

INTERACTION EFFECTS BETWEEN INTERNAL GOVERNANCE MECHANISMS ON THE COMPONENTS OF INITIAL RETURNS DURING THE IPO

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Abstract

Our work provides an analysis of the interaction effects between internal governance mechanisms on the components of initial returns during the listing period. The application of multivariate regressions on a sample of 110 IPO French companies during 2005-2010, has allowed us to conclude that the different interactions between these mechanisms significantly influence the level of under / overpricing. Indeed, the positive relationship between internal governance mechanisms and overpricing reflects a substitutability relationship. In contrast, the complementarity effect comes from the negative relationship characterizing the combination of governance mechanisms and the underpricing. Thus, the interactions effects between institutional ownership, board structure and under / overpricing are not conforming to the existence of a complementarity or substitutability relationship between these variables given the absence of a significant combination between these variables.

Key words: Ownership Structure, Board of directors, Under/overpricing, Complementarity, Substitutability

JEL Classification: G30

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Introduction

The agency theory considers the financial market as a means to strengthen the arsenal of control agents, encouraging them to make strategic decisions that create value. According to the agency theory, a complementary relationship, in terms of control may exist between the board and ownership structure. Charreaux Pitou & Belin (1990) argue that the role of the board changes with the ownership structure, and its disciplinary function becomes secondary in family firms or controlled primarily by shareholders. Thus, governance mechanisms within IPO firms occur in response to agency conflicts between owners and managers having conflicts arise from the dilution. The interaction between these mechanisms determines the effectiveness of the governance structure of a firm (Jensen (1993) and Shleifer and Vishny (1997)).

Although the study of the interactions between the different governance mechanisms is raised by various studies in different contexts, our work differs from other research on several fronts. The first contribution of this paper is to examine the phenomena associated with an IPO in the French context. Indeed, we opted for a methodology identical to that of Gao (2010) to verify the existence of the

under / overpricing during the IPO. In other words, we first determine the components of the initial returns observed at the IPO.

Another contribution is to check whether the combination of internal governance mechanisms has an effect on the under/overpricing. Indeed, very few studies have focused on exploring the relationship between internal governance mechanisms and initial returns components in the French context. Thus, our work aims at understanding how the joints (complementarity / substitutability) between existing internal governance mechanisms can influence the under / overpricing. In this context, the study of these joints allows companies to avoid duplication of control and increase shareholder wealth (Fernandez & Arrondo, 2005). This article will be divided into three parts. The theoretical framework and research hypotheses to be tested cover the first part. The second part deals with methodological aspects. The third part presents the analysis and discussion of results.

1 Context of the study and hypothesis of research

1.1 Interaction effects between ownership structure and board independence on the under/overpricing

The IPO process leads to a loss of control held by the original shareholders, as it would sell an important block of shares. The result is a transfer of wealth of the original shareholders in favor of new investors. Miloud (2003) asserts that, before the initial public offering, the ownership is, generally, concentrated in the hands of the founding shareholder or the partners of origin. As a consequence to the new subscriptions which the company receives, the structure of ownership becomes more scattered after the listing period, especially when these partners choose to partially or completely divest the company, which leads to a transformation of the ownership of those who do not want to have their company controlled by new investors.

Hill (2006), and Roosenboom Schramade (2006), Wang (2005) show that ownership structure and ownership concentration affect significantly the degree of underpricing, especially in emerging markets. According to Lee (2004), dominant shareholders can directly and easily control the manager, leading to a decrease in agency costs caused by the opportunism of professional manager. However, the discretionary powers can be exercised by the controlling shareholders at the expense of minority shareholders. This may encourage the IPO firm to opt for some form of oversight by independent directors in order to reduce information asymmetry, and to protect the interests of small shareholders. Indeed, to provide oversight by outside directors may be particularly useful in the context of an IPO, where the increased complexity of management positions (due to competition and market pressures on IPO companies) and the proliferation of potential strategies (due to uncertainty in the sector) make these companies a fertile ground for managerial incompetence and / or problems of opportunism (Kor et al (2008)). This can influence the under / overpricing characterizing the IPO. Therefore, our hypothesis is the following:

H1: the effect of ownership concentration on the under/ overpricing varies with board independence.

Accordingly, monitoring by external directors may be more common during the IPO where there is a greater incentive to monitor managerial decisions. Indeed, the agency theory (Jensen and Meckling, 1976) stipulates an increase of agency costs during the listing period. Because of the divergence of interests between managers and shareholders, Jensen (1986) suggests that managers prefer to invest the funds raised during the IPO and the cash flows in unprofitable projects at the expense of shareholder wealth. Therefore, the assumption of agency cost is

considered as a possible explanation for the evolution of initial returns of IPO firms. Indeed, the proportion of the capital held by insiders may much explain the underpricing and the overpricing given that they do not have too much interest to underprice their shares for not having huge losses and have interest to attribute overpriced shares to misinformed investors. Hence, the involvement of independent directors during the IPO period is necessary because the IPO environment is characterized by high levels of information asymmetry leading, therefore, to appearance of agency problems that require important monitoring of management decisions within the firm. Actually, the information asymmetry that characterizes the IPO context can be reduced if the independent directors constitute a specific data source after interaction with leaders of IPO firms. This gives them access to public and private information of the firm (Carpenter and Weestphal (2001)). Their presence may thus have an effect on the underpricing which is, in turn, an increasing function of information asymmetry during the IPO. We can, as a result, establish the following hypothesis:

H2: The interaction effect between managerial ownership and board independence can influence the level of under / overpricing.

In addition, information asymmetry characterizing IPOs can be reduced by the presence of institutional investors. Indeed, Barry et al [1990] and Megginson & Weiss [1991] suggest that the presence of venture capitalists weakens the level of information asymmetry between issuers and investors. Generally, the presence of institutional owners is considered a signal of credibility for a newly-listed public company.

This signal provides valuable information on the economy for investors and industry partners, when it is difficult to predict the financial stability and future success of entrepreneurial firms, mainly when operating in unstable environments (Kor and al (2008)). Kor and al (2008)) also argue that investors can better understand the perspectives of IPO firms as they participate regularly in IPOs. Therefore, we can expect that:

H3: The complementary effect existing between board independence and institutional ownership can affect performance during the listing period.

1.2 Interaction effects between ownership structure and CEO duality on the under/overpricing

Although it has been the most abundant literature, board independence, apprehended through the nature of its internal or external members, is not the only engine of its efficiency. Board structure is, indeed, a major reflection on corporate governance. The effectiveness of the board structure is probably has an impact on value creation. Thus, the board may have a monistic board structure, that is to say, an

accumulation of the position of President and Chief Executive Officer, or a dual structure that takes the form of the Supervisory Board and Executive Board. The latter is characterized by the separation between the functions of Chairman and Chief Executive Officer (Boutillier, M., Labye, A., Lagoutte, C., Levy, N., and Oheix, V., (2002)). Several studies suggest that a single person should not hold simultaneously the role of chairman and CEO. In fact, combining the functions is at first sight the crossroads of conflicts of interest (Zahra and Pearce (1989)), resulting in agency costs increase during the IPO. Consequently, the agency theory (Jensen and Meckling, 1976) stipulates an increase of agency costs at the IPO. Hochberg (2004) shows that agency costs are also important for an IPO company thanks to the dilution of capital and the greater separation of ownership and control. Therefore, it is interesting to have a concentrated ownership before IPO to reduce agency conflicts and eventually the agency costs. Indeed, Shleifer & Vishny (1986), Agrawal & Mandelker (1990) and Agrawal & Knoeber (1996) show that the more ownership is concentrated, the more leaders are better controlled and the more the company is profitable. Indeed, shareholders holding a significant part of capital may force leaders to work in their favor by opposing their decisions when they go against the objective of maximizing shareholder wealth. Our hypothesis is as follows:

H4: The complementarity or substitutability effect between concentration of ownership and duality can influence the under/overpricing.

According to Fama and Jensen (1983), a monistic board structure indicates a potential managerial opportunism. We find that the new investors have no incentive to participate in the capital of IPO firm whose structure of the board is monistic. Indeed, managerial control would be threatened as long as the person performing the two functions, as chairman of the board, becomes more aligned with the direction than with the shareholders (Jensen and Meckling (1983)). Based on a sample of firms in Great Britain, Dahya et al (1996) found that, when companies move from a structure of separation of functions to a structure of accumulation, the stock market reacts unfavorably. Conscious of the negative effect that the combine of functions can exercise on the performance of the firm, potential investors may require a high level of underpricing when they want to subscribe for new issues (Juan (2007)). Therefore, we hypothesize that:

H5: The combination between duality and managerial ownership may affect the performance observed during the IPO.

Institutional investors have common requirements among firms in which they are shareholders. Their fame and reputation can increase their power over managers and force them to follow their recommendations, even if they individually have a small part of capital (Plihon D. and Ponsard JP,

(2002)). This may create conflicts of interest between managers and institutional owners of the company whose structure of the board is monistic and also able to influence the underpricing during the listing period. Therefore: we can make the following hypothesis:

H6: the effect of institutional ownership on the under / overpricing varies with duality.

1.3 Interaction effects between ownership structure and board size on the under/overpricing

For agency theorists, the size of the Board promotes high dominance of the leader by raising coalitions and group conflicts (Jensen (1993)). The result is the existence of boards which have difficulty operating efficiently in reaching consensus on important decisions (Herman (1981)). In contrast, Pearce and Zahra (1992) show that a large board strengthens its capacity to monitor and improves its informational sources. With its diversified structure, a board composed of a large number of directors provides better environmental links and demonstrates greater expertise. This control within the board of a large size can be strengthened in the presence of concentrated capital used to reduce agency costs characterizing the IPO process. Certo et al (2001) find a negative and significant relationship between IPO underpricing and the size of the board of directors. Indeed, a large board size reduces the uncertainty of the value of the company. A reduction of the asymmetry of information is to be observed, leading to a subsequent low IPO underpricing during a new initial public offering. We can predict the following hypothesis:

H7: The effect of ownership concentration on the under/overpricing varies with the size of the board.

The study of Yermack (1996) shows that the large board can hide entrenchment mechanisms. This means that the probability of encountering boards of large size must be even more important than the domination of leaders in the board. Moreover, the author reveals that wages and the threat of removal of managers are higher in companies with boards characterizing by a small number of administrators. This may lead us to predict a relationship of complementarity or substitutability between managerial ownership and board size, which makes us come up with the following hypothesis:

H8: the combination of managerial ownership and board size can affect the under / overpricing during the listing period.

High uncertainty and information asymmetry characterizing the IPO period require the presence of institutional investors. As a matter of fact, their presence within the IPO company reduces the asymmetry of information thereby creating an inverse relationship between the underpricing and the part of capital held by the investors. These can add significant value to the company by a positive signal that manifests itself by better supervision on the board of

directors. It follows then that the pressure from institutional investors to empower administrators may also be responsible for the decrease in board size (Wu (2000)). In this regard, we can establish the following hypothesis:

H9: There is a relationship of complementarity or substitutability between board size and institutional ownership influencing the initial returns at the IPO.

2 Methodology

2.1 Sampling

Our study concerns a sample of 110 French companies listed on the Stock Exchange, between 2005-2010. This sample was obtained from the site of Euronext (www.euronext.com). We removed certain observations of our sample as far as the logic of transfer of markets or the private placement does not correspond to that of the first initial public offering.

Table 1. Sample Selection Procedure

	2005	2006	2007	2008	2009	2010	Total
Eurolist	12	19	10	4	1	5	51
Alternext	-	38	16	-	-	5	59
Total	12	57	26	4	1	10	110

So, we note that the number of new issues during 2006-2007 is relatively important. This involves the existence of a relatively favorable stock exchange context.

2.2 Equations of the model to be studied and description of variables

2.2.1 Presentation of the model

By referring to the study of Gao (2010), we can formulate the idea according to which the initial return includes elements of under / overpricing. Thus, the initial return can be influenced by different governance mechanisms given that the impact of the

governance structure on the IPO underpricing has been the subject of several previous studies. However, the nature of the relationship between governance structure and IPO overpricing has not yet been studied. Consequently, the interaction effects between internal governance mechanisms may have important implications for determining the initial return and particularly the level of under/overpricing.

To examine the interactions between internal governance mechanisms and their impact on the components of the initial returns, we found advisable to opt for the multivariate regression analysis:

a. Interaction between ownership concentration, board structure (ownership concentration * board structure) and over/underpricing

$$\text{Initial return} = a_0 + a_1 \text{B.Indep} + a_2 \text{Dual} + a_3 \text{B.Size} + a_4 \text{Own.C} + a_5 (\text{Own.C} * \text{B.Indep}) + a_6 (\text{Own.C} * \text{Dual}) + a_7 (\text{Own.C} * \text{B.Size}) + a_8 \text{F.A} + a_9 \text{F.S} \quad (1)$$

$$\text{Underpricing} = a_0 + a_1 \text{B.Indep} + a_2 \text{Dual} + a_3 \text{B.Size} + a_4 \text{Own.C} + a_5 (\text{Own.C} * \text{B.Indep}) + a_6 (\text{Own.C} * \text{Dual}) + a_7 (\text{Own.C} * \text{B.Size}) + a_8 \text{F.A} + a_9 \text{F.S} \quad (2)$$

$$\text{Overpricing} = a_0 + a_1 \text{B.Indep} + a_2 \text{Dual} + a_3 \text{B.Size} + a_4 \text{Own.C} + a_5 (\text{Own.C} * \text{B.Indep}) + a_6 (\text{Own.C} * \text{Dual}) + a_7 (\text{Own.C} * \text{B.Size}) + a_8 \text{F.A} + a_9 \text{F.S} \quad (3)$$

b. Interaction between managerial ownership, board structure (managerial ownership * board structure) and over/underpricing

$$\text{Initial return} = a_0 + a_1 \text{B.Indep} + a_2 \text{Dual} + a_3 \text{B.Size} + a_4 \text{M.Own} + a_5 (\text{M.Own} * \text{B.Indep}) + a_6 (\text{M.Own} * \text{Dual}) + a_7 (\text{M.Own} * \text{B.Size}) + a_8 \text{F.A} + a_9 \text{F.S} \quad (4)$$

$$\text{Underpricing} = a_0 + a_1 \text{B.Indep} + a_2 \text{Dual} + a_3 \text{B.Size} + a_4 \text{M.Own} + a_5 (\text{M.Own} * \text{B.Indep}) + a_6 (\text{M.Own} * \text{Dual}) + a_7 (\text{M.Own} * \text{B.Size}) + a_8 \text{F.A} + a_9 \text{F.S} \quad (5)$$

$$\text{Overpricing} = a_0 + a_1 \text{B.Indep} + a_2 \text{Dual} + a_3 \text{B.Size} + a_4 \text{M.Own} + a_5 (\text{M.Own} * \text{B.Indep}) + a_6 (\text{M.Own} * \text{Dual}) + a_7 (\text{M.Own} * \text{B.Size}) + a_8 \text{F.A} + a_9 \text{F.S} \quad (6)$$

c. Interaction between institutional ownership, board structure (institutional ownership * board structure) and over/underpricing

$$\text{Initial return} = a_0 + a_1 \text{B.Indep} + a_2 \text{Dual} + a_3 \text{B.Size} + a_4 \text{Ins.Own} + a_5 (\text{Ins.Own} * \text{B.Indep}) + a_6 (\text{Ins.Own} * \text{Dual}) + a_7 (\text{Ins.Own} * \text{B.Size}) + a_8 \text{F.A} + a_9 \text{F.S} \quad (7)$$

$$\text{Underpricing} = a_0 + a_1 \text{B.Indep} + a_2 \text{Dual} + a_3 \text{B.Size} + a_4 \text{Ins.Own} + a_5 (\text{Ins.Own} * \text{B.Indep}) + a_6 (\text{Ins.Own} * \text{Dual}) + a_7 (\text{Ins.Own} * \text{B.Size}) + a_8 \text{F.A} + a_9 \text{F.S} \quad (8)$$

$$\text{Overpricing} = a_0 + a_1 \text{B.Indep} + a_2 \text{Dual} + a_3 \text{B.Size} + a_4 \text{Ins.Own} + a_5 (\text{Ins.Own} * \text{B.Indep}) + a_6 (\text{Ins.Own} * \text{Dual}) + a_7 (\text{Ins.Own} * \text{B.Size}) + a_8 \text{F.A} + a_9 \text{F.S} \quad (9)$$

Where: Own.C : Ownership Concentration
 M.Own : Managerial Ownership
 Ins.Own : Institutional Ownership
 B.Indep : Board Independence
 Dual : CEO Duality
 B.Size : Board Size
 F.A : Firm Age
 F.S : Firm Size

2.2.2 Defining and Measuring Variables

The measures adopted to study the impact of interactions between internal governance mechanisms on the level of under/overpricing are presented in the following table.

3 Description and analysis of the results

3.1 Determination of the intrinsic value

Concerning our study, the intrinsic value is obtained by a linear regression while considering the market price and the listing price, of all the new issues, between 2005-2010.

Table 2. Definitions of variables in our model

Variables	Definitions
Explanatory variables of the under/overpricing	
Ownership Concentration	This is the percentage of ownership held by the largest shareholders (which is greater than or equal to 20% for each shareholder).
Managerial Ownership	The percentage of shares owned by managers and directors
Institutional Ownership	The percentage of shares held by institutional investors.
Board Independance	The percentage of independent (non affiliated) outside directors on a firm’s board (number of outside directors/board size)
CEO Duality	Dummy variable taking one if CEO is also the chairman of the <i>board</i> , and is 0 otherwise.
Board Size	The number of directors on a board for each firm
Firm Age	Logarithm of the number of years between the year of creation and the IPO
Firm Size	Logarithm of total assets at the end of the year preceding the IPO of the issuing firm
Explanatory variables of the initial return⁴	
Underpricing	(Offer Price – Intrinsic Value) / Intrinsic Value
Overpricing	(Market Price – Intrinsic Value) / Intrinsic Value

⁴ The initial return is defined as follows: Initial Return = (Offer Price – Market Price) / Market Price (according to Gao (2010)).

Replacing α and β by their value in the equation of the model according to the market price observed the first day of listing, the shares listed on the Stock

Exchange of Paris, we succeeded to determine the intrinsic value of every listed share. The model, thus, spells as follows: $IV_{i,t} = \alpha + \beta MRI_{i,t} + \epsilon_{i,t}$

Table 3. Determination of the intrinsic value

$VI_{i,t} = \alpha + \beta RM_{i,t} + \epsilon_{i,t}$				
Variable	Coefficient	Ecart Type	t-Student	Prob.
α	12.71434	2.234084	5.69	0.000
β	1.847272	0.9967695	1.85	0.067
R^2	0.0308			
Adjusted R^2	0.0218			
F-statistic	3.43			
Prob(F-statistic)	0.0666			

It stands out from the following table, that the coefficients α and β , are statistically significant (α is significant at the level of 1 % and β at the level of 10 %).

3.2 Descriptive analysis

According to table 4 we can see that the offer price exceeds the market price, with a relatively high value on average. The intrinsic value obtained by linear regression, is greater than the offering price and the market price recorded during the IPO. This explains the negative mean value of under/overpricing. The analysis shows, therefore, that the offer price is, on average, closer to the intrinsic value, in comparison to the market price. This justifies the fact that the average value of the underpricing is higher compared to that observed at the overpricing. We note that the ownership structure is highly concentrated with an average of 94.54%. This implies that most of the major shareholders of the companies in our sample have a part of shares in excess of 20%. Indeed, we have decided to opt for the definition of La Porta et al (1999) to define our variable of ownership concentration. Indeed, a highly concentrated ownership implies that the main shareholders have a stock of shares equal to or greater than 20% of all shares representing the capital of the firm. A highly

concentrated ownership implies that the minority of companies have widely dispersed ownership, in the sense that the major shareholder does not even have a part of shares equal to 20% of all shares constituting the capital of the firm. Shareholders-managers hold, on average, 47.51% of the shares of IPO company. This value is, relatively, large, with a median of 50% (49.45%). This implies that most managers hold a significant part of shares before the listing period, strengthening their managerial power within the firm. This implies, therefore, that the majority of these firms are family because property ownership is highly concentrated, and the managerial ownership is, on average, higher. This justifies the fact that over 50% of our sample are listed on Alternext, which is a market designed primarily for SMEs.

Similarly, we find that institutional ownership is, relatively, large with an average of 35.38%. Legal persons involved heavily in the capital of IPO company because of their important role in the control before and during the listing period in order to succeed the IPO. However, this does not preclude the existence of firms which the property ownership is held primarily and exclusively by individuals, in the sense that institutional ownership takes a minimum value (that is equal to 0).

Table 4. Descriptive Statistics

	Mean	Median	S.D	Minimum	Maximum	Skewness	Kurtosis
Initial Return	8.898	7.466	7.0992	-0.1431	53.0205	2.5931	15.2721
Underpricing	-0.0032	-0.1486	0.7618	-0.8657	5.8160	4.2918	32.1992
Overpricing	-0.8894	-0.9083	0.0469	-0.9491	-0.6955	1.4848	4.8679
Ownership Concentration	0.9454	1	0.2281	0	1	-3.9231	16.3910
Managerial Ownership	0.4751	0.4945	0.3608	0	1	0.0731	1.55917
Institutional Ownership	0.3538	0.212	0.3623	0	1	0.6069	1.8312
Board Independence	0.1347	0	0.1853	0	0.8	1.4798	4.6932
Duality	0.7454	1	0.4376	0	1	-1.1269	2.2700
Board Size	6.9	6	3.2452	3	18	1.0801	4.1127

Board size takes a minimum value of 3 and a maximum value of 18. In addition, the low level of

board independence may be due to the duality, since most companies have a monistic structure. This

reinforces the idea that these companies are family and have no interest in separating the control from direction. Hence, the appointment of independent directors in these firms is reduced. This table shows that the coefficients of skewness are different from zero and positive, with the exception of those related to the concentration of ownership and duality. This implies that most of the distributions are skewed to the right. In contrast, distributions concerning the ownership concentration and the duality are spread to the left. Thus, the coefficients of kurtosis are strictly greater than 3, except those related to managerial ownership, institutional ownership, and duality. The distributions of these last three variables are platykurtique, that the kurtosis is less than 3. Distributions of other variables are leptokurtic, since the kurtosis is greater than 3.

3.3 Multivariate analysis

3.3.1 Correlation matrix between the independent variables

The problem of multicollinearity arises when two variables are highly correlated. Kervin (1992) states that a problem of multicollinearity is present when the correlation coefficient is greater than 7. Examination of the various correlation coefficients contained in the two tables shows that they are below the limits set by Kervin (1992). This means the absence of a critical correlation that can present a serious problem of collinearity between the independent variables included in our regression model. These findings allow us to apply multivariate regressions without fear that there is a problem of multicollinearity between independent variables included in our model.

Table 5. Correlation coefficients of the explanatory variables of IPO Under/Overpricing

	Firm Age	Managerial Ownership	Institutional Ownership	CEO Duality	Board Size	Board Independence	Ownership Concentration
Firm Age	1.0000						
Managerial Ownership	0.0258	1.0000					
Institutional Ownership	-0.1392	-0.2704***	1.0000				
CEO Duality	0.1684*	0.4384***	-0.0141	1.0000			
Board Size	0.1125	-0.5140***	0.0713***	-0.3734	1.0000		
Board Independence	-0.1640*	-0.0999	-0.0541	-0.1646*	0.2046**	1.0000	
Ownership Concentration	0.1039	0.1856**	-0.0083	0.3191***	-0.2305**	-0.1289	1.0000

3.3.2 Combination effects between ownership concentration and board characteristics on the under/overpricing

The significant and positive relationship between board independence and underpricing leads to the conclusion that the control provided by the independent directors does reduce neither the level of information asymmetry nor the agency costs characterizing the IPO nor the level of underpricing. That goes in the direction of reducing the level of the overpricing. Indeed, we can notice that the existence of independent directors on the board weakens the extent of overpricing. Juan (2007) predicted that the uncertainty from potential problems associated with the low board independence may motivate investors to seek higher underpricing. However, the result contradicts the research hypothesis insofar as an independent board is associated with a high level of underpricing, which may justify the negative and significant link between overpricing and board independence. In fact, a significant demand of

underpricing on the part of investors is in line with a reduction of the level of overpricing for a firm whose board is independent. In contrast, the interaction between ownership concentration and board independence affects negatively the underpricing. This can be attributed to an effect of complementarity between the two variables used to reduce the level of underpricing observed during the listing period in an attempt to protect the interests of controlling shareholders selling part of their shares at the IPO. Put differently, the process of the IPO leads to a loss of control held by the original shareholders, as it would sell an important block of shares. The result is a transfer of wealth of the original shareholders in favor of new investors. Thus, the underpricing that involves a reduction in share value over the market price is in contradiction with the interests of controlling and original shareholders. On the other hand, informed external investors wishing to participate in the capital of the IPO firm may take advantage of this underpricing. Nevertheless, uninformed investors will benefit from overpriced shares of IPO companies.

Table 6. Impact of the interaction between ownership concentration and board structure on the under/overpricing

	Underpricing	Overpricing	Initial Return
Board Independence	1.380676** (2.12)	-.1564833 (-1.46)	11.56179* (1.84)
CEO Duality	-.1501456 (-0.57)	-.3613332*** (-8.30)	3.36146 (1.32)
Board Size	-.0238196 (-0.70)	-.0552255*** (-9.84)	.0939828 (0.29)
Ownership Concentration	-.3793568 (-0.97)	-.9887422 *** (-15.25)	7.638222** (2.01)
Own.Conc * B.Independ	-2.572319*** (-2.54)	.1921608 (1.15)	-19.22378** (-1.96)
Own.Conc * dual	.4740876 (1.25)	.4409139*** (7.02)	-1.167157 (-0.32)
Conc.prop * B.size	.1256826 *** (2.68)	.075529 *** (9.76)	.2159715 (0.48)
Firm Age	-.1781807 (-1.19)	-.0392671 (-1.58)	-.8595116 (-0.59)
Firm Size	.0109183 (0.27)	-.0124818 * (-1.90)	.1578659 (0.41)
N	110	110	110
R²	0.2175	0.9879	0.7273
Fisher (Prob)	3.09	993.10	29.63
*** significant at the 0.001 level, ** significant at the 0.05 level, *significant at the 0.10 level			

As has been observed, the common presence of dominant shareholders and independent directors can strengthen monitoring and encourage managers to act in the interests of the firm. Indeed, monitoring within a firm with concentrated ownership of *capital* and independent board reduces information asymmetry and agency cost bringing about a reduction in the level of the underpricing. This explains the inverse relationship between the combination of the two governance mechanisms and the underpricing.

We found that the common presence of dominant shareholders and independent directors affects the overpricing favorably. This means that there is a relationship of substitutability between the two internal governance mechanisms increasing the level of overpricing. It should be noted that this overpricing is a component of the initial return (according to Gao (2010)) and can adversely affect the performance. In contrast, the underpricing improves the performance observed during the IPO. It is for this reason that the underpricing is a signal to potential investors reflecting the good quality of the issuing company as only good companies are able to recover the cost of this underpricing. Therefore, the overpricing discourages the prospective investors to subscribe to new shares. This is not beneficial to the company which strives to make its IPO succeed in order to attract investors in the stock market. Hence, the positive relationship between the internal mechanisms of governance and the overpricing reflects a relative

substitutability between board independence and ownership concentration having a positive impact on the overpricing

3.3.3 Combination effects between managerial ownership and board characteristics on the under/overpricing

The observation of the table shows that Model 2 is significant, with a power of explanation of 97.51%. This means that variables strongly determine the level of the overpricing, compared to the underpricing. The results show that board size and managerial ownership positively and significantly influence the underpricing. However, there is a negative and significant relationship between duality, board size, managerial ownership and the overpricing. Indeed, a significant presence of insiders can increase the capacity of founding CEOs to negotiate the initial public offering price with investment banks, reflecting the assessments of their companies by the market during the first day of trading (Certo (2001)), which can reduce the risk of observing a phenomenon of overpricing. It also implies that a large board with a monistic configuration and high managerial ownership before IPO does not reduce information asymmetry and agency costs by providing less effective control resulting in the appearance of conflicts of interest among stakeholders.

Table 7. Impact of the interaction between managerial ownership and board structure on the under/overpricing

	Underpricing (model 1)	Overpricing (model 2)	Initial Return (model 3)
Board Independence	.5299902 (1.06)	-.1026165 (-0.85)	0.7371 (0.66)
CEO Duality	.1259826 (0.62)	-.1795224*** (-3.91)	1.384246 (0.79)
Board Size	.1152885 *** (3.96)	-.0387777*** (-6.71)	.8507665*** (3.84)
Managerial Ownership	1.308477** (2.03)	-.8396329*** (-6.17)	14.50278*** (2.78)
Manag.Own * B.Independ	-1.455586 (-1.55)	-.0070105 (-0.03)	-6.140132 (-0.70)
Manag.Own * dual	.0308349 (0.07)	.2993766*** (2.71)	.9413473 (0.22)
Manag.Own * B.Size	-.1451815*** (- 2.49)	.0704687*** (5.43)	-1.78634*** (-3.59)
Firm Age	-.1577212 (-1.02)	-.1014815*** (-2.78)	-.7662831 (-0.55)
Firm Size	-.0051156 (-0.12)	-.0482922*** (-5.48)	-.0372836 (-0.11)
Constant	-.833397 ** (-2.18)	-	-
N	110	110	110
R²	0.1703	0.9751	0.7371
Fisher (Prob)	2.26	435.15	31.14
*** significant at the 0.001 level, ** significant at the 0.05 level, *significant at the 0.10 level			

Quite the contrary, the combination of managerial ownership and board size has a negative impact on the underpricing. This can go along with the idea of Yermack (1996) that shows that large boards can hide entrenchment mechanisms. This means that the probability of encountering the boards of large size in our sample of companies must be all the more important that the domination of the manager is accentuated. Indeed, the large part of managerial ownership within the board encourages them to not undervalue overmuch their shares for sale during the IPO for not realizing huge losses.

Thus, the decline in the level of underpricing is usually accompanied by an increase in the overpricing, given that this overpricing and underpricing represent the components of the initial returns, which justifies the positive relationship between the combination of the two mechanisms of governance (managerial ownership size of the board) and the overpricing.

3.3.4 Combination effects between institutional ownership and board characteristics on the under/overpricing

Observing the table, we can see that the internal governance mechanisms strongly influence the

overpricing with an explanatory power of 96.49%. In contrast, the explanatory power of the Model 1 explaining the nature of the relationship between the internal governance mechanisms and the underpricing is 14.45%. This means that internal governance mechanisms strongly determine the level of overpricing compared to the underpricing.

The results allow us to see that a wide board whose structure is monistic and with a large number of independent directors influence positively the underpricing and negatively the overpricing at the IPO. Therefore, a board with these characteristics does not ensure effective control leading to reduce the level of the underpricing in order to protect the interest of the original shareholders who sold a portion of their capital during the IPO.

Our results reflect, to some extent, the ideas of Hermalin (2004) and Ginglinger (2002), insofar as the large board is ineffective in exercising control of management. This reduces the opportunities to make decisions for the benefit of shareholders and enhances the discretion of management. The latter will, thereafter, act in their own interests by increasing the level of underpricing, to attract new investors, while ensuring that their managerial power is strengthened.

Table 8. Impact of the interaction between institutional ownership and board structure on the under/overpricing

	Underpricing	Overpricing	Initial Return
Board Independence	.0333772 (0.08)	-.2767581** (-2.27)	1.659018 (0.39)
CEO Duality	.2150007 (1.20)	-.1965066 *** (-3.92)	4.575711*** (2.64)
Board Size	.0384882* (1.72)	-.0141424** (-2.24)	.1194724 (0.55)
Institutional Ownership	-.6799009 (-0.98)	-.3342229* (-1.71)	-5.343784 (-0.79)
Inst.Own * B.Indep	-.7225657 (-0.74)	.4092707 (1.49)	-1.613757 (-0.17)
Inst.Own * dual	-.1500282 (-0.37)	.133387 (1.17)	-2.408752 (-0.61)
Inst.Own * B.Size	.071034 (1.05)	.0159787 (0.84)	.7482893 (1.13)
Firm Age	-.1724776 (-1.17)	-.1755757*** (-4.24)	.805435 (0.56)
Firm Size	-.0022166 (-0.06)	-.0701945*** (-7.09)	.721223** (2.11)
N	110	110	110
R²	0.1445	0.9649	0.6981
Fisher (Prob)	1.88	305.56	25.69
*** significant at the 0.001 level, ** significant at the 0.05 level, *significant at the 0.10 level			

Thus, an improvement in the underpricing is generally accompanied by a deterioration of the overpricing. The significant underpricing can be attributed to the high level of informational asymmetry resulting from conflicts of interest between shareholders and managers before the listing period. This causes an increase in the underpricing usually accompanied by a reduction in the overpricing. We note that the interaction between institutional ownership, board independence (inst.own*B.indep) , duality (inst.own*Duality) and under / overpricing do not provide significant results. The existence of a relationship of complementarity or substitutability between these variables is not consistent with the last result.

4 Conclusion

In this article, we have shown that the governance structure is a major determinant of initial returns observed during the IPO. Indeed, the application of multivariate regressions on a sample of 110 French companies during 2005-2010, has allowed us to assert that the different mechanisms of internal governance as well as the interactions between these mechanisms significantly influence the level of under / overpricing. We have found that most of the internal governance mechanisms affect positively and significantly the levels of underpricing and negatively the overpricing. In contrast, the combination of these mechanisms creates an adverse effect on these phenomena observed at the IPO. In other words, most of the interactions between these governance mechanisms have a positive impact on the overpricing. In contrast,

the underpricing is negatively and significantly influenced by the combination of these different mechanisms. Indeed, the positive relationship between internal governance mechanisms and overpricing reflects a substitutability relationship. In contrast, the complementarity effect comes from the negative relationship characterizing the combination of governance mechanisms and the underpricing. Thus, the interactions between institutional ownership, board independence, duality and under / overpricing are not statistically significant. This does not substantiate the existence of a complementarity or substitutability relationship between these variables.

References

1. Agrawal, A. et C. Knoeber, (1996), Firm performance and mechanisms to control agency problems between managers and shareholders, *Journal of Financial and Quantitative Analysis*, V 31, pp 377-396;
2. Agrawal A., Mandelker G. (1990), « Large Shareholders and the Monitoring of Managers :The Case of Antitakeover Charter Amendments », *Journal of Financial and Quantitative Analysis*, vol. 25, n° 2, p. 143-167.
3. Barry, C.B., Muscarella, C.J.,Peavy III J. W., & Vetsuypens, M.R., (1990), "The role of venture capital in the creation of public companies. *Journal of Financial Economics*, 27, 447- 471.
4. Boutillier, M., A. Labye, C. Lagoutte, N. Lévy, V. Oheix, 2002. « Financement et gouvernement des entreprises : exceptions et convergences européennes », *Revue d'Economie Politique*, 112, 4, 499-544.
5. Carpenter M.A., Westphal J.D.,(2001), "The strategic context of social networks ties: examining the impact of director appointments on board involvement in

- strategic decision making", *Academy of Management Journal*, vol. 4, n°4, 2001, p. 639-660
6. Certo, S. T., Covin, J. G., Daily, C. M. and Dalton, D. R., (2001), 'Wealth and the effects of founder management among IPO-stage new ventures', *Strategic Management Journal*, Vol. 22, 2001, pp. 641-658.
 7. Charreaux, G. et Pitol-Belin J.P., (1990), *Le conseil d'administration*; Vuibert Gestion;
 8. Dahya, J., Lonie, A.A. and Power, D.M., (1996), 'The Case for Separating the Roles of Chairman and CEO: An Analysis of Stock Market and Accounting Data', *Corporate Governance: An International Review*, Vol. 4, No. 2, pp.71 - 77
 9. Fama, E., Jensen, M., (1983), "Separation of Ownership and Control", *The Journal of Law And Economics*, 26, June, pp. 301-326.
 10. Fernandez, C., and R. Arrondo, (2005) "Alternative Internal Controls as Substitutes of the Board of Directors", *Corporate Governance Oxford*, Vol. 3 No. 6, 856.
 11. Jensen, M.C., (1993), 'The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems', *Journal of Finance*, Vol. 48, pp. 831-880
 12. Gao, Y., (2010), « What Comprises IPO Initial Returns: Evidence from the Chinese Market », *Pacific-Basin Finance Journal* 18 (2010) p.77 –89.
 13. Ginglinger E. (2002), « L'actionnaire comme Contrôleur », *Revue Française de Gestion*, vol. 28, n°141, novembre/décembre, p. 37-55.
 14. Herman, J.L. (1981). *Father-daughter incest*. Cambridge, MA: Harvard University Press.
 15. Hermalin, Benjamin E., (2004), "Higher Education Board of Trustees," in *Governing Academia* Ronald G. Ehrenberg (ed.), Cornell University Press: Ithaca, NY.
 16. Hill, P., (2006), "Ownership Structure and IPO Underpricing", *Journal of Business Finance & Accounting*, vol. (33), pp. 102-126. -Hermalin B., Weisbach M.. *The Determinants of Board Composition*, *Rand Journal of Economics*, 1988, Vol.19: 589-606
 17. Hochberg, Yael.(2004), "Venture Capital and Corporate Governance in the Newly Public Firm." Cornell University, September 2004.
 18. Jensen, M.C., (1993), 'The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems', *Journal of Finance*, Vol. 48, pp. 831-880
 19. Jensen M. (1986), «Agency costs of free cash flow, Corporate finance and takeovers», *American Economic Review*, 76, Vol.2, p.323-329.
 20. Jensen, Michael and W. Meckling (1983), "Theory of the Firm: Managerial Behavior, Agency Costs, and Capital Structure," *Journal of Financial Economics*, 3 (October), 305-360.
 22. Jensen, M. and Meckling, W., (1976), 'Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure', *Journal of Financial Economics*, Vol. 3, pp. 305-60.
 23. Juan, M., Dempere (2007), "Impact of corporate governance on pricing and performance of Bank IPOs", *Review of business*.
 24. Kor, Y., Y., & Mahoney, J. T. (2008), "The effects of demand, competitive, and technological uncertainty on IPO firms", *Strategic Management Journal*.
 25. La Porta, R., Shleifer, A., & Florencio, L., (1999), "Corporate ownership around the world", *Journal of Finance*, 54, pp. 471-517.
 26. Lee, J., (2004), "Structure de l'actionnariat familial et performance des grands groupes coréens", *Finance Contrôle, Stratégie*", Vol, 7, n°4, Décembre, P. 143 - 166.
 27. Megginson, W., Weiss, K. (1991). " Venture capitalist certification in initial public offerings. *Journal of Finance* 46(3): 879-903. Mello, A., Parsons, J. 1998. Going public and the ownership structure of the firm. *Journal of Financial Economics* 49(1): 79-109.
 29. Miloud, T., (2003), « Les introductions en bourse, la structure de propriété et la création de valeur », Thèse doctorat en sciences de gestion, Université Catholique de Louvain.
 30. Pearce, J. H. and Zahra, S. A. (1992), 'Board Composition from a Strategic Contingency Perspective', *Journal of Management Studies*, Vol. 29, pp. 207-217.
 31. Plihon D., J-D. Ponsard, P. Zarkowski, (2002). "Quel scénario pour le gouvernement d'entreprise? Une hypothèse de double convergence », *Revue d'économie financière*, 63, 3, 35-51.
 32. Roosenboom, P., and Schramade, W., (2006), "The Price of Power: Valuing the Controlling of Owner-managers in French IPO Firms", *Journal of Corporate Finance*, vol. (12), pp. 270-295.
 33. Shleifer, A. and Vishny, R.W. (1986), " Large shareholders and corporate control", *Journal of Political Economy*, 95, pp. 461-488.
 34. Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *Journal of Finance*, 52(2), 737–783.
 35. Wang, C. (2005). "Ownership and Operating Performance of Chinese IPOs," *Journal of Banking and Finance*, vol. 29, pp. 1835-1856.
 36. Wu, Y., (2000), "Measuring the Performance of Foreign Direct Investment: A Case Study of China", *Economics Letters* 66(2), pp.143-150 (This journal is an SSCI-listed journal. This article has so far attracted 28 citations according to Google Scholar database, accessed Feb 2009).
 37. Yermack, D. (1996), 'Higher Market Valuation of Companies with Small Board of Directors', *Journal of Financial Economics*, Vol. 40, pp. 185-211.
 38. Zahra S.A. and Pearce J.A.,(1989), 'Board of directors and corporate financial performance: A review and integrative model', *Journal of Management*, N o 15, p.291-334, 1989.