РАЗДЕЛ 1
НАУЧНЫЕ ИССЛЕДОВАНИЯ
И КОНЦЕПЦИИ

SECTION 1
ACADEMIC
INVESTIGATIONS
& CONCEPTS

BLOCK INVESTMENTS AND THE RACE FOR CORPORATE CONTROL IN BELGIUM*

*Ariane Chapelle***

Abstract

This paper investigates the common patterns of ownership structure across different corporate governance systems. We test the predictions of Zwiebel (1995) using ownership data of Belgian listed companies in 1995 and in 1999. Results show good applicability of the model. This empirical research relates to other contributions performing tests for Hungary, Poland, and Spain. Next the model and its limitations are discussed. The paper opens promising fields for research in ownership structure modeling adapted to corporate governance systems of Continental and Eastern Europe.

Keywords: corporate control, ownership, investments

* I am very grateful to Ron Anderson, Marco Becht, Christophe Croux, Mathias Dewatripont, Colin Mayer, Ariane Szafarz, as well as the participants of the 5th Belgian Financial Research Forum and of the PAI conference of 2001 for their useful help and comments. I am indebted to the ECGN, the Bureau Van Dijk, the Banque Bruxelles Lambert and the Brussels Stock Exchange for generous collaboration in providing most of the data used in this study. Financial support of this study was provided by the Fonds National de la Recherche Scientifique (Belgium).

** Université Libre de Bruxelles CP 145 / 1, Avenue Roosevelt, 50, 1050 Brussels, Belgium
Tel. : +32.2.650.48.71, e-mail : ariane.chapelle@ulb.ac.be

1. Introduction

There are different ways to achieve corporate control. Ways vary across countries, investors, firms, and they evolve over time. One is ownership concentration. This paper, based on empirical research, shed light on the distribution of voting power among the shareholders of listed companies. Using data from Belgium, the paper tests the predictions of a model initially developed and validated on ownership data for US companies. This empirical testing aims to identify common determinants of a shareholder structure for listed companies across different Corporate Governance environment. The main research

question of this paper is whether there are rules robust enough to remain valid across different systems of corporate governance.

Based on the assumption that private benefits of control exist and are divisible among shareholders, Zwiebel (1995) develops a theoretical model predicting the repartition of large and smaller shareholders among firms. The author derives an equilibrium made of three types of ownership structure. The main driver of investors' behaviour is to achieve corporate control, either alone or collectively, to derive the largest possible benefits.

In empirical research on the existence of private benefits of control, Barclay and Holderness (1989) find that in private negotiations large blocks of stock trade at a premium to the exchange price. The authors show that the premiums increase with firm size, fractional ownership, and firm performance. Individuals pay larger premiums for firms with greater leverage, lower stock-return variance and larger cash holdings. Regression results estimate private benefits of control up to 4% of the total value of equity. Zingales (1994) analyses the premia associated with voting stocks on the Milan stock exchange. His results suggest that the value of controlling a corporation is well above 60 percent of the value of the equity. As an explanation, the author claims that the Italian legal system is inefficient in preventing exploitation of a control position and, in particular, the dilution of minority property rights.

Gaining control over a company should allow the new leader to run it more efficiently, creating more value with better management. A large literature is dedicated on control contests, relevant to this paper.

Grossman and Hart (1980) were first to define the free-riding problem of small shareholders in case of a take-over, inefficiently preventing control contests. As a solution, they propose to write a clause in the corporate charter excluding, in case of a successful takeover attempt, the non-tendering shareholders from the benefits of the corporation in the years following the takeover. Shleifer and Vishny (1986) examine the possibility for the raider to benefit from a price increase on the shares bought before the start of the takeover attempt. Grossman and Hart (1988) demonstrate the superiority of the one share - one vote rule that maximises the benefits of control to securityholders relative to the benefits of the controlling party.

Harris and Raviv (1988) concentrate on the determinants of the corporate takeover methods and on their price effects depending on the outcome; the stock price of the targeted firm appreciates more in case of a successful tender offer than in case of a proxy contest.

Based on a hostile takeover attempt in Belgium in 1988, Dewatripont (1993) analyses the benefits and costs of a control attempt without owning the majority of the voting shares. The advantage for the leading shareholder bidding in such a strategy is, if it succeeds, to enjoy the benefits of control, without having to buy 50% of the shares. But he bears the risk of losing control if another investor can successfully acquire 50% of the company.

Besides control contests, the ownership structure of a company has a significant influence on the monitoring of the management, the sanctions in case of poor performance, on the liquidity of the shares, on the corporate control devices and, ultimately, on the performance of the firm.

Denis *et al.*(1997) show how ownership structure affects the probability of the board replacement in case of bad performance. Board replacement is negatively correlated with the percentage of ownership held by the directors of the firm, and positively related to the presence of a large external shareholder. Taking a different perspective, Burkart *et al.*(1997) develop a model where the ownership structure of a firm acts as a commitment device to delegate some degree of authority from the shareholders to the management. The optimal trade-off between the gains from monitoring and those from managerial activism will depend on the congruence of interests of both parties. The optimal trade-off will also vary with the life cycle of the firm, or with its decision to go public or to remain private. Their result are consistent with those of Demsetz and Lehn (1985) who found a positive correlation between ownership concentration in US corporations and the instability of the firm's profit.

Kabir *et al.*(1997) examine the relationship between a firm's takeover defences and its ownership structure for Dutch listed companies. They find that multiple firms' takeover defences is increasingly adopted as ownership gets more dispersed.

Maug (1998) suggests the idea of a trade-off between liquidity and corporate control for large shareholders: a liquid market reduces incentive to actively monitor the management since the share stakes can easily be sold, but it lowers the cost of holding a larger share of stakes and ease additional buys. Active monitoring of the management by shareholders is thus shown to be more efficient in liquid firms. Del Guercio et Hawkins (1999) examine the pension funds as active shareholders. They show that active funds are successful controllers, followed in their suggestions in firms where they hold stakes.

Franks and Mayer (2001) report four types of corporate control in Germany: shareholder stakes, complex pattern of ownership, bank control in widely held companies, and a market in sales of share stakes. Both for Germany and for UK (Franks et al., 2001), take-overs are not the prevalent method for corporate control. When performance is low, ownership concentration is positively correlated to board turnover. In both countries, a market for stakes arises when performance in poor. Renneboog (2000) finds similar results for Belgium.

Common results for Germany, Belgium and the UK are worth mentioning, since corporate governance features and ownership structures, are strikingly

different between Continental Europe and Anglo-Saxon countries. The roots of the systems diverge, since the two groups of countries belong to different traditions of law. La Porta *et al.*(1998) find strong negative correlation between concentration of ownership and the quality of legal protection of investors. Ownership in the United States is dispersed, institutionalised through pension funds, legalistic in the protection of investors. Ownership in Continental Europe is concentrated, legal protection of investors is weak, and few banks and institutions are among the shareholders. Unlike in the United States, families and industrial companies are common large shareholders in European listed companies. Controlling shareholders in Europe tend to use pyramidal ownership and shareholders presence on the board to leverage their power in the firm (La Porta *et al.*, 1999).

Mayer (1997) investigates the differences between the nature and the concentration of ownership in countries belonging to various financial systems. Since concentrated ownership discourage managerial activism, it may be that different systems respond to different economic needs. Hence, legislators of various countries should analyse the needs and the life cycle of their national industries before trying to harmonise corporate governance rules. Firms should be freer to choose their own structure of ownership and the freedom left to their managers. His approach is consistent with Wymeersch (1997) who pleads for non constraining measures in corporate governance harmonisation across countries, and particularly in Belgium.

Barca and Becht (2001) edited a large empirical research across nine European countries, focusing on national characteristics of corporate governance and of the methods used to separate ownership and control.

Among studies specific to corporate governance in Belgium, Daems (1998) attempts to explain the paradox between performance of Belgian companies and theirs difficulties to undertake strategies of growth. De Keuleneer (1997) proposes ways to ally autonomy and control for Belgian companies.

Van Hulle made several contributions on take-overs in Belgium (1991,1996) before focusing on the question of holding companies (1998) and international comparison of corporate governance systems (1999a,1999b). Specific to control contests, Van Hulle *et al*. (1991) analyse take-overs involving a Belgian firm from 1970 to 1985. Changes in control lead on average to 37% of abnormal return for targets, and none for the bidder. Van Hulle (1999b) discusses the strong points and the weak points of the Anglo-Saxon corporate governance system versus the Belgian one. She considers ownership concentration in Belgium as an efficient way of allocating resources, but that can also prevent firm growth.

Becht *et al*. (2001) describe ownership of Belgium firms in 1995 and give a few examples of corporate groups using several devices to separate ownership and control. Van der Elst (1998, 1999) present empirical results on ownership concentration and on the different types of investors in Belgian listed companies in 1997. In corporate publications, Van Waterschoot (1996, 1997, 1998, 2000) comments the evolution of ownership transparency and features on the Brussels Stock Exchange.

In Belgium like in the rest of the world, the consequences of ownership concentration on corporations has been investigated often. The effects identified range from the market for corporate control to abnormal returns in case of block trades, including possible consequences on limited growth, limited liquidity, and vulnerability to take-overs attempts.

But little has been investigated on the dynamic of formation of this concentrated ownership, as well as on the way power over large corporations is shared among large blockholders. Brukart *et al*. (2000) deplore that only a few papers, address the issue of control by a leading minority blockholder. And topics related to interactions among blockholders has only received few research attention, as stated by Earle et al. (2003).

Regardless of the corporate governance system, data on ownership structure are difficult to apprehend and to summarise into an internal logic driving the figures. Does such an underlying pattern exist, and, if yes, is it the same for both continents?

Zwiebel (1995) models ownership formation dynamics as a cooperative game among block investors to control the firm and share the private benefits of control. Main results are that the presence of a large shareholder deters other shareholders from investing in the firm, and, the larger the first shareholder is, the smaller the others tend to be, exhibiting a clientele effect. The author runs empirical testing of its predictions using US data of firms from the *Fortune* 500, finding good applicability of his results.

After this contribution, several papers have used the notion of partial benefits of control, either in theoretical applications, or by testing the implications explicitly. Brukart *et al*. (2000) build up on Zwiebel (1995) to analyse control transfers in firms with a dominant minority blockholder and otherwise dispersed owners. Bennedsen and Wolfenzon (2000) develop a model for corporations characterised by the absence of a resale market for the shares. They establish that the best ownership structure in terms of efficiency for the firm is one with either a single large shareholder, or shareholders of roughly the same size. Consistent with Zwiebel (1995), the intuition is that finding a coalition with sufficient voting power is easier with these two patterns of ownership structure.

The need for testing the implications of Zwiebel (1995) is first mentioned in Bethel et al. (1998). Using US data for the 1980 Fortune 500 list, the authors empirically show that activist investors are more likely to purchase large blocks of shares in highly diversified firms with poor profitability. Following

the assumption of Zwiebel (1995) that non-controlling blockholders exert control through coalitions, the authors estimate as an interesting avenue for research the investigation of the link between the effectiveness of minority control and the size and number of share blocks outstanding.

Earle et al. (2003) use the Shapley value to examine the impact of ownership concentration on firm performance using panel data for firms listed in Budapest between 1996 and 2000. Their results suggest that an increased concentration in the hands of a single shareholder leads to better corporate performance. Data support Zwiebel's clientele effect, since the second largest shareholder tends to be smaller if the dominant shareholder is larger. Contrary to Zwiebel's predictions, empirical results for Hungary show that large blockholdings often coexist within the firm. It follows that additional large blockholders in a firm may have costs that outweigh their benefits, interfering with the exercise of control, and reducing liquidity.

Trojanowski (2003) investigates the valuation effects of share block trade on the Polish stock market. Block premia are interpreted as a sign of private benefits sharing. Results show that the level of the block premia increases with the dispersion of the voting rights, in line with the predictions of Zwiebel (1995).

Gutierrez and Tribo (2003) analyse the effects of concentrated ownership structures with multiple shareholders for Spanish firms between 1996 and 1999. Results are consistent with Zwiebel (1995); the number of blockholders decreases when the main shareholder in a firm gets larger. Consistent with Bennedsen and Wolfenzon (2000), the lower the stake of the controlling group, the higher the number of blockholders. This result also supports the predictions of Zwiebel (1995) about the symmetry in the stakes of blockholders.

In line with this recent trend of research specific to Continental and Eastern Europe, our paper tests the existence of the equilibria defined in Zwiebel (1995) on direct ownership data of listed Belgian companies in 1995 and in 1999.

Corporate control in Belgium is worth analysing for several reasons. The country belongs to a Continental corporate covernance system, profoundly different from the Anglo-Saxon one. Belgium is an industrialised country, comparable to those of the G7. It is a small, open economy with strong commercial links with Germany, and the mechanisms of corporate control and ownership structures found for Belgium in this paper could interestingly be compared with the corporate governance features of countries of Eastern Europe, that are rapidly growing and developing in a new market economy, like the Czech Republic, Hungary, or Ukraine.

Our paper presents an original methodology to test each prediction of Zwiebel (1995). Results allows us to comment and to evaluate the robustness of the model, as well as its weaknesses. The final discussion opens new fields for research in the modeling of ownership structure adapted to Europe.

The paper structures as follows: section 2 summarises the findings and the empirical evidence in Zweibel (1995). Section 3 details the data and the methodology used to test the equilibria of the model for Belgium. Section 4 presents and comments to results of the tests. Section 5 evaluates the model and suggests alternative patterns of collusion in Belgium. Section 6 concludes.

2. The model

Looking for the determinants of the behaviour of investors, Zwiebel (1995) proposes a theoretical model using game theory to explain why many investors choose to hold significant blocks of equity in the same firm, despite theoretical recommendations for diversification. In a co-operative game framework, small shareholders of a firm may decide to join together in order to build controlling coalitions, conferring to their members partial benefits of control. The divisibility of the private benefits of control, such as synergies obtainable through mergers, favours conferred by a firm, access to inside information and utility derived directly from power of control, is a key hypothesis of the model. In equilibrium, the repartition of the control benefits corresponds to the shareholder's strategic importance in forming winning coalitions. The Shapley value of votes held by small shareholders is the main proxy for the control value of these votes. Shapley value can be seen as the probability of being is pivotal in a random coalition formation.

Let : J identical firms, each with a single class of equity.

Total private benefits of control in each firm are 1.

Let two types of risk-neutral investors, of different sizes :

type 1: N shareholders of size n, large, capable of dominating one firm ;

type 2: M shareholders of size m, medium-size, large enough to hold significant blocks and to participate in coalitions, but not large enough to dominate a firm.

All shares not held by shareholders investing in the company are supposed to be in the hands of liquidity traders who are too small individually to acquire blocks and to obtain any benefits of control. These traders vote randomly, creating noise in the outcome of close control contests and smoothing the value of control to large shareholders.

Players act according to the following timing:

type 1 shareholders invest all their wealth in one firm;

type 2 shareholders react by investing also all their wealth in one firm;

type 2 shareholders distribute themselves across all firms without type 1 shareholders and challenge a subset of firms with type 1 shareholders, in a manner

that equates the benefits they receive from all firms in which they invest.

Equilibria of the game are reduced to pure-strategy sub-game perfect equilibria (PSSPE) of type 2 investors. They are stable for type 2 in the sense that no type 2 investors would want to re-invest.

The clientele effect is the main result of the game. That is, the larger the first investor is, the smaller the other shareholders will be in the firm. As a consequence, there are three types of firms in equilibrium: firms with one dominant shareholder uncontested by any small shareholder, firms with one large shareholder who is contested by smaller shareholders, firms having no dominant shareholders but numerous small shareholders.

Since the number of small shareholders needed to challenge a large shareholder increases with the size of the large shareholder compared to the small ones, there will be less firms that can be challenged in equilibrium as the difference in size between large and small investors grows. It follows that, when *s* (s=n/m, size ratio between type 1 and type 2 investors) exceeds a limit *s**, firms dominated by a type 1 (large) shareholder are not challenged in equilibrium. Zwiebel's proposition 3 states that as type 1 shareholders' size approaches that of type 2 (*s* tends to 1), type 2 shareholders tend to distribute themselves symmetrically across all firms they challenge. In particular, when s=1, (all shareholders are identical in size), all firms have the same number of shareholders. The equilibrium distributions of type 2 shareholders are unaffected if parameters are proportionally scaled up or down. Finally, the largest shareholders tend to "create their own space", their presence dissuade other large shareholders from investing in the firm. So, according to the last result, the type of ownership structure that is excluded is the one where several large shareholders cohabit in one firm.

In order to find supporting evidence for his theoretical predictions, the author briefly applies the model to US data, for the 456 firms reported in 1981 CDE Stock Ownership Directory: Fortune 500.

To test the first implication according to which largest shareholders tend to "create their own space", Zwiebel tests for a difference between the distributions of blocks of shares above 10% and 20% respectively in each firm of the US top 500 compared to random distributions. For the random allocation, each large block is taken to have an identical chance of being allocated in any firm. Goodness of Fit tests show a significant difference at 0.001 level between the real distributions and the random distributions, in support of the theory. The great majority of US firms count only one or two large shareholders.

To test the clientele effect, the author runs an Ordinary least Square regression of the number of 1% blocks of shares on the size of the largest shareholder and a constant. The regression coefficient is significantly negative at a 0.001 level, in line with the prediction of a negative relation between the size of the first shareholder, and the number of the other shareholders of the firm.

3. Data and methodology

3.1. Data

To test the applicability Zwiebel's results to Belgium in terms of ownership structures in equilibrium, we use direct ownership data of the 140 Belgian listed companies in December 1995 and the 170 listed firms in December 1999. Data tested are direct ownership data, since control contests are the strongest among the direct holders. Data sources come from CD-Rom edited by the Belgian Central Bank that gathers all the ownership declarations of the listed Belgian companies. Belgian law requires indeed that the owners of listed companies reveal their identity to the firm and to the Market Authorities each time they cross, upwards or downwards, a threshold of five percent of voting shares.

The market capitalisation of the Belgian listed companies represented 38% of the Gross National Product in 1995, and 78% in 1999[1]. The turnover has doubled over the period, reaching 27% of the market capitalisation in 1999. Several large firms dominate the market: the Top 10 account for nearly 70% of the total market capitalisation, while the Top 50 represent 95% of the market capitalisation. The BEL20 market index, including 20 firms, accounts for 83% of the total market turnover.

Trading volume in 1999 ranked in the median of the European market places, ahead of Paris and Frankfurt. The Brussels Stock Exchange has merged with the Paris Stock Exchange and the Amsterdam Stock Exchange, creating Euronext in 2000, the largest Stock Exchange in Continental Europe.

Listed firms belong to all sectors of the economy, but the financial sector is prominent. Banks rank first, with one third of the market capitalisation, followed by utilities (14%), and investment companies (12%). Shareholdings in Belgium is characterised by foreign stakeholders and Belgian investment companies, resulting from the split of universal banking in 1935.

Several listed Belgian companies have changed hands in the late nineties, bought by foreign larger players. The *Générale de Belgique*, largest holding in the country, bought by the French conglomerate Suez, is the best example of this phenomenon.

3.2. Methodology: categories of firms and ownership variables

Firms are split in categories according to the size of their dominant shareholder. Four variables describe the ownership structure. Testing the existence of significant differences between categories will then

[1] Stock Market Data come from the Statistics Department of the Euronext Stock Exchange.

test whether the size of the dominant shareholder impacts the rest of the ownership distribution.

We consider the size of this largest shareholder in function of the percentage of the shares declared to the Market Authorities.

For example, if a dominant shareholder holds 30% of the voting shares in a firm where 60% of the shares have been declared, then the dominant shareholder is set at 50% of the ownership declared.

Using relative variables rather than absolute ones has the advantage of reducing the size effect of the dominant shareholder. Indeed, a main criticism that one can make to such a model is to lead to spurious results in case of concentrated ownership. The model predicts that, the larger the dominant shareholder, the fewer the others investors around him (clientele effect).

Since ownership stakes are capped to 100%, a growing shareholder will inevitably reduce the size, and potentially the number of the other shareholders in the firm. This is why we express ownership variables in relative terms, to the size of the ownership declared.

Since the model focuses on ratio of power between investors, it conveys to measure their size in function of one another.

We divide the stake of the dominant shareholder by [1-float]. It accounts for the fact that his influence will not be identical if he holds 35% of the votes in a highly dispersed ownership, or in presence of another shareholder of 25%. Four variables are used to define the ownership distribution:

[Max stake/(1-float)] describes the size of the dominant shareholder relative to the ownership declared. This first variable is used to allocate the listed companies across categories.

[(Max stake- Second stake)/Max stake] reflects the size of the second largest shareholder of the firm, relative to the size of the largest one. The closer the variable to 1, the smaller the second investor. If the variable equals 1, there is no other declared investor in the firm. If the variable equals 0, the two first owners have exactly the same size.

[(Max stake-Avge stake of others)/Max stake] expresses the average size of the investor in the firm (other than the largest one), relative to the size of the dominant shareholder. The closer to 1, the smaller the others.

[Nbr of others] equals the number of the other investors in the firm next to the dominant shareholder.

3.3. Econometric testing

We use a non-parametric test to assess the significance of the differences between the categories of firms. Non-parametric tests do not imply any assumption on the shape of the distributions, using only the ranks and signs of the observations. The tests are more robust to extreme values and to deviations from a pre-supposed shape of distribution. It is particularly useful in an analysis where an ownership distribution is expected to vary with the dominant shareholder.

The Kruskal-Wallis test (KW) involves k independent samples. The statistics of the test is given by:

$$KW = C(N)\sum_{j=1}^{k} n_j (R_{j.} - \frac{N+1}{2})^2 \xrightarrow{d} \chi^2_{K-1}$$

when $n_1,\ldots, n_k \to \infty$, where C is a constant depending on N.

We reject H_0 when:

$$KW \rangle \chi^2_{k-1,1-\alpha}$$

Kruskal-Wallis is the non-parametric equivalent of the analysis of variance with one factor ("One Way ANOVA") and fits non linear data. KW test is appropriate here, unlike for instance the Wilcoxon signed rank test, applicable to test the differences between dependent distributions.

Other alternative like the Poisson model has been rejected since tests rejected the hypothesis that the data on the number of shareholders were Poisson distributed.

4. Testing Belgian data

4.1. Direct ownership in 1995

Descriptive statistics

The five categories relate to the relative size of the dominant owner, in function of declared ownership: 0-33%, 33-50%, 50-66%, 66-80%, 80-100%. Each category corresponds to a legal threshold of control in listed companies: a full tender offer has to be made once a single shareholders owns 33% of the votes, 50% is the absolute majority level, and 66% and 80% are two qualified majority levels. Qualified majorities are required to take some important decisions at the General Meeting, like changing the Acts of Incorporation, or raising capital. The number of firms per category is rather homogenous, except for the first category that counts a particularly low number of items.

This result is to link with the high level of ownership concentration in Belgium, where largest direct shareholder owns on average 45% of the voting shares. The second largest owner lag far behind, not exceeds 11% of the voting shares on average. Lower ranks do not exceed an average 5% (Chapelle, 2001). In 1999, there is a slight reduction of the voting concentration for the largest shareholder, decreasing from 45% to 42% on average. Shareholders of other ranks are slightly smaller as well (Chapelle, 2001).

Table 1 displays the average value of each variable per category. Figures 1 and 2 display the dynamic of each variable across categories.

Table 1. Ownership variables per category - 1995

Variables	Category 1	Category 2	Category 3	Category 4	Category 5
	0 % – 33%	33 % - 50%	50% - 66%	66% - 80%	80%-100%
Max stake/(1-float)	25.5%	42.2%	57.6%	72.8%	94.5%
(Max stake – Second stake) / Max stake	18.2%	33.8%	49.9%	$	95.7%
(Max stake – Avge others) / Max stake	63.1%	66.5%	67.0%	86.8%	97.1%
Number others	16.4	6.2	5.1	4.4	1.9
Number of firms per category	13	27	26	20	54

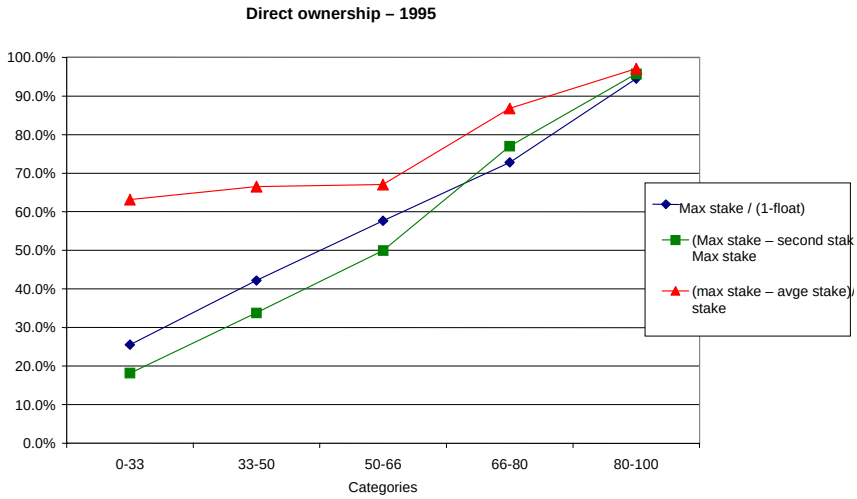

Fig. 1. Shareholders 'size per category - 1995

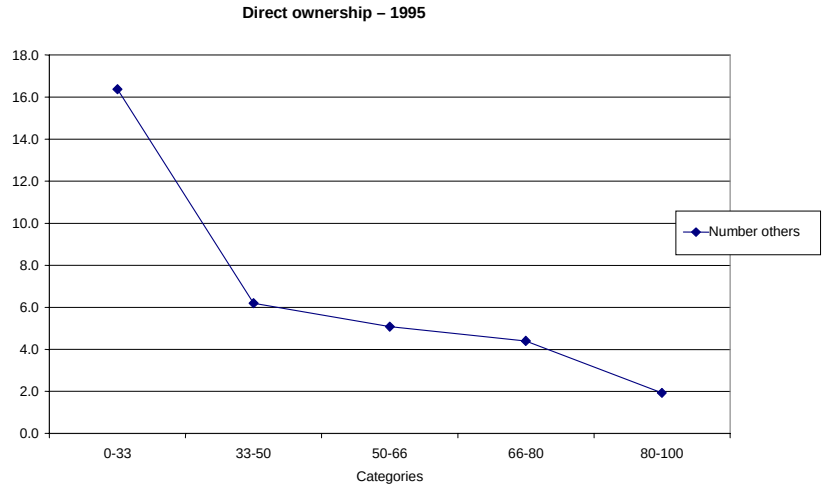

Fig. 2. Number of shareholders per category – 1995

These figures tend to confirm the predictions of the model. In figure 1, the size of the other investors neatly decreases once the dominant shareholder grows. Upward sloping curves in the first figure reflect an increasing gap across categories between the size of the dominant shareholder, and the size of the others. In category 1 for instance, the dominant shareholder represents one fourth of the declared ownership.

In practice, he controls around 25% of the votes expressed at the General Meeting. Facing him, the second largest investor is only 18% smaller. He can challenge him for control, by colluding with other investors, not much smaller on average. But in category 4, the dominant shareholder represents on average three-quarters of the declared ownership. Facing him, the second largest investor is four times smaller. The dominant shareholder can benefit from the full control over the firm without being challenged by other investors. Figure 2 shows how the number of shareholders in a firm decreases across categories, in particular between category 1 and category 2, when the dominant shareholder gets a significant influence over the declared ownership.

Table 2. Direct ownership - 1995 – results of the KW tests

Categories [Max stake/(1-float)]	(Max stake – Second stake) / Max stake	(Max stake – Avg. others) / Max stake	Number others
C1 (0-33) - C2 (33-50)	0.01%	0.01%	11%
C2 (33-50) - C3 (50-66)	0.01%	0.01%	/
C3 (50-66) - C4 (66-80)	1.5%	/	/
C4 (66-80) - C5(80-100)	8.7%	/	1.9%
C3 - C4 - C5 (>50%)	0.3%	/	1.8%

Legend: Figures in percentages express the level of significance, a bar express no significant difference between two categories.

b. Results of the tests

Table 2 appeals several results. First, all the differences between categories are significant for the variable including the size of the second investor. It follows that, in every categories of ownership, the second shareholder adjusts his investments in function of the size of the dominant shareholder. Second, the presence of the dominant shareholder impacts the average size of the other shareholders only in the three first categories, when the dominant shareholder can still be challenged for control. Third, the number of shareholders in the firm is significantly different between categories 1 and 2, where the dispersed ownership in category 1 gets into a more challenged situation for control in category 2. The number of owners remains stable over categories 2 and 3 before decreasing again in categories 4 and 5 where the ownership structure becomes dominated by a shareholder almost left alone in the ownership declared.

c. Control contests

Figure 3 displays an interesting picture of the possible the control contests among two shareholders in a Belgian listed company. The upward sloping curve represents the stake of the dominant shareholder relative to the declared ownership. The second curve represents the stake of the second largest shareholder relative to the declared ownership.

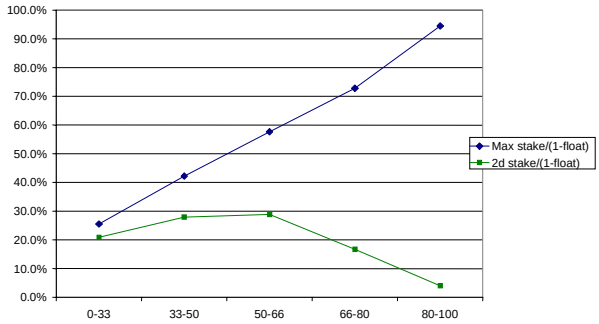

Fig. 3. Comparative sizes of the two largest investors per firm - 1995

The second shareholder tends to rise as long as the dominant shareholder controls less than 50% of the declared ownership. Everything is as if the two largest shareholders fight for control until one of them wins. Beyond the 50% threshold, the second shareholder, and the others, own only investment stakes, without real power. They steadily decrease in size across categories, as the dominant shareholder gets larger. However, the phenomenon has two alternative interpretations. One is the size effect. Even working with the relative variables, we can not completely correct for the limited ownership to 100%. If the first shareholder is very large, there is no room left for other investors.

The second interpretation accounts for partial benefits of control. The dominant shareholder of categories 3 and more, if not confident about his control expressed in relative terms, may want to collude with one or several smaller investors. In higher categories, he might rather collude with a small second shareholder, since it reinforces his weight in the coalition made of several small shareholders, each of them sharing a modest part of the private benefits of control.

4.4. Direct ownership in 1999

a. Descriptive statistics

To increase the reliability of the results as well as to compare the evolution of the ownership structure of listed Belgian companies, we extend the analysis to the year 1999. Since our first results relate to behaviour patterns, ruled by power relations rather than by absolute numbers, one can expect stable results over time.

Table 3 summarises the average value of each variable per category. Figures 4 and 5 display the dynamic of each variable across categories.

Table 3. Ownership variables per category - 1999

Variables	Category 1	Category 2	Category 3	Category 4	Category 5
	0 % – 33%	33 % - 50%	50% - 66%	66% - 80%	80%-100%
Max stake/(1-float)	24.8%	41.9%	56.0%	71.7%	94.7%
(Max stake – Second stake) / Max stake	9.7%	32.2%	46.2%	74.0%	95.4%
(Max stake – Avg. others) / Max stake	52.6%	60.1%	67.7%	81.3%	96.8%
Number others	8.8	5.5	5.5	4.3	2.7
Number of firms per category	13	20	27	18	62

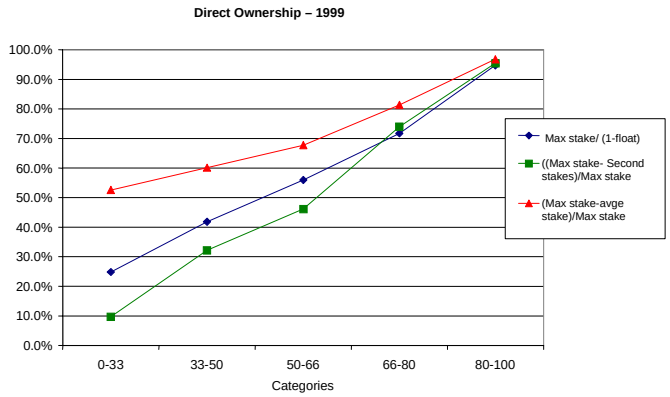

Fig. 4. Shareholders 'size per category - 1999

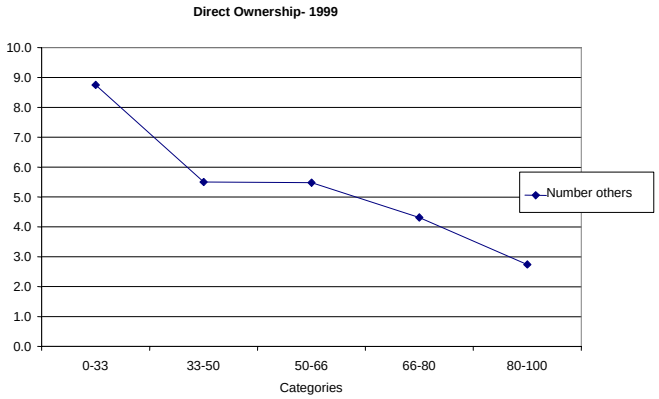

Fig. 5. Number of shareholders per category – 1999

Ownership schemes are essentially similar for years 1995 and 1999. The difference lies in the number of shareholders per firm: smaller in category 1, the number decrease is slower across higher categories.

b. Results of the tests

Table 4. Direct ownership - 1999 – results of the KW tests

Categories [Max stake/(1-float)]	(Max stake – Second stake) / Max stake	(Max stake – Avg. others) / Max stake	Number others
C1 (0-33) - C2 (33-50)	0.01%	0.01%	0.03%
C2 (33-50) - C3 (50-66)	0.01%	4.5%	/
C3 (50-66) - C4 (66-80)	6.0%	8.8%	/
C4 (66-80) - C5(80-100)	0.7%	/	3.7%
C3 - C4 - C5 (>50%)	0.02%	/	3.5%

Legend: Figures in percentages express the level of significance, a bar express no significant difference between two categories.

Table 4 confirms the stability of the results over time. The size of the second shareholder is always impacted by the size of the dominant investor. The average size of the other shareholders is influenced by the leading shareholder, up to category 4. The number of shareholders in the firm is significantly different between categories 1 and 2, and between categories 4 and 5, where the dominant shareholder is almost left alone for control.

c. Control contests

Figure 6 illustrates the comparative sizes of the two largest shareholders per firm in 1999. Conclusions are similar than for 1995. Control contests are effective among large investors only until the largest one reaches 50% of the *declared* ownership.

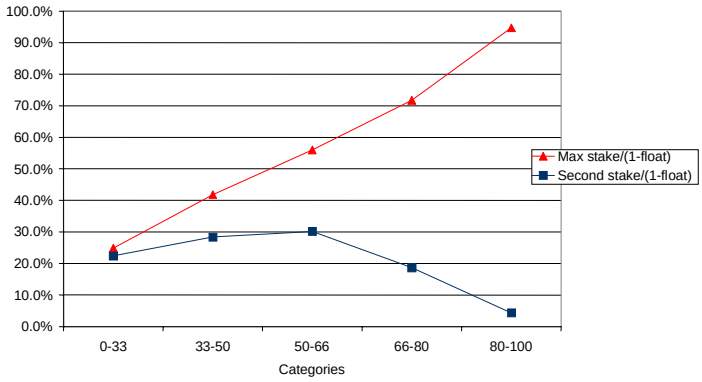

Fig. 6. Comparative sizes of the two largest investors par firm - 1999

4.5. Applicability of the model to the Belgian case

a. Ownership structures in equilibrium

In the perspective of partial benefits of control, one can identify the three types of equilibria predicted by the model of Zwiebel (1995):

Type 1: firms having no dominant shareholder but numerous small block shareholders. Category 1 is the best example of this type of ownership structure: 18 different shareholders in the firm on average in 1995, 10 in 1999. The largest shareholder accounts for less than one third of the declared ownership and the second largest one is of similar size: 80% in 1995, 90% in 1999. This category includes only a minority of listed Belgian companies: 8 out of 140 in 1995 and in 1999.

Type 2: firms with one large shareholder, but potentially challenged for control by smaller blockholders. This case applies to category 2, maybe category 3. There are on average 5 and 6 shareholders per firm, the leading shareholder does not reach 50% of the declared voting shares and the second shareholder keeps investing in the firm, even when the leading shareholder grows. This type of ownership structure characterises about one third of the listed Belgian companies, both in 1995 and in 1999.

Type 3: firms having one dominant shareholder, not challged for control, surrounded by few or none small shareholders. The last two or three categories illustrate this pattern: the largest shareholder has a relative or an absolute majority of the votes, and the others are few, 3 or 4, and 70% to 90% smaller. This ownership structure is common among listed Belgian firms: more than half of them fall into in categories 4 and 5, three quarters if we include category 3, both in 1995 and in 1999.

The most concentrated type of ownership equilibrium appears clearly to be over-represented in Belgium. Two factors play a role in this result: power and size. Even if the direct influence of a shareholder over the daily management of a listed company is illegal in Belgium, the board members representing the interests of large shareholders are a powerful way to circumvent this rule. Thus, large shareholders benefit from greater power than they are theoretically entitled to, consistent with La Porta et al. (1999). It gives investors incantation to hold large stakes in listed companies. Conversely, legal constraints to the power of large shareholder in Anglo-Saxon countries discourage many of them to invest large stakes in listed companies.

A second element is size. The relative small size of the listed companies in Belgium facilitates high levels of ownership concentration, more affordable to corporate investors, even to wealthy individuals. Ownership concentration and company size are negatively correlated: an OLS regression of the size of the dominant owner on company size displays a negative, statistically significant, regression coefficient.

b. Clientele effect

Finally, we replicate Zwiebel's test for the clientele effect: the larger the dominant owner, the fewer the others investors around him in the firm. Using data for Belgium and regressing the number of 1% to 5% direct shareholders on the size of the largest block shareholder and a constant, we find a negative coefficient (-0.03), significant at 0.001 level (table 5), supporting the clientele effect result for Belgium. The Law stipulates a declaration threshold of 5% ownership. However, many listed companies reduce this threshold to 3% and some shareholders declare even smaller stakes.

Table 5. Test for a clientele effect

	Direct Ownership -	1995		
Blocs	Coefficient	Std Error	t-value	P-value
Max Owner	-0.030099	0.0085978	-3.508	0.001
Constant	2.086101	0.4253449	6.597	0.000

4.6. Examples of firms

Examples of firms below, selected from each category of the 1999, help making the results more concrete:

Category 1: the largest shareholder holds less than 33% of the declared voting shares.

Floridienne: declared ownership is of 51.6%. Float equals thus 48.8%. Belgocodex, a vehicle representing the shares of the founding family, holds 14.1% of the shares, 28.6% of the declared ownership.

Category 2: the largest shareholder holds between 33% and 50% of the declared voting shares.

Bekaert: declared ownership is of 40.0%. The administrative office of the Bekaert family holds 19.5% of the total ownership, more than one half of the declared ownership.

Category 3: the largest shareholder holds between 50% and 66% of the declared voting shares.

Compagnie Nationale à Portefeuille: declared ownership is of 72.9%. Frère-Bourgeois, holds via the firm Erbe, 41.1% of the shares of CNP, 56% of the declared ownership.

Category 4: the largest shareholder holds between 66% and 80% of the declared voting shares.

Fortis B: declared ownership is of 31.2% only. The Suez group holds 21% of the voting shares, more than two thirds of the declared ownership.

Category 5: the largest shareholder holds more than 80% of the declared voting shares.

Tessenderloo: declared ownership is of 43.8%. EMC group holds 42% of the voting shares, almost the full declared ownership.

5. Collusion of large shareholders

Predictions of ownership structure based on private benefits of control appear to hold both for the US (Zwiebel, 1995) and for Belgium.

The supposed high private benefits in Europe may be a reason for the applicability of the model to Belgium. But the may be also too general, applicable to many structures of control. It counts a high number of degrees of freedom possibly neglects some important issues in which the differences between the two systems should appear and in particular, a possible collusion between large owners. A first limitation of the model is the absence of a quantitative definition of a "large" shareholder (shareholder of type 1 in the model), and of a "small" shareholder (type 2). Type 1 shareholder is defined as large enough to dominate a firm. But what is it to "dominate" a firm? Is it to be the controlling shareholder with more than 50% of the shares, or to be a leading shareholder with 20% or 25% of the voting capital? On US data, the second alternative seems to be the most likely. Type 2 shareholders are large enough to participate in controlling coalitions, but too small to dominate the firm alone. According to this criterion, a type 2 shareholder is controlling at least a few percentages of the ownership, like 4-5% of the voting shares.

This lack of precision makes the model quite general, easing its applicability to countries of different corporate governance systems. Without ownership thresholds, it can apply to a country where the "large" shareholders are much larger than in the United States, like Belgium, but also other European countries, like Poland (Trojanowski, 2003) or Spain (Gutierrez and Tribo, 2003).

Another hypothesis of the model asserts that the smaller investors are of identical size and a dominating shareholder is always supposed to be alone against all. This is far from being verified in Belgian data: standard errors among investors other than the largest one are far too high to accept this hypothesis. Zweibel (1995) does not consider the possibility of a joint control between two or three large shareholders. Control is either held by a single investor, or by a multitude.

This may hide some alternative ownership pattern more specific to Continental Europe. Figures 3 and 6 reveal a phenomenon that is not taken into account by Zwiebel: the size growth of the second largest shareholder along with the size of the leading shareholder, up to a certain point. The size of the second largest shareholder increases until the leading shareholder reaches 50% of the declared votes. It reflects an existing practice among shareholders of Belgian listed companies: the alliance between the two (or more) large shareholders in order to get uncontested control of the firm.

Such type of collusion can be tested by investigate the declared voting coalitions among direct shareholders. Voting coalitions are legal in Belgium and notified to the Market Authorities. These are contracts signed between shareholders of a company deciding to vote jointly on a number of decisions taken at the General Assembly. Shareholders may decide to vote jointly for all decisions, or only on a certain type. Figure 8 displays the histogram of voting blocks in 1995, where each voting coalition of shareholders is considered as a single entity.

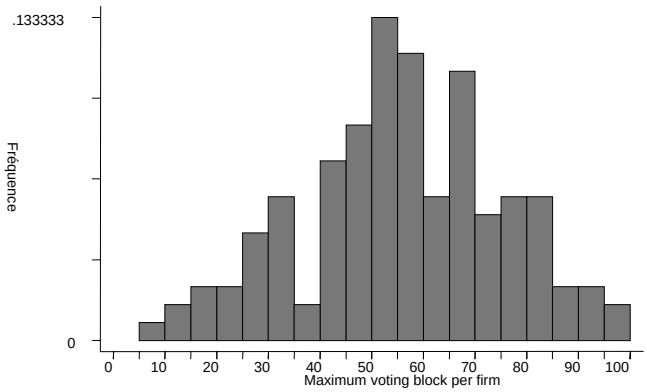

Fig. 8. Histogram of maximum voting block per firm - 1995

The highest concentration of firms included in the 50%-60% rank of votes tends to confirm that large shareholders collude to get the absolute majority of the votes. This contradicts Zwiebel's prediction that large shareholders "create their own space", deterring other large shareholder from investing on the firm.

6. Summary and conclusion

The objective was here to address the determinants of ownership distribution and to identify the pattern of control contests among investors in Belgian listed companies. The question was also to assess the robustness of those predictions and results across different systems of corporate governance, such as Western Europe, Eastern Europe, or the Anglo-Saxon countries.

In this objective, we run an empirical study based on direct ownership data of Belgian listed companies, testing and evaluating a model based on divisible private benefits of control, initially developed and tested for the United States. The model, where shareholders are only driven by the chance of getting private benefits of control, predicts three types of ownership structures in equilibrium:

firms with one dominant shareholder uncontested by any small shareholder,

firms with one large shareholder who is contested by smaller shareholder,

firms having no dominant shareholders but numerous small shareholder.

Non-parametrical tests have been used on direct ownership data for 1995 and 1999 to verify the existence of these types of structure in Belgian listed companies. We found a good applicability of the theoretical predictions to the Belgian case. Results are stable over time.

The three types of equilibrium of ownership patterns predicted by the model have been identified in the data for Belgium. Firms with no dominant shareholder and many small investors represent a small minority (less than 10%) of the Belgian listed companies. They count more than 10 declared shareholders, no one representing more than 33% of the votes declared. The first and second largest owners are of similar size. The second type of equilibrium, where a dominant shareholder is challenged for control, represents about one third of the Belgian companies. They count 5 to 6 shareholders, the first one being larger, but the others are close to one another in terms of size. They could collude to challenge him for control. The third type is characterised by a highly concentrated ownership, with 2 or 3 shareholders where the dominant shareholder can not be challenged for control. This last type represents more than one half of the Belgian listed companies.

More specific to the control contest issue, figures for Belgium show that the race for control between the two larger shareholders of one firm is effective only until the largest one reaches 50% of the declared ownership.

The last section evaluates the model and its limitations. In particular, it occults a typical Continental phenomenon: the collusion between large shareholders. Indeed, the US model considers a possible collusion between small investors only, but a large shareholder is always supposed to act alone. The analysis of voting coalitions in Belgium, shows collusion between two large shareholders of one firm or more, in order to build an uncontested controlling block. This contradicts the theoretical results stating that large shareholders "create their own space", deterring other large investors from investing in the firm. A natural European extension of Zwiebel's model in order to adapt it to the specific features would suppress the hypothesis of identical size of small shareholders and introduce a third type of investors, medium-sized, large enough to control a firm by colluding with another medium-sized investor. Large investors would be supposed to control alone a majority of the votes, and small shareholders would need to build larger coalitions to be able to challenge large and medium investors. Due to co-ordination problems, we do not expect many equilibria with large coalitions of small owners, but rather situations of two medium-size investors colluding, or firms dominated by one large owner controlling the majority of the votes. These types of ownership structures would better fit the European reality.

References

1. Barca, F. and Becht, M. eds., 2001. *Ownership and Control: A European Perspective*, Oxford University Press.
2. Barclay, M.J. and Holderness, C.G., 1989. "Private Benefits from Control of Public Corporations", Journal of Financial Economics, 25(2), December, 371-395.
3. Becht, M. Chapelle, A. and Renneboog,L., 2001. "Shareholding Cascades: the Separation of Ownership and Control in Belgium", CentER Discussion Paper, n° 9996, in *The Control of Corporate Europe*, ECGN, Oxford University Press (2001).
4. Bethel, J., Proter Liebeskind J., and T. Opler, 1998. "Block Share Purchases *and Corporate Performance", Journal of Finance, vol 53 (2), pp 605-634.*
5. Burkart M., D. Gromb and F. Panunzi, 1997. "Large shareholders, monitoring, and the value of the firm", *Quarterly Journal of Economics*, August 1997.
6. Burkart M., D. Gromb and F. Panunzi, 2000. "Agency conflicts in Public and Negociated Transfers of Corporate Control", *Journal of Finance*, vol. 55 (2), pp 647-673.
7. Bennedsen, M., Wolfenzon, D., 2000. "The balance of power in closely held corporations", *Journal of Financial Economics*, 58, pp 113 – 139.
8. Chapelle, A., 2001. "Corporate Governance en Belgique: l'effet des pyramides", Presses Universitaires de Bruxelles.
9. Daems, H., 1985. "The Economics of hierarchical organisation, Tijdschrift vooor Economie and Managemen"t, 30 (3-4), 1985, 339-348.
10. Daems, H., 1990. "Nationale Verankering en concurrentievermogen, Tijdschrift vooor Economie and Management", 35(1), feb 90, 73-85.
11. Daems, H., 1998. *De paradox van het Belgisch kapitalisme*, Lannoo, Tielt.
12. De Keuleneer, E., 1997. *L'Autonomie bien contrôlée*, eds. La Médiane.
13. Del Guercio, D. and Hawkins J., 1999. "The motivation ad impact of pension funds activism", *Journal of Financial Economics* 52(3), June, 293-340.
14. Demsetz, H, Lehn, K., 1985. "The structure of corporate ownership: causes and consequences", *Journal of Political Economy*, vol.93, N° 6, 1155-1177.
15. Denis, D., Denis, D. and Sarin A., 1997. "Ownership structure and top executive turnover", *Journal of Financial Economics*, 45(2), August, 193-221.
16. Dewatripont, M., 1993. "The 'Leading Shareholder' Strategy, Takeover Contests and Stock Price Dynamics", *European Economic Review*, 37, 983-1004.
17. De Wulf et al. (eds.), 1998. *Corporate governance: het Belgische perpectief*, Intersentia Rechtswetenschappen, Antwerpen-Groningen.
18. Earle, J., Kucsera, C., and A. Tilegdy, 2003. "Ownership Concentration and Corporate Performance on the Budapest Stock Exchange: Do Too Many Cooks Spoil the Goulash?", *Upjohn Institute Staff Working Paper*, 3-93.
19. Franks, J., Mayer, C., 2001. "Ownership and control of German corporations", *Review of Financial Studies*, n°14, 99 943-977.
20. Franks, J., Mayer, C., and Renneboog L., 2001. "Who disciplines management in poorly performing companies?", *Journal of Financial Intermediation*, vol.10, n°3-4, pp 209-248.
21. Grossman, S.J. and O. D. Hart, 1980. "Takeover Bids, the Free-Rider Problem, and the Theory of the Corporation", *Bell Journal of Economics*, 11, 42-64.
22. Grossman, S.J. and O. D. Hart, 1988. "One Share – One Vote and the Market for Corporate Control", *Journal of Financial Economics*, 20, 175-202.
23. Gutierrez, M. and J. Tribo, 2003. "Multiple Large Shareholders in Corporate Control: Evidence for Spain", Universidad Carlos III, working paper.
24. Harris, M. , Raviv, A., 1988. "Corporate Control Contests and Capital Structure", Journal of Financial Economics, 20, 55-88.
25. Kabir, R., Cantrijn, D. and Jeunink, A.,1997. "Take-over defences, ownership structure and stock returns in the Netherlands: an empirical analysis", *Strategic Management Journal*, vol.18:2, 97-109.
26. La Porta, R; Lopez-De-Silanes, F.; Shleifer, A., 1999. "Corporate Ownership around the World", *Journal of Finance*, 54(2), April, 471-517.
27. La Porta, R; Lopez-De-Silanes, F.; Shleifer, A., and Vishny, R., 1998. "Law and Finance", *Journal of Political Economy*; 106(6), December, 1113-55.
28. Maug, E., 1998. "Large shareholders as monitors: is there a trade-off between liquidity and control?" , *Journal of Finance*, 53(1), February, pp. 65-98.
29. Mayer, C., 1997. "The City and corporate performance: condemned or exonerated?", *Cambridge Journal of Economics*, 21(2), March, pp. 291-302.
30. Renneboog L., 2000. "Ownership, managerial control and the governance of companies listed on the Brussels stock exchange", *Journal of Banking and Finance*, December, 24, 1959-1995.
31. Shleifer, A. and Vishny, R. W., 1986. "Large Shareholders and Corporate Control", *Journal of Political Economy*, 94, 461-488.
32. Shleifer, A. and Vishny, R. W., 1997. "A survey of Corporate Governance", *Journal of Finance*, vol.52, n°3.

33. Trojanowski, G., 2003. “Equity block transfers in transition economies: Evidence from Poland”. *CEPR Discussion Paper* n°3280.
34. Van Der Elst, C., 1998. "Aandeelhouders en aandeelhoudersstructuren in de Belgische beursgenoteerde vennootschappen en in een Europees perspectief", in *Corporate Governance: het Belgische perspectief*, Intersentia Rechtswetenschappen.
35. Van Der Elst, C., 1999. "Overnamereglementering en de ontwikkeling in de Belgische aandeelhouderstructuur", *Financial Law Institute*, Working Paper Series.
36. Van Hulle, C., Vermaelen, T., and De Wouters, P., 1991. “Regulation, taxes and the market for corporate control in Belgium”, *Journal of Banking and Finance*, 15, 1143-1170.
37. Van Hulle, 1996. "Corporate Governance: een overzicht van disciplineringgsmechanismen en empirische evidentie*", Tijdschrift voor Economie and Management* 41 (1), feb, 81-129.
38. Van Hulle C., 1998. "On the Nature of European Holding Groups", *International Review of Law and Economics*, 18(3), Sept., 255-277.
39. Van Hulle C., 1999a. "Corporate governance et décisions en entreprises: les entreprises Belges se comportent-elles différemment des entreprises néerlandaises?", *Reflets et perspectives de la vie économique*, 38/3, mai, 37-48.
40. Van Hulle, 1999b. "Principles of Corporate Governance with an application to the financial sector", *Tijdschrift vooor Economie and Management*, 44(3),sept., 299-322.
41. Van Waterschoot, J., 1996. “Actionnariat des Sociétés Belges Cotées à Bruxelles”, Banque Bruxelles Lambert, Research & Strategy Department, *Equity Research*, June, Brussels.
42. Van Waterschoot, J., 1997. “Corporate Governance: de aandeelhouders achter de beursgenoteerde bedrijven”, Banque Bruxelles Lambert, Research & Strategy Department, *Equity Research*, June, Brussels.
43. Van Waterschoot, J., 1998. “Het aandeelhouderschap na de verslag”, Banque Bruxelles Lambert, Research & Strategy Department, *Equity Research*, June, Brussels.
44. Van Waterschoot, J. 2000. “La toute puissance de l’actionnaire de référence”, Banque Bruxelles Lambert, Research & Strategy Department, *Equity Research*, May, Brussels.
45. Wymeersch, E., 1997. Corporate Governance: waarheen?, *Bank- en financiewezen*, Nov. 9, 602-606.
46. Zingales, L., 1994. “The Value of the Voting Right: A Study of the Milan Stock Exchange Experience”, *Review of Financial Studies*, 7, 125-148.
47. Zingales, L., 1995a. Insider ownership and the decision to go public, *Review of Economic studies*, 62(3), July, 425-448.
48. Zingales, L., 1995b. “What Determines The Value of Corporate Votes*?”, Quarterly Journal of Economics*, 110(4), November,1047-1073.
49. Zwiebel, J., 1995. "Block investment and partial benefits of corporate control", *Review of Economic studies*, 62(2), N°211, 161-184.