate market value controlled via direct stakes (upper value) and that controlled via voting blocks (lower value), as well as the respective numbers of shareholders (blockholders) in parentheses. The last column shows that banks, the government, and insurance companies command $47 + 21 + 30 = 98$ voting blocks, controlling DM 247 billion. In contrast, industrial companies and individuals own $135 + 184 = 319$ voting blocks, but control only DM 142 billion in market value. Therefore, holdings of banks, the government, and insurance firms are more concentrated and more strategically placed in that they command the assets having the largest value. This observation holds for all types of listed companies, although to a lesser extent for listed industrial firms and a higher extent for listed banks and insurance companies.

3.2.4 Implications for the effectiveness of current disclosure legislation

As discussed earlier, Becht and Boehmer (1997) show that current reporting practice does not provide full transparency of control. Among the reasons are substantially limited reporting requirements for banks and investment funds, and the failure of the WpHG to generally require attribution of control to individuals controlling less than the majority of votes in holding/investment firms. I show above that holding companies, investment firms, and foundations control about 13% of listed equity. Their owners remain anonymous, since attribution stops at that level. Even in the hypothetical case that each of these holding firms is owned equally by the same three individuals or firms, each holding less than 50%, this substantial degree of control would not trigger mandatory reporting to the BAWe. The same argument holds additionally for all industrial firms, banks, and insurance companies that control voting blocks and are not listed in the official market: the BAWe filings do not reveal who exerts ultimate control over these large blockholders.

Moreover, the cross-ownership between shareholders reporting to the BAWe is generally not revealed, and neither is ownership of the listed sample firms in the reporting shareholders,

control due to proxy voting by banks and investment firms. Given the highly concentrated ownership structure in Germany, this appears to be an tremendous obstacle to transparency. On the one hand, the data presented above should be viewed as a lower bound to the concentration of control and to the control attributed to the various shareholder types. On the other hand, the already enormous market value controlled by entities whose ultimate controlling owner is not known shows the limitations of the existing transparency legislation.

3.3 The economic importance and identity of the largest shareholders in Germany

The previous sections have concentrated on cross-sectional differences between shareholder types. In the following section I provide descriptive statistics on the overall top ten shareholders and subsequently analyze the top five of each major shareholder category. In each case, shareholders are ranked by the market value all voting blocks they reported to the BAWe. Each table reports the market value of stakes held directly and that of controlled voting blocks. The last column reports the value of controlled blocks as a percentage of the aggregate market value of all 430 sample firms. In addition, each table lists the major voting-block targets (in excess of DM 300 million), sorted by decreasing market value of the block, and the major blockholders of the controlling firm itself.

3.3.1 The top ten shareholders overall

For the ten largest shareholders, Table 14 illustrates the economic power in absolute and percentage terms. Rank 1 is held by a government agency through its control over Deutsche Telekom. Since this stake is transitory and will be sold over time as the privatization proceeds, it is more interesting to examine the next largest shareholders. Ranks 2 and 4 are held by insurance firms (Allianz and Münchner Rück) and ranks 3, 5, and 6 are held by banks (Deutsche Bank, Dresdner Bank, and Bayerische Vereinsbank). An individual is on rank 7, and ranks 8, 9 and 10 are held by industrial firms (RWE, VIAG, Kuwait Petroleum). Jointly these ten blockholders control voting blocks worth DM 227 billion, corresponding to 22% of listed market value.

In fact, the actual market value under control of the top ten is much larger: even though the individual stakes are typically minority blocks, a business group as a whole may have majority control. I illustrate this argument using the top five private shareholders (ranks two through six), who alone control 13% of aggregate market value. Comparing this figure to the 46% controlled by all reporting blockholders jointly indicates their economic importance and

shows how top-heavy the size-weighted distribution of control is. The blockholder column shows that these five firms are interconnected via substantial ownership interests. Table 15 reports the major *ownership* (as opposed to voting) interests among the five. Allianz, Münchner Rück, and Dresdner Bank are majority-controlled by the circle of top five shareholders. Deutsche Bank and Bayerische Vereinsbank are widely held except for stakes of 6.53% and 10.61%, respectively, held by the top five. These two, in turn, control sizeable stakes in the remaining three. The presented figures still substantially underestimate true interconnections since proxy votes are not considered in the table. In addition, several additional cross-holdings exist that involve lower-tier holding companies jointly owned by some of the top five. These holding companies frequently hold stakes in other related firms, which in turn may control voting rights in the top five. These additional control rights are not included in Table 15. Finally, the top shareholders frequently share stakes in the same target firms, which also tends to understate the mutual control exerted by the top five in each other.

Therefore, the value controlled by the top five is much larger than indicated in Table 14. The reason is that due to interconnections between the five they jointly have majority control over several firms as shown for Allianz, Münchner Rück, and Dresdner Bank in Table 15. To calculate the true value controlled, the value of dispersed shares in these firms could be added to the value of the actual blocks, which would almost double the 13% estimated above (this is correct if a majority stake effectively confers full control to the blockholder).

It is difficult to conduct this estimation rigorously for all firms, because the links between shareholders are generally not known. In the example above, the top five have no single majority stake in each other. Therefore, the WpHG does not require that votes controlled by, say, Allianz, are attributed to Deutsche Bank or another group member. For full transparency, the votes should be attributed to the top five jointly and be reported in addition to the individual figures.

3.3.2 The top five banks

The top five banks listed in Table 16 control DM 74 billion or 7.22% of all listed market value in Germany via reported voting blocks. This share does not include control via proxy votes or „dormant" control via shares held for trading purposes. Banks must not vote trading-book shares but can potentially build up a significant holding without reporting ownership. Such a block could command a significant control premium if sold to a third party or could be declared a voting block by reporting it to the BAWe at any point in time. To the extent that

such a holding becomes pivotal in a takeover contest it could also represent substantial voting power without the explicit ability to exercise voting rights.

Holdings of the remaining 39 banks are negligible relative to those of the top five. In Table 11 I report that all reporting banks jointly control 8.2% of aggregate market value. Therefore 88% of the aggregate value controlled by banks is concentrated in the top five institutions, and the remaining 39 share the rest. These five banks are subject to little outside control. First, they share blockholders and other ownership links as reported in Table 15. Second, Baums and Fraune (1995) show that at their respective 1992 AGMs, these five banks controlled a majority of each others voting rights. Therefore, these five companies most likely represent the single most powerful (informal) voting pool in Germany, even without considering the additional influence through the affiliated insurance companies.

3.3.3 The top five industrial firms

The five largest industrial shareholders in Table 17 control DM 41 billion or 4% of the market capitalization. The top two firms control about half of that and are utility companies controlling stakes in several regional utilities in addition to other holdings. The other three firms are foreign corporations holding only one voting block.

3.3.4 The top five family or worker pools

The top five voting pools in Table 18 control DM 12 billion or 1.2% of market capitalization. This group includes reported control rights that derive from formal and explicit arrangements among a limited number of individuals.

3.3.5 The top five government agencies

The top five governmental shareholders in Table 19 control DM 69 billion or 6.7% of the market. The classification is somewhat arbitrary, since it is not clear how control is exerted in practice. For example, the federal government of Germany controls more stakes than reported in the table. It is not clear, however, to what extent nominally independent government agencies depend on decisions made at the federal level (implying that all government entities should be treated as a single shareholder) and to which extent they are able to make independent decisions.

3.3.6 The top five holding companies

By construction, all holding companies are firms within a business group that are used to control voting blocks in listed corporations. Thus, most holdings in Table 20 vote only one block (with the exception of Metro Holding) and jointly control DM 18 billion or 1.8% of market capitalization. Owners of the holdings are often unknown, because only officially listed firms must report their control structure to the BAWe. The ones I could identify from other sources are listed in the blockholder column.

3.3.7 The top five investment firms

Similar to holding companies, investment firms primarily hold blocks in only one target (the distinction between the two is somewhat arbitrary). Table 21 shows that the top five jointly control DM 7 billion or 0.7% of market capitalization.

3.3.8 The top five bank or insurance-controlled investment firms

The subsample of bank or insurance-controlled investment firms is not complete, because ownership and control information is not available for all investment firms. Thus, only few of these firms are included in this group. The remaining ones remain classified as holdings or investment firms, even if controlled by financial institutions. Table 22 presents blocks controlled by the four largest firms (the remaining firms do not control blocks greater than DM 300 million and are not shown). The top four control DM 6.1 billion or 0.59% of market capitalization. This set of firms should be viewed as an example of how financial business groups structure their voting blocks, but not as the exhaustive set.

3.3.9 The top five individuals

Table 23 shows that the top five individuals control DM 26.1 billion or 2.5% of market capitalization. It also illustrates that various members of the same family need not report their joint holdings, even if an informal voting contract existed.

3.3.10 The top five foundations

The foundations listed in Table 24 control DM 6.6 billion or 0.6% of market capitalization. It also illustrates that some foundations serve as group layers above the main group corporation, while others serve as holding companies. Since foundations have no owner, it is generally difficult to identify who controls its decisions and those related to its voting blocks.

3.3.11 The top five insurance firms

The top five insurance companies in Table 25 control DM 76.2 billion or 7.4% of market capitalization. German banks control substantial stakes in the top three, while the remaining two are majority owned by foreign insurance firms.

4. Blockholders and shareholder interests

As pointed out by Shleifer and Vishny (1997), the presence of blockholdings does not generically imply shareholder wealth maximization. Large blockholders have incentives to maximize the value of *their* shares. Whether this involves maximizing firm value depends on the degree to which they can extract transfers from small shareholders. First, the typical German business group includes several firms with outside equity and several without. Thus, it may be rational for large shareholders to transfer resources from subsidiaries with outside equity to other group units. Second, German law effectively allows sizeable transfers to blockholders once a coalition owns at least 75% of the votes. Specifically, a 75% majority may legally make a binding tender offer to minority shareholders below market value.[11] Wenger, Hecker, and Knoesel (1996) analyze such offers to minority shareholders and find that in 39 of 53 cases the offer is below the market value on the day before, and in 32 cases below the market value three months earlier. For the former 39 cases, the market value on average exceeds the compensation to minority shareholders by 74%. Additionally, blockholders may use crossholdings and pyramidal groups to transfer resources from subsidiaries with outside shareholders to units without.[12] Therefore, a priori it is not clear that it is easier for blockholders to increase the value of their stake by acting on behalf of all shareholders, an issue clearly deserving future research efforts.

A similar argument holds for voting blocks controlled by the financial sector. Due to their information advantage, banks are potentially very effective monitors, but will generally have little incentive to act on behalf of other shareholders. First, due to proxy votes and board memberships their control rights substantially exceed their interest in equity cash-flow. Second, for the typical firm, the amount of debt held by banks exceeds the amount of equity

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[11] §§ 304, 320b AktG.

[12] Several such cases are discussed by Wenger and Kaserer (1996).

held in the same firm by a factor greater than ten and much likely substantially larger.[13] Therefore, such a bank would optimally use its votes to maximize the value of debt and not that of equity.[14] Thus, the effectiveness of banks as actively monitoring shareholder representatives is ultimately an empirical question and is discussed in the next section.

5. Conclusions

I have analyzed the most powerful shareholders in Germany to illustrate the concentration of control over listed corporations. Compared to other developed economies, the German stock market is dominated by large shareholders. I show that 77% of the median firm's voting rights are controlled by large blockholders. This corresponds to 47% of the market value of all firms listed in Germany's official markets. If a large voting block effectively controls a higher percentage than its nominal stake, this figure may be substantially larger. For example, a 60% voting block may represent a much higher percentage of voting rights present at the AGM.

About two thirds of the 47% is controlled by banks, industrial firms, holdings, and insurance companies. I show that due to current legislation it is clear for neither group who exerts ultimate control over the shareholding firm itself. For the remaining blockholders, only blocks controlled by voting pools and individuals can be traced back to the highest level of ownership. In the aggregate, both groups control only 5.6% of all reported blocks. The German government controls 8%, and it is not clear who ultimately is responsible for the consequences of decisions.

The top five banks and the top three insurance companies are closely related through direct ownership and voting control. Jointly, these eight firms report control over 14% of all listed firms, or a market value of DM 147 billion considering only reported voting blocks. I show that this figure substantially underestimates the true value under control of these blockholders.

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[13] No publicly available figures provide information on the precise composition of banks' interest in equity and debt to German listed corporations. Economy-wide, Edwards and Fischer (1994) estimate that bank-supplied equity to non-banks is about 3% of bank-supplied loans to the same firms. Alternatively, a back-of-the-envelope calculation proceeds as follows. In 1996, the DAI reports that the equity-to-capital ratio of listed corporations is 39% (DAI Fact Book 1996). Own calculations reveal that banks own about 8% of these firms' equity. Since German firms very rarely use public bonds, it is save to assume that most long-term debt consists of bank loans. Thus, the portfolio of a typical bank can be described as a function of the ratio of bank loans to total corporate liabilities. For example, if all corporate debt were from banks, the banks finance 8%*39%=3.12% of listed firms' total assets in the form of equity shares, and 61% in the form of loans. Using the cautious assumption that corporate liabilities consist to only one third of bank loans, banks still finance about 20% of the corporations' total assets using loans. Therefore, for the typical bank the value of its loan portfolio to a typical listed corporation exceeds the equity interest in the same firm by a factor between 7 and 20.

[14] For the U. S., Payne, Millar, and Glezen (1996) document evidence consistent with the view that banks use their voting rights in the interest of management (as opposed to that of shareholders) when banks have debt or fee-related income associated with the firm.

The reason is that large ownership links exist between the large shareholders that do not trigger legal reporting requirements. Therefore, joint majority control by business groups cannot be inferred from published data.

This exploratory study raises intriguing questions for future research and has important economic and policy implications:

- Current German transparency legislation (WpHG) is not adequate to achieve the objective of transparency as stated by the European Commission and those stated by the German Parliament. To this end, this study illustrates the importance of additional reporting requirements for proxy voting by banks, voting control by investment funds, by firms not listed in an official market, and by business groups whose members jointly control a majority in each other. So far, neither needs to be disclosed.

- The potentially adverse effects of insufficient transparency are amplified by the ability of large blockholders to extract value from smaller shareholders. An investor in a typical German corporations faces a majority of voting rights controlled by large shareholders. To the extent that expropriation is possible, he will discount the value of shares to reflect his weak bargaining position. Full disclosure of control would likely reduce uncertainty with respect to expropriation. This, in turn, would have the desirable effect of reducing the cost of capital for German corporations and therefore their market value. To determine the cross-sectional value of transparency is an important question for future empirical research.

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Table 1: Descriptive statistics on the size measures of firms listed in the official market of the Frankfurt stock exchange

The sample consists of all 430 firms reporting voting control to the BAWe by September 1996. Each cell presents the mean, the median, and the number of observations. Financial-statement data are based on the broadest available annual report in the sequence world report, mother report, group report, and individual-company report. *Sales* are 1/10 of total assets for banks, total premium receipts for insurance firms, and actual sales for other firms. *Cash flow* is defined as after-tax profit plus depreciation. *Market value 1 (MV1)* generally refers to ordinary shares, *MV2* to preferred shares, and *MV3* to registered shares. *MV traded* is the market value of equity registered for trading publicly, *MV total* additionally includes non-listed shares, assuming they trade at the same price as listed shares. Holdings (investment firms) are defined as firms whose main purpose is to fully own and operate (hold stakes in) independent companies.

Sample	Sales Mn. DM	Cash flow Mn. DM	Employees	MV1 traded Mn. DM	MV2 traded Mn. DM	MV3 traded Mn. DM	MV traded Mn. DM	MV total Mn. DM
All firms (430)	4101	316	10348	2133	1540	931	2348	2395
	501	38	1696	278	186	931	303	309
	425	425	377	414	78	2	428	428
Banks (30)	11561	234	7881	4203			4203	4203
	2921	55	870	1667			1667	1667
	29	29	29	30	0	0	30	30
Insurance (26)	838	158	1892	3765	6820	931	6053	6255
	129	45	1808	885	358	931	1021	1103
	26	26	11	25	9	2	26	26
Industrial firms (374)	3745	334	10836	1847	852		1940	1980
	440	34	1731	223	169		242	253
	370	370	337	359	69	0	372	372
Sales above median (501.608 Mn. DM)	8032	602	18148	4057	2282		4415	4484
	2075	119	4575	763	320		789	856
	213	213	202	202	51	0	212	212
Cash flow above median (37.683 Mn. DM)	7657	625	18288	4069	2381	931	4474	4557
	1678	127	4440	918	374	931	973	1060
	212	213	196	204	49	2	212	212
Number of employees above median (1696)	7742	608	20063	3771	1128		3857	3934
	1643	102	5186	597	244		610	710
	188	189	189	179	48	0	189	189
Total market value above median (302.75 Mn. DM)	7726	605	19005	4144	2512	931	4589	4671
	1722	111	4423	1037	429	931	1131	1211
	213	214	191	208	47	2	214	214

Table 2: Number of direct stakes and voting blocks per firm

Number of holdings	Direct stakes			Voting blocks		
	Frequency	Percent	Cumulative percentage	Frequency	Percent	Cumulative percentage
0	7	1.6	1.6	7	1.6	1.6
1	206	47.9	49.5	249	57.9	59.5
2	97	22.6	72.1	88	20.5	80.0
3	47	10.9	83.0	38	8.8	88.8
4	40	9.3	92.3	35	8.1	97.0
5	16	3.7	96.0	5	1.2	98.1
6	8	1.9	97.9	6	1.4	99.5
7	4	0.9	98.8	1	0.2	99.8
8	2	0.5	99.3	1	0.2	100.0
9	0	0.0	99.3			
10	1	0.2	99.5			
11	1	0.2	99.8			
12	0	0.0	99.8			
13	1	0.2	100.0			
Sum	430	100.0		430	100.0	

Table 3. Empirical distribution of direct stakes and voting blocks for 430 officially listed corporations

For each of the 430 listed companies I compute the mean, minimum, maximum, median, interquartile range, standard deviation, and concentration measures of stakes in that company. The table reports percentiles for these summary statistics. All columns except that for standard deviation are based on 430 observations. The standard-deviation statistics are calculated from 217 and 174 observations for direct stakes and blocks, respectively. The Herfindahl index for the largest stake is simply the largest stake squared, while the Herfindahl index for all holdings is based on the sum of all squared holdings (assuming that non-reporting shareholders hold negligible stakes).

A. Direct stakes	Sum of direct stakes	Mean direct stake	Minimum direct stake	Maximum direct stake	Median direct stake	Interquartile range	Standard deviation of direct stakes	Herfindahl index of largest holding	Herfindahl index of all holdings
Mean	69.88	47.58	41.18	55.28	46.78	12.31	16.66	0.39	0.42
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5%	11.13	7.50	1.21	10.00	6.17	0.00	0.55	0.01	0.01
10%	26.73	10.31	4.90	13.83	9.64	0.00	1.66	0.02	0.04
25%	54.82	18.54	8.72	26.00	15.83	0.00	5.65	0.07	0.14
50%	76.02	39.83	25.00	53.97	39.83	0.00	11.74	0.29	0.35
75%	91.75	77.31	77.31	81.43	77.31	17.10	24.69	0.66	0.66
90%	98.15	96.90	96.90	96.90	96.90	45.03	36.71	0.94	0.94
95%	99.02	98.83	98.83	98.83	98.83	55.57	47.50	0.98	0.98
99%	100.00	100.00	100.00	100.00	100.00	73.91	53.78	1.00	1.00
Maximum	100.00	100.00	100.00	100.00	100.00	81.20	57.42	1.00	1.00

B. Voting blocks	Sum of voting blocks	Mean voting block	Minimum voting block	Maximum voting block	Median voting block	Interquartile range	Standard deviation of voting blocks	Herfindahl index of largest holding	Herfindahl index of all holdings
Mean	70.16	53.01	48.02	58.89	52.41	9.86	16.60	0.44	0.46
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5%	11.93	9.47	5.40	10.60	8.19	0.00	0.50	0.01	0.01
10%	28.20	12.17	6.43	15.09	10.45	0.00	1.45	0.02	0.05
25%	54.03	22.52	10.05	29.60	20.00	0.00	4.29	0.09	0.16
50%	76.53	49.10	45.92	62.36	49.10	0.00	10.88	0.39	0.42
75%	92.10	85.10	85.10	86.06	85.10	11.79	26.20	0.74	0.74
90%	98.18	97.24	97.24	97.24	97.24	44.06	38.85	0.95	0.95
95%	99.02	98.84	98.84	98.84	98.84	51.92	47.43	0.98	0.98
99%	100.00	100.00	100.00	100.00	100.00	71.23	53.78	1.00	1.00
Maximum	100.00	100.00	100.00	100.00	100.00	80.15	56.67	1.00	1.00

Table 4: The sum of stakes, the largest stake, and the number of stakes controlled in individual firms

The sample consists of all 430 firms reporting voting control to the BAWe by September 1996. Each cell presents statistics on the sum of stakes per firm, the largest stake per firm, and the number of stakes per firm. Financial-statement data are based on the broadest available annual report in the sequence world report, mother report, group report, and individual-company report. *Sales* are 1/10 of total assets for banks, total premium receipts for insurance firms, and actual sales for other firms. *Cash flow* is defined as profit after taxes plus depreciation. *Market value* refers to the market value of all equity. Holdings (investment firms) are defined as firms whose main purpose is to fully own and operate (hold stakes in) independent companies.

Sample (number of firms)	Mean (direct stake)	Median (direct stake)	Minimum (direct stake)	Maximum (direct stake)	Mean (voting block)	Median (voting block)	Minimum (voting block)	Maximum (voting block)
All firms (430)	69.88	76.02	0.00	100.00	70.16	76.53	0.00	100.00
	55.28	53.97	0.00	100.00	58.89	62.36	0.00	100.00
	2.11	2.00	0.00	13.00	1.76	1.00	0.00	8.00
Banks (30)	68.71	83.61	0.00	97.50	69.01	83.61	0.00	97.50
	55.56	59.70	0.00	97.50	57.98	67.05	0.00	97.50
	2.03	2.00	0.00	5.00	1.83	2.00	0.00	4.00
Insurance (26)	76.73	75.65	5.00	99.32	76.98	76.40	5.00	99.32
	57.47	52.10	5.00	99.32	65.35	75.11	5.00	99.32
	2.50	2.00	1.00	7.00	2.00	1.00	1.00	5.00
Industrial firms (374)	69.50	75.92	0.00	100.00	69.78	76.21	0.00	100.00
	55.10	80.53	0.00	100.00	58.52	61.40	0.00	100.00
	2.09	1.00	0.00	13.00	1.73	1.00	0.00	8.00
Total market value above median (309.0 Mn. DM) (214)	67.18	75.00	0.00	100.00	67.63	75.01	0.00	100.00
	49.85	50.00	0.00	100.00	54.83	53.99	0.00	100.00
	2.35	2.00	0.00	13.00	1.89	1.00	0.00	8.00

Table 5. Number of stakes and voting blocks per shareholder

Number of holdings	Holders of direct stakes			Holders of voting blocks		
	Frequency	Percent	Cumulative percentage	Frequency	Percent	Cumulative percentage
1	627	88.7	88.7	437	85.0	85.0
2	46	6.5	95.2	41	8.0	93.0
3	14	2.1	97.2	11	2.1	95.1
4	10	1.4	98.6	6	1.2	96.3
5	1	0.1	98.7	8	1.6	97.9
6	2	0.3	99.0	3	0.6	98.4
7	1	0.1	99.2			
8	1	0.1	99.3	1	0.2	98.6
9	1	0.1	99.4	1	0.2	98.8
10				1	0.2	99.0
11	1	0.1	99.6			
12	1	0.1	99.7			
14				3	0.6	99.6
18	1	0.1	99.9			
24	1	0.1	100.00			
25				1	0.2	99.8
27				1	0.2	100.0
Sum	707	100.0		514	100.0	

Table 6: Percentage share held by different shareholder types in all 430 listed firms

Type of stakeholder (number of different entities)	Number of direct stakes	Number of voting blocks	% of all officially listed equity held as direct stakes	% all officially listed equity controlled via voting blocks	Average size of direct stake (%) held by the specific type	Average size of voting block (%) held by the specific type
All shareholders (835)	907	755	69.88	70.16	n/a	n/a
Foreign (2)	3	3	0.13	0.13	18.90	18.90
Banks (43)	109	116	7.14	7.82	28.16	28.98
Industrial firm (248)	234	186	28.71	26.48	52.76	61.23
Family or worker pools (27)	24	21	1.69	2.21	30.33	45.18
Government (22)	19	23	1.41	2.35	31.96	43.90
Holdings (88)	81	59	7.74	7.00	41.11	51.04
Investment firms (85)	75	41	6.65	3.79	38.10	39.75
Church (1)	1	0	0.02	0.00	7.98	0.00
Bank-controlled investment firms[i] (9)	13	11	0.70	0.78	23.08	30.64
Individuals (252)	254	207	10.26	13.07	17.37	27.16
Foundations (13)	16	17	1.23	1.95	33.12	49.24
Insurance (45)	78	71	4.20	4.58	23.14	27.72

[i] Includes investment firms that are primarily controlled by banks and insurance companies. This subsample is only a subset of bank-controlled investment firms, because ownership and control data are only available for some of the mostly unlisted holdings and investment firms.

Table 7: Percentage share held by different shareholder types in 374 industrial firms

Type of stakeholder (number of different entities)	Number of direct stakes	Number of voting blocks	% of all firms held as direct stakes	% all firms controlled via voting blocks	Average size of direct stake (%) held by the specific type	Average size of voting block (%) held by the specific type
All shareholders	781	648	69.50	69.78	n/a	n/a
Foreign	3	3	0.15	0.15	18.90	18.90
Banks	69	77	3.98	4.90	21.55	23.79
Industrial firm	227	180	32.33	29.63	53.27	61.56
Family or worker pools	24	21	1.95	2.54	30.33	45.18
Government	15	18	1.31	2.18	32.62	45.26
Holdings	64	53	7.45	7.50	43.54	52.94
Investment firms	68	36	7.24	3.85	39.83	40.03
Church	1	0	0.02		7.98	
Bank-controlled investment firms[i]	5	5	0.26	0.24	19.68	18.06
Individuals	252	205	11.74	14.76	17.42	26.93
Foundations	15	16	1.39	2.21	34.58	51.62
Insurance	38	34	1.68	1.82	16.57	20.06

[i] Includes investment firms that are primarily controlled by banks and insurance companies. This subsample is only a subset of bank-controlled investment firms, because ownership and control data are only available for some of the mostly unlisted holdings and investment firms.

Table 8: Percentage share held by different shareholder types in 30 banks

Type of stakeholder (number of different entities)	Number of direct stakes	Number of voting blocks	% of all firms held as direct stakes	% all firms controlled via voting blocks	Average size of direct stake (%) held by the specific type	Average size of voting block (%) held by the specific type
All shareholders	61	55	68.71	69.01	n/a	n/a
Foreign						
Banks	28	27	49.13	46.90	52.64	52.11
Industrial firm	2	2	1.08	1.08	16.23	16.23
Family or worker pools						
Government	3	4	3.10	5.67	30.97	42.50
Holdings	8	3	6.80	3.08	25.51	30.75
Investment firms	2	2	1.18	1.18	17.65	17.65
Church						
Bank-controlled investment firms[i]	5	3	3.45	3.02	20.73	30.19
Individuals	1	1	0.40	3.02	11.95	90.69
Foundations	1	1	0.37	0.37	11.23	11.23
Insurance	11	12	3.19	4.69	8.70	11.73

[i] Includes investment firms that are primarily controlled by banks and insurance companies. This subsample is only a subset of bank-controlled investment firms, because ownership and control data are only available for some of the mostly unlisted holdings and investment firms.

Table 9: Percentage share held by different shareholder types in 26 insurance companies

Type of stakeholder (number of different entities)	Number of direct stakes	Number of voting blocks	% of all firms held as direct stakes	% all firms controlled via voting blocks	Average size of direct stake (%)held by the specific type	Average size of voting block (%) held by the specific type
All shareholders	65	52	76.73	76.98	n/a	n/a
Foreign						
Banks	12	12	4.18	4.71	9.05	10.23
Industrial firm	5	4	8.53	10.62	44.37	69.00
Family or worker pools						
Government	1	1	0.96	0.96	25.00	25.00
Holdings	9	3	13.03	4.35	37.63	37.69
Investment firms	5	3	4.37	5.90	22.70	51.10
Church						
Bank-controlled investment firms[i]	3	3	3.77	6.01	32.65	52.05
Individuals	1	1	0.39	0.39	10.00	10.00
Foundations						
Insurance	29	25	41.51	44.06	37.22	45.82

[i] Includes investment firms that are primarily controlled by banks and insurance companies. This subsample is only a subset of bank-controlled investment firms, because ownership and control data are only available for some of the mostly unlisted holdings and investment firms.

Table 10: The magnitude of size-weighted stakes held by different shareholder types

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell contains the mean, the median, and the number of observations (number of different shareholders) for each variable. *Directly controlled* refers to the sum of all direct stakes, *controlled* refers to the sum of all voting blocks held by the individual stakeholders. Financial-statement data are based on the broadest available annual report in the sequence world report, mother report, group report, and individual-company report. *Sales* are 1/10 of total assets for banks, total premium receipts for insurance firms, and actual sales for other firms. *Cash flow* is defined as profit after taxes plus depreciation. *Market value* refers to the market value of all equity. Holdings (investment firms) are defined as firms whose main purpose is to fully own and operate (hold stakes in) independent companies.

Sample (number of reporting shareholders, number of direct stakes, number of blocks)	Sales directly controlled in Mn. DM	Cash flow directly controlled in Mn. DM	Employees directly controlled	Total MV directly controlled in Mn. DM	Sales controlled in Mn. DM	Cash flow controlled in Mn. DM	Employees controlled	Total MV controlled in Mn. DM
All shareholders (835, 907, 755)	1031	86	2777	681	1437	120	3923	950
	125	9	410	88	146	11	547	93
	700	701	640	703	510	509	460	510
Foreign (2, 3, 3)	11263	369	31105	3895	11263	369	31105	3895
	11263	369	31105	3895	11263	369	31105	3895
	2	2	2	2	2	2	2	2
Banks (44, 109, 116)	3290	139	6482	2280	4306	192	8581	2795
	225	10	246	121	333	27	908	330
	35	35	33	35	30	30	28	30
Industrial firm (248, 233, 185)	786	53	2781	465	1217	84	4248	731
	184	12	694	114	239	17	877	135
	185	184	171	186	133	132	122	133
Family or worker pools (28, 25, 22)	788	67	2192	443	1262	99	4387	644
	63	8	428	70	87	14	1158	110
	24	24	22	24	21	21	19	21
Government (22, 19, 23)	6247	1238	17026	4637	6495	1209	17645	4339
	1355	161	2315	608	2316	185	2816	639
	16	16	15	16	19	19	18	19
Holdings (88, 81, 59)	1688	110	3982	877	1846	105	4030	917
	343	30	934	277	423	43	1208	329
	76	76	64	76	48	48	41	48
Investment firms (85, 75, 41)	955	88	2910	510	545	46	1721	431
	242	18	948	184	232	15	833	133
	67	69	57	69	38	38	30	38
Church (1, 1, 0)	0	3	597	12	0	0	0	0
	0	3	597	12	0	0	0	0
	1	1	1	1	0	0	0	0

Sample (number of reporting shareholders, number of direct stakes, number of blocks)	Sales directly controlled in Mn. DM	Cash flow directly controlled in Mn. DM	Employees directly controlled	Total MV directly controlled in Mn. DM	Sales controlled in Mn. DM	Cash flow controlled in Mn. DM	Employees controlled	Total MV controlled in Mn. DM
Bank-controlled investment firms[i] (9, 13, 11)	2677	104	4596	986	2235	113	3969	1021
	1767	56	2531	684	864	18	629	685
	9	9	9	9	6	6	6	6
Individuals (252, 254, 207)	216	17	617	155	316	26	948	247
	38	3	144	19	46	4	247	33
	234	234	222	234	179	179	166	179
Foundations (13, 16, 17)	2057	131	6057	1016	2479	151	7573	761
	413	53	767	376	652	63	1630	376
	13	13	13	13	11	11	11	11
Insurance (45, 78, 71)	681	65	1390	1574	2736	201	5972	3499
	122	46	240	73	117	11	235	164
	38	38	31	38	23	23	17	23

[i] Includes investment firms that are primarily controlled by banks and insurance companies. This subsample is only a subset of bank-controlled investment firms, because ownership and control data are only available for some of the mostly unlisted holdings and investment firms.

Table 11: Size-weighted stakes held by different shareholder types as a percentage of all listed corporations

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. *Directly controlled* refers to the sum of all direct stakes, *controlled* refers to the sum of all voting blocks held by the individual stakeholders. Financial-statement data are based on the broadest available annual report in the sequence world report, mother report, group report, and individual-company report. *Sales* are 1/10 of total assets for banks, total premium receipts for insurance firms, and actual sales for other firms. *Cash flow* is defined as profit after taxes plus depreciation. *Market value* refers to the market value of all equity. Holdings (investment firms) are defined as firms whose main purpose is to fully own and operate (hold stakes in) independent companies.

Type of shareholder	Sales of officially listed firms directly controlled in %	Cash flow of officially listed firms directly controlled in %	Employees of officially listed firms directly controlled in %	Total MV of officially listed firms directly controlled in %	Sales of officially listed firms controlled via voting blocks in %	Cash flow of officially listed firms controlled via voting blocks in %	Employees of officially listed firms controlled via voting blocks in %	Total MV of officially listed firms controlled via voting blocks in %
All shareholders	41.4	44.9	45.6	46.7	42.1	45.5	46.3	47.3
Foreign	1.3	0.5	1.6	0.8	1.3	0.5	1.6	0.8
Banks	6.6	3.6	5.5	7.8	7.4	4.3	6.2	8.2
Industrial firm	8.3	7.3	12.2	8.4	9.3	8.3	13.3	9.5
Family or worker pools	1.1	1.2	1.2	1.0	1.5	1.5	2.1	1.3
Government	5.7	14.7	6.5	7.2	7.1	17.1	8.1	8.0
Holdings	7.4	6.2	6.5	6.5	5.1	3.8	4.2	4.3
Investment firms	3.7	4.5	4.3	3.4	1.2	1.3	1.3	1.6
Church	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bank-controlled investment firm[i]	1.4	0.7	1.1	0.9	0.8	0.5	0.6	0.6
Individuals	2.9	3.0	3.5	3.5	3.2	3.5	4.0	4.3
Foundations	1.5	1.3	2.0	1.3	1.6	1.2	2.1	0.8
Insurance	1.5	1.8	1.1	5.8	3.6	3.4	2.6	7.9

[i] Includes investment firms that are primarily controlled by banks and insurance companies. This subsample is only a subset of bank-controlled investment firms, because ownership and control data are only available for some of the mostly unlisted holdings and investment firms.

Table 12: Total market value controlled by different shareholders in listed corporations

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell contains the sum of total market value in million DM controlled by holding direct stakes, and below the sum of market value controlled via voting blocks. The numbers in parentheses represent the number of shareholders for the particular cell. *Market value* refers to the market value of all equity. *Holdings* (*investment firms*) are defined as firms whose main purpose is to fully own and operate (hold stakes in) independent companies.

Type of shareholder	Type of controlled company			
	Bank	Insurance company	Industrial company	Total
All shareholders	38303 (49)	105439 (43)	335118 (640)	478860 (732)
	39972 (37)	105539 (30)	338966 (477)	484477 (544)
Foreign	0	0	7790 (2)	7790 (2)
	0	0	7790 (2)	7790 (2)
Banks	16255 (18)	40436 (6)	23093 (27)	79785 (51)
	15720 (16)	41339 (6)	26789 (25)	83848 (47)
Industrial firm	1086 (2)	1092 (5)	84408 (181)	86453 (188)
	1086 (2)	2817 (4)	93510 (129)	97280 (135)
Family or worker pools	0	0	10509 (24)	10643 (24)
	0	0	13381 (21)	13515 (21)
Government	3705 (3)	457 (1)	70035 (14)	74197 (18)
	4962 (3)	457 (1)	77025 (17)	82445 (21)
Holdings	8164 (8)	11671 (9)	46818 (59)	66654 (76)
	4604 (3)	8491 (3)	30918 (42)	44013 (48)
Investment firms	993 (2)	3263 (5)	30943 (62)	35198 (69)
	493 (2)	1399 (3)	14495 (33)	16386 (38)
Church	0	0	12 (1)	12 (1)
	0	0	0	0
Bank-controlled investment firms[i]	4336 (5)	449 (1)	4088 (4)	8872 (10)
	1841 (3)	687 (1)	3601 (4)	6129 (8)
Individuals	32 (1)	213 (1)	35978 (232)	36223 (237)[ii]
	245 (1)	213 (1)	43762 (179)	44220 (184)
Foundations	272 (1)	0	12938 (12)	13210 (13)
	272 (1)	0	8099 (10)	8370 (11)
Insurance	3461 (9)	47858 (15)	8506 (21)	59824 (45)
	10750 (6)	50137 (11)	19596 (13)	80482 (30)

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[i] Includes investment firms that are primarily controlled by banks and insurance companies. This subsample is only a subset of bank-controlled investment firms, because ownership and control data are only available for some of the mostly unlisted holdings and investment firms.

ii Three stakes and blocks are held in firms where no market value is available.

Table 13: Relative power of different shareholders in listed corporations

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell contains the mean and the median in parentheses. To compute mean and median ranks for each shareholder, all stakes (blocks) for each company are ranked by size and the mean rank is recorded for each shareholder. The number of stakes and the concentration measures are computed analogously. The Herfindahl index represents the sum of all squared stakes (blocks) of each company. The table reports the grand mean and median over all shareholders.

Sample	Number of direct shareholders	Mean rank of direct stake	Mean number of direct stakes per target firm	Mean Herfindahl index of direct stakes	Number of holders of voting blocks	Mean rank of voting block	Mean number of voting blocks per target firm	Mean Herfindahl index of voting blocks
All shareholders	707	2.26	3.5	0.31 (0.24)	514	1.82	2.7	0.36 (0.30)
Foreign	2	1.75	3.0	0.20 (0.20)	2	1.75	3.0	0.20 (0.20)
Banks	35	2.20	2.9	0.33 (0.30)	30	1.95	2.6	0.35 (0.30)
Industrial firm	187	1.54	2.2	0.47 (0.42)	134	1.34	1.8	0.54 (0.56)
Family or worker pools	24	2.10	3.4	0.25 (0.19)	21	1.52	2.0	0.36 (0.38)
Government	16	1.84	3.1	0.29 (0.31)	19	1.53	2.3	0.36 (0.31)
Holdings	76	1.64	2.5	0.33 (0.23)	48	1.54	2.2	0.39 (0.31)
Investment firms	69	1.70	3.0	0.32 (0.20)	38	1.47	2.4	0.32 (0.25)
Church	1	4.00	7.0	0.27 (0.27)	0			
Bank-controlled investment firms[i]	9	1.86	2.9	0.17 (0.16)	6	2.00	2.7	0.20 (0.18)
Individuals	237	3.26	5.1	0.18 (0.13)	182	2.33	3.5	0.24 (0.17)
Foundations	13	2.05	4.7	0.26 (0.33)	11	1.82	3.3	0.32 (0.33)
Insurance	38	2.28	3.0	0.31 (0.26)	23	2.07	2.6	0.38 (0.30)

[i] Includes investment firms that are primarily controlled by banks and insurance companies. This subsample is only a subset of bank-controlled investment firms, because ownership and control data are only available for some of the mostly unlisted holdings and investment firms.

Table 14: Stakes and voting blocks held by the ten shareholders controlling the greatest market value

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell reports the sum and the mean of each variable. *Directly controlled* refers to direct stakes, *controlled* refers voting blocks held by the individual stakeholders. *Market value* refers to the market value of all equity. Data on blockholders come from BAWe (1996) and is supplemented by data from KSD.

Shareholders (number of direct stakes, voting blocks included in calculations)	Main targets controlled (voting blocks in listed firms exceeding DM 300 million market value, sorted by decreasing market value)	Blockholders	Market value of direct stakes in Mn. DM	Market value of controlled voting blocks in Mn. DM	Voting blocks as % of the market value of all 430 listed corporations
Bundesanstalt für Post und Telekommunikation (1, 1)	Deutsche Telekom	None, government	40541 40541	49431 49431	4.82
Allianz (18, 25)	Münchner Rück, VEBA, Dresdner Bank, BASF, Bayr. Hypo, RWE, BDF Beiersdorf, Bayer, Deutsche Bank, Linde, Schering, BHF-Bank, Lahmeyer, Rheinelektra, AMB	Münchner Rück 26%, Bayer. Vereinsbank 10%, Deutsche Bank 10%, Dresdner Bank 10%, Bayer. Hypobank 5%	22720 1262	45820 1833	4.47
Deutsche Bank (24, 27)	Daimler Benz, Allianz, Münchner Rück, Frankfurter Hypo, Südzucker, Linde, Bayerische Vereinsbank, Metallgesellschaft, Heidelberger Zement, Karstadt, Ph. Holzmann, AMB	Allianz 5%	31288 1304	31688 1174	3.09
Münchner Rück (12, 14)	Allianz, Bayerische Hypo, Victoria, AMB, Hermes Kreditversicherung	Allianz 25%, Bayer. Vereinsbank 10%, Deutsche Bank 10%, Dresdner Bank 10%, DIA VV 6%	21608 1801	22085 1578	2.15
Dresdner Bank (11, 14)	Allianz, Münchner Rück, Deutsche Hypo, OLB, Heidelberger Zement, AMB, Hamburghyp, Bilfinger & Berger, Metallgesellschaft	Allianz 22%, Nona VV 10%, Vermo VV 11%	18027 1639	19595 1400	1.91
Bayerische Vereinsbank (9, 9)	Allianz, Münchner Rück, Vereins- und Westbank, BHB, Nürnberger Hypo, Süddeutsche Bodencreditbank	Viag 7%, Bayernwerk 7%, Deutsche Bank 5%	14839 1649	14839 1649	1.45
Dietmar Hopp (1, 1)	SAP	none	647 647	13387 13387	1.31
RWE (4, 10)	RWE-DEA, Rheinelektra, Lahmeyer, LEW, Ph. Holzmann, MKW, Rhenag	RW Holding 12%, City of Essen 8%, Allianz 8%	8817 2204	11598 1160	1.13
VIAG (2, 14)	Contigas, OBAG, SKW Trostberg, Bayerische Vereinsbank, EVO, VEW, BEWAG, Schmalbach-Lubeca, Grosskraftwerk Franken, Gerresheimer Glas, ÜWU	State of Bavaria 25%, VI Industriebet. 11%, HI VV 10% (VI and HI are majority controlled by Viag itself)	1527 764	10207 729	1.00
Kuwait Petro (0, 1)	Hoechst	unknown	0 0	8204 8204	0.08
Sum (82, 116)			160014	226853	22.13

Table 15: Minimum ownership relations between the top five private shareholders
The table contains ultimate cross-ownership among the top five shareholders in officially listed German corporations. The voting blocks come from BAWe filings and are supplemented by information from *Hoppenstedt's Konzernstruktur Datenbank*. True control exceeds the figures reported in the table, because only direct stakes held by firms that are majority-controlled by the top five are considered. Several additional links exist among the five through firms in which they hold only minority stakes.[i]

Target	Shareholder						
	Allianz	Deutsche Bank	Münchner Rück	Dresdner Bank	Bayerische Vereinsbank	Other firms controlled by the top five	Stakes controlled by the other four
Allianz		10.00%	25.00%	10.00%	10%	5.00%[ii]	60.00%
Deutsche Bank	5.03%		1.50%				6.53%
Münchner Rück	25.00%	9.90%		9.90%	9.90%	5.00%[iii]	59.70%
Dresdner Bank	10.18%	10.00%[iv]	2.30%			31.36%[v]	53.84%
Bayerische Vereinsbank		5.21%	5.40%				10.61%

[i] For example, VIAG owns a 7.2% stake in Bayerische Vereinsbank. Major stakes in VIAG include 5.9%. Another example is VERMO Vermögensverwaltung, in which RWE and Bayer own minority stakes, and Allianz and Münchner Rück in turn own minority stakes in Bayer and RWE, respectively. These minority links are not included in the figures presented in the table.

[ii] Held by Bayerische Hypotheken- und Wechselbank, in which 40% are held by Bayerische Vereinsbank, 5.8% by Münchner Rück, 10.22% by Allianz, and 10.93% by Quinta

[iii] Held by Bayerische Hypotheken- und Wechselbank, in which 40% are held by Bayerische Vereinsbank, 5.8% by Münchner Rück, 10.22% by Allianz, and 10.93% by Quinta

[iv] Held via Deutscher Herold, an insurance subsidiary of Deutsche Bank.

[v] 10.6% held by FGF and 10.58% by Vermo Vermögensverwaltung, two holdings controlled jointly by the top five. The remaining 10.18% are held by Nona Vermögensverwaltung, which is controlled by Allianz and Münchner Rück.

Table 16: Stakes and voting blocks held by the five banks controlling the greatest market value

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell reports the sum and the mean of each variable. *Directly controlled* refers to direct stakes, *controlled* refers voting blocks held by the individual stakeholders. *Market value* refers to the market value of all equity. Data on blockholders come from BAWe (1996) and is supplemented by data from KSD.

Shareholders (number of direct stakes, voting blocks included in calculations)	Main targets controlled (voting blocks in listed firms exceeding DM 300 million market value, sorted by decreasing market value)	Blockholders	Market value of direct stakes in Mn. DM	Market value of controlled voting blocks in Mn. DM	Voting blocks as % of the market value of all 430 listed corporations
Deutsche Bank (24, 27)	Daimler Benz, Allianz, Münchner Rück, Frankfurter Hypo, Südzucker, Linde, Bayerische Vereinsbank, Metallgesellschaft, Heidelberger Zement, Karstadt, Ph. Holzmann, AMB	Allianz 5%	31288	31688	3.09
Dresdner Bank (11, 14)	Allianz, Münchner Rück, Deutsche Hypo, OLB, Heidelberger Zement, AMB, Hamburghyp, Bilfinger & Berger, Metallgesellschaft	Allianz 22%, Nona VV 10%, Vermo VV 11%	18027	19595	1.91
Bayerische Vereinsbank (9, 9)	Allianz, Münchner Rück, Vereins- und Westbank, BHB, Nürnberger Hypo, Süddeutsche Bodencreditbank	Viag 7%, Bayernwerk 7%, Deutsche Bank 5%	14839	14839	1.44
Commerzbank (8, 8)	Rheinhyp, Linde, Karstadt	none	3975	3975	0.39
Bayerische Hypo (6, 6)	Allianz, Württemberger Hypo	Allianz 23%, Münchner Rück 6%,	3905	3905	0.38
Sum (58, 64)			72033	74001	7.22

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Table 17: Stakes and voting blocks held by the five industrial firms controlling the greatest market value

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell reports the sum and the mean of each variable. *Directly controlled* refers to direct stakes, *controlled* refers voting blocks held by the individual stakeholders. *Market value* refers to the market value of all equity. Data on blockholders come from BAWe (1996) and is supplemented by data from KSD.

Shareholders (number of direct stakes, voting blocks included in calculations)	Main targets controlled (voting blocks in listed firms exceeding DM 300 million market value, sorted by decreasing market value)	Blockholders	Market value of direct stakes in Mn. DM	Market value of controlled voting blocks in Mn. DM	Voting blocks as % of the market value of all 430 listed corporations
RWE (4, 10)	RWE-DEA, Rheinelektra, Lahmeyer, LEW, Ph. Holzmann, MKW, Rhenag	RW Holding 12%, City of Essen 8%, Allianz 8%	8817	11598	1.13
VIAG (2, 14)	Contigas, OBAG, SKW Trostberg, Bayerische Vereinsbank, EVO, VEW, BEWAG, Schmalbach-Lubeca, Grosskraftwerk Franken, Gerresheimer Glas, ÜWU	State of Bavaria 25%, VI Industriebet. 11%, HI VV 10% (VI and HI are majority controlled by Viag itself)	1527	10207	1.00
Kuwait Petroleum (0, 1)	Hoechst	unknown	0	8204	0.80
Ford Motor Co (1, 1)	Ford-Werke	unknown	6111	6111	0.60
Stora AB (0, 1)	FPB Holding	unknown	0	4478	0.44
Sum (7, 27)			16456	40598	3.96

Table 18: Stakes and voting blocks held by the five family or worker pools controlling the greatest market value

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell reports the sum and the mean of each variable. *Directly controlled* refers to direct stakes, *controlled* refers voting blocks held by the individual stakeholders. *Market value* refers to the market value of all equity. Data on blockholders come from BAWe (1996) and is supplemented by data from KSD.

Shareholders (number of direct stakes, voting blocks included in calculations)	Main targets controlled (voting blocks in listed firms exceeding DM 300 million market value, sorted by decreasing market value)	Blockholders	Market value of direct stakes in Mn. DM	Market value of controlled voting blocks in Mn. DM	Voting blocks as % of the market value of all 430 listed corporations
Aktienbindungsvertrag Henkel, 48 members (1, 1)	Henkel	none	4948	4948	0.48
Südd. Zuckerrübenverw. Cooperative (1, 1)		none	3275	3275	0.32
Merck Family (0, 1)	Merck	none		2620	0.26
Porsche Voting Pool (0, 1)	Porsche	none		987	0.10
Association of family shareholder Dyckerhoff, 295 members (1, 1)	Dyckerhoff	none	432	553	0.05
Sum (3, 5)			8655	12382	1.21

Table 19: Stakes and voting blocks held by the five government agencies controlling the greatest market value

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell reports the sum and the mean of each variable. *Directly controlled* refers to direct stakes, *controlled* refers voting blocks held by the individual stakeholders. *Market value* refers to the market value of all equity. Data on blockholders come from BAWe (1996) and is supplemented by data from KSD.

Shareholders (number of direct stakes, voting blocks included in calculations)	Main targets controlled (voting blocks in listed firms exceeding DM 300 million market value, sorted by decreasing market value)	Blockholders	Market value of direct stakes in Mn. DM	Market value of controlled voting blocks in Mn. DM	Voting blocks as % of the market value of all 430 listed corporations
Bundesanstalt für Post und Telekommunikation (1, 1)	Deutsche Telekom	none	40541	49431	4.82
State of Berlin (2, 3)	Bankgesellschaft Berlin, BEWAG, bhh	none	5739	6997	0.68
Kommunal Energie-Beteiligungsges. mbH (1, 1)	VEW	none	4698	4698	0.46
State of Lower Saxony (1, 1)	Volkswagen	none	14	3909	0.38
State of Bavaria (1, 1)	VIAG	none	3754	3754	0.37
Sum (6, 7)			54746	68788	6.71

Table 20: Stakes and voting blocks held by the five holdings controlling the greatest market value

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell reports the sum and the mean of each variable. *Directly controlled* refers to direct stakes, *controlled* refers voting blocks held by the individual stakeholders. *Market value* refers to the market value of all equity. Data on blockholders come from BAWe (1996) and is supplemented by data from KSD.

Shareholders (number of direct stakes, voting blocks included in calculations)	Main targets controlled (voting blocks in listed firms exceeding DM 300 million market value, sorted by decreasing market value)	Blockholders	Market value of direct stakes in Mn. DM	Market value of controlled voting blocks in Mn. DM	Voting blocks as % of the market value of all 430 listed corporations
Vereinte Holding AG (1, 1)	Vereinte Versicherung	Allianz 100%	4493	4493	0.44
RW Holding AG (1, 1)	RWE	Municipalities 32%, Rest unknown	3829	3829	0.37
DIA Verm. Verw. (1, 1)	Münchner Rück	unknown	3682	3682	0.36
Metro Holding AG (0, 5)	Praktiker, Horten, Massa, Kaufhalle	Three families (Schmidt-Ruthenbeck, Beisheim Stiftung, Haniel) 33.3% each	0	3290	0.32
Siemens-Verm. Verw. (1, 1)	Siemens	unknown	3032	3032	0.30
Sum (4, 9)			15036	18326	1.79

Table 21: Stakes and voting blocks held by the five investment firms controlling the greatest market value

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell reports the sum and the mean of each variable. *Directly controlled* refers to direct stakes, *controlled* refers voting blocks held by the individual stakeholders. *Market value* refers to the market value of all equity. Data on blockholders come from BAWe (1996) and is supplemented by data from KSD.

Shareholders (number of direct stakes, voting blocks included in calculations)	Main targets controlled (voting blocks in listed firms exceeding DM 300 million market value, sorted by decreasing market value)	Blockholders	Market value of direct stakes in Mn. DM	Market value of controlled voting blocks in Mn. DM	Voting blocks as % of the market value of all 430 listed corporations
H. O. F. Bet. GmbH (1, 1)	Fresenius	Dresdner Bank 50%, E. Kröner Stiftung 50%	2477	2477	0.24
VI-Industrie Bet. GmbH (1, 1)	VIAG	Viag 50%, Rest unknown	1559	1559	0.15
Eugenia Trust (1, 1)	SAP	unknown	1192	1192	0.12
Schwenk Bet. GmbH & Co KG (1, 1)	Heidelberger Zement	unknown	1181	1181	0.12
Grohe Ind. Bet. GmbH & Co KG (1, 1)	Grohe, Fr.	unknown	1041	1041	0.10
Sum (5, 5)			7450	7450	0.73

Table 22: Stakes and voting blocks held by the five bank-controlled investment firms controlling the greatest market value[i]

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell reports the sum and the mean of each variable. *Directly controlled* refers to direct stakes, *controlled* refers voting blocks held by the individual stakeholders. *Market value* refers to the market value of all equity. Data on blockholders come from BAWe (1996) and is supplemented by data from KSD.

Shareholders (number of direct stakes, voting blocks included in calculations)	Main targets controlled (voting blocks in listed firms exceeding DM 300 million market value, sorted by decreasing market value)	Blockholders	Market value of direct stakes in Mn. DM	Market value of controlled voting blocks in Mn. DM	Voting blocks as % of the market value of all 430 listed corporations
FGC mbH (1, 1)	Hoechst	Dresdner Bank 20%, Gerling 10%, Münchn. Rück 30%	3415	3415	0.33
Württembergische AG Vers. Bet. (4, 5)	Baden-Württ. Bank, Württ. Lebensversicherung	Schw. Rück 32%, Baden-Württ. Bank 15%, Ehlerding family 10%, State 10%, Bosch family 10%	684	1222	0.12
DEPFA Holding (1, 1)	Depfa AG	Several banks jointly 100%	893	893	0.09
Rhein-Neckar Bankbet. (1, 1)	Baden-Württ. Bank	Deutsche Bank 49%, Bosch family 29%, Münchner Rück 12%, Wüstenrot Stiftung 10%	478	478	0.05
(no more with blocks over DM 300 million in market value)					
Sum (9, 10)			5537	6075	0.59

[i] Includes investment firms that are primarily controlled by banks and insurance companies. This subsample is only a subset of bank-controlled investment firms, because ownership and control data are only available for some of the mostly unlisted holdings and investment firms.

Table 23: Stakes and voting blocks held by the five individuals controlling the greatest market value

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell reports the sum and the mean of each variable. *Directly controlled* refers to direct stakes, *controlled* refers voting blocks held by the individual stakeholders. *Market value* refers to the market value of all equity. Data on blockholders come from BAWe (1996) and is supplemented by data from KSD.

Shareholders (number of direct stakes, voting blocks included in calculations)	Main targets controlled (voting blocks in listed firms exceeding DM 300 million market value, sorted by decreasing market value)	Blockholders	Market value of direct stakes in Mn. DM	Market value of controlled voting blocks in Mn. DM	Voting blocks as % of the market value of all 430 listed corporations
Hopp, D. (1, 1)	SAP	none	647	13387	1.31
Klatten, S. (2, 2)	Altana, BMW	none	4627	4327	0.45
Quandt, J. (1, 1)	BMW	none	3069	3069	0.30
Quandt, S. (1, 2)	BMW	none	2915	2966	0.29
Schwarz-Schütte, P. (1, 1)	Schwarz Pharma	none	459	2018	0.20
Sum (6, 7)			11717	26067	2.54

Table 24: Stakes and voting blocks held by the five foundations controlling the greatest market value

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell reports the sum and the mean of each variable. *Directly controlled* refers to direct stakes, *controlled* refers voting blocks held by the individual stakeholders. *Market value* refers to the market value of all equity. Data on blockholders come from BAWe (1996) and is supplemented by data from KSD.

Shareholders (number of direct stakes, voting blocks included in calculations)	Main targets controlled (voting blocks in listed firms exceeding DM 300 million market value, sorted by decreasing market value)	Blockholders	Market value of direct stakes in Mn. DM	Market value of controlled voting blocks in Mn. DM	Voting blocks as % of the market value of all 430 listed corporations
A. Krupp Stiftung (1, 1)	Krupp	unknown	2579	2579	0.25
Bayer. Braustiftung J. Schörghuber & Co. Holding KG (2, 4)	Paulaner-Salvator, Hacker-Pschorr	unknown	1115	1424	0.14
Hertie Stiftung (1, 1)	Karstadt	unknown	1363	1363	0.13
F. Thyssen Stiftung (1, 1)	Thyssen	unknown	728	728	0.07
Schickedanz Holding-Stiftung & Co. KG (3, 4)	(none greater DM 150 million)	unknown	130	504	0.05
Sum (8, 11)			5916	6599	0.64

Table 25: Stakes and voting blocks held by the five insurance firms controlling the greatest market value

The sample consists of all 430 firms and 835 shareholders reporting voting control to the BAWe by September 1996. Each cell reports the sum and the mean of each variable. *Directly controlled* refers to the sum of all direct stakes, *controlled* refers to the sum of all voting blocks held by the individual stakeholders. Financial-statement data are based on the broadest available annual report in the sequence world report, mother report, group report, and individual-company report. *Sales* are 1/10 of total assets for banks, total premium receipts for insurance firms, and actual sales for other firms. *Cash flow* is defined as profit after taxes plus depreciation. *Market value* refers to the market value of all equity. Holdings (investment firms) are defined as firms whose main purpose is to fully own and operate (hold stakes in) independent companies.

Shareholders (number of direct stakes, voting blocks included in calculations)	Main targets controlled (voting blocks in listed firms exceeding DM 300 million market value, sorted by decreasing market value)	Blockholders	Market value of direct stakes in Mn. DM	Market value of controlled voting blocks in Mn. DM	Voting blocks as % of the market value of all 430 listed corporations
Allianz (18, 25)	Münchner Rück, VEBA, Dresdner Bank, BASF, Bayr. Hypo, RWE, BDF Beiersdorf, Bayer, Deutsche Bank, Linde, Schering, BHF-Bank, Lahmeyer, Rheinelektra, AMB	Münchner Rück 26%, Bayer. Vereinsbank 10%, Deutsche Bank 10%, Dresdner Bank 10%, Bayer. Hypobank 5%	22720	45820	4.47
Münchner Rück (12, 14)	Allianz, Bayerische Hypo, Victoria, AMB, Hermes Kreditversicherung	Allianz 25%, Bayer. Vereinsbank 10%, Deutsche Bank 10%, Dresdner Bank 10%, DIA VV 6%	21608	22085	2.15
AMB (5, 6)	Volksfürsorge, Thuringia Versicherung, AM Leben, AM Vers,	AGF 27%, Dresdner Bank 15%, Münchner Rück 9%, Deutsche Bank 5%, Allianz 5%	3044	4824	0 47
CKAG (1, 1)	Nordstern Allg. Vers.	Compagnie UAP 75%	1865	1865	0 18
General Re (0, 1)	Köln. Rück	U.S. Health and Life Insurance Co. 66%, Rest unknown	0	1608	0 16
Sum (36, 46)			49236	76202	7 43

Figure 1: Frequency distribution of the largest voting block for all firms

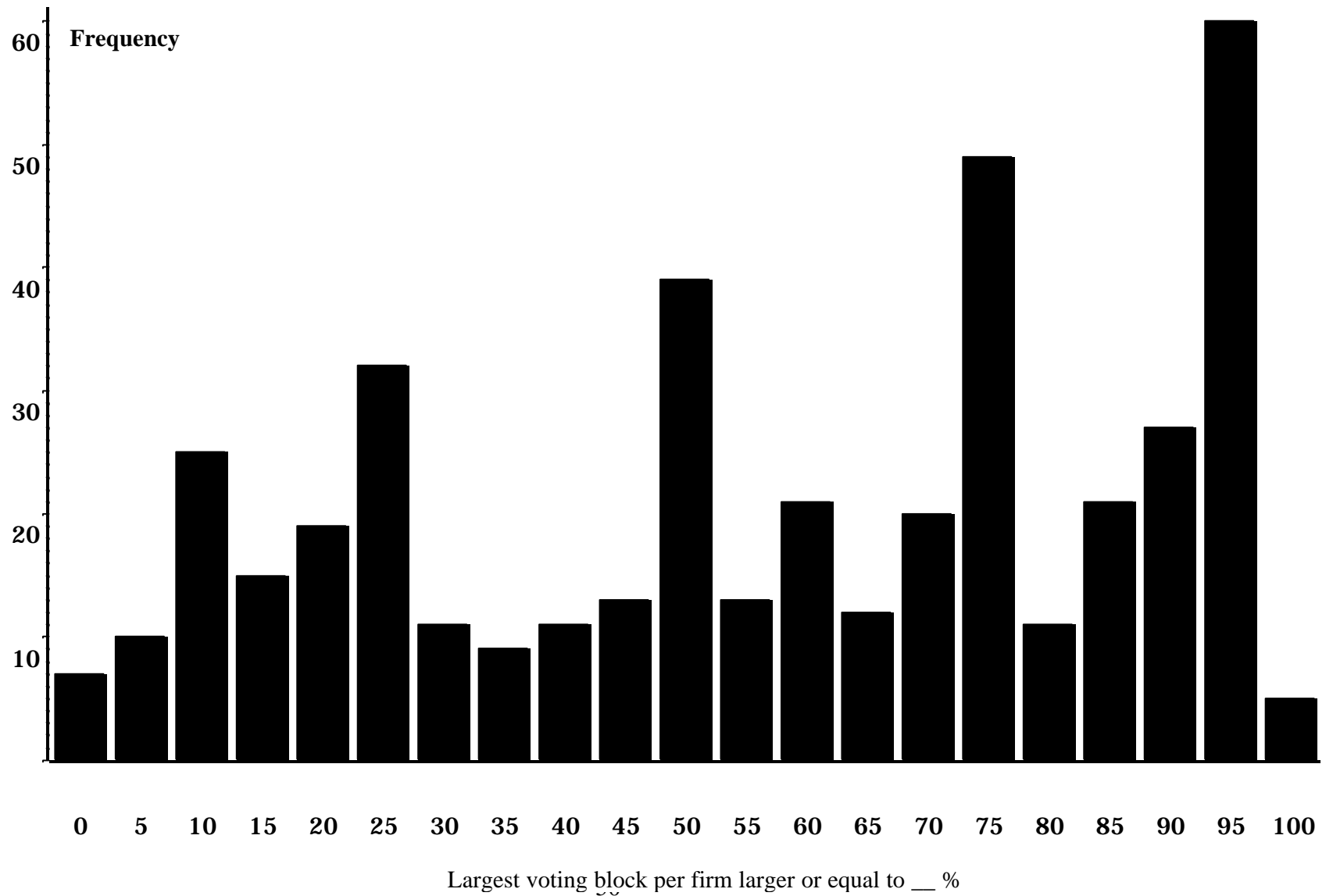
Largest voting block per firm larger or equal to __ %

Figure 2: Frequency distribution of the largest direct stake for all firms

Largest direct stake per firm larger or equal to __ %