The Impact of Financial Structure on the Performance of European Listed Firms

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Abstract:

By considering different systems of legal protection this study examines the impact of capital structure on the performance of listed firms in European region. Based on 5050 listed firms in eight European countries, the results of the study reveal that the owners in low level of legal protection are more likely to use the capital structure of the firms in order to serve their proper interests. In high level of legal protection, the market based system and the debts are enrolled to constraint the expropriation of private benefits.

Key Words: Capital Structure, Financial Performance, Legal Protection, Financial Behaviour, Leverage

JEL Classification : G15, G31, H11, K4

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1. Introduction

In the last years we have witnessed the development of financial theories that reveal the importance and the impact of financial structure on the performance. Modigliani and Miller (1958) are the first that have tentatively studied the impact of capital structure. In their studies they demonstrate that the value of a firm is independent of its capital structure and consequently there is no correlation between leverage and firm's value in a world without tax and transactions costs. After five years, the authors have revealed the positive impact of leveraged firms in the case of tax deductible on interests' payments. Under this condition, the firms should increase the debt to full the value by maximizing the interest tax shield.

After the development of the irrelevant works of Modigliani and Miller many other theories have been trying to explain the impact of capital structure such as the pecking order theory, the free cash-flow theory, the trade-off theory and the agency cost theory. Through the agency cost theory, Jensen and Meckling (1976) propose the usage of debt as a disciplinary tool to ensure the performance of managerial staff specifically when control and ownership are separated. Thus high debt ratio leads to reduce the free cash-flow waste by managers (Jensen, 1986). Stulz (1990) confirms this concept by indicating that the reduction of free cash-flow may decrease the level of profitable investments. Under these opposite situations, firms have to adjust dynamically their capital structures against the adjustment of benefits. Accordingly, the trade-off theory (Myers, 1984) states that the benefits and costs of financial sources must be traded off until the benefits of debts are offset the costs of debts.
In 1997, Myers presented a model in which he stated that debt may cause underinvestment in future opportunities, specifically when debt-holders capture all the return of the investment while shareholders bear most of the cost. In this situation debts will have a negative impact on firm's value by creating a conflict between shareholders and debt-holders. Therefore, Myers suggests the usage of short-term debt due to its maturity before the investment decision. Baltas et al. (2013) suggested a PVAR methodology for liquidity creation.

The packing order theory (Myers and Majluf, 1984) comes to complicate the evidence of capital structure by indicating that firms should finance their investments in a hierarchal method using the retained earnings followed by external financing. When external financing is required, debt will be preferred before issuing new equity. La porta et al. (1998) and Claessens et al. (2000) highlight the complexities of managing the capital structure by considering the macro environment system such as the legal protection which can explain why some firms are financed differently in different countries. For the authors a high level of regulation and legal protection may influence agency conflicts by recognizing many

constraints to external financing. Oppositely, a low level of protection and regulation may increase the level of expropriation through the external financing.

Based on the contradictory results, we will study in this paper the interaction between capital structure and the performance of European listed firms by considering the different regimes of legal protection. This provides an opportunity to investigate if the macro environment system in Europe rises as determinant key for the financial behaviour. Moreover, it helps to renew the debate on capital structure based on new data extracted at the end of 2012. Therefore, the main purpose of this study is to evaluate the complex impact of the capital structure on the performance of European listed firms. The second purpose is to explore if there is any impact of the country's legal system on the financial behaviour.

To address this issue, we begin this study by exploring the different regulations in Europe. We end up by dividing the European countries to three different families of legal regimes: the French civil law countries, the English common law countries and finally the German civil law countries[2]. This classification is used to reveal the impact of financial structure on the performance by considering why some firms are financed differently in different countries.

The first next section of this paper explains the impact of capital structure on the financial performance. Section two describes the legal regimes and their impacts on the financial behaviour. Section three analyses the interaction between ownership and capital structures. Sections four and five explain the methodology and describe the collected data. Finally, sections six and seven represent respectively the analyses and the discussions concerning the capital structure in different legal traditions.

2. Capital Structure and Financial Performance

Agency theory (Jensen and Meckling, 1976) is based on the idea that managers (agents) will not watch over the businesses of a firm as the owners (principals). The fundamental element behind this theory is the separation between ownership and management which may increase the conflicts and consequently the agency costs by moving each entity to achieve its specific interests.

For Jensen (1986), the excess of free cash-flow is the most important cause of conflicts between managers and shareholders. Accordingly, he proposes to mitigate the opportunistic behaviour of a manager by increasing the debt ratio. In this case, debt will have a positive impact on firms' value through the pressure to generate cash flow in order to payback the debt with its interest.

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[2] The same classification has been used by La Porta et al. (1998).

Due to the positive correlation between higher debt levels and higher financial distress, Harris and Raviv (1991), have confirmed that debt can act as a monitoring and incentive device.

In 2003, Sarkar and Zapatero found the same positive impact of debt on the profitability. Frank and Goyal (2003), have argued that firms with high debt ratios are less correlated with financial deficit. Moreover, Margaritis and Psillaki (2009) have confirmed the free cash flow theory by reporting that firms with high leverage are lesser able to invest in projects showing negative net present value.

Hence, it can be argued that a high level of debt can be used as a tool to enhance the control (Dewatripont and Tirol, 1994), by forcing firms to distribute free cash-flow (Jensen, 1986).

While some studies and theories have reported a positive impact of debt on the performance, some other studies have found a negative relationship between debt's level and financial performance. For example, Myers (1984) predicts a negative relationship between debt and performance because firms will prefer to finance new investments with internal funds rather than external funds, but when external finance is required firms prefer debt above equity. Shyman-Sunder and Myers (1999) have confirmed this hierarchical model of financing using the data of listed firms in NYSE between 1971 and 1989.

Many other researchers in this stream confirm the negative impact of debt. In 2002, Chiang et al. and Eriotis et al. revealed a negative impact of debt on the performance measured by the profitability. In the same line, Abor (2005) has found that high long-term debt is negatively correlated to the profitability in Ghana. The same results have been observed by Bhagat and Bolton (2008) in US then by Ghosh (2008) in India. Thalassinos et al. (2010) have observed strong relation among country risk and the current crisis. Thalassinos and Politis (2011) have analysed international stock markets to check for cointegration between the markets. Thalassinos and Pociovalisteanu (2007) have used a time series model to check possible relation among stock prices and profits in the Romanian stock exchange.

As for the relation between the expropriation and the usage of debt, many studies tend to point to the presence of expropriation. Recently, Bai et al. (2013) have reported a positive and significant relationship between expropriation and debt usage of the Chinese firms. The authors measure the amount of expropriation by aggregating the value of corporate loans made to the controlling shareholder. This result is consistent with the prior study of Faccio et al. (2001) in which they had argued that higher leverage ensures for the controlling shareholder more resources to expropriate the private benefits without diluting his controlling.

The theories and the empirical studies have documented mixed and significant results which lead us to formulate the following hypothesis:

H$_0$: There is a significant impact of leverage on the performance of listed firms.

3. The Interaction between Financial Behaviours and Macro Environment Systems

3-1-French Civil Law

The basis of French civil law is identified by the French revolution in the 19th century. The development of France in the colonial era and the dissolve of the Portuguese - Spanish empires have extended the French civil law to many nations such as: Netherlands, Italy, Belgium, Spain, Portuguese and Switzerland.

For La Porta et al. (1998) the French civil law countries have the worst legal protections due to some criteria such as: the highest level of concentrated ownership, the highest level of deviation from the principle one-share/one-vote and the lowest incidence of allowing voting by mail.

In this circumstance of low legal protections, a high level of debt may be used to increase tunnelling and expropriation of the outside shareholders. Accordingly, Bebchuk et al. (2000) have pointed out that a low level of legal protection leads to increase the tunnelling in leveraged CMS[3]. Bertrand et al. (2002) have argued the same results in the case of pyramid structure. Under such a pyramidal structure, the ultimate owner has the ability to use debt in order to expropriate resources from affiliated companies to those higher up the pyramid. In the same context of French civil law, Boubaker (2007) has reported that the external financing eases the expropriation of outside shareholders.

In 2001, Faccio et al. revealed that the absence of transparency and disclosures norms enable the owners to use debt more effectively to extract private benefits, which has a negative impact on stocks' valuations. Consistent with these results, Johnson et al. (2000) have found that weak legal protection has an important role to play in stock market declines. Therefore, when the legal protection is very weak, debt fails to serve its disciplinary role and becomes a tool for the owners to expropriate the resources of the company.

3-2-English Common Law

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[3] Controlling-minority structure: places corporate control in the hands of an insider who holds a small fraction of the firm's cash-flow rights.

According to the principle in which it is unfair to treat similar facts differently, the English common law has been formed by judges through decisions of courts. The common law has its roots with the English colonists in some countries such as: US, Canada, Hong-Kong and Australia. In European countries, Ireland was the subject of the first extension of common law system outside the United-kingdom.

To prove the importance of common law, La Porta et al. (1998) have reported that countries with English common law afford the strongest protection for minority investors. In their papers (1998, 1999 and 2000), the authors have found that the common law is characterized by the highest incidence of law protecting oppressed minorities. Moreover, they have reported that the common law has the highest average anti-director rights score. Finally, La Porta el al. (1998) have revealed many significant differences between common law and civil law, indicating that a strong legal protection decreases the risk of expropriation. In 1995, Zingales confirmed that the English common law reduces the ability to extract the private benefits by limiting the discretionary power of a manager[4].

In this case of legal protection, a high level of debt can act as a disciplining device (Sarkar et al. 2008), by aligning the interests of shareholders with the interests of managers (Jensen, 1986). For Day and Taylor (2004), the effectiveness of debt as monitoring device depends on the institutional context such as the effective bankruptcy laws. Consistent with these results, it can be argued that the disciplinary role of debt is sensitive to the legal protection of the country. In the case of high level of protection, the debt can be used to reduce minorities' expropriation and increase a firm's performance.

3-3-German and Scandinavian (GS) Civil Law

German and Scandinavian codes are derived from Roman legal tradition, the most developed one around the world. The German codes had an important influence on the legal regulations in many European countries such as Switzerland and Austria. However, the Scandinavian countries (Finland, Sweden, Denmark and Norway) have a distinct civil law which is derived from German Law. In our study, we will consider the German and Scandinavian civil law in the same family of regulations based on the civil legal regulation. Consistent with this reasoning, La Porta et al. (1998) have reported that German and Scandinavian civil law countries are in the middle in term of legal protection. Their results show that common law countries have the strongest level of protection while civil law countries have the weakest level. Dyck and Zingales (2001) have reported that the private benefits are highest in countries with French code (21%) then countries with German and Scandinavian

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[4] In 2001, Dyck and Zingales reported that the levels of private benefits are significantly lower in countries with English legal origins than in French legal origin countries.

legal origins (11% and 4%). Their results have confirmed the importance of legal rights in any cross country analysis. For the authors, a higher level of legal protection must be accompanied with lower level of financial distress. Nenova (2001), has confirmed the midmost level of German civil law protection. The author has found that the private benefits are 4.5% in common law countries, 25.4% in French civil law countries and 16.2% in German legal origin countries.

Based on the different regimes of legal protection, the hypotheses H_1 and H_2 are defined as follows:
H_1: In the case of low legal protection, there is a negative impact of leverage on the performance of listed firms.
H_2: In the case of high legal protection, there is a positive impact of leverage on the performance of listed firms.

4. The Interaction between Financial Behaviours and Business Micro Factors

In some cases of legal protection the ultimate owners can expropriate the outside minorities by beating some regulations through the structuring of legal transactions. For example, in many European countries the pyramid structure appears if there are many restrictions concerning the usage of dual class share. Accordingly, it's very difficult to detect the impact of financial structure on the performance without considering some micro factors such as: the ownership concentration and the deviation from the principle of one share-one vote.

The logic behind this assumption has been supported by many scholars. For example, Filatotchev et al. (2001) have reported that ownership structure may provide an incentive to the ultimate owners to expropriate the minority when the investment project is funded by debt. Brailsford et al. (2002) have stated that managers seek to reduce their risks and they use less debt at high level of ownership concentration. Du and Dai (2005) have revealed also that owners with small proportion of shares tend to increase debts to acquire more resources. Boubaker (2007) has confirmed that the level of expropriation is very high in the French firms, specifically when shareholders own a small part of cash-flow rights.

As for the deviation between cash-flow rights and control rights, prior studies show that tunnelling and expropriation activities through debts increase in firms with high ratio of deviation between cash-flow and control rights. In 2002, Claessens et al. (2002) completed the study of Filatotchev and Mickiewicz (2001) by indicating that the tunnelling by ultimate owners often takes place in firms in which there is a significant degree of divergence between cash flow rights and control rights. The same results have been observed by La Porta el al. (2002). Finally, Faccio et al.

(2002) and Masulis et al. (2009) have revealed that a high ratio of O/C[5] and a weak creditors' protection enable the owner to use the debt to extract the private benefits.

When the weak legal system exacerbates the situation of owners, the ownership concentration rises as proxy system to mitigate the level of expropriation. Hence, the final two hypotheses of this study are defined as follows:

H$_3$: A high level of concentrated ownership reduces the risk of expropriation through debt.

H$_4$: A high level of deviation between ownership rights and control rights increases the risk of expropriation through debt.

5. Data and Sample

This study is based on a new database extracted from European countries at the end of 2012. As a starting point for the data collection, eight European countries from different regimes of legal protection have been selected in order to explore the impact of capital structure on the financial performance. From each regime of legal protection we used the richest countries based on the gross domestic product (GDP) [6]. France, Italy and Spain represent the French civil law countries; Austria, Germany and Switzerland represent the GS civil law countries and finally Ireland and UK represent the common law countries. The selected countries represent 77.7% of European countries GDP (table 1).

Table 1: GDP$_{(2012)}$ per Country

Regime	French law countries			GS civil law countries			Common law countries	
Country	France	Italy	Spain	Germany	Austria	Switzerland	UK	Ireland
GDP (2012)	2.61	2.01	1.32	3.42	0.394	0.491	2.446	0.210
GDP % of European countries	15.7%	12.1%	7.9%	20.6%	2.4%	3%	14.7%	1.3%

From each country we collect the data of listed firms based on the world scope database. Overall, we have at the beginning 7501 listed companies extracted from eight European countries. There are three restrictions on this first sample. Firstly, we

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[5] The ratio of his ownership rights O to his control rights C.
[6] Source: Eurostat (http://epp.eurostat.ec.europa.eu).

exclude banks and insurance companies to prevent their domination in our study. Secondly, we eliminate companies with missing data on ownership and financial structures. Finally, we exclude companies that are owned by the government.

We end up with 5050 companies divided to three sets of samples for which we can trace the ultimate owner and where stock market data are available. The sample of Common law countries consists of 1667 listed firms, the sample of French law countries consists of 2698 listed firms and the sample of GS civil law countries consists of 685 listed firms.

Table 2: Total number of Selected Companies per Regime of Legal Protection

Regime	French law countries			GS civil law Countries			Common law countries	
Country	France	Italy	Spain	Germany	Austria	Switzerland	UK	Ireland
# of listed companies 2012	862	279	3167	665	70	238	2179	42
Market capitalization in Billion USD	1823	480	995	1486	106	1079	3019	109
# of selected companies per country	592	175	1931	466	41	178	1639	28
Total # of selected companies per regime of legal protection	2698			685			1667	

Table 1 provides that the French civil law is the most important one in Europe due to its Economic contribution in term of GDP. The three richest countries extracted from the French civil low contribute 35.7% of Europe's GDP while this contribution drops down to 16% for common law countries.

The market capitalization of our three samples (table 2) is more developed in common law countries followed by French civil law countries then GS civil law countries. These results indicate that listed firms in common law countries specifically in London stock Exchange may have a direct and fast market reaction on their financial behaviour.

6. Methodology and Variables

The research methodology involves a quantitative analysis to identify the impact of capital structure on the performance of listed firms by considering the different regimes of legal protection. To address this issue, we run the two following regressions by focusing on both micro and macro factors of European firms:

(eq.1) $Q = f[(DBT) + (DBT)*(OWN) + (DBT)*(O/C) + X_i] + e_i$

(eq.2) $Q = f[(DBT) + (DBT)*(OWN)^2 + (DBT)*(O/C)^2 + X_i] + e_i$

Where e_i is the stochastic error term and Xi denotes all the vector of control variables that can affect the performance such as: Firm size measured by the natural log of the book value of total assets. Firm age measured by the natural log of the number of years since the firm's inception. Firm growth is the annual growth rate in sales.

The first model (eq.1) is used to determine the impact of financial debt (DBT: debt-to-total assets ratio) on Tobin's Q (Q)[7]. Further analysis of this regression is applied to reveal the combined effects of debt with the variables OWN (cash-flow concentration) and O/C (deviation between cash-flow and voting rights). If debt is employed as a disciplinary mechanism, we would expect a positive relationship between {(DBT)*(O/C)} and firm's performance when O/C is used to extract private benefits. Otherwise, if the ownership concentration is the alternative disciplinary device, we will expect a positive and significant relationship between {(DBT)*(OWN)} and firm's performance when debt is used to extract private benefits.

The second regression (eq.2) is running to capture any possibility of non-monotonic relation. It should be noted that debt ratio may be non-linearly related to the performance when the variables (OWN) and (O/C) increase. On the one hand, higher deviation between ownership and performance might give the ultimate owners more power to expropriate through debt. On the other hand, higher cash-flow rights might align the interests of controllers with those of minorities.

We regress also the combined effect of financial structure and legal regime by dividing our sample into three subsamples. The first subsample includes the French civil law countries, the second one consists of the GS civil law countries and the last subsample includes the common law countries. The objective at this level is to detect the impact of financial structure on the performance by considering the specificity of each legal regime.

7. Results

7.1 Descriptive Statistics

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[7] Tobin's Q = (EQ + PRE + DEBT)/(ASSETS)
Where; EQ = the year-end market value of the firm's common stock; PREF = the year-end book value of the firm's preference shares (preferred stock); DEBT = the year-end book value of the firm's total debt; and ASSETS = the total assets employed by the firm.

Table 3 provides descriptive statistics dealing with the variables used in this study. The sample consists of eight European countries which are: France, Italy, Spain, Germany, Austria, Switzerland, UK and Ireland.

The firms in common law countries have the highest level of performance with the highest level of firm's growth. The firms in GS law countries are in the second place in term of performance while the firms in French civil law are in the last place.
Oppositely, in term of debt ratio the French civil law countries are in the first place, specifically the listed firms in Italy (0.387) and Spain (0.293). Thus highest debt ratio may be employed as a disciplinary device to reduce cash flow waste. The lowest level of debt ratio exists in UK and Ireland with respectively (0.173) and (0.161). Between the lowest and the highest debt ratio, firms in France, Germany, Austria and Switzerland come to have a mid-position.

Table 3: Descriptive Statistics

The dependent variable is Tobin's Q measured by the total of market value plus the book value of the firm's preference shares plus the book value of the firm's over the total assets employed by the firm. The independent variables are: DBT measured by total debt over total assets; OWN measured by cash flow concentration; O/C measured by the deviation between control and ownership; Fsize measured by the natural log of the book value of total assets; Fage measured by the natural log of the number of years since firm's inception; Fgrow is the annual growth rate in sales.

Regime	French law countries			GS civil law countries			Common law countries	
Country	France	Italy	Spain	Germany	Austria	Switzerland	UK	Ireland
Tobin's Q	1.624	1.193	1.181	1.935	1.622	1.801	2.094	1.902
DBT	0.261	0.387	0.293	0.284	0.288	0.196	0.173	0.161
OWN	0.448	0.467	0.425	0.458	0.531	0.378	0.359	0.407
O/C	0.883	0.711	0.791	0.854	0.908	0.896	0.842	0.905
FSize	6.187	4.893	4.667	6.213	4.709	4.954	6.001	4.486
FAge	45.21	36.48	39.32	42.87	35.09	39.87	48.32	31.76
FGrow	0.214	0.154	0.179	0.237	0.126	0.245	0.267	0.154
N	592	175	1931	466	41	178	1639	28

As it can be seen from Table 3, the ownership is very concentrated in French civil law countries specifically in France (44.8%) and Italy (46.7%), while the lowest level of concentration exists in UK (35.9%) and Switzerland (37.8%). These results indicate that the firms in common law countries are wildly held corporations where owners have a very small part of controlling rights. However, unlike the wildly held corporations, the closely held corporations in French and GS civil law countries are controlled by the majority of shareholders such as families and financial institutions. Again, there is a considerable variation across countries in term of deviation between ownership and control. The descriptive statistics indicate that O/C ratio is at the highest level in GS civil law countries whereas the lowest level exists in Italy (0.711) and Spain (0.791). Through pyramids, multiple voting rights and weak legal environment in French civil law countries, controlling shareholders have a high incentive to expropriate non-controlling shareholders.

Table 4 calculates the coefficients of correlations in order to demonstrate any meaningful link between all the variables of the study.
The relationship between Tobin's Q and firm's growth is positive and significant whereas the relationship between performance and debt ratio is found as negative and statistically significant. In light of these results it seems that debt is not used as a disciplinary tool in European countries. The positive relationship between O/C and Debt reveals also the possibility of entrenchment specifically when the ultimate owner has a low cash flow concentration. The negative relationship between OWN and O/C may confirm our first findings.

Table 4: Correlation Statistics

The dependent variable is Tobin's Q measured by the total of market value plus the book value of the firm's preference shares plus the book value of the firm's over the total assets employed by the firm. The independent variables are: DBT measured by total debt over total assets; OWN measured by cash flow concentration; O/C measured by the deviation between control and ownership; Fsize measured by the natural log of the book value of total assets; Fage measured by the natural log of the number of years since firm's inception; Fgrow is the annual growth rate in sales.

Variables	Tobin's Q	Debt	OWN	O/C	Firm Size	Firm Age	Firm Growth
Tobin's Q	1						
DBT	-0.032*	1					
OWN	0.115	-0.221	1				
O/C	-0.328	0.129**	-0.176*	1			
FSize	0.109	-0.045	0.035	-0.267	1		
FAge	0.185	0.106	-0.076	0.003	0.091*	1	
FGrow	0.254**	-0.097	-0.064	0.051	0.022	-0.031	1

*correlation is significant at the 0.05 level.
**correlation is significant at the 0.01 level.

These evidences need further investigations; accordingly we will try to verify them in the next section by the regressions analysis.

7.2 Regression Results

Table 5 presents the results of regression analysis which reveal the relationship between the performance (Tobin's Q), the independent variables (DBT, OWN and O/C), and the controlled variables (FSize, FAge and FGrow). Before starting the regression analysis of the study, $(\chi 2)$ and (F) tests were conducted on our Classical Linear Regression models. Both tests indicate that there is no evidence of heteroscedasticity problem.

Table 5: Regression Results
The dependent variable is Tobin's Q measured by the total of market value plus the book value of the firm's preference shares plus the book value of the firm's over the total assets employed by the firm. The independent variables are: DBT measured by total debt over total assets; OWN measured by cash flow concentration; O/C measured by the deviation between control and ownership; Fsize measured by the natural log of the book value of total assets; F age measured by the natural log of the number of years since firm's inception; F grow is the annual growth rate in sales.

Region	European Countries		French civil law Countries		GS civil law Countries		Common law Countries	
Regression	1	2	3	4	5	6	7	8
Equation	Eq.(1)	Eq.(2)	Eq.(1)	Eq.(2)	Eq.(1)	Eq.(2)	Eq.(1)	Eq.(2)
DBT	-0.1622	-0.1451	-0.1908**	-0.2041*	-0.1027	-0.0938	0.0413*	0.0262**
DBT*(OWN)	0.1012	--------	-0.2339*	--------	-0.1362*	--------	0.0152	--------
DBT*(O/C)	-0.1823*	--------	-0.2755**	--------	-0.1401	--------	0.0321	--------
DBT*(OWN)^2	--------	0.1501	--------	0.0189**	--------	0.1202	--------	0.1064
DBT*(O/C)^2	--------	-0.2452**	--------	-0.3454**	--------	-0.1311*	--------	-0.0045
OWN	0.0034	0.0035	0.0041*	0.0137**	0.0054*	0.0051	0.0027	0.0030
O/C	-0.0136**	-0.0143*	-0.0211**	-0.0224*	-0.0198*	-0.0201*	-0.0121	-0.0116
FSize	0.0110*	0.0123	0.0164*	0.0199	0.0186	0.0201	0.0113**	0.0156*
FAge	0.0021	0.0019	0.0031	0.0021	0.0019*	0.0022	0.0021**	0.0016
FGrow	0.0671**	0.0578*	0.0633*	0.0602*	0.0711**	0.0765*	0.0665*	0.0659**
R^2	0.5946	0.5422	0.5487	0.5075	0.5071	0.4861	0.4953	0.4739
Adjusted R^2	0.5145	0.4961	0.4376	0.4387	0.4406	0.4243	0.4661	0.4261
F-statistic	7.7786	7.5641	6.7856	6.4605	6.8013	6.7456	7.2987	7.0785

N	5050	5050	2698	2698	685	685	1667	1667

*correlation is significant at the 0.05 level.
**correlation is significant at the 0.01 level.

According to regressions 1 and 2 the relationships between debt and performance are negative and not significant. After dividing our main sample that consists of 5050 firms to three subsamples, the results reveal two opposite impacts of debts. On the one hand, debt is related positively to the performance of listed firms in French civil law countries. On the other hand, there is a positive relationship between debt and the performance of listed firms in common law countries. These results suggest that debt is an important source of expropriation in French civil law countries while there is no evidence of expropriation through debt in GS civil law countries. At low level of legal protection, the managers may expropriate the minorities by increasing the debt's level. The recent study of Bai et al. (2013) confirms that the expropriation of minorities is positively related to debt usage in fully-privatized firms. In the same line Agrawal and Knoeber (1996) show that the increasing of debt's level has a significant negative affect on firm's performance.

Oppositely, in common law countries it seems that debts are used to increase the performance by eliminating the risks of expropriation and entrenchment. The evidence of debt in common law countries is consistent with the study of Harris and Raviv (1991) that supports the agency cost hypothesis by showing that higher debt can be used as a monitoring device.

In order to explore the interaction between debt, performance and ownership concentration, two main variables are running with the performance. The first variable is DBT*OWN, detecting the risk of expropriation through debt at low level of ownership concentration while the second variable is DBT*OWN^2 which is used to capture the risk of tunnelling through debt at high level of ownership concentration.

In French civil law countries, a non-linear impact of debt is identified with ownership concentration while a positive and non-significant impact is pointed out in common law countries. In GS civil law countries, a negative impact of debt is found at low level of ownership concentration.

The results lead to conclude that the risk of expropriation through debt exists in French and GS civil law countries specifically when ownership concentration is

widely dispersed. The explored impact of DBT*OWN in GS civil law countries is significantly lower than that of French civil law countries, suggesting a higher risk of expropriation in France, Spain and Italy.

Regression 4 completes this evidence by demonstrating that the ownership concentration in French civil law countries rises as a proxy mechanism to limit the risk of expropriation which is consistent with the hypothesis (H_4) which indicates that a high level of concentrated ownership reduces the risk of expropriation through debt.

In common law countries, ownership is not used to constraint the expropriation of minorities but the high level of legal protection rises as an alternative system. The non-significant impact of the variable OWN in regressions 7 and 8 is consistent with this analysis.

As for the impact of DBT*O/C on the performance of European firms, all the conducted regression in French civil law countries reveal that a high deviation between ownership and control leads the ultimate owner to use debts in order to expropriate the external shareholders. According to regressions 2, 4 and 6, a negative impact of debt is also detected when the level deviation between ownership and control comes to be more developed in GS and French civil law countries. From the results it can be argued that the negative impact of DBT*$(O/C)^2$ in French and GS civil law countries is significantly higher than that of DBT*(O/C), suggesting a higher risk of expropriation through debts with higher level of deviation. These results are consistent with the studies of La Porta et al. (1999), Faccio et al. (2002) and Classens et al. (2002) that show a high risk of expropriation and tunnelling in firms characterized by high degree of divergence between cash flows rights and control rights. The positive relationship between leverage and O/C (table 4) is also reliable with the hypothesis that debt facilitates tunnelling and expropriation.

In common law countries, there is no significant impact of the deviation between ownership and control on the performance of listed firms. Moreover, from regressions 7 and 8 it seems that the impacts of DBT*(O/C) and DBT*$(O/C)^2$ are not significant which means that the owners don't use the debt to expropriate the external shareholders when the deviation between ownership and control exists. The high level of legal protection is employed as a disciplinary device to eliminate any risk of expropriation.

Table 6 represents the global results of the study, showing how the macro and micro factors affect the relationship between capital structure and firms' performance. Indeed, for countries with a low legal protection, financial structures are more likely to be used by owners to serve their private interests. For countries with high level of

legal protection, it seems that the financial market rises as proxy system to constraint any risk of expropriation and entrenchment.

Table 6: General results

Hypotheses		French	GS	Common law Countries
Number	**Description**	**Civil law Countries**		**Countries**
H_0	There is a significant impact of leverage on the performance of listed firms	Confirm	Not Confirm	Confirm
H_1	In the case of low legal protection, there is a negative impact of leverage on the performance of listed firms	Confirm	Not confirm	--------
H_2	In the case of high legal protection, there is a positive impact of leverage on the performance of listed firms	----------	---------	Confirm
H_3	A high level of concentrated ownership reduces the risk of expropriation through debt	Confirm	Not Confirm	Confirm
H_4	A high level of deviation between ownership rights and control rights increases the risk of expropriation through debt.	Confirm	Confirm	Not Confirm

8. Conclusion

Using the data of 5050 listed firms in European countries, this study is focusing on the financial impact of capital structure by considering the macro-environment system, more specifically the level of legal protection. After exploring the different regulations in Europe, we end up by three legal regimes: French civil law countries, English common law countries and finally German and Scandinavian (GS) civil law countries

In countries with a low level of legal protection (such as France, Spain and Italy) corporate leverage is likely to be controlled by ultimate owners. At low level of ownership concentration, managers and ultimate owners try to use debt's level in order to increase tunnelling, expropriation and entrenchment. At high level of

ownership concentration, ultimate owners use debts to constraint the entrenchment of managers and consequently increase the firm's performance. In this low level of legal protection, firms are more exposed to expropriation through debts when there is a high level of deviation between cash-flow and control rights. This is more likely to occur when firm's structure is organized as a pyramid.

In common law countries the situation is totally different. The high level of legal protection decreases the levels of entrenchment, tunnelling and expropriation. In this case, financial market rises as a proxy system to constraint any opportunistic behavior and debts are also enrolled as a monitoring tool to increase the level performance. In such a market based system, hostile takeover and investor activism play a key role to discipline the managers and ultimate owners. Oppositely, in French civil law countries, capital markets are less protected which leads the ultimate owners to act as monitors to maximize the level of private profits.

In GS civil law countries the results indicate that there is no impact of financial structure on the performance of listed firms when it's measured by debt's level. The interaction between ownership and financial structure indicates that at low level of ownership concentration a negative and significant impact of debt is found, showing a high risk of expropriation. This risk of expropriation is also detected when firms use a high level of deviation between ownership and control rights. However, all the results reveal a tendency of higher level of expropriation in French civil law countries then that of GS civil law countries (table 7) which is consistent with the study of La Porta et al. (1998).

Table 7: Comparisons of Impact between GS and French Civil Law Countries

Variables	Description	Impact on the performance of GS civil law countries	Sign	Impact on the performance of French civil law countries
DBT*OWN	Using of debt at low level of concentration	-0.2339*	<	-0.1362*
DBT*(O/C)^2	Using of debt with high level of deviation between ownership and control	-0.3454**	<	-0.1311*

Results are extracted from table 5.

The evidence of this study is very important but it could be developed over a longer period of time. The analysis should be improved by using two different types of debt

such as short-term and long-term debt. Finally, more advanced criteria have to be considered to classify the different levels of legal protection.

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