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*Scale of corporations, industry-specificities and voting blocks: a private benefit approach*

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## **Abstract**

*The major shareholdings directive (88/627/EEC) enables a detailed analysis of the stake and the identity of the largest shareholders of European stock listed corporations. However, in continental Europe only a limited number of studies provide an empirical analysis of the ownership and control of corporations.*

*This study updates the data of the ECGN reports by analysing voting blocks of listed corporations in six European countries.*

*Second, 1999 was the year Europe introduced the euro. The new database therefore allows to test on an European comparative level whether Demsetz and Lehn's theory (1985) that larger corporations have a more dispersed ownership structure stands up to scrutiny.*

*Third, Bebchuk's rent-seeking theory (1999) of the evolution of ownership and control will be partly tested. The private benefits of control for a given corporation depends not only on the legal rules as proven by La Porta et al. (1997) but also on company-specific and industry-specific parameters. If the theory of industry-specific private benefits stands up to scrutiny, a one way analysis of variance indicates significant differences between the means of the voting block of the largest shareholder for industry grouped companies. The results only partially confirm the influence of industry-specific characteristics. In different countries, different industries are characterised by different shareholder concentration patterns.*

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## **Scale of corporations, industry-specificities and voting blocks: a private benefit approach**

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### I. Introduction

The Directive on the information to be published when a major holding in a listed company is acquired or disposed of or the major shareholdings directive (88/627/EEC) enables a detailed analysis of the stake and the identity of the largest shareholders of European stock listed corporations. In fact article 4 of the Directive states that “where a natural person or legal entity ... acquires or disposes of a holding... and where, following that acquisition or disposal, the proportion of voting rights held by that person or legal entity reaches, exceeds or falls below one of the thresholds of 10%, 20%, 1/3, 50% and 2/3, he shall notify the company and at the same time the competent authority. ... member States need not apply:

- the thresholds of 20% and 1/3 where they apply a single threshold of 25%,
- the threshold of 2/3 where they apply the threshold of 75%.”

The Directive is strict as to the attribution of voting rights. The natural person or legal entity must determine the total number of voting rights held by other persons on behalf of the former, by an undertaking controlled by that person or entity, by a third party with whom that person or entity has concluded a written agreement which obliges them to adopt a common policy towards the management of that company, ...<sup>1</sup>

The European council stated that this policy of adequate information of investors is likely to improve investor protection and to increase investors' confidence.

This Directive urges voting blocks of 10% or larger to be disclosed. In most European countries, and all countries in this paper, the legislator implemented lower thresholds. In Belgium, France, Germany and Spain shareholders acquiring a stake of 5% or more must disclose this stake; in the U.K. the first threshold is 3% and in Italy it is 2%.

Since the implementation of this Directive in the different EU-states it is possible to undertake a more precise analysis of concentration of ownership and control of corporations.

The European Corporate Governance Network studied in several European countries the disclosed data.<sup>2</sup> They found that within Europe, the level of concentration of

<sup>1</sup> See article 7 of the Directive. For a comment on the Directive see V. Edwards (1998).

<sup>2</sup> For an overview of the different reports, see Becht, M., 2000, *Corporate Control in Europe*, paper presented at the European Corporate Governance Forum, Brussels, 16<sup>th</sup> November 2000, 33 p.

voting power is not uniform. It seems that the differences are rooted in differences in customs and the legal environment in different countries. In the U.K. the median voting blok is less than 10% while in Germany, Austria and Italy it exceeds 50%. Further, voting power concentration is inversely related to size. Smaller companies tend to have larger shareholders.

Before this European study was presented and published in working papers, Berglöf (1997) already found some prove in data of the OECD of a high level concentration of ownership stakes in different continental European countries. Franks and Mayer (1997) observed that in more than 80% of the largest companies listed on stock markets in France and Germany, one shareholder owns more than 25% of the shares. In more than 50% of the companies there is one majority shareholder. In the U.K. the number of controlled corporations is much lower. There data stem from 1990.

La Porta, Lopez-de-Silanes and Shleifer (1999) looked at the ownership structures of the 20 largest and 10 medium sized companies in 27 rich economies and found that the number of widely held companies – id est without a single shareholder holding more than 20% of the voting rights – is limited, especially in countries with low “antidirector” rights<sup>3</sup>.

Faccio and Lang (2000) analyse the ownership and control of 3740 companies in five European countries. Using a 20% cut-off ratio, 38.1% of the companies are widely held. In the UK this figure is 68%, in Germany only 10%. More than 43% of all listed companies are controlled (at the 20% cut-off level) by families. This figure soars to 65% in France and Germany but is only 20% in the U.K. A disadvantage of this detailed analysis is the use of a 10% and a 20% cut-off level. For instance, in Germany, an important cut-off level would be 25% - the blocking minority – not the 20% level used in the study of Faccio and Lang.

Some, mostly American scholars have developed theoretical models to explain the major differences in ownership structures.

Demsetz and Lehn (1985) demonstrated that in the mid eighties ownership patterns depend on company size, the riskiness of the firm, regulation of firms and some sector activities like sports and media. For some European countries, Van der Elst (2001) confirmed that concentration is inversely related to company size but found mixed results for the other independent variables.

La Porta, Lopez-de-Silanes, Shleifer and Vishny (1997) and La Porta, Lopez-de-Silanes and Shleifer (1999) argue that ownership structures and concentration patterns

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<sup>3</sup> Antidirector rights are defined as an index aggregating the shareholder rights. The index is formed by adding 1 when (1) the country allows shareholders to mail their proxy vote to the firm, (2) shareholders are not required to deposit their shares prior to the general shareholders' meeting, (3) cumulative voting or proportional representation of minorities in the board of directors is allowed, (4) an oppressed minorities mechanism is in place, (5) the minimum percentage of share capital that entitles a shareholder to call for an extraordinary shareholders' meeting is less than or equal to 10 percent (the sample median), or (6) shareholders have preemptive rights that can be waved only by a shareholders' vote. The index ranges from zero to six.

of publicly listed companies are determined by legal differences and the strength of investor protection rights. In countries with relatively poor legal protection of investors, large blockholders are likely to occur more often.

Roe develops a political model to explain ownership structures. In social democracies publicly listed companies are more likely to have a concentrated ownership. In those countries the government is forcing companies to stabilise employment and social welfare in general, rather than to allow companies to maximise profits for one particular class, id est the shareholders of the corporation. Further mechanisms to align the interest managers and shareholders, like option schemes and disclosure and accountability, are harder to implement in European social democracies. This policy creates higher agency costs and minimising those costs will be guaranteed by large shareholders having sufficient power to supervise managers effectively and efficiently.

The findings of La Porta and al. are theoretically studied by Bebchuk (1999). In a theoretical model he found that controlled corporations should be expected to be more common in countries in which private benefits of control are large and vice versa. In those countries a founder is unlikely to relinquish control after an IPO or a capital increase. Notwithstanding the fact that countries differ greatly in their incidences of controlled corporations and corporations with a dispersed ownership structure, in most countries some companies of each type can be found. Therefore, Bebchuk argues, even in countries with a high level of investor protection rights some shareholders will gain private benefits out of control because there are company-specific and industry-specific parameters. These parameters could be driven by opportunities to engage in self-dealing transactions, to take corporate opportunities or to profit from non-pecuniary benefits.

These studies indicate nicely that the general corporate governance literature examining the implications of large blockholders in supplying superior monitoring and limiting private rent seeking (Burkart et al. 1997) must be shaded.

This study built on those previous studies. If the theory of industry-specific private benefits stands up to scrutiny, a one way analysis of variance indicates significant differences between the means of the voting block of the largest shareholder for industry grouped companies. The results only partially confirm the influence of industry-specific characteristics. Further, as these industry-specific classes are generated for five countries, a cross-tabulation of two variables, countries and industry-activity indicate whether the protection of minority shareholders pressures for a different model of corporate governance. In different countries, different industries are characterised by different shareholder concentration patterns. Therefore legal rules that limit private benefits of control should be differentiated along company specific ownership structures.

Section II describes the data construction. Section III briefly sketches the methodology of this study. Section IV presents the results. Section V concludes.

## II Data construction

### 1. Data sources

This paper is based on a new database of ownership structures of listed companies in six European countries. Data on corporate ownership are still hard to resemble, therefore only a limited number of countries are in the database. In Belgium, Italy and Spain all data are officially disclosed by the stock exchange or a supervisory authority. The available data give a regularly or immediately updated overview of the disclosed stakes in a particular company. For Belgium and Italy even (some) information on the pyramidal control chain is published. In France, Euronext Paris published the acquisition or disposals of the proportion of voting and capital rights of a major shareholder when it reaches, exceeds or falls below one of the thresholds but an overview of all the stakes of all major shareholders in a particular company lacks. Therefore, only if the annual report of the company deliberately discloses information on all major shareholder stakes, a detailed analysis of the ownership of the company is possible. In Germany, the Bundesaufsichtsamt für den Wertpapierhandel updates every 15 days the blockholders of corporations traded in the official market segments. As each corporation in a pyramidal structure reports its direct and indirect stakes, Hoppenstadt Aktienführer was used to refine the disclosed data and enlarge the German database with companies listed in other market segments. For the U.K., Hemscott published all owners with at least 3 percent of the voting rights, as well as directors' ownership for all U.K. listed companies. A limited number of British companies have multiple classes of shares. In those cases the voting blocks of the major shareholders could not always be determined. Those companies are excluded from the database. Companies for which the largest shareholder is a nominee are also excluded. Table 1 reports the data sources for all six countries. The data are collected at the end of 1999. Hemscott permanently updates their ownership database. For British companies the data are collected at the end of April 2001.

Table 1: Data sources

Belgium	disclosure of voting blocks in financial newspapers "Financieel-Economische Tijd" and "Echo de la Bourse" and annual reports of listed companies
France	annual reports of listed companies; Database Bourse de Paris: <a href="http://www.bourse-de-paris/fr/frnews7/fsg710.htm">http://www.bourse-de-paris/fr/frnews7/fsg710.htm</a> ("déclarations de franchissement de seuil" and "conventions d'actionnaires")
Germany	Hoppenstedt Aktienführer; Bundesaufsichtsamt für den Wertpapierhandel - Datenbank für bedeutenden Stimmrechtanteile: <a href="http://www.bawe.de/db_site.htm">http://www.bawe.de/db_site.htm</a>
Italy	Commissione Nazionale per le Società e la Borsa database: <a href="http://www.consob.it/trasparenza_soc_quot/assprop/attuale/menu.htm">http://www.consob.it/trasparenza_soc_quot/assprop/attuale/menu.htm</a>
Spain	Database of the Comision Nacional del Mercado de Valores: <a href="http://www.cnmv.es/english/queries/reg_ofi_ent_emisoras/reg_ofi_ent_emi.htm">http://www.cnmv.es/english/queries/reg_ofi_ent_emisoras/reg_ofi_ent_emi.htm</a>
U.K.	Database of Hemscott

For Belgium it was possible to find the ownership data of all listed companies; for the other countries a large number of corporations are included in the sample. For France the database is focusing on the larger corporations. Table 2 reports the number of corporations included in the databases as well as their relative importance. For Belgium, Germany, Italy and Spain the majority of the listed corporations are analysed.<sup>4</sup> The database contains a large sample of French and British corporations. For all continental European countries the corporations stand for more than 80% of total market capitalisation. For the U.K., the first part of the study excludes investment companies. The other corporations are valued 45% of the market capitalisation of the London Stock Exchange.

Table 2: Companies included in the database

	Belgium	France	Germany	Italy	Spain	U.K.
number of companies	140	160	542	234	209	619(820) <sup>5</sup>
% of all listed companies	100%	16.6%	52.0%	97.7%	81.3%	27.0%(35.8%)
% of total market cap.	100%	83.8%	95.0%	98.0%	93.5%	45.5%

For each individual company two parameters classify the corporations: size and industry specificity. Table 3 shows the number of companies in each size class. For the U.K. a conversion rate of 1 euro = 0.62 £ was used.

Table 3: (Relative) number of companies classified by size

	Capitalisation	Belgium	Germany	France	Italy	Spain	U.K.
large corp.	>5 bill.	7	37	43	29	14	42
medium corp.	1-5 bill.	21	69	29	44	24	51
small corp.	0.25-1 bill.	27	119	19	62	50	112
micro corp.	<0.25 bill.	85	317	69	99	124	414
total number		140	542	160	234	212	619
		Belgium	Germany	France	Italy	Spain	U.K.
large corp.	>5 bill.	5.0%	6.8%	26.9%	12.4%	6.7%	6.8%
medium corp.	1-5 bill.	15.0%	12.7%	18.1%	18.8%	11.5%	8.2%
small corp.	0.25-1 bill.	19.3%	22.0%	11.9%	26.5%	23.4%	18.1%
micro corp.	<0.25 bill.	60.7%	58.5%	43.1%	42.3%	58.4%	66.9%

Only a limited number of corporations have a market capitalisation of more than 5 billion euro at the end of 1999. As the annual reports of the largest French corporations disclose more frequently the shareholder structure, those companies are

<sup>4</sup> For Spain, SIM/SIMCAV companies are excluded from the database.

<sup>5</sup> The figures between brackets include investment companies.



relatively frequent in the database. Due to some large privatisations, the number of large Italian corporations is relatively high compared to the number of large corporations in other countries. In the U.K. more than 2/3 of all corporations are microcaps. In the other countries microcaps count for 40% -Italy and France – to 60% - Belgium, Germany and Spain – of all listed corporations. The U.K. is the only country for which corporations with a market capitalisation of around 1 million euro is regularly found.

Table 4: Sector activity and number of companies in the database

Sector classification	Nr.	Belgium	Germany	Italy	Spain	U.K.
Automobiles & parts	25			9		
Banks	1	6	21	37	17	10
Beverages, Food producers & processors	7	14	16	6	19	42
Chemicals (U.K.) & pharmaceuticals <sup>6</sup>	3	8	28	8	6	19
Construction & building materials	2	8	24	9	19	84
Diversified industrials	23		8			
General retailers	21		20			
Electronic & electrical equipment	6		36	7	13	42
Engineering & machinery	5	6	51	6		71
Health	8		19			30
Holding companies	12	23	31	17	15	
Household goods & textiles	9	6	31	36	12	61
Insurance and Life Assurance	10		15	13	5	28
Investment banks	11		19			14
Investment companies	12					201
Leisure, entertainment & Hotels	20		12			
Media & Photography	19		10	9		
Mining	27				11	
Oil & gas	13					35
Other financial & speciality	11		19			
Personal care & household products	22		8			
Pharmaceuticals (U.K.)	14					29
Real estate	15	17	17	16	30	89
Software & computer services	4	8	73			34
Steel	24		7			
Support services	18		54			
Telecommunication Services	16					13
Transport	26			8	8	
Utilities	17			10	7	19

This study uses also data on the sector activity of the company. To start, the FTSE global classification system was used. It determines economic groups, sectors and

<sup>6</sup> For the U.K. pharmaceuticals is studied as a different class.

subsectors. In this study, all corporations were classified at a sector level.<sup>7</sup> The classification was expanded for holding companies, which differ substantially from the British investment companies. If only stock listed companies are studied, these numbers illustrate that the general belief that the industrial landscape in European countries is a mix of manufacturing and services industries and cannot explain the dichotomy in capital markets, is not correct. Ownership concentration discrepancies could differ due to the specific industrial landscape of listed companies in different countries.

## 2. Methodology

First a descriptive analysis of the voting block of the largest shareholder is given. The average, median, standard deviation, maximum and minimum block of shareholders of corporations in six countries explain concentration patterns in the different European countries.

Within each country the average and median voting block of the four size classes of corporations are calculated. At an industry specific level, the average and the median is compared.

Second the empirical part analyses whether there are significant differences between the mean of the different groups of companies within and between countries. A one way anova is used to test if any differences exist among the means for the groups of corporations of different size and different industry-specificity within a country. The one-way anova tests hypotheses about differences between two or more population means.

As far as the assumptions for an anova analysis concerns, the independence is guaranteed as any particular stake of a shareholder, size or industry-specificity of the corporation is independent of the “scores” of all other subjects. However, the homogeneity of variances and normality assumptions might be violated. As anova is not sensitive to violations of the assumption of normality<sup>8</sup>, we focus on the assumption of homogeneity. If the Levene test indicates the violation of the assumption of homogeneity the logarithm of the absolute stake was used. Differences between countries are tested for size of the corporation and industry-specificity in a factorial analysis of variances. For this type of analysis the same assumptions as for an one way anova are applicable. In both models, land of incorporation/size class and land of incorporation/industry, the homogeneity is not guaranteed, even after implementing the logarithm of the stake. Therefore the results must be read with caution and are only tentative.

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<sup>7</sup> Except utilities at an industry level and for the U.K., investment banks at a subsector level. In all countries except the U.K., chemical and pharmaceuticals were grouped in one class due to the lack of detailed data.

<sup>8</sup> Shavelson, R., (1988), *Statistical reasoning for the behavioral sciences*, Boston, Allyn and Bacon, p. 349.

### III. Results

#### 1) Descriptive analysis

##### a) Country analysis

##### \* **Concentration of voting blocks**

There is a significant difference between the voting blocks of the largest shareholder in continental European countries and the UK. In the latter the largest shareholder has on average a voting block of 18.3%, while in the former countries the averages differ between 37.9% in Spain to 52% in France. In France and in Italy more than half of the corporations have one majority shareholder. For Belgium, where 50% of the corporations have one shareholder owning more than 40.9% of the voting rights, the number of controlled corporations is significantly higher. At least 20% of all corporations have shareholders acting in concert and controlling the company.<sup>9</sup> Due to the lack of data for the other European countries, these figures could not be presented in this table.

A comparison between these data and the ultimate voting blocks of non-financial companies on an official market in the mid '90ies (Becht, 2000) learn that in Italy, Germany, Belgium and Spain the median voting block diminished, while in France and the U.K. the median voting block soared. However in the latter countries the sample in the ECGN study is different of the one in this study.

From this study one can deduct an evolution of “network-oriented” countries towards a more market-oriented approach, as far as ownership concentration is concerned.

In Germany, Italy and Spain some corporations only issued non-voting stock. In these cases, some shareholders hold all the voting rights.

Further, as Bebchuk (1999) already indicated, in each country some corporations have a widely distributed ownership structure, without shareholders holding more than 5% of the votes.

Figure 1 gives detailed information of the distribution of the voting blocks of the largest shareholder in the different European countries. In continental European countries a significant number of corporations have one shareholder with more than 75% of the voting rights. Only 2 corporations in the UK have this type of majority shareholder. In Germany and Belgium this block is important as it allows to change the articles of the corporation and therefore creates the possibility to extract private benefits.<sup>10</sup> Therefore it is not surprising to find the highest number of this kind of controlled corporations in Germany. However, it seems that the Belgian shareholders are relatively less interested in this kind of voting block. The figures for France, Italy

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<sup>9</sup> See Van der Elst (2001), *Aandeelhouderschap van beurgenoteerde vennootschappen*, Gent, Larcier, 2001, 397 p.

<sup>10</sup> For example, the general meeting has to change the articles to issue stock options.

and Spain are less significant. In those countries, other thresholds must be reached to change the articles. For instance in France 2/3 of the votes is sufficient.

Table 5: Concentration of the voting block of the largest shareholder (1999)

Voting block of the largest shareholder

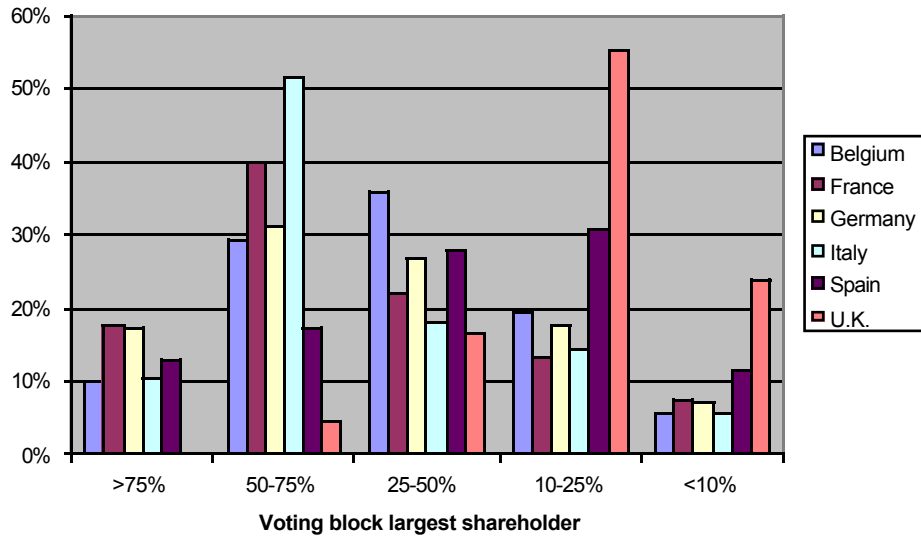
	Belgium	France	Germany	Italy	Spain	U.K.
average	41.71	51.98%	46.13%	48.14%	37.91%	18.26%
st. dev.	21.72	25.55%	26.60%	22.20%	26.95%	13.51%
median	40.94	54.94%	47.00%	51.53%	30.02%	14.15%
maximum	88.99	99.66%	100%	100%	100%	78.12%
minimum	<5%	<5%	<5%	<2%	<5%	<3%
number	140	160	542	234	212	816

**\* distribution of voting blocks**

In Italy and in France more than 50% of the corporations have one majority shareholder. In general, a widely distributed ownership structure is rather extraordinary in most continental European countries. Only in Spain, more than 10% of the corporations have shareholders with voting blocks under 10%.

In the U.K. almost one in four has no major shareholder. Even if a British corporation has a larger shareholder, in more than 50% of all corporations the shareholder has a voting block of only 10% to 25%. In Belgium, France, Germany and Italy, more than 70% of all corporations have one influential shareholder with a stake of more than 25%.

Figure 1: Distribution of the voting blocks of the largest shareholder



**\* Size of listed companies and the largest shareholders**

The European Corporate Governance Network found that the size of the corporation influences the stake of the largest shareholder (Becht, 2000). Demsetz and Lehn (1985) proved this thesis for over 400 U.S. corporations. Table 6 and 7 give some detailed information on the average and median stake of the largest shareholder in four size classes. In all countries, the largest shareholder has on average the smallest voting block in large corporations. Nevertheless the average voting block of the largest shareholder substantially differs between different countries. Whereas large Italian corporations have a shareholder holding on average 40% of the votes<sup>11</sup>, a U.K. corporation of the same size only have a shareholder owning on average 7.6% of the ordinary voting shares.

Table 6: Average voting block of the largest shareholder classified by size of the company

	Belgium <sup>12</sup>	Germany	France	Italy	Spain	U.K.
All companies	41.71%	46.13%	51.98%	48.14%	37.91%	18.26%
Large	35.66%	30.13%	30.18%	40.30%	27.12%	7.65%
Medium	36.23%	53.09%	49.27%	46.38%	39.00%	12.85%
Small	44.21%	47.78%	59.86%	48.40%	47.56%	16.98%
Micro	42.76%	45.86%	64.55%	51.07%	35.06%	21.50%

Large shareholders of large corporations in Spain, France and Germany seem to have a comparable voting block. However, when comparing means one can see large differences in the variance of the voting blocks between these countries (table 7). Half of the largest blocks in the largest Spanish corporations do not exceed 11% where at least 50% of the largest shareholders of large German corporations hold a blocking minority stake of 25%.

In all other size classes, the largest shareholder has a significantly larger voting block. The differences between continental European countries and the U.K. are large for each size type. Notwithstanding the fact that the average voting block of the largest shareholder of micro caps in the U.K. is three times as large as these of the largest U.K. caps, it remains significantly smaller than the largest block in continental European corporations. In French small and microcaps, medium German corporations and Italian microcaps the largest shareholder has, on average, a majority stake.<sup>13</sup> More than 50% of all French and Italian corporations, except the large caps, have one

<sup>11</sup> When concerting shareholders are studied, the average in Belgium is even higher: 43.5%.

<sup>12</sup> For concerting shareholders, the averages are: large companies: 43.5%; medium: 51.5%; small: 50.9%; micro: 53.2%.

<sup>13</sup> Belgian concerting shareholders have an average voting block of more than 50% in medium, small and micro caps.

majority shareholder.<sup>14</sup> The same conclusion can be drawn for medium and small German corporations.

Another difference between the largest shareholder of a U.K. company and the largest shareholder of continental European companies concerns the ratio between the averages and median values. In the U.K., in each size class, a small number of companies have one shareholder with a significantly higher voting block. These blocks significantly influence the average. Therefore the median voting block is lower than the average in the U.K.. In all other countries at least one size class have more than 50% of the companies with a shareholder owning a block that is higher than the average.

Table 7: Median voting block of largest shareholder classified by size of the company

	Belgium <sup>15</sup>	Germany	France	Italy	Spain	U.K.
All companies	40.94%	47.00%	54.94%	51.53%	30.01%	14.15%
Large	34.79%	25.00%	24.00%	37.82%	10.81%	5.29%
Medium	33.28%	56.75%	50.42%	53.55%	35.99%	9.90%
Small	42.97%	50.00%	57.87%	52.28%	49.26%	13.01%
Micro	44.24%	45.08%	67.85%	51.14%	27.00%	16.66%

**\* industry specificity**

Given the large differences of the voting blocks of the largest shareholder in the U.K. compared to those in continental European countries, it is not surprising that in each industry class the average voting block of the largest shareholder in a U.K. company is smaller than in the same industry class in other countries (table 8).

In each country the differences between some of the industry classes are significant and except for Italy, the lowest average is less than half of the highest average. Furthermore, in all countries except in the U.K., in some industry classes the average shareholder controls the company, while in others, the largest shareholder has on average only an influential minority voting block. Third, no homogeneity in the averages of the voting blocks in one industry can be found. As an example, one can refer to the class of real estate corporations. In Belgium, the largest shareholder of these companies does not have, on average, a blocking minority of 25%. In Italy, real estates companies are, on average controlled by one shareholder holding more than 60% of the votes.

Some of the lowest and highest figures can be found in the financial sector. Banks have only small shareholders in the U.K. and, relatively speaking, in Italy, while the average block of the largest shareholder of other financial companies in Germany is more than 10% below the other German industry averages. Furthermore, banks in the U.K. have on average a shareholder with a voting block that is less than half the percentage of all U.K. listed companies. However, it must be stated that most U.K. listed banks belong

<sup>14</sup> The same conclusion is valid for Belgian companies when the voting blocks of the concerting shareholders are analysed.

<sup>15</sup> For concerting shareholders the medians are: large companies: 40.0%; medium: 57.0%; small: 55.2%; micro: 55.3%.

to the group of the large caps. High concentration patterns can be found in the insurance industry in Spain where it is the only industry class with shareholders having on average one majority shareholder. However, it must be said that only a limited number of Spanish corporations active in this industry are stock exchange listed. Nevertheless, one of the highest concentration levels for Germany is found in the industry class “insurance”.

Another remarkable “within industry” difference is located in the chemicals and pharmaceuticals industry. This is the only industry class where the average of the stake of the largest shareholder is below the threshold of 50% in all countries.<sup>16</sup>

Table 9 presents the median voting block for each sector in each country. An asterisk indicates the median blocks which differ more than 10% of the average voting block. Especially in Spain this exercise shows the remarkable differences between the mean and the median. In five industry classes the average is significantly influenced by a number of companies having one shareholder with a larger stake: Chemical & Pharma, Electronic & electrical equipment, Household goods and textiles, Real estate and Utilities.

In Italy, Germany and Belgium, the industry class with the highest average is not the same as the class with the highest median. Engineering & Machinery in Belgium, Insurance in Germany and Beverages and Food in Italy are industry classes with higher medians than resp. Holding companies, Personal care and household products and Real estate corporations with the highest average.

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<sup>16</sup> This is also the case for the sector Electronic and electrical equipment, but only four countries have a sufficient number of listed companies in that industry.



Table 8: Average voting block of the largest shareholder in different industry classes

Sector classification	Belgium	Germany	Italy	Spain	U.K.
Automobiles & parts			45.3%		
Banks	35.7%	55.7%	36.1%	49.1%	6.7%
Beverages, Food producers & processors	41.8%	50.5%	53.4%	36.7%	26.8%
Chemicals & pharmaceuticals	42.6%	43.6%	41.3%	33.9%	13.6%
Construction & building materials	37.5%	52.6%	50.7%	44.8%	17.1%
Diversified industrials		36.4%			
General retailers		54.1%			
Electronic & electrical equipment		39.4%	45.3%	29.0%	19.5%
Engineering & machinery	49.9%	51.9%	40.5%		16.2%
Health		45.1%			17.0%
Holding companies	52.9%	38.4%	38.2%	23.9%	
Household goods & textiles	48.2%	59.6%	50.3%	29.6%	23.5%
Insurance and Life Assurance		60.7%	49.1%	55.2%	17.3%
Investment banks		25.7%			18.2%
Investment companies					16.0%
Leisure, entertainment & Hotels		51.6%			
Media & Photography		42.6%	53.9%		
Mining				32.7%	
Oil & gas					19.7%
Other financial & speciality					
Personal care & household products		62.5%			
Pharmaceuticals					13.7%
Real estate	24.3%	49.2%	60.2%	37.4%	23.5%
Software & computer services	35.8%	36.2%			18.6%
Steel		44.0%			
Support services		46.6%			
Telecommunication Services					15.8%
Transport			46.0%	33.2%	
Utilities		50.6%	52.8%	22.7%	13.3%

Finally from all these industry-specific information on concentration of ownership it is already clear that industry-specificity can only be one of more variables to explain the private benefits of control. In fact, the average and median concentration ratios show other patterns of ownership concentration “in” and “between” countries.

Table 9: Median voting block of the largest shareholder in different industry classes

Sector classification	Belgium	Germany	Italy	Spain	U.K.
Automobiles & parts			50.9%		
Banks	29.1%	56.8%	32.6%	40.5%	6.3%
Beverages, Food producers & processors	35.9%	46.4%	58.1%	30.5%	19.1%
Chemicals & pharma	43.4%	45.4%	42.2%	21.5%	11.0%
Construction & building materials	39.0%	47.5%	52.5%	48.5%	13.4%
Diversified industrials		24.1%			
General retailers		54.8%			
Electronic & electrical equipment		42.2%	51.0%	14.8%	13.2%
Engineering & machinery	56.1%	55.7%	42.3%		14.2%
Health		46.0%			14.2%
Holding companies	55.2%	34.2%	41.9%	24.9%	
Household goods & textiles	55.9%	60.2%	52.1%	18.8%	17.2%
Insurance and Life Assurance		62.9%	51.0%	56.6%	13.8%
Investment banks		18.8%			16.5%
Investment companies					12.6%
Leisure, entertainment & Hotels		50.9%			
Media & Photography		34.2%	55.0%		
Mining				28.5%	
Oil & gas					16.9%
Other financial & speciality					
Personal care & household products		61.1%			
Pharmaceuticals					9.8%
Real estate	15.0%	49.3%	54.5%	27.4%	18.6%
Software & computer services	33.8%	29.4%			16.7%
Steel		37.5%			
Support services		51.0%			
Telecommunication Services					14.5%
Transport			53.6%	25.3%	
Utilities		49.0%	51.0%	10.5%	8.4%

## 2) Empirical analysis

The first part of this section clearly indicated that there are some significant differences in ownership concentration. Not only in different size classes, the largest shareholder owns different voting blocks, but also in the different industry classes. Furthermore, it is already clear that even countries having the same legal “roots”, like Spain, Italy and Belgium, do not share the same ownership structure. A one way analysis of variance indicates whether significant differences of ownership concentration exist for different size and industry classes within different countries. A factorial analysis of variance tests the same relationship between the different countries.

All tables read from column to row.

### a) Analysis within countries

Within countries it is analysed whether size or industry significantly influences the ownership concentration structure of listed corporations.

#### \* **Size specificity**

A one-way anova shows that ownership structures in countries differ as far as size is used as an explanatory factor. Table 10 indicates that size is not always a discriminatory variable to explain differences in ownership concentration. For Germany the general model shows significant differences. These differences stem from the smaller stake of the largest shareholder in large caps. The average stake is between 15% and 23% smaller in large corporations than in the other classes. Between other classes the differences are not significant.

Large Spanish corporations have a significantly wider distribution of ownership than small corporations. On average the stake is 21% larger in small corporations than in large corporations. Somewhat surprising, but it could already be deducted from table 6 and 7, the average voting block of Spanish micro caps is significantly smaller than the average voting block of small corporations.

The figures for the U.K. cannot be compared with the other countries. The Levene test indicates that the hypothesis of the homogeneity of the variances must be rejected. Therefore the logarithm of the stakes of the largest shareholder was taken. All the results are significant and the hypothesis that larger companies have a more widely distributed ownership structure is confirmed.

For Belgium and Italy no significant ownership concentration differences exist between the different classes of groups of companies.

From these data one can conclude that the thesis that larger corporations have a more widely distributed ownership structure must be shaded. For some countries no

significant differences can be found, while for some size classes the inverse scenario is true.

Table 10: One way anova for voting blocks and size of corporations

		F	Large comp.	Medium	Small
Belgium		0.809			
	Large				
	Medium		0.58%		
	Small		8.56%	7.98%	
	Micro		7.11%	6.53%	1.45%
Germany		6.292***			
	Large				
	Medium		23.00%*		
	Small		17.17%*	-5.83%	
	Micro		15.72%*	-7.28%	-1.45%
Italy		1.775			
	Large				
	Medium		6.09%		
	Small		8.10%	2.01%	
	Micro		10.77%	4.68%	2.67%
Spain		3.823**			
	Large				
	Medium		11.89%		
	Small		20.96%*	9.08%	
	Micro		7.74%	-4.14%	-13.22%*
U.K. (Logstake)		34.21***			
	Large				
	Medium		0.155*		
	Small		0.291*	0.136*	
	Micro		0.391*	0.236*	0.101*

\*: significant at 5%-level; \*\* significant at 2%-level; \*\*\*: significant at 1%-level.

#### \* Sector specificity

The Belgian model for industry-specificity is significant at the 2% level. However the number of significant individual relationships between different industries is rather low. Holding companies (nr.12) have significant larger shareholders than real estate corporations (15). The difference between these two classes is more than 28%. Real estate corporations have a relatively wider distribution of ownership.

Table 11: One way anova for voting blocks and industry-specificity of corporations in Belgium

Belgium	industry	1	2	3	4	5	7	9	12
F: 2.623**									
industry									
1									
2		-1.8							
3		-7.0	-5.2						
4		-0.1	1.7	6.9					
5		-14.3	-12.5	-7.3	-14.2				
7		-6.1	-4.3	0.9	-6.0	8.2			
9		-12.6	-10.8	-5.6	-12.5	1.7	-6.5		
12		-17.2	-15.4	-10.3	-17.1	-2.9	-11.1	-4.7	
15		11.3	13.1	18.3	11.4	25.6	17.4	23.9	-28.5*

The numbers in the rows and columns of the table stand for specific industries and are described in table 4.

\*: significant at 5%-level; \*\*:significant at 2%-level;

The German model is significant at the 1%-level. However, as for Belgium the number of industry classes with significant higher or lower concentration levels is limited.

“Other financial services”(nr. 11) is the only class for which the industry average is significantly smaller than the average of several other industry classes. Banks (1), engineering & machinery (5), household goods & textiles (9) and insurance companies (10) have a significantly larger shareholder. The difference of “other financials” with the industry “engineering & machinery” is 26%, with “banks” 30.1%, with “household goods and textiles” 33.9% and with the “insurance companies” 35%.

Second the computer industry (4) has a significantly wider distribution of ownership stakes than the sector household goods & textiles. This difference is more than 23%.

All the other differences are not significant at the 5%-level.

Table 12: One way anova for voting blocks and industry-specificity of corporations in Germany

Germany	1	2	3	4	5	6	7	8	9	10	11	12	15	17	18	19	20	21	22	23	
F: 2.871***																					
1																					
2	3.1																				
3	12.1	9.0																			
4	19.5	16.5	7.5																		
5	3.8	0.7	-8.3	-15.7																	
6	16.3	13.2	4.2	-3.3	12.5																
7	5.2	2.2	-6.8	-14.3	1.4	-11.0															
8	10.6	7.5	-1.5	-9.0	6.8	-5.7	5.3														
9	-3.9	-6.9	15.9	-23.4*	-7.7	-20.1	-9.1	-14.4													
10	-5.0	-8.0	-17.0	-24.5	-8.8	-21.2	-10.2	-15.5	-1.1												
11	30.1*	27.0	-18	10.5	26.2*	13.8	24.8	19.5	33.9*	35.0*											
12	17.3	14.2	5.2	-2.2	13.5	1.0	12.0	6.7	21.2	22.3	-12.8										
15	6.5	3.5	-5.6	-13.0	2.7	-9.7	1.3	-4.0	10.4	11.5	-23.5	-10.8									
17	5.1	2.0	-6.9	-14.5	1.3	-11.2	-0.2	-5.5	9.0	10.0	-25.0	-12.2	-1.4								
18	9.1	6.0	-3.0	-10.4	5.3	-7.2	3.9	-1.4	13.0	14.1	-20.9	-8.2	2.6	4.0							
19	13.1	10.1	1.1	-6.4	9.3	-3.1	7.9	2.6	17.0	18.1	-16.9	-4.1	6.6	8.1	4.0						
20	4.1	1.0	-8.0	-15.4	0.3	-12.2	-1.1	-6.5	8.0	9.1	-25.9	-13.2	-2.4	-1.0	-5.0	-9.0					
21	1.6	-1.4	-10.5	-17.9	-2.2	-14.6	-3.6	-8.9	5.5	6.6	-28.4	-15.7	-4.9	-3.5	-7.5	-11.5	-2.5				
22	-6.8	-9.8	-18.6	-26.3	-10.6	-23.0	-12.0	-17.3	-2.9	-1.8	-36.8	-24.1	-13.3	-11.9	-15.9	-19.9	-10.9	-8.4			
23	19.3	16.3	7.3	-0.2	15.5	3.1	14.1	8.8	23.2	24.3	-10.7	2.0	12.8	14.3	10.2	6.2	15.2	17.7	26.1		
24	11.7	8.7	-0.3	-7.8	7.9	-4.5	6.5	1.2	15.6	16.7	-18.3	-5.6	5.2	6.7	2.6	-1.4	7.6	10.1	18.5	-7.6	

The numbers in the rows and columns of the table stand for specific industries and are described in table 4.

\*: significant at 5%-level; \*\*\*significant at 1%-level;

In the United Kingdom more differences of the average voting block between different industries are significant. However as for the size of the corporation, the Levene test indicated that the homogeneity of variances must be rejected. Therefore the logarithm of the stakes was used as the dependent variable.

Banks (nr. 1), Food producers & beverages (7) and Household goods and textiles (9) are all industry classes for which the largest shareholder has a significant different voting block compared to the voting block of the largest shareholder of more than two other industry-classes.

The average stake of the largest shareholder in Banks (1) is significantly smaller than the stakes of shareholders in corporations active in the production of Food & beverages (7), Household goods and textiles (9), or Real estate corporations (15).

The concentration of voting blocks within the industries Food & beverages (7) or Household goods and textiles (15) is significantly higher than the concentration in the industry class Investment companies (12), Pharmaceuticals (14) and Utilities (17). The two latter industries have a significantly wider distribution of ownership than Real estate corporations (15).

Finally, Real estate corporations (15) are more concentrated, as far as the ownership structure is concerned than companies in the Utilities sector (17).

Table 13: One way anova for voting blocks and industry-specificity of corporations in U.K.

U.K.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
F: 4.625***																	
1																	
2	-0.29																
3	-0.22	0.08															
4	-0.35	-0.06	-0.14														
5	-0.29	-0.006	-0.08	0.07													
6	-0.33	-0.04	-0.12	0.02	-0.04												
7	-0.47*	-0.18	-0.25	-0.12	-0.18	-0.14											
8	-0.27	-0.02	-0.06	0.08	-0.01	0.06	0.19										
9	-0.42*	-0.13	-0.21	-0.08	-0.14	-0.09	0.05	-0.15									
10	-0.31	-0.02	-0.09	0.04	-0.02	0.02	0.16	-0.04	0.11								
11	-0.35	-0.06	-0.14	0.00	-0.65	-0.02	0.12	-0.08	0.07	-0.04							
12	-0.28	-0.01	-0.06	0.07	-0.007	-0.05	0.19*	-0.006	0.14*	0.03	0.07						
13	-0.32	0.03	-0.11	0.03	-0.03	-0.01	0.15	-0.05	0.10	-0.01	0.03	-0.04					
14	-0.19	0.11	0.03	0.17	0.10	0.15	0.28*	-0.09	0.24*	0.12	0.17	0.10	0.14				
15	-0.42*	-0.13	-0.20	-0.07	0.13	-0.09	0.05	-0.15	0.004	-0.11	-0.07	-0.14*	-0.10	-0.24*			
16	-0.28	0.01	-0.06	-0.07	-0.009	0.05	0.19	-0.004	0.14	0.03	0.07	0.002	0.04	-0.09	0.14		
17	-0.12	0.17	-0.09	0.23	0.17	0.21	0.35*	0.15	0.30*	0.19	0.23	0.16	0.20	0.06	0.30*	0.16	

The numbers in the rows and columns of the table stand for specific industries and are described in table 4.

\*: significant at 5%-level; \*\*\*significant at 1%-level;

No results are given for Italy and Spain as the test for the homogeneity of variances is not guaranteed even after the transformation of the voting block. Furthermore, the general results indicate no significant differences.

## b) Analysis between countries

A factorial analysis of variance can explain to what extent the place of incorporation and the size or the industry-specificity determine the size of the voting block of the largest shareholder.

For both general models, the assumption of homogeneity was violated. Even the transformation of the voting block by the logarithm of the block does not prevent the violation. Therefore the results should be carefully interpreted.

### \* Size specificity

The size of the corporation and the country of incorporation both have their impact on the voting block of the largest shareholder. Given the data found in the descriptive analysis, it seems that only in combination with a certain legal system, the largest corporations will have significantly smaller shareholders.

Furthermore, as the significance for the independent variable “country of origin” is much higher than the significance for the size of the corporations, one can deduct that the legal system or the new interest group theory<sup>17</sup> is of more importance for the dispersion of ownership than the size of the corporation.

Table 14: factorial analysis of variance – factors: size class and country of incorporation

Source of variation	sum of squares	df	mean square	F	Sig.
Size	3.226	3	1.075	12.934	0.000
Land	41.786	4	10.447	125.633	0.000
Size*Land	4.275	12	0.355	4.267	0.000
Error	130.897	1574	0.009		

### \* Industry specificity

Preliminary, it must be mentioned that for all countries only six sectors have a sufficient number of corporations to test the variances in a factorial variance analysis. These sectors are: banks, food producers and processors, chemicals and pharmaceuticals, construction and building materials, household goods and textiles and real estate corporations.

The results for the model country of origin and industry-specificity differ from those for the model land / size class. In the descriptive analysis we already found significant industry-specific differences between countries. The factorial analysis proves that the sector specificity is important for the dispersion of ownership *in combination with* the country of incorporation. There are some indications that the independent variable

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<sup>17</sup> Cf. infra.



industry-specificity influences the dispersion of ownership but the significance of the result is rather low.

Table 15: factorial analysis of variance – factors: industry-specificity and country of incorporation

Source of variation	sum of squares	df	mean square	F	Sig.
Sector	0.947	5	0.189	2.107	0.063
Land	20.565	4	5.141	57.16	0.000
Sector*Land	4.358	20	0.218	2.423	0.001
Error	62.871	699	0.009		

## V. Policy conclusions and further research

Recently a number of theories on the development of capital markets and ownership structures emerged. While La Porta et al. (1997) focus on the protection of minority shareholders as a driver for the development of capital markets and dispersed ownership, Roe (2000) points at the major impact of social democracies. Bebchuk (1999) believes the ownership structure is not only determined by the legal origin of a country but also by industry-specific and company-specific parameters. These parameters determine the private benefits the shareholder(s) extract from a corporation. This study refines these two parameters. Ownership concentration differs substantially between countries. Within countries some industries have substantially larger shareholders than others. However, only for a limited number of industries these differences are statistically significant. Furthermore the differences within a country are different between countries. Industry-specificities seem only to be important in combination with the country of incorporation. This indicates that the legal system is of more importance for the dispersion of ownership than industry-specificity.

Further, as differences are found between different sectors in different countries, company specific characteristics determine the opportunities for majority shareholders to extract private benefits rather than industry characteristics.

As Italy, Spain and Belgium have the same legal roots, the civil law origin (La Porta et al., 1997), and their concentration patterns differ from one another, these findings support the recent interest group theory of financial development (Rajan and Zingales 2001) rather than the country's legal origin theory. In Belgium, a significant number of corporations in different industries have families as controlling shareholders. Direct voting blocks are held by intermediary holding companies (pyramids), controlled by these mostly noble families. The holding companies were founded in the 1930's due to new specific financial legislation. These laws prohibited banks to participate in industrial companies. Some studies indicate that these controlling blocks constrain the development of small and medium sized Belgian companies (Van Hulle, 1998). It certainly could help to explain the severe regression of the ratio of deposits to GDP, the fraction of gross fixed capital formation raised via equity and stock market

capitalization over GDP after the 1930's (see table 1, 2 and 3 in Rajan and Zingales, 2001).

The Italian scenery of shareholders of listed companies is comparable to the Belgian situation. A limited number of families control a large number of listed corporations. However, the openness of the country was smaller and the direct government intervention larger. This enables the Italian government the speeding up the development of the financial system, already encouraged by the Draghi reform. Until recently, the political constellation of Spain significantly differed from that in Belgium and Italy. It probably had an impact on the different financial development and ownership structures of companies. This can be the subject of further research.

Finally one can argue that measures to enhance a dispersed ownership structure should focus on the company specific parameters to extract private benefits. These measures must be embedded in an environment with structural impediments for the domestic incumbents to retard financial developments.

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