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Different Legal Systems: International Evidence

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DIFFERENT LEGAL SYSTEMS: INTERNATIONAL EVIDENCE**

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Keywords: dividend policy, corporate governance, insider ownership, international financial markets, dynamic panel data and GMM estimation

JEL Classification: G32, G34, G35, G15

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ABSTRACT

This paper provides new international evidence on the relationship between dividend policy and insider ownership by analysing a sample of firms from countries characterised by an Anglo-Saxon tradition and a matching sample of companies from countries with Civil Law legal systems. We hypothesize that, due to the different characteristics of both the legal system and the nature of agency conflicts in firms from those countries, the relation between dividend policies and ownership by insiders will be considerably distinct between the two sets of companies. We find that while in firms from Anglo-Saxon tradition the relation between dividends and insider ownership follows the pattern negative-positive-negative, in Civil Law countries the relation is positive-negative-positive. These results are consistent with our hypotheses and breed new insights into the role of dividend policy as a disciplining mechanism in countries with different legal systems and distinct agency problems.

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1. INTRODUCTION

The question of why companies pay out dividends has given rise to various explanations amongst which our interest centres on those arising from the agency theory (Easterbrook, 1984). In line also with that branch of new institutional economics that has come to be called the *Law & Finance* approach (La Porta et al, 1998) , we compare the dividend policies adopted by firms in countries with different legal environments, in an attempt to obtain broader empirical evidence than that which has been obtained almost exclusively for US or UK firms.

In this line of research, the degree of investor protection along with other aspects of the legal and institutional framework is an important determinant of ownership and control structures of companies with different geographic origins. Some evidence (e.g., Morck et al, 1988) suggests that the concentration of ownership among insider shareholders may be seen, at least within a certain range, as a possible solution for the agency problems arising from the separation of ownership and control when the protection of investors in general, and shareholders in particular, is not sufficiently well guaranteed by the legal and jurisdictional framework. In addition, it also appears to be the case that the greater the degree of protection offered to investors, the greater the development of the financial markets and the value of corporations (La Porta et al, 2002).

In this context, one may wonder how these two factors (insider ownership and the legal environment) impact on company dividend policies given the theoretical arguments (Easterbrook, 1984, and Jensen, 1986) and existing evidence (e.g.. Rozeff, 1982, Crutchley and Hansen, 1989) in favour of a monitoring role for dividends in large firms where conflicts between shareholders and managers are potentially important. Jensen suggests that dividends can avoid managerial discretion in the use of free cash flow, while Easterbrook argues that dividends facilitate the supervision of investments

made in the firm by increasing the frequency of primary capital financing and associated monitoring.

However, when analysing the relationship between dividends and insider ownership, a non-linearity may occur, as documented by Farinha (2003) for UK firms. The use of dividends may indeed be greater when an insider entrenchment effect predominates at high ownership levels (due, for instance, to lower takeover likelihood) while at lower ownership levels, dividends may be a substitute for alignment-inducing insider ownership. It is, therefore, essential to determine the levels at which insider ownership can cause that change of tendency that makes dividends all the more necessary.

The focus of our analysis is the argument that when companies belong to different institutional environments and the nature of existing agency problems also differs, the relationship between dividend policy and insider ownership will also be distinct.

We hypothesize that, due to the different characteristics of both the legal system and the nature of agency conflicts in firms from those countries, the relation between dividend policies and ownership by insiders will be considerably distinct between those two sets of companies. In accordance with our hypotheses, we find that in firms from an Anglo-Saxon tradition where the main conflict of interests is arguably between managers and shareholders, the relation between dividends and insider ownership follows the pattern negative-positive-negative. In contrast, in Civil Law countries, where there is typically little separation between ownership and control, conflicts are mainly between large shareholders that control the decisions of firm and minority shareholders. And so, the relation between dividends and insider ownership is different and it will follow the pattern positive-negative-positive. Our study also concludes that these differences are persistent over time.

With this purpose, we use a data panel of firms of European countries from both the Anglo-Saxon and Civil legal origins, as in Laporta et al. (2000b). However, in addition to that study, we take into consideration the ownership

of individual firms. Our contribution is to demonstrate a non-linear relationship between dividends and insiders ownership which differs markedly when companies belong to each of the two distinct legal systems under consideration. We do not focus on other characteristics of shareholders as do other strands of literature¹.

Our results breed new insights into the role of dividend policy as a disciplining mechanism in countries with different legal systems, disparate control structures, and distinct agency problems.

The paper proceeds as follows. Section 2 provides a brief review of the arguments and evidence on the importance of the legal environment as a determinant of corporate governance structures and the role of insider ownership and corporate payout policy as monitoring mechanisms. Section 3 lays out the hypotheses to be tested, while the following section describes the data and methodology. Section 5 presents and discusses the major results. The final section summarizes and discusses the paper's contribution to the literature.

2. DIVIDENDS AND INSIDER OWNERSHIP: A LAW AND FINANCE PERSPECTIVE OF THE AGENCY PROBLEM

Recent research suggests that when the economic environment in which firms operate is not the same, agency problems will potentially differ with the consequence that the solutions proposed within a certain institutional context, in particular the Anglo-Saxon one, may not necessarily be appropriate in another environment, such as the Civil Law legal system. This recent research falls within the "*Law and Finance*" approach which has given rise to numerous papers that discuss the influence of different institutional aspects on company policies. Rajan and Zingales (1995) and La Porta et al. (1997, 1998, 2000a, 2000b and 2002) have pioneered this field and their

¹ See, for instance Gugler, 2003, on the different impact of government-controlled or shareholder-controlled ownership structures on dividend policies.

work confirms that differences in company decision-making relate to the country origin of those companies and that those differences might, primarily, be due to each country's legal tradition and related institutional features peculiar to each economy.

In the typical large Anglo-Saxon company, a high degree of consensus among researchers prevails around the idea that the main existing agency problem is centered on the relationship between shareholders and the executive managers (Berle and Means, 1932). This problem influences corporate governance and, as a consequence, company decision-making. In such context, dividends may be used by firms not just as a simple vehicle to return cash to shareholders, or as an instrument to communicate information about the firm (Miller and Rock, 1985), but also as a way of reducing the degree of value-destroying managerial decisions over the use of free cash flows (Jensen, 1986). So, in this context, when shareholders protection is higher, larger dividends can arguably be distributed as the result of better legal rights, so as to curb value-destroying managerial actions. This argument follows closely La Porta et al's (2000b) "outcome" agency model of dividends which predicts that stronger minority shareholder rights should be associated with higher dividend payouts.

In addition to dividend policy, and still within the same agency framework, insider ownership can also function as an alignment mechanism (Morck et al, 1988). One might thus expect a substitution effect to occur between dividends and insider ownership, with dividend payout ratios having a negative relationship with holdings by managers. However, as documented by Morck et al in the US, and by Short and Keasey (1999) in the UK, the relationship between insider holdings and the value of the company may be non-linear as an insider entrenchment effect may occur at high ownership levels. This means that after a certain critical level of insider ownership, larger stakes in the firm by managers can aggravate agency problems and thus render dividend payments more, not less, necessary to compensate entrenchment-related new agency costs being created by excessive insider ownership. This suggests that a U-shaped pattern may be prevalent in the relationship between dividends and ownership by managers. Consistent with

that hypothesis, Schooley and Barney (1994) and Farinha (2003) document such non-linear relationship between dividend payouts and insider holdings in the US and UK, respectively.

However, when applying this perspective to another context such as, for example, Continental Europe, the pieces may not necessarily fall into place in quite the same way. According to La Porta et al. (1997), this can be due to the existence of institutional factors arising from the legal background of each country, in particular the key institutional aspect of the level of investor protection. Their research confirms that there are countries in which shareholder rights have greater legal protection than in others, implying that distinct legal and institutional systems shape different types of corporate governance by favouring a particular level of ownership concentration. It may also affect the usage of debt for project financing, the degree of external investors participation in the firm, and even the particular level of capital market development.

Central to this question are two separate legal traditions: *Common Law* and *Civil Law*. The former lies within the domain of the Anglo-Saxon countries, in which the degree of investor protection is greater (La Porta et al, 1997). The tradition based on Civil Law is mostly found in mainland European countries and those falling under their sphere of influence. Unlike the former, this branch of law is less homogeneous and, in fact, three separate branches are identifiable – the French, Scandinavian and German ones- which, while all having their roots in Roman Law, show also some minor differences in the evolution and subsequent refinement of their respective systems. Unlike the Anglo-Saxon countries, in those countries that ascribe to the Civil Law tradition, the degree of shareholder protection is not nearly as great and the rights of small shareholders can be impinged upon by the presence and behaviour of large shareholders, who may try to wield power in groups, often alongside the company's creditors. In this environment, La Porta et al (1999) and Faccio et al (2001) argue that the basic agency problem may not be that between managers and shareholders, but instead the one arising from conflicts between large and small shareholders.

A consequence is that in Civil Law countries dividend policy may act mostly as a protective mechanism for the rights of minority shareholders, therefore having a monitoring role that differs both qualitatively and quantitatively from countries within the Anglo-Saxon world. A symptom of this is La Porta et al's (2000b) evidence that corporations pay higher dividends in countries with stronger legal protection of minority shareholders, as is the case with Common Law in contrast with Civil Law countries.

Bearing in mind this and the fact that in Civil Law countries the degree of shareholder concentration is usually much higher than in Common Law countries (Faccio and Lang, 2002), we argue that, as the result of the high degree of control enjoyed by owners and potential expropriating threats allowed by the Civil Law environment, dividend payouts will increase as insiders ownership grows so as to compensate the greater likelihood of minority expropriation. This is needed particularly to entice external shareholders to invest in the company as corporations compete for funds in capital markets. However, when reaching a critical higher level of ownership concentration, dividends may be curtailed by entrenched majority shareholders in an attempt to expropriate minority shareholders wealth, precisely in those cases where those minority shareholders not only have a reduced voting power and little legal rights protection but also may be largely irrelevant for the company's capital funding needs. As a result, the relation between dividends and insider ownership might still be non-linear, as in Common Law countries, but in a symmetrical way.

3. RESEARCH HYPOTHESES

The relation that we expect to obtain between dividend payments and insider ownership is not linear, and is such that different signs might arise at different levels of ownership (Crutchley et al., 1999). In addition, we also propose that the relation will be different according to each institutional environment (Common Law or Civil Law) since agency problems and company governance will also differ.

In particular, in Anglo-Saxon countries, where ownership levels by insider shareholders in large listed firms is typically low, dividends as a mechanism to reduce agency problems may be important as substitute monitoring mechanisms for insider holdings. As ownership in the company by insider shareholders increases, their interests become increasingly more aligned with those of the remaining shareholders thereby minimizing such problems as those arising from the discretionary usage of free liquid assets (Jensen, 1986). Therefore, in that situation, dividend payments will be lower since there will no longer be the same need to use these as a monitoring mechanism. However, at higher levels of managerial ownership an entrenchment effect may come to dominate that changes the negative relationship between the managerial ownership level and the dividend policy into a positive one. As entrenched insider shareholders are more willing to take decisions that are more in accordance with their own interests rather than those of other shareholders, dividends can become increasingly necessary to counter-balance such entrenchment-related agency costs. Schooley and Barney (1994), Farinha (2003) and Da Silva et al (2004) present evidence consistent with such U-shaped relationship.

In accordance with Laporta et al's (2000b) "outcome" theory, the increase in dividends may occur as the result of a minority shareholders-protecting legal system that empowers those investors to demand and obtain larger cash payouts.

In addition, we postulate that at very high levels of ownership a new reduction in dividend payments will occur as a result of a new alignment of interests effect, similar to that obtained in empirical studies by McConnell and Servaes (1990) and Morck et al. (1988). At extreme levels of insider ownership, the scope for misalignment of interests between owners and managers is very limited and, given that in Common Law countries minority rights are better protected, the likelihood of minority expropriation will be very low and therefore, dividends will not be much needed to deal with agency problems of little relevance. As a consequence, dividend payments may decrease as insider ownership reaches particularly high levels. A counter-argument, however, is that if minority holdings are in those cases very low,

controlling shareholders face a reduced liquidity for their shares and may therefore be tempted to increase dividend payouts. Although Farinha (2003) did not find corroborating evidence for such hypothesis in the UK, this is mainly an empirical and open question when in presence of firms in Common Law countries as arguments can reasonably be produced in those two ways.

The first null hypothesis of a negative-positive-negative relation between dividend payouts and insider ownership is therefore proposed as follows:

Hypothesis 1: As insider ownership increases, dividends payouts of companies in Common Law countries first decrease, then, after a certain critical level, increase, and finally decrease once again after a second, higher critical value.

In contrast, in countries based in Continental Europe (Civil Law tradition) insider ownership is mostly associated with large shareholders who control, through many varied mechanisms such as corporate networks or family links (Faccio and Lang, 2002), the management board of the companies in question. In this environment, at lower levels of ownership by these dominant groups, the existence of dividend payments can occur so as to distribute funds to dispersed small shareholders who have less legal protection in these countries. In this case, the need to signal an alignment of interests between majority and minority owners motivates higher dividend payments, contrary to what happens in Anglo-Saxon countries. Such conduct may thus serve as a signal to small shareholders that those controlling the company are not going to tap corporate profits by expropriating small shareholders. Therefore, as firms compete for external funds, dividend payouts will have to be offered to entice minority investors to supply funds to these firms or liquidity for its shares. As insider ownership grows in these companies, fears might also grow that increasingly powerful controlling shareholders will expropriate other investors, forcing corporations to pay more generous dividends if they are to attract external shareholders funding.

However, at higher levels of ownership an entrenchment effect can come to dominate, in which case controlling shareholders might start to reduce dividend payments with the aim of expropriating the wealth of small shareholders to use those freed up resources for private profit (Faccio et al., 2001 and Gugler and Yurtoglu, 2003), thus changing the formerly positive relation between insider ownership and dividends into a negative one. This may occur particularly if they feel that minority shareholders have become largely irrelevant for company funding or liquidity purposes². But in these companies as well, at an even higher and extreme ownership levels on the part of controlling shareholders, again the relation between insider ownership and dividends might change its sign, this time from negative to positive. This might happen because of liquidity needs faced by the controlling shareholders.

A number of studies in Civil Law countries have suggested that the impact of insider ownership on firm value or on dividends paid is non-linear. Thomsen (2005) suggests a non-linear relationship between insiders and dividends paid but his study observes a negative effect only for the sample of companies from civil law countries. And for instance, in the case of Spain, empirical evidence exists to support a cubic relation between ownership by the managerial team and the valuation of the company, as identified by De Miguel and Pindado (2001), as well as Fernández-Manso and Gómez-Ansón (2002).

The following null hypothesis of a positive-negative-positive relation between dividend payouts and insider ownership is therefore proposed for firms in countries with a Civil Law tradition:

Hypothesis 2: As insider ownership increases, dividend payouts of companies of Civil Law countries first increase, then, after a certain critical level, fall, and finally grow once again after a second, higher critical value.

² This could happen, for instance, after the end of a period of “hot IPOs” when majority shareholders sought liquidity and possibly overpricing for their shares, or after a period of rapid growth when external funds were needed.

4. METHODOLOGY

4.1. SAMPLE AND VARIABLES

The information required to test the two hypotheses that were advanced in the previous section has been gathered from different sources. The *Compustat Database* was used to obtain firm financial data. Information on US company ownership over the period 1996-2000, during which the research was conducted, was collected from *Deloitte and Touch's Peerscope* and *Investor Insight's Market Guide* databases. *Amadeus*, provided by the *Bureau van Dijk*, was used for ownership data on European companies. La Porta et al.'s (1997) international data on Shareholders and Creditors rights was also used.

The final sample is shown in table 1. As can be seen from the table, the sample is composed of 931 companies over the period 1996-2000 and involves a total of 4,092 firm-year observations. Of the total number of companies, 462 are from the US and 469 are European.

(insert table 1)

The US data was compiled by crossing financial information obtained from the *Compustat* database and information on company ownership obtained from the *Peerscope* and *Market guide* databases. The sample of around 2,000 companies on which information was held on both databases, was considerably and progressively reduced as the research period was lengthened to five years, so as to amass a data panel that would be sufficiently meaningful. Another factor that reduced the sample was the availability of market data on those companies.

Regarding the sample obtained for European companies, similar procedures were taken as in the case of US companies. First, financial information was obtained from the *Compustat* database for the period under examination. The following step was then to merge this information with the ownership data taken from the *Amadeus* database, leading to a data panel

including a total of 469 companies, a number which is close to that of the US sample. Table 2 reports descriptive statistics for these two samples.

(insert table 2)

Table 2 shows that, of the 469 European companies, 167 belong to countries following the French variant of Civil Law that represents 35.61% of the total sample for this Continent. This branch of Civil Law is the most extensive within the different countries of the sample. Although, as may be seen, the companies in the sample are mainly French, Spanish and Belgian, there are also 79 companies that share the German Civil Law tradition, which represents 16.84% of the European sample, the majority of which are based in Germany although there are also firms from Austria. The Scandinavian branch is the least represented of the three, comprising 56 firms from Sweden and Denmark, which represent 12% of the total European sample. Finally, information has been gathered on 167 European firms that belong to the Common Law tradition, as do those from the US, almost all of which are British except for two Irish firms, which together constitute 35.61% of the sample on Europe. In this case, the number of European countries with this legal code is not very numerous whereas the number of companies listed on their stock exchanges is. Hence, companies from the Anglo-Saxon world, have a relevant presence in our sample of European firms.

The variable that will be used as a dependent variable is the dividend yield ratio (DIV) measured as the dividends divided by the market capitalization of the firm's equity. The dividend yield of the previous financial year will also be used among the explanatory variables. The dividend payments made in the previous year are an important consideration when adopting the dividend policy for a particular year (Lintner, 1956). The dividend payout rate (the ratio between dividends paid out by the firm in a financial year and the book value of total assets in the same year) will also be used for robustness checks.

In terms of the ownership structure variables, our insider shareholders' ownership level variable (INSI) is measured in very broad terms. It is

calculated as the total percentage of all shares owned by the members of the managerial team, both executive and non-executive board members, in addition to those owned by shareholders whose stake is over 5% of the total shares of the company. In our case, it seemed more appropriate to use this variable instead of the level of executive ownership. As already mentioned, in continental European countries conflicts between large and small shareholders are arguably more prominent than those between shareholders and managers. In such a context the usage of more traditional variables based on direct executive ownership, often employed in corporate governance research, will not be the most meaningful one. We therefore define the insider ownership variable as to include large shareholders ownership along with executive shareholdings as it is very likely that these are intertwined in these countries. Data for this variable is found on the *Thomson Financial, Marketguide, Worldvest base* databases and is used in studies by Short et al. (2002), and Chen and Steiner (1999), among others. We also use a variable that measures the level of ownership by institutional investors (INST) which are particularly important in Anglo-Saxon firms where ownership by pension funds, investment trusts and other similar investors is frequently more significant than that by individual investors or families. In Civil Law companies, although the influence of such institutional investors is not as relevant as in Common Law countries, their importance has certainly been increasing in recent years.

As control variables we use company size (LOGACT), calculated as the log of the book value of total assets (since different behavioural patterns might possibly exist between large and small firms), the market-to-book (MB) ratio and the debt level of the company (DR), calculated as the ratio of between the book value of debt and the book value of total assets. Finally, we use data on shareholders (SR) and creditors rights (CR) from La Porta et al. (1997) in order to include two proxy variables for these institutional factors in each country. Also, a dummy variable (ANGLO) is used to differentiate countries according to whether these share a tradition of Common or Civil Law, where a value of 1 is assigned for firms from the US, the United Kingdom or Ireland (Common Law countries), and a value of 0 for all other

firms. This variable identifies the origins of each company and allows us to relate, in each case, dividend policy to the explanatory variables that are used, thereby enabling us to confirm whether differences regarding dividend decision exist between firms from countries upholding the Anglo-Saxon tradition of Common Law and those from countries in which Civil Law is prevalent (La Porta et al., 2000; Aivazian et al., 2003).

4.2. EMPIRICAL MODEL

The extended model that we use in our empirical analysis is as follows:

$$\begin{aligned}
 DIV_{it} = & \beta_0 + \beta_1 DIV_{i(t-1)} + (\beta_2 + \alpha_2 ANGLO_i) INSI_{it} + (\beta_3 + \alpha_3 ANGLO_i) INSI_{it}^2 + \\
 & (\beta_4 + \alpha_4 ANGLO_i) INSI_{it}^3 + (\beta_5 + \alpha_5 ANGLO_i) INST_{it} + (\beta_6 + \alpha_6 ANGLO_i) DR_{it} + \\
 & (\beta_7 + \alpha_7 ANGLO_i) MB_{it} + \delta_1 SR_{it} + \delta_2 CR_{it} + (\beta_7 + \alpha_7 ANGLO_i) LOGACT_{it} + \eta_{it} + v_{it} \quad (1)
 \end{aligned}$$

DIV_{it} is defined either as dividend yield (dividends divided by market capitalization of equity), or as the ratio between dividends and total assets. This variable was previously censored using a Tobit model given that one cannot directly include such in a Generalized Method of Moments (GMM) panel without it being censored, as referred by Arellano and Bover (1997); $INSI_{it}$ is the ownership by insider shareholders as a percentage of total shares; $INST$ is the degree of institutional ownership; DR_{it} represents the level of debt defined as the ratio between the book value of debt and total assets; MB_{it} is the market-to book ratio; SR and CR are indexes for shareholders and creditors rights, respectively, as taken from La Porta et al. (1997); $LOGACT$ measures size, defined as the log of the book value of the assets. $ANGLO$ is a dummy variable where a value of 1 is assigned for firms from the US, United Kingdom or Ireland (Common Law countries), and a 0 for all other firms (Civil Law firms).

We test this model with panel data to allow the values taken over time by a series of variables to be known on an individual basis³. The use of this methodology has a number of advantages when compared with a cross

³ The panel data used is characterized as being incomplete or unbalanced. In particular, the variant chosen for this work is referred to a micropanel data, which is to say, a data group in which the dominant dimension corresponds to the number of individuals while the number of periods is significantly lower.

sectional data. The first is the so-called control of constant unobserved heterogeneity. In our case, the particular singularities of the firms can affect their dividend payment policies, as already stated, and such features can persist for long periods of time. The second is the dynamic dimension of our data panel that allows dividend policies to vary according to the proposed explanatory variables over a period of time and furthermore considers the impact on dividends in the light of changes in the model's other variables.

Nevertheless, the model is also subject to some potential problems, the most important being the existence of constant unobservable effects correlated with the explanatory variables that may cause ordinary least squares estimators to be inconsistent. One possible solution would be to consider intergroup estimates, but such estimators are only consistent when the explanatory variables in the model are exogenous, which is to say when these are not correlated with the model's random terms (effects).

In our case, the existence of individual effects as well as endogenous effects within the dividends and the model's variables for insider ownership lead us to consider the variables in first differences and to estimate the parameters of the model using the *generalized method of moments*⁴.

In addition, the statistical models used to analyze time series and transversal data are shown to have important complications when applied to censored variables (Maddala, 2001). The procedure used for the estimation of the model, bearing in mind that the variable for dividends is a censored variable that takes neither negative values nor values above one, is the Tobit model. The first stage of this procedure consists in obtaining estimates of the censored dependent variable (see Arellano and Bover, 1997)⁵.

⁴ Estimation of the model's parameters was calculated using the Stata 7.0 programme that is an adaptation of the DPD, *Dynamic Panel Data*, programme written by Arellano and Bond (1988).

5. RESULTS

The results are shown in tables 3 and 4⁶. In the first table, descriptive statistics on the most significant variables used in firms within each legal and institutional framework reveal the existence of important and significant differences between the two sets of firms.

(insert table 3)

Table 3 reveals that Anglo-Saxon firms on average pay out more dividends, carry less of a debt burden - with levels of debt that do not reach 30% of total liabilities, against 50% in firms from Civil Law countries -, display an ownership structure that is characterized by a much higher participation of institutional investors – reaching 40% of total ownership against a mere 7% for firms within the Civil Law tradition - and have greater opportunities for growth than firms in continental Europe (as measured by the market-to-book ratio). If a greater degree of shareholder protection is added to this already dissimilar model of financial architecture, a picture emerges of the different scope of agency problems in companies within the two legal and institutional frameworks and, consequently, of the different dividend policies that are adopted.

Table 4 shows the estimated coefficients for the variables in our model, first for Anglo Saxon firms and then for Civil Law firms, followed by the coefficients for the institutional variables and the results of the statistic tests. In the following columns we undertook robustness checks by changing the dependent variable to dividend yield (dividends over market capitalization of the firm's equity), and then including in column III and IV the INSI variable as a squared and cubed variable while keeping dividend yield as the dependent variable.

⁵ To do so, the Lintner model was used as the basis for a model according to which the dividends variable, which will later be object of a comparison in the panel, was censored.

⁶ Year dummies were included as explanatory variables but are not reported in Table 4 for simplicity. Only the coefficient for the 2000 year dummy showed some statistical significance at the 10% level.

(insert table 4)

The results obtained for the estimated coefficients confirm that insider ownership exercises a distinct influence on firm's dividend payments according to the particular institutional environment. In Anglo-Saxon firms, we initially obtain a negative relationship between dividends and insider ownership which is in accordance with an alignment of interests effect between shareholders and directors where dividends become less necessary to deal with potential conflicts of interest between these two parties. Nevertheless, when analysing the positive coefficient for the squared value of insider ownership ($INSI^2$), one can observe that at greater levels of insider shareholder ownership the relation between this variable and dividend policy becomes positive. This agrees with the idea that dividend policy becomes more relevant when an entrenchment effect becomes dominant, worsening the agency problems associated with conflicts between shareholders and managers. Finally, the negative coefficient on the cubed variable of insider ownership ($INSI^3$) is consistent with a new alignment effect that prevails over an entrenchment effect when insider ownership reaches particularly high levels. In this way, a non-linear relation between dividends and insider ownership becomes apparent as was obtained by previous literature. This result confirms Hypothesis 1 in this paper. The inflection points of the ownership levels for firms from these countries can be obtained from the solutions to the equations (1i) substituting for the values obtained from the coefficients as we suggest in the appendix of this paper. This gives us a value for z_1 of around 36% and for z_2 of 95% implying that the alignment effect that gives rise to lower dividends takes place at insider shareholder ownership levels of between 0 and 36%. Figure 1 shows the results obtained for firms from each institutional background, solely taking into consideration for the dividend ratio the effect of insider ownership.

This result is similar to that obtained by Farinha (2003) for a sample of British firms, who also finds an inflection point at around 30% of insider ownership. We find, however, a new alignment effect starting at 95% insider ownership, which is to say, when the ownership of the firm is almost completely under the control of insiders, which is in accordance with the

argument that liquidity becomes important for insider shareholders when ownership is extremely concentrated.

Table 5 reveals the number of firms between each critical insider ownership level that has been identified. The 36% critical level splits almost evenly the sample of Anglo-Saxon firms, yielding statistical strength to the estimated non-linear relationship between dividends and insider ownership. However, the results for the second inversion point are relatively weak as we find only six firms above the 95% threshold.

In the case of firms from countries with a tradition of Civil Law a significant relation is also obtained for dividends payments for the variables that measure the ownership by insider shareholders (INSI). As expected, the results obtained here are different from the Anglo-Saxon case and confirm our Hypothesis 2. In a context of little institutional protection for minority shareholders, increasing insider shareholder ownership initially leads to an increased expropriation threat and therefore to higher dividend payments as a means to reduce such threat. Subsequently, this relation changes from positive to negative, as reflected in the negative coefficient for the squared value of insider ownership ($INSI^2$), consistent with the assertion that at higher levels of ownership these shareholders are in a position that enables them to expropriate wealth from the small shareholders, and a symptom of that is the reduction in dividends at those levels of ownership (Faccio et al., 2001; Gugler and Yurtoglu, 2003). Finally, a new positive relation emerges at even greater levels of ownership, as shown by the positive relation between the variable of the cubed value ($INSI^3$) and the dividend variable. The cut-off points can occur in these countries in just the same way as they do in the case of the Anglo-Saxon countries. Thus, the value for z_1 and z_2 , according to steps proposed in the appendix of this paper, are 46% and 77%. In brief, this means that at insider shareholder ownership levels of up to 46%, in firms from Civil Law countries, an alignment of interests effect occurs between large and small shareholders that leads to greater dividend payments; from that level and up to insider shareholder ownership levels of 77 %, an entrenchment effect is evident that leads to wealth being expropriated and smaller dividends being paid out to the small shareholders. Finally, at

ownership levels greater than 77%, the results are consistent with liquidity needs from the part of majority shareholders driving a (once again) positive relation between dividend payments and insider holdings.

From Table 4 one can also observe a statistically significant negative impact of the DIV variable from the previous period. Although, as referred earlier, one would expect, instead, a positive impact (Lintner, 1956), it should be kept in mind that the 1996-2000 sample period a dramatic fall in dividend payments was observed in many countries, as observed by Fama and French (2001), although in later years, particularly after 2003, this phenomena has somewhat reversed. Thus, it may be the case that the negative sign observed in Table 4 for the DIV variable may well reflect this particular feature of recent aggregate dividend behaviour.

The Wald test of table 4 allows us to test the null hypothesis of all the coefficients being simultaneously equal to zero. The Sargan test for the conditions of overidentification, allows us to test the null hypothesis that the overidentification restrictions used are valid, that is, that the instruments used are valid. The m_1 and m_2 tests allow us to detect potential first order and second order serial autocorrelation. The values obtained by the Wald test, the Sargan test and the second order serial correlation for both samples allow us to confirm the validity of the instruments used and the absence of second order correlation.

Table 5 shows that the number of firms below and after the two critical levels of insider ownership is substantial, even after the second threshold of 77% (205 firms), thus yielding statistical significance to the conclusions above.

Finally, we repeated the regressions in Table 4 with the exclusion of outliers (i.e., the most extreme values for both the dependent and independent variables) but the results remained essentially unchanged.

(insert table 5)

(insert Figure 1)

6. SUMMARY AND CONCLUSIONS

The results obtained from our empirical model show a relation between insider ownership dividend policy which is remarkably different between the two legal and institutional environments (Civil or Common Law), although in both cases following non-linear patterns. In particular, in the Anglo-Saxon (Common Law) countries where lower concentrations of ownership and better minority rights protection determine agency problems which are fundamentally centered on the relation between managers and shareholders, our results for firms in these countries show a negative relation between insider ownership and dividend payouts at ownership levels below 36% or above 95%, and a positive one between those two critical levels. This is in accordance with a growing convergence of interests between management and shareholders when the concentration of ownership increases but is maintained at percentages below the 36% first critical level or above 95%. In those situations dividends seem to lose their importance as a mechanism for reducing agency problems arising between these two parties. On the other hand, for ownership levels between these two inflection points a positive relation is observed between both variables, which we interpret as the result of an entrenchment effect, causing dividend payments once again to become necessary to reduce this new type of agency problem. After the second critical insider ownership level (95%), dividends are reduced once again, in accordance with an alignment of interests effect that is apparently stronger than any possible drive for liquidity on the part of majority shareholders.

In firms originating from countries with the tradition of Civil Law, we observe quite a different pattern in the relation between insider ownership and dividends, albeit still a non-linear one. Given the low level of protection of minority shareholders in those countries, dividend payments increase as insider ownership becomes more concentrated until a critical level of 46% ownership, possibly as a way of enticing external shareholders to invest in the company. A positive association between dividends and internal ownership becomes then observable when insider ownership rises above the level of 77%, consistent with liquidity needs faced by majority shareholders

when ownership is very concentrated. However, when insider shareholders exercise majority control over the firm, with levels of participation at around half of total shares, dividends are cut back which could well be explained by a strategy of assigning resources that is orientated more towards obtaining private benefits rather than the creation of value for all shareholders.

The existence of a non-linear relation between insider ownership and dividend payouts is clearly depicted in our study, therefore, as is the different non-linear pattern of the relationship between the two variables that is dependent on the legal and institutional framework (Common or Civil Law) within which the firms operate. The results are consistent with our hypothesis, breed fresh insights into the monitoring role of both ownership by insiders and dividend policies when the institutional and legal environment is not characterised by a Common Law framework, and seriously question the applicability to Civil Law environments of results obtained from empirical studies undertaken in Anglo-Saxon countries.

Appendix

In equation (1), the INSI variable is represented as a squared and cubed variable in order to check the different relations that may arise from the dividend policy according to the extent of the insider shareholders' ownership levels. On that basis, two inflection points can be obtained where a change in the behaviour of insider shareholders is possible. To do so, the following methodology is used, as employed by Morck et al. (1988) for a sample of firms from the US, by Short and Keasey (1999) for firms in the United Kingdom, and by De Miguel et al. (2002) for Spanish firms. In equation (9), the DIV variable is first derived with respect to INSI:

$$\frac{\partial y}{\partial z} = \gamma + 2\gamma_2 z + 3\gamma_3 z^2 = 0 \quad (1i)$$

In order to simplify the annotation, a substitution was made in such a way that the variable DIV_{it} is represented by y , $INSI_{it}$ by z , and the quotient $(\beta_i + \alpha_i ANGLO)$ by γ . Solving the equation (1i) gives us:

$$z_1 = \frac{-2\gamma_2 - \sqrt{4\gamma_2^2 - 12\gamma_1\gamma_3}}{6\gamma_3}$$

$$z_2 = \frac{-2\gamma_2 + \sqrt{4\gamma_2^2 - 12\gamma_1\gamma_3}}{6\gamma_3}$$

Based on our research hypothesis, for Anglo-Saxon firms these two optimums have to correspond to a minimum for z_1 and a maximum for z_2 . Whereas, for firms in countries with a Civil Law tradition, the contrary is true, since in this case as has been postulated in this paper and in line with studies by Faccio et al (2001), and Gugler and Yurtoglu (2003), the alignment- of-interests in those countries implies greater dividend payments. Thus, if we apply the second partial derivative and z_1 is indeed at a minimum in the Anglo-Saxon firms and at a maximum in firms based in continental Europe, hypothesis 1 and 2 will have been confirmed. Formally,

$$\frac{\partial^2 y}{\partial z^2} = 2\gamma + 6\gamma_3 z < 0; \text{ from which we should get}$$

$z_1 > -\gamma_2/3\gamma_3$ and then

$z_2 < -\gamma_2/3\gamma_3$ for firms based in an Anglo-Saxon environment, in which case $z_1 > z_2$, whereas for firms following the Civil Law tradition $z_1 < z_2$.

TABLES

Table 1. Number of firms and international distribution of the sample

| | Firms | Observations |
|--------|-------|--------------|
| USA | 462 | 1.830 |
| Europe | 469 | 2.262 |
| Total | 931 | 4.092 |

Table 2. Sample distribution of European firms by different origin legal and country

| Civil Law tradition | | |
|-----------------------------|--------------|---------------------|
| French origin | Firms | Observations |
| France | 71 | 350 |
| Spain | 44 | 212 |
| Netherlands | 29 | 151 |
| Belgium | 12 | 63 |
| Greece | 6 | 33 |
| Italy | 2 | 10 |
| Luxemburg | 2 | 10 |
| Portugal | 1 | 5 |
| Total | 167 | 834 |
| Percentage | 35,61% | |
| German origin | Firms | Observations |
| Germany | 71 | 341 |
| Austria | 8 | 38 |
| Total | 79 | 379 |
| Percentage | 16,84% | |
| Scandinavian origin | Firms | Observations |
| Denmark | 33 | 158 |
| Sweden | 23 | 70 |
| Total | 56 | 228 |
| Percentage | 11,94% | |
| Common Law tradition | | |
| | Firms | Observations |
| United Kingdom | 165 | 811 |
| Ireland | 2 | 10 |
| Total | 167 | 821 |
| Percentage | 35,61% | |

Table 3. Summary statistics for Anglo Saxon firms and Civil Law firms

| <i>Variable</i> | Mean | | | Median | | St. Desv. | | Máximo | | Mínimo | |
|-----------------|--------------|--------------|----------------|---------------|--------------|------------------|--------------|---------------|--------------|---------------|--------------|
| | <i>Anglo</i> | <i>Civil</i> | <i>p value</i> | <i>Anglo</i> | <i>Civil</i> | <i>Anglo</i> | <i>Civil</i> | <i>Anglo</i> | <i>Civil</i> | <i>Anglo</i> | <i>Civil</i> |
| DIV | 0,018 | 0,027 | 0,000*** | 0,011 | 0,006 | 0,028 | 0,112 | 0,941 | 0,957 | 0,000 | 0,000 |
| INSI | 0,297 | 0,654 | 0,000*** | 0,260 | 0,703 | 0,234 | 0,283 | 1,000 | 1,000 | 0,000 | 0,000 |
| INST | 0,481 | 0,070 | 0,000*** | 0,497 | 0,000 | 0,255 | 0,127 | 1,000 | 1,000 | 0,000 | 0,000 |
| DR | 0,282 | 0,499 | 0,000*** | 0,279 | 0,508 | 0,193 | 0,191 | 0,884 | 0,962 | 0,000 | 0,000 |
| MB | 1,999 | 0,999 | 0,000*** | 1,217 | 0,574 | 2,444 | 1,931 | 13,360 | 6,220 | 0,016 | 0,551 |
| LOGACT | 3,989 | 2,673 | 0,000*** | 3,732 | 2,580 | 1,684 | 0,857 | 7,527 | 6,689 | 0,912 | 1,022 |
| ROE | 0,146 | 0,142 | 0,427 | 0,141 | 0,127 | 0,127 | 0,223 | 0,946 | 2,631 | -0,478 | -1,277 |
| ROA | 0,073 | 0,068 | 0,019*** | 0,068 | 0,058 | 0,068 | 0,083 | 0,366 | 0,755 | -0,262 | -0,516 |

DIV is the dividend yield, measured as dividends divided by market capitalization of equity; INSI is the variable that measures ownership by insider shareholders, calculated as the total percentage of all shares owned by the members of the managerial team, both executive and non-executive board members, in addition to those owned by shareholders whose stake is over 5% of the total shares of the company; INST measures the degree of institutional ownership; L_{it} represents the level of debt, measured as the ratio between the book value of debt and of total assets; MB is the market to book ratio (market capitalization of equity plus book value of total assets less book value of equity, divided by the book value of total assets); LOGACT measures firm size as the log of total assets; ROE is the ratio between Net Income and Shareholders Equity; ROA is the ratio between Net Operating Profits and Total assets.

Table 4. Results of a Tobit Regression estimated as a dynamic panel data analysis using GMM estimation
Dependent variable: Dividend yield (DIV) (I to III) or Dividend Payout (IV)

| | I | II | III | IV |
|---------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Constant | -0.0280 (0.0475) | -0.0442 (0.0707) | 0.1556 *** (0.0239) | 0.0392 (1.8401) |
| DIV _{i(t-1)} | -1.8570 *** (0.1902) | -1.8287 *** (0.2083) | -1.6408 *** (0.2197) | -1.8787 *** (0.1965) |
| Variables of Anglo Saxon firms | | | | |
| INSI _{it} | -3.0210 *** (1.3127) | -0.2349 (0.2761) | -1.8467 ** (0.7934) | -3.4106 *** (1.6411) |
| INSI ² _{it} | 5.3985 *** (2.5050) | | 1.3583 ** (0.6295) | 6.7624 *** (3.2352) |
| INSI ³ _{it} | -2.9283 ** (1.4759) | | | -3.4689 *** (1.9247) |
| INSTI _{it} | 0.0883 *** (0.0244) | 0.0826 *** (0.0271) | 0.1042 *** (0.0288) | 0.1032 *** (0.0267) |
| DR _{it} | -0.4240 ** (0.3447) | -0.4993 ** (0.4594) | -0.6189 ** (0.3342) | -0.4519 * (0.2392) |
| MB _{it} | -0.0151 *** (0.0108) | -0.0336 *** (0.0102) | -0.0282 ** (0.0115) | -0.0343 *** (0.0096) |
| LOGACT _{it} | 0.0348 *** (0.0103) | 0.0287 (0.0140) | 0.0025 (0.0078) | 0.0266 * (0.0143) |
| Variables of Civil Law firms | | | | |
| INSI _{it} | 4.6665 *** (1.1176) | 0.4847 * (0.3194) | 1.6886 ** (0.7186) | 4.7768 *** (1.5358) |
| INSI ² _{it} | -8.9771 *** (2.1963) | | -1.3112 ** (0.5806) | -8.3630 *** (1.6411) |
| INSI ³ _{it} | 5.0225 *** (1.2735) | | | 4.5414 *** (1.7301) |
| INSTI _{it} | -0.0923 ** (0.0590) | -0.1970 ** (0.0694) | -0.1315 ** (0.6295) | -0.1419 ** (0.0694) |
| DR _{it} | 0.5173 (0.3820) | 1.0882 (0.5893) | 0.9616 (0.4924) | 0.8627 (0.4553) |
| MB _{it} | -0.0022 (0.0331) | -0.0027 (0.0289) | 0.0013 (0.0427) | -0.0109 (0.0368) |
| LOGACT _{it} | -0.6825 ** (0.6149) | -0.3141 (0.8149) | 0.5189 (0.5535) | -0.8064 (0.4210) |
| SR _i | 0.0384 ** (0.0085) | 0.0384 ** (0.0116) | 0.0227 ** (0.0100) | 0.0313 ** (0.0106) |
| CR _i | 0.0126 (0.0070) | 0.0150 (0.0135) | 0.0037 (0.0049) | 0.0012 (0.0003) |
| Wald test | 3180.92 (24) | 4180.75 (20) | 1325.48 (20) | 2695.95 (24) |
| m ₁ | 2.66 | 3.67 | 0.52 | 3.13 |
| m ₂ | 0 | 0 | 0 | 0 |
| Sargan test | 32.15 (22) | 13.67 (12) | 13.58 (18) | 19.66 (14) |

DIV in columns I to III is the dividend yield (dividends to market capitalization ratio); in column IV DIV is defined as the dividend payout ratio, measured as the ratio between the dividends

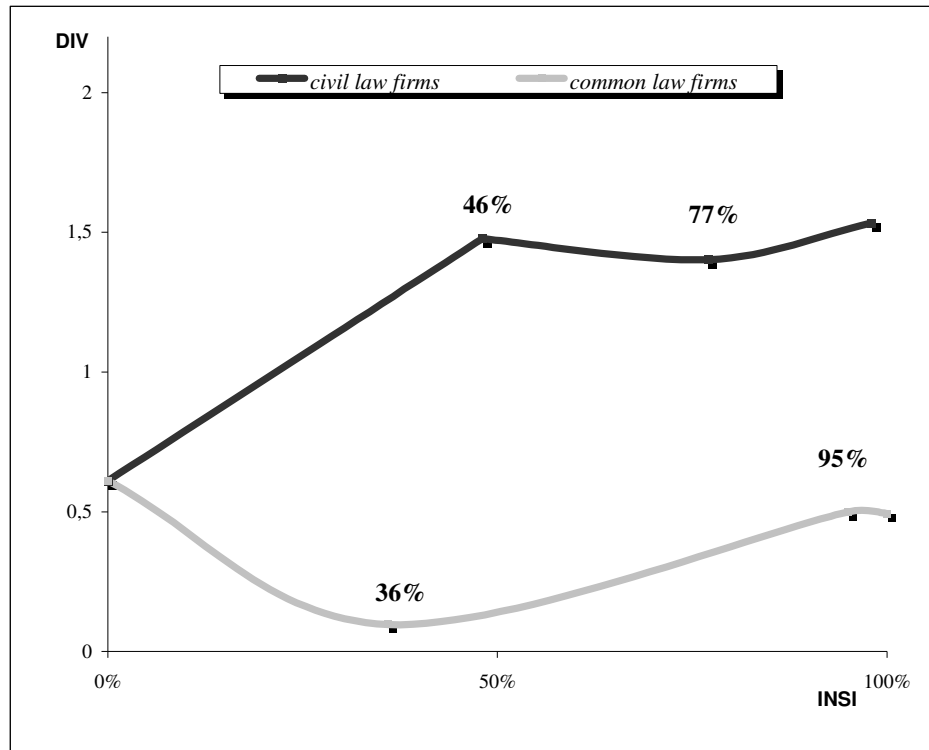
paid out and total assets; INSI is the variable that measures ownership by insider shareholders, calculated as the total percentage of all shares owned by the members of the managerial team, both executive and non-executive board members, in addition to those owned by shareholders whose stake is over 5% of the total shares of the company; INST measures the degree of institutional ownership; DR represents the level of debt, measured as the ratio between the book value of debt and of total assets; MB is the market to book ratio (market capitalization of equity plus book value of total assets less book value of equity, divided by the book value of total assets); LOGACT measures firm size as the log of total assets; SR and CR are indexes for shareholders and creditors rights, respectively, as taken from La Porta et al. ANGLO is a *dummy variable* where a value of 1 is assigned for firms from the US, the United Kingdom or Ireland (from Common Law countries) , and a 0 for all remaining firms (from Civil Law countries).

Table 5. Number of firms of the sample in each inflection point

| Anglo Saxon (Common Law) firms | | Civil Law firms | |
|---------------------------------------|------------------------|------------------------|------------------------|
| Level of INSI | Number of Firms | Level of INSI | Number of Firms |
| 0-36% | 247 firms | 0-46% | 79 firms |
| 36-95% | 209 firms | 46-77% | 185 firms |
| > 95% | 6 firms | > 77% | 205 firms |

This table shows the inflection points in the relation between Dividends (DIV) and Insider Ownership (INSI) as computed from the estimation of equation (1) under the specification I in Table 4 using the procedure detailed in the Appendix. For Anglo-Saxon firms the 36% inflection point corresponds to a relative maximum, while for Civil Law firms the 46% level of insider ownership is a relative minimum (see Figure 1). I DIV is the dividend yield (dividends to market capitalization ratio); INSI is the variable that measures ownership by insider shareholders, calculated as the total percentage of all shares owned by the members of the managerial team, both executive and non-executive board members, in addition to those owned by shareholders whose stake is over 5% of the total shares of the company

Figure 1. Dividends and insiders ownership in firms of different institutional systems



This Figure depicts graphically the relation between Dividends (DIV) and Insider Ownership (INSI) as computed from the estimation of equation (1) under the specification I in Table 4 using the procedure detailed in the Appendix. DIV is the dividend yield (dividends to market capitalization ratio), in percentage terms; INSI is the variable that measures ownership by insider shareholders, calculated as the total percentage of all shares owned by the members of the managerial team, both executive and non-executive board members, in addition to those owned by shareholders whose stake is over 5% of the total shares of the company

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