

HEC Montréal

Affiliée à l'Université de Montréal

**ESSAYS ON GOVERNANCE, MANAGERIAL OPPORTUNISM AND  
DEBT COSTS AND RATINGS**

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Thèse présentée en vue de l'obtention du grade  
de Philosophiæ Doctor (Ph. D.) en Administration  
Spécialisation : Finance

Juin 2008

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Cette thèse intitulée:

**ESSAYS ON GOVERNANCE, MANAGERIAL OPPORTUNISM AND  
DEBT COSTS AND RATINGS**

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*À mes chers parents, en reconnaissance de leurs grands sacrifices ;*  
*À ma femme et ma petite fille pour leurs patiences et encouragements ;*  
*À tous ceux et celles qui m'ont aidé à réaliser ce travail ;*

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

## REMERCIEMENTS

J'adresse mes vifs remerciements à ma directrice de thèse, Mme Narjess Boubakri pour tout ce qu'elle a fait pour moi. Tout au long mon cheminement à l'École des HEC, elle était disponible pour diriger ce travail avec rigueur, diligence et sincérité malgré ses lourdes responsabilités. Sans ses précieux conseils et soutiens ce travail n'aurait pas été réalisé. Narjess ; Je te remercie infiniment! Que ces modestes mots puissent témoigner de mes profonds respects et reconnaissance.

Je tiens également à remercier le Professeur Jean-Claude Cosset pour ses compétences et son esprit de dialogue. Mes remerciements s'adressent aussi aux professeures Maria Botchkova et Amrita Nain pour leurs apports constructifs à cette thèse.

Je suis également très reconnaissant à la Mission Universitaire de la Tunisie à Montréal ainsi qu'au Ministère de l'Enseignement Supérieur, de la Recherche Scientifique et de la Technologie pour avoir financé mes études doctorales. J'exprime aussi ma reconnaissance au Centre de Recherche en E-Finance (CREF) et à la direction des programmes de M.Sc. et de Ph. D. à l'école des HEC pour le financement qu'ils m'ont fourni. De même, je remercie Lise Cloutier-Delage, la secrétaire du programme de M.Sc. et de Ph.D. pour le support administratif tout au long de mon cursus doctoral.

Je remercie aussi mes amis et mes collègues au département de la finance à l'École pour leur aide et leur sociabilité qui ont rendu le climat de travail très aimable et chaleureux. Je n'oublierai pas l'apport et l'appui de Mohamed Jabir. Il était toujours disponible pour m'aider dans mes recherches et collectes de données. Également, je remercie mon ami Anis Samet ainsi que mon ami le professeur Omar Sy; tous les deux m'ont fourni un support précieux lors de la programmation sur SAS.

Enfin, cette thèse n'aurait pas vu le jour sans l'aide de Dieu puis l'appui d'une personne qui m'a donné beaucoup sans toutefois s'attendre à une récompense; une personne qui a éclairé des longues années qui risquaient d'être obscures; c'est à ma chère

femme que je dédie ce travail en reconnaissance de sa patience, générosité, tendresse et encouragement.

## Résumé

Plusieurs études antérieures suggèrent que les crédateurs d'une entreprise (notamment les obligataires) valorisent la qualité de sa gouvernance. En effet, le succès ou l'échec de l'entreprise, qui reflète entre autres sa capacité de rembourser ses dettes, est fortement lié à la sévérité des conflits d'agence qu'y existent. Dans le cadre de la théorie d'agence, les emprunteurs d'une entreprise font généralement face à deux types de risque potentiels : le risque d'expropriation de richesse de la part des actionnaires de contrôle, et le risque d'un comportement opportuniste de la part de l'équipe dirigeante. La présente thèse vise à explorer l'impact de ces deux types de risque sur le coût et la notation (*rating*) des obligations émises par l'entreprise.

Dans le premier papier, nous analysons l'effet de l'expropriation par les grands actionnaires sur le coût de financement par obligations dans un contexte international. Nos résultats montrent que la différence entre les droits aux votes et les droits aux cash-flows, ainsi que le contrôle par des familles augmentent le coût des obligations émises et réduisent leurs ratings. D'autant plus, il paraît que le contrôle dans les mains des institutions financières à actionnariat diffus améliore le rating des obligations, alors que le contrôle par l'État n'a aucun impact sur les deux caractéristiques des obligations (coûts et ratings). Nous avons également contrôlé pour la qualité de l'environnement légal de chaque pays. Nos résultats suggèrent qu'en général, une meilleure protection des droits de crédateurs réduit le coût de la dette et améliore sa notation. Enfin, nous avons trouvé que les détenteurs des obligations et les agences de notations accordent une importance cruciale à l'application des lois visant la protection des droits de crédateurs.

Dans le deuxième papier, nous analysons la relation entre le risque d'un comportement déviant des dirigeants sur le coût et le rating des obligations émises par les entreprises américaines. Nous avons utilisé deux mesures pour appréhender l'opportunisme managérial, à savoir, l'enracinement de dirigeants (*Managerial Entrenchment*) et les activités de manipulation des bénéfices (*Earnings Management*). Les résultats trouvés confirment que plus les dirigeants sont enracinés et manipulent les bénéfices à la hausse, plus élevés seraient les coûts des obligations et plus faibles seraient leurs ratings. Nous avons également exploré l'effet de l'adoption de l'acte de Sarbanes-Oxley sur les perceptions ainsi trouvées des obligataires et des agences de rating. Nous avons remarqué que ces perceptions sont surtout constatées durant la période qui suit l'Acte, ce qui suggère une amélioration du «rôle disciplinaire» du marché de la dette après cet événement.

**Mots Clés :** Coût des obligations, rating, actionnariat ultime, gouvernance, expropriation, manipulation des bénéfices, enracinement, opportunisme, droits des crédettes, Acte de Sarbanes-Oxley.

## Abstract

Some recent studies show that lenders do not only rely on the firm's past profitability and on the issue characteristics in order to infer the expected cash flows (and default probability). In fact, investors also price the firm's corporate governance structure as well as the quality of its institutional environment. This is essentially due to the fact that the firm's success (and hence its ability to pay back its bondholders) is closely related to the extent of agency conflicts within the firm. Specifically, debtholders face two major problems: i) the controlling shareholders' expropriation, and, ii) the managers' opportunistic behaviour. The main focus of the current thesis is to show whether and how these two problems affect the costs and the ratings of firm's bond issues.

In the first paper, we explore the effect of shareholders' expropriation on the costs and ratings of firms' bonds in a multi-national sample of firms. We find strong evidence that ultimate ownership (i.e., the voting/cash-flow rights wedge) and family control have a positive and significant effect on bond costs, and a negative and significant effect on bond ratings. Moreover, our results suggest that control in the hands of widely held financial firms has a positive effect on bond ratings only, and that State control has no effect on either bond costs or ratings. When we control for the institutional environment, we find that a higher protection of debtholders' rights generally reduces bond costs and increases corporate bond ratings. Our results also show that, for both bondholders and rating agencies, the enforcement of debt laws is crucially important.

In the second paper we attempt to shed lights on the impact of managerial opportunism on the cost of debt financing. Using managerial entrenchment and earnings management activities to proxy for managers' opportunism, we find that firms with less entrenched managers enjoy lower corporate bond costs and higher credit ratings. In addition, our results suggest that bondholders generally require higher bonds costs, while rating agencies assign lower credit ratings to firms that inflate their earnings (i.e. income-increasing earnings management). We further investigate the role of the Sarbanes-Oxley Act adoption on the perceptions of these two debt market actors. We find strong evidence that the dramatic changes required by this Act have enhanced the "monitoring" role of the debt market since we document that the above results are generally observed only for the post-SOX period.

**Keywords:** Bond costs and ratings, ultimate ownership, corporate governance, expropriation, earnings management, entrenchment, opportunism, creditors rights, Sarbanes-Oxley Act.

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## LISTE DES ABBRÉVIATIONS

**ADR:** American Depositary Receipt

**CEO:** Chief Executive Officer

**CFO:** Chief Financial Officer

**EM:** Earnings Management

**FISD:** Fixed Investments Securities Database

**IPO:** Initial Public offering

**IRRC:** Investor Responsibility Research Center

**OLS:** Ordinary Least Square

**ROA:** Return On Assets

**SDC:** SDC Platinum Thomson Financial,

**SEC:** Securities and Exchange Commission

**SEO:** Seasoned Equity Offering

**SOX:** Sarbanes-Oxley Act

**S&P:** Standard & Poor's

**U.K.:** United Kingdom

**U.S.:** United States of America

## **INTRODUCTION GÉNÉRALE**

## I. Présentation de l'étude

De nos jours, la taille du marché de la dette devient de plus en plus énorme. Ceci est dû à un recours plus intense des entreprises ainsi que des gouvernements au financement par dettes. Toutefois, cet endettement accru n'est pas sans coût. En effet, l'analyse des causes des crises financières récentes nous montre les dangers que présente un endettement excessif. Nous pouvons citer l'exemple de la crise de la dette des années 80s lorsque des pays se sont déclarés insolvables. La crise des crédits hypothécaires (*Subprime Crisis*) qui frappe actuellement les États-Unis d'Amérique en est également un autre exemple.

Certes, la cause majeure derrière les crises des dettes est leurs coûts excessifs. Par exemple, dans le cas de la crise des années 80s, plusieurs pays étaient contraints de payer des charges d'intérêt (service de la dette) qui représentent plus que la moitié de leurs recettes. De même, la crise des crédits hypothécaires actuelle trouve ses racines dans des taux d'intérêt variables que les banques exigent. Ces taux sont généralement indexés au taux fixé par la Réserve Fédérale. Ce dernier était de l'ordre de 1% en 2004, alors qu'en 2006, il a dépassé le 5%.

Ce constat nous ramène donc à chercher les solutions pour éviter les problèmes que l'endettement pourrait engendrer. Une solution pourrait consister à garder la dette tout en éliminant le taux d'intérêt. En d'autres termes, assurer un financement par dette à un coût

nul. Cette alternative, qui pourrait paraître étrange, a été implantée par le gouvernement japonais en 1999. Selon les autorités japonaises, les résultats de cette politique de taux d'intérêt nul a bien atteint ses objectifs économiques. L'idée sous-jacente est simple; la réduction des coûts de financement va stimuler l'investissement qui à son tour va stimuler la consommation et relancer donc l'économie toute entière. Toutefois, cette solution demeure audacieuse et ne peut donner ses fruits sur une période de courte durée.

Reste donc une troisième et dernière solution; à court terme, et au lieu d'éliminer le coût de la dette, on peut viser plutôt à le réduire à son minimum. Pour ce faire, on doit décomposer le coût total de la dette en ses sous-composantes pour essayer ensuite d'éliminer (ou du moins réduire) certaines d'entre elles. Un petit exemple pourrait illustrer l'idée mieux qu'un long discours. Imaginons un entrepreneur qui veut entreprendre un projet donné, dans un secteur donné et dans un pays donné. Pour trouver un financement à son projet, il peut s'adresser à sa banque qui va lui offrir l'argent nécessaire à un coût total  $C$ . Lors de la fixation de ce coût, la banque a pris en considération plusieurs facteurs  $F_i$  et pour chaque facteur, elle a chargé un coût, soit  $c_i$ . En d'autres termes, la banque exige une rémunération  $c_i$  pour chaque risque encouru représenté par les facteurs  $F_i$ . Comme exemple de facteurs, nous pouvons citer le risque d'une mauvaise situation économique du pays dans lequel l'entrepreneur souhaite lancer son projet.

Donc, pour réduire (éliminer)  $C$ , soit le coût total de financement par dette, il suffit de réduire (éliminer) les  $c_i$  soit le coût de chaque facteur  $F_i$ . Toutefois, pour ce faire, il faut tout d'abord identifier les facteurs  $F_i$ .

L'objectif ultime de cette thèse est d'identifier un de ces facteurs; les attributs de la gouvernance des entreprises qui représentent un risque pour les fournisseurs des capitaux (ex. les créanciers). En effet, et outre les indicateurs de performance et de solvabilité,

certaines recherches récentes (par exemple : Bhojraj et Sengupta, 2003; Anderson, Mansi, et Reeb, 2003; Ashbaugh, Collins et LaFond, 2006) affirment que la qualité des mécanismes de gouvernance au sein d'une entreprise pourrait également influencer son coût d'endettement. Ceci est dû essentiellement au fait que le succès ou l'échec d'une entreprise est étroitement lié à l'ampleur des conflits d'agence qui s'y manifestent. Le fondement de cette affirmation trouve ses racines dans le travail de Jensen et Meckling (1976). Dans ce travail, les auteurs avancent que les actionnaires d'une entreprise sont incités à exproprier la richesse de ses créanciers (notamment les prêteurs de fonds à long terme), et ce en se lançant dans des projets d'investissement très risqués. Ainsi, si les projets s'avèrent rentables, la majeure partie des gains s'en va aux actionnaires, alors que s'ils génèrent des pertes, c'est aux créanciers d'en assumer les conséquences. De même, les créanciers confrontent un deuxième type de risque, soit celui d'un comportement opportuniste de la part de l'équipe dirigeante. En effet, il a été démontré dans la théorie financière que les gestionnaires d'une entreprise, dans la mesure où il y a une séparation entre la propriété et le contrôle, poursuivent des objectifs spécifiques qui ne sont pas forcément bénéfiques pour les autres ayant-droits de l'entreprise. Ces objectifs se matérialisent généralement dans des actions qui, bien qu'elles soient profitables pour les dirigeants, vont à l'encontre des intérêts de l'ensemble des bailleurs de fonds (notamment les actionnaires et les créanciers) puisqu'elles détruisent la valeur économique des actifs de l'entreprise. Il en découle donc que les créanciers, en prévoyant de tels problèmes (risque d'expropriation par les actionnaires majoritaires et/ou risque d'un comportement opportuniste de la part des dirigeants), exigent une compensation ex-ante si des symptômes d'expropriation se manifestent au sein d'une entreprise.

Dans la présente thèse, nous nous intéressons à l'impact de la structure de gouvernance d'une entreprise sur son coût de financement par dettes à long terme. Plus

particulièrement, la problématique que nous traitons peut se résumer dans la question suivante :

*Y-a-t-il un lien entre les coûts de financement par obligations et la qualité des mécanismes de gouvernance des entreprises?*

La réponse à cette question nous permettrait de voir si le marché de la dette joue un rôle effectif dans la réduction des comportements opportunistes au sein de l'entreprise et contribue ainsi à l'amélioration de la qualité de sa gouvernance interne.

## **II. Cadre d'analyse et hypothèses du travail**

La problématique sera traitée dans le cadre de la théorie d'agence. Nous prenons le cas des obligations émises par les entreprises pour se financer à long terme. Ce choix est motivé par la taille du marché des obligations dans le monde et surtout par la disponibilité des données nécessaires pour entreprendre nos analyses.

Tel que mentionné plus haut, en investissant dans une firme, les obligataires font face à deux types de risque; le risque d'expropriation par les grands actionnaires et le risque d'un comportement opportuniste de la part des dirigeants.

### **A. Coût de la dette et risque d'expropriation par les grands actionnaires**

Il est relativement aisé de se rendre compte du risque que présentent les actionnaires majoritaires pour les obligataires. En effet, les actionnaires de contrôle ont tout intérêt à exproprier la richesse des créanciers en allouant les fonds de l'entreprise à des projets affichant un haut niveau de risque. Selon la théorie des options (Black et Scholes, 1973), les actionnaires possèdent une option d'achat sur les actifs de l'entreprise dont le prix de levée est fixé à la valeur de la dette. D'après cette théorie, la valeur d'une

option est positivement liée à la volatilité de son sous-jacent. Donc, pour que la valeur de l'option détenue par les actionnaires augmente, il suffit pour ces derniers d'accroître la volatilité de l'actif de leur entreprise, et ce en entreprenant des projets d'investissement plus risqués. Bien entendu, ce niveau de risque élevé augmentera la probabilité de défaut de l'entreprise et donc nuit à l'utilité des obligataires. Jensen et Meckling (1976) présentent une analyse extensive de ce qu'ils appellent le conflit d'agence entre actionnaires et obligataires (crédeurs en général). Dans de telles circonstances, il est pratiquement impossible de résoudre ces conflits par des clauses dans les contrats de dette initiaux (par exemple, interdiction d'emprunter davantage, de distribuer plus de dividendes, d'opérer une acquisition ou une fusion,...). Il en découle donc que les obligataires, étant des investisseurs rationnels qui anticipent un tel comportement d'expropriation par les actionnaires, exigent dès le début un taux de rendement élevé sur leurs investissements.

Malgré l'importance de ce risque auquel font face les obligataires, rares sont les études qui l'ont traité. Par exemple, Cremers, Nair et Wei (2004) ont analysé l'impact du contrôle détenu par les actionnaires sur les perceptions des obligataires. Les auteurs utilisent la part dans le capital des actionnaires institutionnels pour capturer l'ampleur du pouvoir détenu par les actionnaires, et les provisions statutaires pour se protéger contre les prises de contrôle hostiles (*takeover defenses*) pour mesurer la vulnérabilité de l'entreprise sur le marché des prises de contrôle. Pour les entreprises qui sont bien protégées contre les prises de contrôle hostiles, les auteurs constatent que le pouvoir des actionnaires est associé à un coût de dette moindre. Au contraire, pour les firmes les plus vulnérables à cette menace, le contrôle des actionnaires semble accroître leur coût de dette. Aussi, Klock, Mansi et Maxwell (2005) ont trouvé que les clauses de défense pour protéger l'entreprise contre les prises de contrôle hostiles (*takeover defenses*), qui sont de nature non

souhaitables par les actionnaires, sont appréciées par les obligataires. En effet, il semble que la présence des telles clauses réduit le coût de financement par dette.

En se référant à la théorie d'agence, il nous paraît donc évident que les créanciers de l'entreprise (les obligataires en tête) encourent un risque d'expropriation de la part des grands actionnaires. Il en découle, selon la théorie financière, que le rendement qu'ils exigeront doit compenser risque encouru. D'où donc un coût de dette plus élevé pour les entreprises affichant ce risque d'expropriation. On avance ainsi notre première hypothèse qui stipule que :

***Hypothèse 1 : le coût de financement des entreprises par obligations est positivement affecté par le risque d'expropriation par les grands actionnaires.***

À noter, toutefois, que ce risque d'expropriation n'est présent qu'au sein des entreprises qui ont une concentration de propriété et/ou celles qui ont un actionnaire ultime qui détient une part de contrôle qui lui permet d'influencer les décisions de l'entreprise. Pour les entreprises qui ont un actionnariat diffus et où aucun actionnaire ne détient une part significative du capital (et plus précisément du contrôle), le risque d'expropriation par les grands actionnaires sera bien évidemment absent. Toutefois, il cède la place à un autre risque, celui d'un comportement opportuniste de la part des dirigeants qui fera l'objet de la section qui suit.

## **B. Coût de la dette et risque d'opportunisme managérial**

C'est largement reconnu que le comportement des dirigeants d'une entreprise affecte sa probabilité de défaut. En 1932, le travail de Berle et Means souligne l'émergence d'une nouvelle forme d'organisation, appelée *entreprise managériale*, caractérisée par une séparation (parfaite) entre la fonction de propriété, assumée par des actionnaires

minoritaires, et la fonction de contrôle exercée par des gestionnaires qui n'ont pas nécessairement les mêmes objectifs que les propriétaires. L'analyse de ce type d'entreprise amène les auteurs à conclure à son inefficacité. En 1976, l'examen, par Jensen et Meckling, des problèmes suscités par cette nouvelle forme organisationnelle a abouti à une nouvelle conception de ce qu'est l'entreprise : dorénavant, elle est un «nœud de contrats» entre plusieurs individus dont les objectifs divergent. En particulier, les dirigeants sont les mandataires (agent) des actionnaires (principal) qui poursuivent des objectifs et adoptent des comportements qui ne maximisent pas forcément la richesse de leur mandant. En effet, la position qu'ils occupent au sein de l'entreprise leur confère un avantage informationnel substantiel dans l'allocation et la gestion des actifs comparativement aux investisseurs externes. Ceci leur permet de faire passer leurs intérêts au premier plan au détriment de ceux des autres ayant-droits. Ils peuvent ainsi adopter un comportement qui réduit la valeur des actifs de l'entreprise, s'engager dans des activités qui valorisent leur réputation, et diriger les fonds de l'entreprise envers des investissements spécifiques qui renforcent leur enracinement (*Entrenchment*). Également, les dirigeants, vu leur horizon limité au sein de l'entreprise, sont incités à se soucier plus des investissements de court terme, délaissant ainsi les projets de long terme qui devraient assurer la continuité et la survie de l'entreprise. De plus, ayant investi leur capital humain dans l'entreprise, les dirigeants sont réticents à s'engager dans des projets risqués. Ce critère de sélection des projets n'est toutefois pas désirable par les actionnaires qui cherchent à maximiser leur rendement sachant qu'ils détiennent déjà un portefeuille plus diversifié.

Selon Jensen et Meckling (1976), un tel comportement déclenche un climat conflictuel entre actionnaires et dirigeants qui résulte en des coûts qu'on appelle les coûts d'agence. L'ampleur de ces coûts a un impact sur la valeur de l'entreprise.

Plusieurs remèdes ont été avancés pour résoudre ces conflits d'agence et discipliner les dirigeants. Par exemple, l'intéressement des dirigeants dans le capital de l'entreprise pourrait inciter ces derniers à se soucier davantage de la valeur de l'entreprise (Daily, Dalton, et Rajagopalan, 2003). En effet, Morck, Shleifer et Vishny (1988) ont empiriquement prouvé que les entreprises dont les dirigeants détiennent une part plus importante du capital affichent une meilleure performance.

D'autres mesures disciplinaires ont été également proposées. Par exemple, Murphy (1999) ainsi que Core, Guay, et Larcker (2001) soutiennent que le système de rémunération, plus particulièrement les plans d'options sur actions (*Stock-Option Plans*), pourrait assurer l'alignement des intérêts des dirigeants sur ceux des propriétaires. De même, Fama et Jensen (1983) attribuent au conseil d'administration le rôle de sélectionner, contrôler et rémunérer l'équipe dirigeante pour que celle-ci maximise la richesse des actionnaires. Enfin, certains considèrent la politique financière de l'entreprise, essentiellement la politique d'endettement, comme un moyen efficace pour réduire un comportement déviant de la part des gestionnaires. Jensen (1986) soutient l'idée selon laquelle l'émission des dettes permet de réduire les cash-flows libres (argent restant après investissement dans tout projet à valeur actuelle nette positive) dont disposaient les dirigeants. Au lieu de gaspiller ces fonds, les dirigeants se trouveront dans l'obligation de rembourser périodiquement des sommes fixes (sous forme du principal augmenté des intérêts).

Si on se place maintenant du côté des créateurs, il est évident que l'opportunisme des dirigeants aura un impact sur leurs perceptions. En effet, la façon avec laquelle l'entreprise est dirigée est fortement liée à sa santé financière, et par conséquent à sa probabilité de faire défaut. Des dirigeants qui ne se soucient pas de la valeur de leur

entreprise et qui poursuivent un agenda opportuniste implicite, ne font que détruire la valeur des actifs dont ils ont la responsabilité. Ainsi, anticipant un tel comportement, les prêteurs, notamment les obligataires, vont exiger un rendement plus élevé pour les fonds qu'ils vont placer dans l'entreprise. D'où donc notre deuxième hypothèse :

***Hypothèse 2 :** le coût de financement des entreprises par obligations est positivement affecté par l'opportunisme de ses dirigeants.*

### **III. Plan de Travail**

La présente thèse comporte deux parties majeures. Dans chaque partie, nous traiterons à part un des deux conflits susmentionnés et auxquels font face les obligataires. Dans la première partie, nous analyserons l'impact du risque d'expropriation par les actionnaires majoritaires sur le coût des obligations émises par l'entreprise. Dans la deuxième partie, nous étudierons l'effet d'un éventuel comportement opportuniste des dirigeants sur ce coût de financement. L'existence de l'un ou l'autre de ces deux risques est intimement liée à la structure de propriété de l'entreprise. En effet, en présence d'un (ou de plusieurs) actionnaire de contrôle, le risque d'un comportement déviant de la part des dirigeants est quasi-absent. Ceci est dû au fait que, dans ce cas, les dirigeants seront probablement disciplinés par le contrôle exercé par le grand actionnaire. De plus, plusieurs études antérieures ont prouvé qu'à travers le monde, les actionnaires majoritaires sont généralement des familles qui ont tendance à recruter des dirigeants qui sont membres de ces familles (La Porta, Lopez-De-Silanes et Shleifer, 1999; Claessens, Djankov et Lang, 2000; Faccio et Lang, 2002). Ceci implique donc un alignement des intérêts des dirigeants sur ceux des actionnaires. Par contre, en l'absence d'actionnaires majoritaires, les dirigeants seront plus incités à consommer des bénéfices privés et à adapter la stratégie de l'entreprise à leurs propres intérêts. Ainsi, nous choisissons un contexte international pour

tester l'impact de l'expropriation des actionnaires majoritaires sur le financement par dette, alors que pour l'impact de l'opportunisme managérial, nous prendrons le cas des États-Unis d'Amérique. Ces choix sont motivés par le fait que la structure de propriété aux États-Unis est considérée comme la plus diffuse, alors qu'ailleurs dans le monde, elle a tendance à être concentrée dans les mains d'un petit nombre d'actionnaires (La Porta, Lopez-De-Silanes et Shleifer, 1999; Claessens, Djankov et Lang, 2000; Faccio et Lang, 2002).

Pour les deux parties, nous avons retenu les mêmes mesures pour appréhender le coût de financement par obligations. Plus particulièrement, nous avons mesuré cette variable par le rendement jusqu'à la maturité exigé par les obligataires ainsi que la notation des obligations (*Bond rating*). Ceci nous permet, tout d'abord, de nous assurer de la robustesse des conclusions auxquelles nous allons aboutir, mais aussi d'avoir une idée sur la perception qu'a le marché des obligations quant à la qualité de la gouvernance de l'entreprise. En effet, ces deux mesures reflètent les perceptions des deux acteurs (probablement les plus influents), à savoir les obligataires et les agences de rating.

#### **IV. Contributions**

La présente thèse contribue à la littérature qui fait le lien entre la régie des entreprises et le marché des obligations à plusieurs niveaux :

Premièrement, et dans le cadre de la première partie de la thèse, nous avons analysé l'impact de la gouvernance interne dans un contexte international. Les études antérieures ont analysé des problématiques semblables mais uniquement sur le marché américain. Étant donné les spécificités du contexte américain, leurs résultats ne sont pas généralisables pour d'autres pays moins développés. Deuxièmement, et toujours dans le

cadre de notre premier travail, nous avons utilisé différentes mesures pour appréhender les risques auxquels font face les obligataires. Pour ce qui est du risque d'expropriation par les actionnaires majoritaires, et contrairement aux études antérieures, nous avons utilisé la différence entre la part de contrôle et la part de capital de l'actionnaire ultime. Comme le soutiennent plusieurs autres chercheurs, cette différence reflète la volonté de cet actionnaire ultime d'exproprier la richesse des autres ayant-droits de l'entreprise. Troisièmement, mener une étude au niveau international nous a permis de tester une hypothèse cruciale; évaluer le rôle des institutions légales dans le développement des marchés financiers en général, et le marché obligataire en particulier. Ceci nous a permis de repérer les institutions que les autorités doivent ajuster pour faire promouvoir les marchés financiers.

Pour ce qui est de la deuxième partie de notre analyse, nous avons utilisé deux mesures pour cerner le phénomène de l'opportunisme managérial, à savoir, l'enracinement des dirigeants (*Managerial Entrenchment*) et la manipulation des bénéfices (*Earnings Management*). Ceci nous permet donc d'avoir une idée plus complète sur l'ampleur et l'étendue de l'opportunisme des dirigeants.

Notre deuxième essai porte sur le contexte Américain pour la période qui s'étale entre 1995 et 2006. Ce contexte d'analyse nous a offert l'opportunité d'évaluer un phénomène très remarquable qui est survenu durant la même période, à savoir l'adoption de l'acte de Sarbanes-Oxley en 2002. Notre étude a utilisé une nouvelle façon pour évaluer l'efficacité de cet acte. En effet, les études antérieures comparent généralement la qualité d'un certain nombre de mécanismes de gouvernance des entreprises avant et après le passage de cet acte. Notre étude a, au contraire, évalué le «rôle disciplinaire» du marché de la dette à travers l'évaluation des perceptions de ses acteurs (dans notre cas les obligataires

et les analystes de rating), et ce avant et après l'adoption de l'acte en question. Nos résultats suggèrent que l'adoption de cet acte a imposé plus de contrôle sur la qualité de la gouvernance étant donné que les acteurs du marché de la dette sont devenus plus vigilants.

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**ARTICLE 1:**

**CREDITOR RIGHTS PROTECTION, ULTIMATE  
OWNERSHIP AND THE DEBT FINANCING  
COSTS AND RATINGS:  
INTERNATIONAL EVIDENCE**

# Creditor Rights Protection, Ultimate Ownership and the Debt Financing Costs and Ratings: International Evidence

## Abstract

We explore the effect of governance on the costs and ratings of firms' bonds in a multinational sample of firms. We find strong evidence that ultimate ownership (i.e., the voting/cash-flow rights wedge) and family control have a positive and significant effect on bond costs, and a negative and significant effect on bond ratings. Moreover, our results suggest that control in the hands of widely held financial firms has a positive effect on bond ratings *only*, and that State control has no effect on either bond costs or ratings. When we control for the institutional environment, we find that a higher protection of debtholders' rights generally reduces bond costs and increases corporate bond ratings. Our results also show that, for both bondholders and rating agencies, the enforcement of debt laws is crucially important.

**Key Words:** Debt Cost and Rating; Ultimate Ownership; Investor Protection; Debt Enforcement.

**JEL Classification:** G34; G38; F34

## I. Introduction

Shleifer and Vishny (1997) define corporate governance as “*the ways through which suppliers of capital to corporations assure themselves of getting a return on their investment*”<sup>1</sup>. A large body of empirical research links corporate governance (particularly ownership structure) to the managers-shareholders agency problems (Jensen, 1986; Morck et al., 1989; Walsh and Seward, 1990; Fluck, 1999; among others). However, little attention has been devoted to the shareholders-bondholders agency conflict. Indeed, Jensen and Meckling (1976) show that shareholders may expropriate wealth from bondholders by undertaking risky new projects that will allow them to reap most of the gains, while bondholders bear most of the cost (Klock, Mansi and Maxwell, 2005).

In this paper, we focus on the link between the ultimate ownership of the firm and its debt cost and rating. We look at ultimate ownership along two dimensions: (1) the discrepancy between voting and cash-flow rights of major shareholders, and (2) ultimate shareholder identity. The voting/cash-flow rights wedge measures the extent and the likelihood of expropriation by majority shareholders (Claessens et al., 2000; Faccio and Lang, 2002). Although bondholders may also face the risk that managers behave opportunistically, we choose to focus on the conflict between controlling shareholders and bondholders based on the following rationale: The literature to date shows that, outside the U.S., ownership structure is highly concentrated (Denis and McConnell, 2003).<sup>2</sup> This evidence makes expropriation by major shareholders more likely in an

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<sup>1</sup> Shleifer and Vishny (1997), p. 737.

<sup>2</sup> Non-US studies that analyze ownership structure include, among others : Prowse (1992) in Japan, Franks and Mayer (2001) in Germany, Xu and Wang (1997) in China, Valadares and Leal (2000) in Brazil, Faccio and

international setting such as ours. Moreover, managers' opportunistic behaviour is tackled to a large extent by the fact that controlling shareholders usually appoint managers among their relatives (La Porta et al., 1999; Claessens et al., 2000; Faccio and Lang, 2002), thus aligning both parties' interests. This situation in fact increases the likelihood that expropriation by controlling shareholders occurs. Assuming that bondholders anticipate such behaviour, they will require a higher premium, resulting in a higher debt cost.

Previous studies also suggest that the identity of the firms' (ultimate) owners is important to both bondholders and rating agencies. For example, families usually appoint managers among their relatives (see for example Faccio et al., 2001). This collusion may be perceived by bondholders as an increased risk of expropriation. Their rational response will be to require higher yields. In the same vein, rating agencies will award lower ratings to family firms. However, one could also argue that families are more likely to adopt value-maximizing strategies to ensure the firm's survival given that they intend to pass it on to subsequent generations (Anderson et al., 2003). Such behaviour may benefit bondholders and other stakeholders, and results in lower debt costs and higher ratings. Which of these two effects will dominate remains an open empirical question that only few studies tried to address (see for example Anderson et al. (2003) on controlling families and Bhojraj and Sengupta (2003) on the impact of institutional ownership, both set in the US context). The common ground of these studies is that they use ownership-based measures (generally the direct ownership stake) to assess the power of the main shareholder. In this paper, we use control-based rather than ownership-based measures. The data on the identity of ultimate owners allows us to determine who is perceived by bondholders and rating agencies as representing a potential risk of expropriation.

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Lang (2002) in West Europe, and Claessens et al. (2000) in East Asia. Denis and McConnell (2003) offer an excellent literature review of this evidence.

Using a multinational sample of debt issuing firms from developed and developing countries, we assess how the quality of the institutional environment conditions the agency cost of debt and credit rating across institutionally diverse environments. To our knowledge, our analysis is the first multinational study that addresses this question. Our study thus contributes to the scarce academic literature on the link between governance mechanisms and the cost of debt financing, and contributes to our understanding of the functioning of fixed income securities' markets around the world. As Shleifer and Vishny (1997) note, empirical research on creditor governance is indeed an under researched area in the corporate governance literature.

While some recent studies analyze the relationship between governance mechanisms and debt yields and ratings, (Sengupta, 1998; Bhojraj and Sengupta, 2003; Anderson et al., 2003; Ashbaugh et al., 2006), their evidence is drawn from the US, and thus cannot be generalized to other countries with less favourable legal environments. The lack of evidence on this issue is puzzling since debt constitutes an important external source of financing for publicly traded firms around the globe.

This paper also contributes to the literature on international corporate governance on other grounds: for instance, the available literature focuses primarily on direct ownership. Our analysis relies instead on ultimate ownership and allows us to control for the extent and likelihood of expropriation by controlling shareholders (i.e., extent of agency conflicts within the firm). Moreover, no other previous study looked at the potential impact of investor protection and overall quality of institutions in the country on the firms' cost of debt financing. A recent study by Ellul et al. (2005) provides the first preliminary evidence of the impact of these institutions by analyzing U.S firms and foreign firms that issue ADRs in the U.S. However, such an approach is likely to suffer from a

selection bias problem since ADR firms have to comply with (internal) corporate governance standards that are generally imposed by the American legislator and the Securities Exchange Commission (SEC). As a consequence, the firms used in Ellul et al (2005)'s study are more likely to exhibit a better governance than their local counterparts that do not issue ADRs. Finally, our framework provides us with a valuable opportunity to identify the set of institutions that the legislator needs to adjust to foster the development and well functioning of financial debt markets.

Based on a sample of corporate bond issues in 19 countries from East Asia and Western Europe, we find that the wedge between ownership and control (i.e., our proxy for expropriation) affects significantly both the debt cost and rating. With respect to the controlling shareholder's identity, we find that family control is perceived as a potential risk of expropriation by both bondholders and rating agencies as it loads a positive statistical effect on bond costs and a negative statistical effect on bond ratings. Thus, contrary to Anderson et al. (2003), who show that U.S. family firms are seen as a protector of bondholders' rights, our finding suggests instead that this type of owner is more likely to harm bondholders in other markets. By taking advantage from their controlling position, families are able to extract private benefits that are costly to all stakeholders, including bondholders. Furthermore, families often avoid ownership dilution in order to keep a tight control over the firm, which leads them to prefer debt to equity financing, hence the higher leverage of such firms. Finally, we find that control in the hands of widely held financial firms affects positively bond ratings (*only*), while State control affects neither bond costs nor ratings.

Next, we analyze the effect of the institutional environment on corporate bond costs and ratings. We consider a large set of national governance mechanisms that

encompasses regulatory institutions that previous studies (e.g., La Porta et al., 1998; Dyck and Zingales, 2004; Djankov et al., 2006; and Djankov et al., 2007) have shown to play a significant role in preserving investors' rights. Our results show that higher investors' (and essentially debt-holders') protection generally reduces bond costs, and increases corporate bond ratings. However, we document that the creditor rights index (i.e. restrictions that directly protect their rights) does not matter for bond costs and ratings, while most debt enforcement measures load statistically and economically significant coefficients. This suggests that both debtholders and rating agencies value debt enforcement rather than the mere existence of debt laws. Thus, *ceteris paribus*, authorities who are seeking to develop bond markets should put more emphasis on the enforcement of laws protecting creditors (for example, by creating credit registries) rather than seek to create and enact new laws for the book.

The remainder of this paper is organized as follows. Section II presents the theoretical framework by describing the relation between corporate governance and the debt yields (costs) and ratings. In section III we describe our models, the variable measurements, the sample and data sources, and we provide descriptive statistics. Section IV discusses our empirical evidence and Section V concludes.

## **II. Corporate Governance and the Agency Cost of Debt: Hypothesis**

### **Development**

#### ***A. Theoretical Framework: The Agency Cost of Debt***

Recent studies show that lenders do not only rely on the firm's past profitability and on the issue characteristics in order to infer the expected cash flows (and default probability). In fact, investors also price the firm's corporate governance structure. This is

essentially due to the fact that the firm's success (and hence its ability to pay back its bondholders) is closely related to the extent of agency conflicts within the firm. Specifically, debtholders face essentially two major problems: i) the managers' opportunistic behaviour, and ii) the controlling shareholders' expropriation.

In financial theory, management behaviour can exacerbate the default probability of the firm. The "managerial" firm defined by Berle and Means (1932) is characterized by a separation between ownership and control, and later is defined by Jensen and Meckling (1976) as being "*a nexus for a set of contracting relationships*"<sup>3</sup> among a number of individuals with conflicting objectives. Within this firm, managers are not a perfect agent for shareholders because they may adopt a non value-maximizing behaviour, and engage in self-serving activities such as empire building and perquisite consumption at the expense of shareholders. Moreover, since they invest their human capital in the firm, managers are less willing to engage in risky activities. This, in turn, harms shareholders that seek to have a well-diversified portfolio. Also, because of their limited horizon in the firm, managers have incentives to favour short-run projects rather than projects that ensure a continuity of the firm in the long run. In order to resolve these conflicts, Jensen and Meckling (1976) claim that the firm will support some agency costs that might reduce its value. Of course, from the creditors', and particularly the bondholders', point of view, this results in a higher likelihood of default. Thus, rationality encourages bondholders to require larger yields (i.e., higher costs) for firms with less disciplined managers.

Beyond managers' opportunistic behaviour, debtholders need also to worry about being expropriated by the firm's owners. Stockholders, especially controlling shareholders, could be induced to operate wealth transfers from bondholders in their favour, especially

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<sup>3</sup> Jensen and Meckling (1976), p. 310.

by undertaking riskier projects that are rewarding to shareholders but costly to bondholders. According to the option theory (Black and Scholes, 1973), shareholders possess a call option on the assets of the firm. The riskier are these assets, the more valuable is their option. Obviously, debt claimants will bear all the cost, while shareholders capture most of the gain if the investment goes well. Jensen and Meckling (1976) provide an extensive analysis of this wealth expropriation and risk shifting conflict. Their main conclusion is that such a situation cannot be completely tackled by contract provisions, and gives rise to what we commonly call the agency costs of debt. In some instances, relatively straightforward contractual covenants, such as restrictions on mergers or on additional financing, can solve these agency costs of debt, but many other contingencies, such as overinvestment, are difficult to solve with such provisions. Consequently, and by anticipating this potential wealth expropriation, debtholders will require a higher premium, thus a higher cost of debt financing to firms.

We discuss in the next two sections, the empirical literature that relates corporate governance to debt costs and credit ratings. We then derive our main hypotheses.

### ***B. Corporate Governance, Ultimate Ownership, Debt Cost and Credit Rating***

Few recent studies investigate the relation between internal corporate governance mechanisms and debt costs and ratings. All available evidence is based on US markets, and the variables related to corporate governance differ across studies, which makes general inferences more difficult. For example, Sengupta (1998) analyzes the association between the firm's corporate disclosure quality and the cost of its debt. Disclosure quality is measured by a score that reflects the analysts' evaluation of the timeliness, clarity and detail of the information published by the firm. The author shows that the cost of debt is negatively related to disclosure quality, and that this relation is more pronounced for firms

exhibiting higher variances in stock returns (as a proxy for market uncertainty). Hence, lenders and underwriters seem to value a higher disclosure in annual and quarterly reports because it allows them to better assess the firm's default risk, especially for those firms that exhibit a higher market uncertainty.

Anderson, Mansi, and Reeb (2003) analyze another aspect of the firm's corporate governance, namely ownership structure. Specifically, they observe that ownership concentration in the hands of the founding family is negatively associated to the agency cost of debt. In fact, family controlled firms enjoy a lower cost of debt financing of about 32 basis points than non-family firms. They argue that this type of investors, with undiversified holdings, are concerned, not only with wealth maximization, but also (and probably more likely) with the firm's survival, in order to pass it onto subsequent generations. Because of their large undiversified ownership stakes, they avoid risky projects hence alleviating any incentive to expropriate bondholders. As a result, debt claimants price family ownership because it protects their interests. The authors also examine the impact of institutional ownership, but find no significant relation between institutional investors' participation and the cost of debt.

Another important study that also features US firms, by Bhojraj and Sengupta (2003), explores the effect of governance mechanisms (in this case, institutional ownership and outside directors) on bond ratings and yields. The authors argue that these governance mechanisms could reduce the likelihood of default of the firm through a reduction of the agency problems and the information asymmetry between the firm and its lenders. This would normally result in a lower cost of debt financing and a higher credit rating. Their empirical results support this conjecture: firms with greater institutional ownership and a large proportion of outside directors indeed enjoy lower bond yields and

higher credit ratings. Furthermore, these two mechanisms are more effective in reducing the cost of debt and increasing the bond rating for firms with poor governance quality. Finally, they point out that concentrated institutional ownership has an adverse effect on debt costs and bond ratings. More recently, Ashbaugh et al. (2006) examine, as in Bhojraj and Sengupta (2003), the relationship between corporate governance and credit ratings. They focus on four governance features (i.e. ownership structure and influence, financial stakeholder rights and relations, financial transparency and information disclosure, and board structure and process)<sup>4</sup>. They document that credit ratings are positively affected by the quality of financial transparency and by board independence, ownership and expertise. Moreover, credit ratings are negatively related to shareholder rights, to the CEO being also Chief of the board, and to ownership concentration (as measured by the number of blockholders owning 5% or more of the firm).

Other recent studies that examine the impact of shareholder control on bondholders are Cremers, Nair, and Wei (2004) and Klock et al (2005). Using institutional ownership to proxy for shareholder control and firms' takeover defenses to proxy for takeover vulnerability, Cremers et al. (2004) document that shareholders' control is associated with lower yields for well protected firms (against takeovers). Shareholders' control is related to higher yields for less protected firms. Klock et al. (2005) extend the study of Gompers, Ishii and Metrick (2003) to analyze the impact of anti-takeover provisions on the cost of debt. Their analysis shows that anti-takeover governance provisions, while (not) beneficial to (shareholders) managers, are priced by debtholders. They find that firms with strong anti-takeover provisions are associated with a lower cost

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<sup>4</sup> As the authors argue, these components are drawn from S&P Corporate Governance Scoring. For more information on these governance dimensions, see Ashbaugh, Collins, and LaFond (2006).

of debt financing of about 34 basis points relative to firms with weak anti-takeover provisions.<sup>5</sup>

Overall, the prior literature suggests that management opportunism and shareholders' expropriation lead debt claimants to require a higher premium against any opportunistic behaviour from management and/or controlling shareholders. In the same perspective, rating agencies are more likely to assign lower ratings to those firms that face one or both of these problems. This literature review on the effect of corporate governance on debt yields and ratings is, however, country specific since all studies analyze U.S. data. Furthermore, these studies restrict their analysis to a variable number of corporate governance mechanisms. Some of them (e.g. Billett, King, and Mauer (2004)) use an event-study analysis to compute abnormal returns (yields) bearing the risk that the main conclusions may be contaminated by other events. All these factors make the generalization of the available evidence to other countries outside the United States, unfit.

Our study tries to tackle this issue and provides a cross-country evidence for a sample of 19 countries. Our proxy for the quality of corporate governance is the likelihood of expropriation by controlling shareholders (i.e., extent of agency conflict within the firm). The above arguments lead to the formulation of the following hypothesis:

**H1:** *The extent of expropriation is positively (negatively) related to debt costs (ratings)*

Also, as suggested by the previous studies, we use data on the identity of the ultimate owner to identify which type of controlling shareholder represents a potential risk

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<sup>5</sup> Some other studies analyze the impact on bondholders' wealth around some major corporate events that directly affect the firm's governance structure such as Leverage Buyouts (eg. Lehn and Poulsen, 1988; Marais, Schipper and Smith, 1989; Warga and Welch, 1993) and Mergers & Acquisitions (eg. Dennis and McConnell, 1986; Maquieira, Megginson, and Nail, 1998; Billett et al., 2004).

of expropriation to bondholders and rating agencies. Specifically, we analyze the effect of different types of controlling shareholders (not only families) on bond costs and ratings, using control-based rather than ownership-based measures (unlike Anderson et al. (2003) and Bhojraj and Sengupta (2003)).

### ***C. Creditor Rights Protection, Debt Cost and Credit Rating***

Debtholders' rights are remarkably heterogeneous around the world, particularly between developing and developed countries. In some countries (such as Greece), laws that prevent automatic liquidation and encourage the reorganization of the defaulting company actually protect non-senior debt claimants against senior debt claimants, while in some other countries, senior debt claimants have the prerogative to hold up the collateral even in the case of reorganization. Further, the role of managers in defaulting companies varies from one country to another. For instance, under Chapter 11 in the US, managers may ask law enforcers to protect them from creditors while in other countries, such protection is conditioned by the consent of creditors. Also, in some countries such as Malaysia, laws require that the management team is replaced before any reorganization plan of the firm is approved. In some other countries, management turnover is not necessary (e.g. U.S., Canada, and France). However, in these cases, the existing management must be supervised by an administrator during the reorganization process. In some countries (e.g. France), laws favour reorganization plans in order to preserve jobs, while in others, like the U.K. for instance, laws focus primarily on the enforcement of financial contracts between management and creditors, and allow these latter to choose between liquidation and reorganization.

The first formal work that examines investors' protection in an international framework is by La Porta et al. (1998). In addition to shareholders' rights, the authors

explore the extent to which debtholders (and more generally creditors) are protected in 49 developed and emerging countries. Based on two strategies available to deal with a defaulting firm, namely reorganization and liquidation, the authors produce cross-country scores of creditor rights, and show that the legal origin of the country determines the extent of these rights: The authors observe that Common-law countries offer a stronger legal protection for debtholders compared to French-civil-law countries. More recently, Djankov et al. (2007) document a significant relation between the development of private credit (claims on the private sector by banks) and legal creditor rights. In their study, legal creditor rights are measured by the creditor rights index (in the spirit of La Porta et al. (1998)), and by the existence of public and private registries (as proxies for the level of information sharing). Well protected debt claimants would normally require lower interest rates. Finally, the unique study, that we are aware of, that considers an international sample is by Ellul et al. (2005). The authors report that family firms benefit from lower debt costs in countries where investor protection is better (measured by the legal environment, the judicial efficiency, the rule of law and the creditor rights index). This evidence is drawn from a sample of firms that issued ADRs in the US market, which could eventually lead, as discussed previously, to a selection bias since these firms must normally comply with corporate governance standards imposed by the SEC.

Based on this literature, we expect that cross-country differences in the level of debtholders' protection will lead (1) debtholders to require higher (risk) premia (i. e. higher yields), and (2) rating agencies to assign lower credit ratings to firms from countries where debtholders are the least protected. Thus, we can formulate our second testable hypothesis as follows:

**H2:** *A better creditor rights protection is negatively (positively) related to debt costs (ratings)*

To establish the relation between investor protection and the debt cost and rating, we consider two aspects: laws on the books and the extent of its enforcement. This issue is related to recent evidence on law existence and enforcement. For instance, La Porta et al. (2006) find that the existence of laws that facilitate private contracting is a stronger determinant of financial markets development than the public regulatory enforcement. Bhattacharya and Daouk (2002) study insider trading laws around the world, and find that the initial enactment of laws that prohibit insider trading does not affect the cost of equity, while the first time these laws are enforced reduces it by about 5%. Another study, more related to ours, by Esty and Megginson (2003) analyzes the impact of creditor rights and legal enforcement on the debt ownership structure for a sample of global syndicated loans. Their results suggest that in countries with high investor protection level and a strong legal enforcement, banks tend to be organized in smaller and more concentrated syndicates in order to assure monitoring and low cost contracting. On the contrary, they prefer larger and more diffuse syndicates' structures to deter voluntary default in countries with poor legal enforcement mechanisms. In another context, Mansi et al. (2007), analyze the impact of some American States laws (particularly dividend payout restriction) on bonds characteristics, and finds that bond ratings and yields are significantly associated to the existence of State payout restrictions. Based on this evidence, we control for variables that reflect both the quality of debt laws and the extent of their enforcement in the country.

### **III. Methodology and Descriptive Statistics**

#### ***A. Specifications***

To test the relation between governance mechanisms and bond yields and ratings, we use the two following general specifications:

$$\text{Bond costs} = f(\text{ultimate ownership variables, creditor protection variables, control variables}) \quad (1)$$

$$\text{Bond ratings} = f(\text{ultimate ownership variables, creditor protection variables, control variables}) \quad (2)$$

The first model (bond costs) is estimated using the OLS method. The second model (bond ratings) is estimated using an ordered probit model, since the dependent variable is ordinal (S&P ratings are classified in seven ordering categories). (See **Appendix I**).

Our models include three major potential groups of determinants of bond yields and ratings (i. e., ultimate ownership variables, creditor rights protection variables, and control variables). In the subsequent sections, we will examine the effect (on bond costs and ratings) of the ultimate ownership structure and the legal environment variables separately, and then we will run a general final model (for each dependent variable) that regroups both of them as specified in equations (1) and (2)<sup>6</sup>.

## ***B. Variables***

### *B.1. Debt Costs and Ratings*

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<sup>6</sup> In order to tackle the presence of multicollinearity between our variables, we proceed as follows. First, we test for multicollinearity in each regression we run. To do so, we use the regression collinearity diagnostic procedures of Belsley, Kuh, and Welsch (1980) that examine the “conditioning” of the matrix of explanatory variables. This procedure consists in the computation of the condition number (the largest singular value of the matrix). Belsley et al. (1980) suggest that a value of 30 (or higher) implies collinearity problems. Second, and for each regression with a condition number of 30 or more, we use the Gram-Schmidt orthogonalization technique, which produces a set of new orthogonal variables from the original ones. Each new variable is created in such a way that the effects of the other variables are removed. By using these orthogonal variables in our regression, we ensure that we are measuring the “right effect” of each variable.

We measure corporate bond costs (COST) by subtracting the yield to maturity on a US treasury bond from the yield to maturity on the corporate debt issue. Both the US treasury and corporate bonds should (ideally) have similar maturities.<sup>7</sup>

As credit rating measures, we use the S&P credit ratings (RATING). These ratings assess the creditworthiness of the obligor with respect to its debt obligations. There are 22 ratings ranging from highest (AAA) to lowest (D). To facilitate the analysis, and following Ashbaugh et al. (2006), we transform these ratings into seven ordering numerical categories as presented in **Appendix I**.

### *B.2. Ultimate Ownership and the Likelihood of Expropriation*

Many recent studies analyze the conflicts between minority and controlling shareholders. In such a situation, expropriation could take place, and conflicts between minority and controlling shareholders (and affiliated managers) could arise. For instance, these latter can stop paying dividends, pursue a non-profit-maximizing strategies, transfer cash to other firms in which they have interests, etc.

As in Claessens et al. (2000), we first measure the likelihood of expropriation by the difference between the voting and cash-flow rights of the largest shareholders (C\_O). This measure captures the level (extent) of the wedge, and hence the likelihood of expropriation, in the firm.

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<sup>7</sup> An alternative measure could be the use of a domestic treasury bond for each country instead of US Treasury Bonds. We prefer using the US Treasury Bonds for essentially two reasons. Firstly, the computation of spreads and risk premium is usually done with reference to a risk free security. Since the U.S. government is unlikely to go bankrupt, we use its bonds as a risk free security. Secondly and most importantly, the use of the US treasury bonds makes the comparison across countries easier since it provides a common basis (or reference) to compare to. In spite of this, we conduct our analyses using the available data on domestic treasury bonds for each country. As discussed later in the text, our main results remain overall unchanged.

Previous studies suggest that the identity of the firms' (ultimate) owners is of interest for both bondholders and rating agencies. In fact, control concentration in the hands of few shareholders could enhance (or reduce) expropriation. To test whether the controlling shareholder's identity affects debt costs and ratings, we introduce the following dummy variables, FAMILY, STATE, and WHELDFIN, to capture the type of the ultimate owner (respectively for family, State, and widely held financial firms). Finally, we add another dummy variable, MANAGER, to determine whether the appointment of a manager among the family relatives has an impact on the bondholders/rating agencies perception of risk factors.

### *B.3. Creditor Rights Protection*

Several recent studies emphasize the role of regulatory institutions in preserving investor rights. The quality of this protection depends on two factors: the existence of the rights per se and the quality of their legal enforcement. According to Esty and Megginson (2003, p. 41): *“In addition to ensuring they have legal rights, creditors must also ensure their rights are enforceable in the host country.”*

Following La Porta et al., (1998), Dyck and Zingales (2004), Djankov et al., (2006), and Djankov et al., (2007), we choose the following indicators to assess the quality of investor (particularly creditors) protection in a given country:

i) Creditor rights (CREDRIGHTS); This index assesses the extent of creditor rights in the country. It ranges from zero (poor creditor protection) to four (strong creditor protection). We expect this index to be negatively (positively) associated with bond costs (ratings).

ii) Public registry (PUBREGIS); Public credit registries are databases managed by governments (e.g. through Central Banks or any other public agency). Their main function is to provide lenders with information (that they have already collected) on borrowers. The existence of a public credit registry should negatively (positively) affect debt costs (ratings).

iii) Estimated cost of insolvency proceedings (COST\_INSLV); it consists on all kinds of costs borne by all parties as a percentage of the value of the insolvency estate. Costs include court and attorney fees, bankruptcy administrator fees, accountant fees, and publication fees. The cost of insolvency should have a positive effect on debt yields and a negative effect on debt ratings.

iv) Efficiency of the bankruptcy process (EFFDBTENFORC)<sup>8</sup>; It is measured by the present value of the terminal value of the firm after bankruptcy costs. It reflects the value preserved in debt enforcement proceedings. Higher values indicate higher efficiency of debt enforcement. Thus, we expect this variable to be negatively (positively) related to debt costs (ratings).

v) Contract enforcement days (ENFORCDYS); It is the number of days needed to resolve a payment dispute (through courts) that emerges from a simple debt contract, as a measure of the quality of law enforcement. This variable should normally be positively (negatively) related to debt costs (ratings).

vi) Newspaper circulation (NEWS); It is the ratio of daily newspapers divided by population. It reflects the public pressure on dominant shareholders. Since it is expected

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<sup>8</sup> For more details on the computation of this variable, see Djankov et al. (2006).

to reduce expropriation, it should also be negatively (positively) related to bond yields (ratings).

vii) Corruption (CORRUPTION); It is an assessment of corruption in government. Since lower scores are for higher levels of corruption, we expect this variable to have a negative (positive) effect on debt costs (ratings).

Note that the first variable, creditor rights index, indicates the quality of the laws that exist in the country, while the other variables (specifically, Public registry, Estimated cost of the insolvency proceeding, Efficiency of the bankruptcy process, and Contract enforcement days) measure the quality of debt laws' enforcement.

#### *B.4. Control Variables*

Typically, the cost of debt financing and credit ratings can be explained by three factors:

i) *The issuer characteristics* that allow lenders and underwriters to perceive the likelihood of default of the firm. These characteristics include leverage, the size of the firm, its profitability, its industry, its market risk,...

ii) *The issue characteristics* that include the maturity of the debt, the size of the amount raised, and some other special features such as the existence of call or conversion provision.

iii) *The country macroeconomic conditions* such as the business cycle of the economy.

We include the following control variables: At the firm level, we control for the issue characteristics (maturity, and the size of the issue)<sup>9</sup>, and for the issuer characteristics (the size of the firm, the leverage, the performance, the industry, and the risk). At the country level, we control essentially for the country inflation rate, and the level of economic and financial development (debt market size, and GDP growth).

A detailed description of the variables appears in Table I.

[INSERT TABLE I ABOUT HERE]

The COST model can thus be written as follows:

$$\begin{aligned} COST_i = & \alpha_0 + \alpha_1 \cdot LMAT_i + \alpha_2 \cdot LISIZE_i + \alpha_3 \cdot ASSET_i + \alpha_4 \cdot STDINC_i + \alpha_5 \cdot ROI_i + \alpha_6 \cdot LEVERAGE_i + \alpha_7 \cdot INFLATION_i \\ & + \alpha_8 \cdot GDPGROTH_i + \alpha_9 \cdot DEBTMKT SIZE_i + \beta_1 \cdot C\_O_i + \beta_2 \cdot FAMILY_i + \beta_3 \cdot MANAGER_i + \beta_4 \cdot STATE_i + \beta_5 \cdot WHELDFIN_i \\ & + \delta_1 \cdot CREDRIGHTS_i + \delta_2 \cdot PUBREGIS_i + \delta_3 \cdot COST\_INSLV_i + \delta_4 \cdot EFFDBTENFORC_i + \delta_5 \cdot ENFORCDYS_i + \delta_6 \cdot NEWS_i \\ & + \delta_7 \cdot CORRUPTION_i + Country\ Dummies + Industry\ Dummies + Year\ Dummies + \epsilon_i \end{aligned}$$

And the RATING model as follows:

$$\begin{aligned} Pr(RATING_i = r) = & \Phi(\alpha_1 \cdot LMAT_i + \alpha_2 \cdot LISIZE_i + \alpha_3 \cdot ASSET_i + \alpha_4 \cdot STDINC_i + \alpha_5 \cdot ROI_i + \alpha_6 \cdot LEVERAGE_i + \alpha_7 \cdot INFLATION_i \\ & + \alpha_8 \cdot GDPGROTH_i + \alpha_9 \cdot DEBTMKT SIZE_i + \beta_1 \cdot C\_O_i + \beta_2 \cdot FAMILY_i + \beta_3 \cdot MANAGER_i + \beta_4 \cdot STATE_i + \beta_5 \cdot WHELDFIN_i \\ & + \delta_1 \cdot CREDRIGHTS_i + \delta_2 \cdot PUBREGIS_i + \delta_3 \cdot COST\_INSLV_i + \delta_4 \cdot EFFDBTENFORC_i + \delta_5 \cdot ENFORCDYS_i + \delta_6 \cdot NEWS_i \\ & + \delta_7 \cdot CORRUPTION_i + Country\ Dummies + Industry\ Dummies + Year\ Dummies + \epsilon_i) \quad ; \text{ where } r \in \{1, 2, 3, 4, 5, 6, 7\} \end{aligned}$$

### ***C. Sample and Data Sources***

We first start by merging the samples of Faccio et al. (2002) for Western European corporations, and Claessens et al. (2000) for East Asian corporations for which the authors identify ultimate ownership. Our analysis is cross sectional in nature since ultimate ownership for European firms is for either one year between 1996 and 1999, and as of December 1996 for Asian firms. We consider all firms that have complete information on voting and cash-flow divergence, and on the identity of the ultimate

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<sup>9</sup> In our sample, the absolute majority (more than 98%) of issues are not convertible and don't have any other special characteristic that could affect their yields or ratings.

owner. We obtain an initial database of more than 8,000 firms from 22 countries (Austria, Belgium, Finland, France, Germany, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, UK, Hong Kong, Indonesia, South Korea, Japan, Malaysia, the Philippines, Singapore, Taiwan, and Thailand). We then match this database with bond data from *The Fixed Investment Securities Database*. We keep only issues between 1994 and 2002 that offer *fixed* interest rates. Since ultimate ownership does not change substantially over time (Faccio et al. (2002) and Claessens et al. (2000)), we believe that they remained relatively steady around the years they were collected at. So, we expect bond issues between 1994 and 2002 to exhibit the ownership data collected by Faccio et al. (2002) and Claessens et al. (2000). Only 568 issues survive the matching procedure between these samples and the *Fixed Investment Securities Database*.

Data on issuer characteristics (performance, risk, size, and leverage) are from *Worldscope*. Regulatory institutions are from La Porta et al. (1998) (Creditor rights), Djankov et al. (2006) (Estimated cost of the insolvency proceeding, Efficiency of the bankruptcy process), Djankov et al. (2007) (Public registries and Contract enforcement days), and Dyck and Zingales (2004) (Newspaper circulation).

Hand matching the data on bonds and ultimate ownership with data on issuer characteristics and regulatory institutions results in a final sample of 256 issues for bond costs and 307 issues for bond ratings.<sup>10</sup> **Table II** reports the distribution of both samples across countries.<sup>11</sup>

[INSERT TABLE II ABOUT HERE]

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<sup>10</sup> We do not have the same number of issues for both variables because, for some issues, we have only information on bond rating (and we lack information on the spread).

<sup>11</sup> Note that three countries are dropped from the analysis (Belgium, Spain and Taiwan) because of missing values.

#### *D. Descriptive statistics*

**Table III** reports descriptive statistics of the variables used in the analysis. In our sample, the average spread is about 150.4 bps, while the average rating is 4.63, which falls between A- and BBB+ in our transformation scale. Moreover, the mean for the variable C\_O is 3.6%. Around 28% of the firms are controlled by families. This proportion is about 19 and 20% for State and widely held financial firms, respectively. **Table III** also presents Pearson correlations between our two key variables (COST and RATING), and all the other potential explanatory variables. In general (except for some variables), COST is positively and significantly correlated while RATING is negatively and significantly correlated with ultimate ownership variables. Furthermore, both variables are significantly correlated with most country variables, and generally in the expected directions.

We can note at this stage the high and significant correlation between RATING and most other variables. Since these variables will be introduced in our COST regressions, we choose (as in Sengupta (1998) and Bhojraj and Sengupta (2003)) to exclude the RATING variable from those models.

[INSERT TABLE III ABOUT HERE]

### **IV. Empirical Results**

#### *A. The Impact of the Ultimate Ownership Structure on Bond Costs and Ratings*

##### *A.1. Ultimate Ownership Structure and Debt Costs*

We first examine the effect of ultimate ownership structure on debt costs. Particularly, we use the wedge between cash-flow and control rights that reflects the level

of expropriation (as measured by C\_O) and the identity of the ultimate owner (FAMILY, STATE or WHELDFIN). **Table IV** reports the regression results. The statistical significances of the reported coefficients are calculated using robust standard errors (Huber-White-Sandwich estimator of variance).

In the second column of **Table IV**, we report the basic model in which we do not control for corporate governance. All the issuer and issue characteristics' variables are significant (at 6% or better) with their expected sign. As expected, debt yields are negatively affected by the size of the debt market (DEBTMKTSIZE) and the level of economic growth (GDPGROWTH). This finding suggests that investors are sensitive to the size of secondary markets (where they could liquidate their assets), and to the economic situation of the country as a whole since it reflects, to some extent, the future potential of their investments. Finally, the coefficient of inflation is not significant although it has a positive sign. In columns (2) to (6) of the same table, we add the ultimate ownership measures, each one in a separate model. These regressions show that the level of expropriation and family control are positively and significantly related to bond costs. On the contrary, State control and widely held financial firms' control have the opposite effect. Appointing managers from the family relatives seems not to affect bond costs. In model (7), we include all the governance variables as well as an interaction term between C\_O and the identity of the ultimate owner (FAMILY, STATE, or WHELDFIN). Results show that the expropriation measure remains significant and positive. That is, an increase of 1% in the level of expropriation leads to an increase in the cost of debt by approximately 15.95 basis points beyond the Treasury bond spread. Among the three types of ultimate owners, only FAMILY is considered as a potential risk of expropriation by bondholders. This result goes against evidence in Anderson et al. (2003) who find that US family firms have lower debt costs than non-family US firms. This could be due to the

fact that, in their study, the authors use an ownership-based measure rather than a control-based measure of the family holdings. Finally, as shown by the coefficients of the interaction terms, when the ultimate owner is a family or a widely held financial firm whose control stake exceeds its ownership stake, the effect on debt costs is more pronounced. Furthermore, bondholders do not seem to consider State control as a risk factor, even if the State has voting rights in excess of its cash-flow rights (the coefficient of STATExC\_O being insignificant).

Faccio et al. (2001) argue that dividends can be used by controlling shareholders to expropriate outside shareholders' wealth. The authors suggest that if investors are aware of the risk of expropriation, they will use dividends to protect themselves. Using West European countries as a benchmark, the authors show that investors in East Asia are less alert to expropriation. Investors in West European countries, in contrast to their counterparts in East Asia, anticipate more strongly the risk of expropriation and, to offset their concerns, require higher dividends in firms where expropriation is more likely. If this is indeed the case, we should expect bondholders in Western Europe to require higher interest rates (i.e., bond spreads), compared to bondholders in East Asia, whenever there is a significant separation between the ownership and control stakes held by controlling shareholders. Put differently, we expect the (positive) effect of the cash-flow/voting rights divergence on spreads to be more prevalent in the West European sample. To test this hypothesis, we estimate model (7) for both West European and East Asian sub-samples. The last two columns of **Table IV** display the results. As expected, bondholders in East Asian countries do not seem to anticipate expropriation by controlling shareholders (C\_O is insignificant at any conventional level). In contrast, bondholders in countries from Western Europe countries require a significantly higher interest rate from issuing firms with a wider observed discrepancy. Moreover, it seems that both Asian and European

bondholders fear family control, since the coefficient of FAMILY is positive and highly significant in both models. On the contrary, bond costs are negatively affected by STATE for the Asian sample and by WHELDFIN for the Western European sample. This shows, to some extent, the type of investor that Asian and European bondholders have most confidence in (since the presence of that particular type of investor reduces the cost of bonds).

[INSERT TABLE IV ABOUT HERE]

#### *A.2. Ultimate Ownership Structure and Debt Ratings*

**Table V** reports the results of ordered probit models for the effect of expropriation measures on bond ratings. We keep all the control variables previously discussed. The unique difference is that instead of introducing dummies for the years, countries and industries, we choose to include dummies to control for three particular industries more likely to affect ratings (Finance, Utility and High-Tech), for three periods (before, during and after the 1997 Asian financial crisis), and for two regions (Asia or Europe). We do so because cross-tabulating the ordered dependent variable (RATING) with many dummy variables creates too many empty cells that prevent an ordered probit estimation. So, our solution for this technical problem consists in reducing the dummies instead of merging some categories of the dependent variable.

The first column presents the main model without including any proxies for governance. In columns (2) to (6), we test separately for the effect of each measure of ultimate ownership on bond ratings. At 10% level (or better), all the governance measures affect significantly bond ratings. The level of the cash-flow and voting rights discrepancy as well as the existence of family control in the firm and the appointment of managers

among the owner's family members lead rating agencies to assign *lower* ratings for these firms (the coefficients for C\_O, FAMILY and MANAGER are negative). In contrast, State control or control by widely held financial firms do not seem to be considered by rating agencies as additional potential risk factors of expropriation (because their presence as controlling shareholders increases bond ratings as shown by the coefficients of STATE and WHELDFIN). When we consider all the governance proxies in the same model (column (7)), we still obtain the same results, except that STATE becomes insignificant while still keeping its positive sign. The interaction coefficients between C\_O and both FAMILY and WHELDFIN are negative and highly significant, suggesting that rating agencies have a "negative" perception of the cash-flow/voting rights discrepancy. Overall, these findings shed some light on the effect of ultimate owner identity on credit ratings. Previous studies have argued that the concentration of *ownership* in the hands of institutions (Bhojraj and Sengupta, 2003) or in the hands of blockholders (Ashbaugh et al., 2006) could enhance the private benefits hypothesis, leading rating agencies to downgrade their score for the firms that exhibit these features. Evidence from **Table V** goes beyond this evidence and shows that controlling owners do not all have the same impact on debt credit ratings.

At this stage, we can compare the perceptions of bondholders and rating agencies regarding the firms' ownership features. By taking a glance at column (7) of **Tables IV** and **V**, we can easily note that bondholders as well as rating agencies are able to assess the potential risk of expropriation (the cash flow and voting rights discrepancy). Both seem to consider the potential costs of family control (both FAMILY and C\_OxFAMILY being economically and statistically significant in both models). This risk can materialize in two ways: *First*, families can take full advantage from their controlling position, and seek to extract (direct) private benefits that harm all stakeholders (especially minority shareholders

and debtholders). *Second*, families often want to keep control by avoiding the dilution of their ownership. Thus, family firms will normally prefer debt financing to equity to finance their projects, which translates in relatively higher leverage ratios.

[INSERT TABLE V ABOUT HERE]

## ***B. The Impact of Regulatory Institutions on Bond Costs and Ratings***

### *B.1. Regulatory Institutions and Bond Costs*

We now turn to the effect of regulatory institutions on bond spreads. To proxy for the legal protection of investors' rights, we use, as discussed above, the following measures of regulatory institutions: creditor rights, public registry, estimated cost of insolvency proceedings, efficiency of the bankruptcy process, contract enforcement days, newspapers' circulation, and corruption. Models (1) to (7) in **Table VI** illustrate the effect of each factor on bond spreads. As one can see, among our set of institutions, only creditor rights and the efficiency of the bankruptcy process are insignificant at the 10% level. All the other institutions are significant with their expected signs. In the last column of the same table, we regress bond costs on all factors. The conclusions remain the same except that the efficiency of the bankruptcy process becomes significant, while corruption loses its significance once we take into account the effect of all other institutions. The existence of a credit public registry, the efficiency of the bankruptcy procedure, and the extent of newspapers' circulation affect, as expected, negatively and significantly, corporate bond costs. In contrast, higher insolvency costs and longer contract enforcement periods lead to significantly higher bond costs. These results lead us to a first conclusion: the legal environment is important to bondholders. This conclusion corroborates, to some extent, the finding of Ellul et al. (2005) that the presence of a

founding family in less protective legal systems exacerbates the cost of debt (and vice versa). Their result indirectly points to the role of the legal environment in encouraging (or forcing) founding families to preserve minority interests. Our findings suggest that, regardless of who is controlling the firm, legal regimes could protect debtholders and guarantee their rights.

We also note from **Table VI** that, contrary to the evidence on debt laws' enforcement measures discussed above, the existence of restrictions aimed at protecting creditor rights has no impact on debt cost. In fact, while variables related to the quality of debt laws' enforcement (i.e., PUBREGIS, COST\_INSLV, EFFDBTENFORC, and ENFORCDYS) are significant, the creditor rights index (CREDRIGHTS) that captures the existence of these laws, is not significant at any conventional level. That is, to bondholders, *debt laws' enforcement* is more important than *the existence of these laws*.

[INSERT TABLE VI ABOUT HERE]

### *B.2. Regulatory Institutions and Bond Ratings*

**Table VII** reports evidence on the effects of the regulatory institutions on bond ratings. As previously, we start by testing the impact of each isolated factor, and then we test the effect of all factors taken together in the same regression model. From columns (1) to (7), we can see that the existence of a credit public registry as well as an extensive newspapers' circulation lead to higher bond ratings, while a longer period to enforce a debt contract through courts reduces it. When we run our regression with all the institutional governance factors in the same model, we find that CREDRIGHTS, COST\_INSLV, and CORRUPTION have no statistical effect on bond ratings. PUBREGIS, EFFDBTENFORC, ENFORCDYS, and NEWS are, in contrast, highly

significant (at less than 1% level) and having their expected signs. Here also, we can conclude that, to rating agencies, debt laws' enforcement is more important than the existence of laws (CREDRIGHTS being insignificant). The final model leads to a Pseudo- $R^2$  of 23.19%.

[INSERT TABLE VII ABOUT HERE]

### *C. The Determinants of Debt Costs and Ratings*

In order to construct our final models for both debt costs and ratings, we propose to introduce both ultimate ownership and creditor rights measures in the same regression. Results are reported in **Tables VIII** and **IX**.

#### *C.1. The Determinants of Debt Costs*

Column (1) of **Table VIII** presents regression results for bond costs. All the control variables (firm-level and country-level variables) are significant and have the expected signs except for the inflation rate variable. With regard to ultimate ownership measures, we get mainly the same results as in **Table IV** (column (7)). Spreads are positively affected by both the discrepancy between cash flow and voting rights (C\_O) and the existence of a controlling family (FAMILY). The interaction between C\_O and FAMILY and WHELDFIN exacerbate that positive effect. Finally, State control is marginally significant at the 10% level, and seems to reduce debt costs. As for regulatory institutions, we also obtain similar results as in the last column of **Table VI**. Particularly, the creditor rights index is not as important to debtholders as debt enforcement (PUBREGIS, COST\_INSLV, EFFDBTENFORC, and ENFORCDYS) (these measures being all statistically and economically significant while CREDRIGHTS is not). Moreover, the public pressure on controlling shareholders (as measured by NEWS) plays a positive

role in reducing the cost of debt. The overall model explains more than 51% of corporate bond costs.

In this final model, we suppose that our set of explanatory variables (especially the ownership measures) is exogenous. Many previous studies suggest that this assumption may not hold (see for example Hermalin and Weisbach (2003) for the board of directors). Endogeneity may be caused by (i) omitted variables that are correlated with some explanatory variables, (ii) by measurement error when measuring variables, or (iii) by simultaneity between the dependent variable and at least one independent variable. In our case, the cash flow/voting rights discrepancy (C\_O) could imperfectly measure expropriation or eventually be correlated with an omitted variable. Furthermore, FAMILY, STATE, and WHELDFIN, reflect some features of the firms' ownership structure that could be simultaneously determined with bond costs (Bhojraj and Sengupta, 2003)<sup>12</sup>, or correlated with some omitted variables. To control for this potential endogeneity, we use the two-stage least square (2SLS) technique that relies on instrumental variables, and that allows to solve endogeneity even without knowing its exact cause (as in our case). As instrumental variables, we propose to use the following variables from LaPorta et al. (1998); the proxy by mail possibility, shareholders' preemptive rights to buy new stock issues, antidirector rights<sup>13</sup>, and the legal origin. One can easily relate the proxy by mail, antidirector rights, and the preemptive rights with ownership structure patterns. The decision for controlling shareholders to hold (or not) stocks of firms is closely related to the existence of such provisions in the company charter. For example, we expect that large shareholders who seek to keep the control will

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<sup>12</sup> Bhojraj and Sengupta (2003) document that bond yields and institutional ownership are simultaneously determined. That is, the monitoring of the institutions reduces debt costs, and firms with lower debt costs are more attractive to these investors.

<sup>13</sup> An index that aggregates the shareholder rights.

avoid investing in firms where minority shareholders have the valuable right of mailing their proxy vote. As for the legal origin, LaPorta et al. (1998) suggest that ownership structure could be viewed as a substitute for poor investor protection environment. That is, the concentration of ownership in the hands of a controlling shareholder (and even his choice to get voting rights in excess of his capital stake) would be more prevalent in civil-law countries where investor rights are less protected. Finally, these candidate instruments are less likely to affect corporate bond yields (thus the model error terms).

Column (2) of **Table VIII** reports the results of the 2SLS regression. As we can see, we obtain qualitatively the same results as previously. The only difference is that STATE loses its significance (while it was marginally significant at 10% level), and so does the interaction between C\_O and WHELDFIN.

[INSERT TABLE VIII ABOUT HERE]

### *C.2. The Determinants of Bond Ratings*

Lastly, we run our final model for bond ratings using both the ultimate ownership structure and the regulatory institutions.

As reported in column (1) of **Table IX**, conclusions drawn from the previous analyses on the effect of ultimate ownership structure and regulatory institutions on corporate bond ratings remain basically the same. Our expropriation proxy (C\_O) is highly significant and negatively related to debt ratings. Family control and the appointment of the manager among the family relatives appear to reduce rating scores, while control in the hands of widely held financial firms seems to increase it. As for debt enforcement measures, they are still highly influential and keep the same signs as previously documented, namely the existence of public registries, the efficiency of the

bankruptcy process, and the contract enforcement days. The coefficient of the creditor rights index remains insignificant at any conventional level which comforts our previous conclusion that rating agencies price *debt laws enforcement* rather than *the existence of laws*. The overall model generates a Pseudo R<sup>2</sup> of about 32.43%.

[INSERT TABLE IX ABOUT HERE]

#### ***D. Robustness checks***

##### *D.1. An alternative measure for spreads using the countries' treasury bonds*

When computing bond spreads, we used US treasury bonds that share similar characteristics as corporate bond issues (especially in terms of maturity). Among other reasons discussed previously, we do so due to the difficulty to find data on each country treasury bond issues. We are aware that, by using US treasury bonds, we disregard some particular characteristics of the domestic country treasury bonds. For example, the inflation level, which is expected to have an impact on the country treasury bond yields, is not (fully) captured by US treasury bond yields. To overcome this potential shortcoming, we have already included in our model macroeconomic variables such as the country inflation rate, the GDP growth and the debt market size. However, and to assess the robustness of our previous results, we try to collect additional data from all possible available sources (*FISD*, *SDC Platinum Thomson Financial*, central banks' websites). Overall, we are able to obtain data on bond issues for the following countries: Austria, France, Germany, Norway, South Korea, Sweden, and UK. The final sample falls to 120 observations. The Pearson correlation between the Spreads using US treasury bonds and country treasury bonds is higher than 71% (significantly different from zero at less than 1% level). Column 3 of **Table VIII** reports the results of our final model using domestic

country treasury bonds. As we can see, our inferences remain the same. We still obtain an insignificant coefficient for the creditor rights index, while most measures of debt laws' enforcement yield economically and statistically significant coefficients, as in our original model. With regard to the ownership features, family control has the same effect as in our main model. There are however small differences with respect to the expropriation measure (C\_O still has the expected sign but becomes insignificant) and the effect of WHELDFIN and MANAGER which become significant when we use domestic countries' treasury bonds. This may be due to the relatively small size of the new sample and probably to the fact that the largest portion of this sample comes from European countries. Overall, the use of US treasury bonds has no considerable effect on the quality of our results.

#### *D.2. Relaxing the hypothesis of independent residuals*

In our regressions, we supposed that residuals are independent. However, our sample being multinational, debt yields (ratings) within each country may not be independent, which could result in residuals not being independent. In an unreported regression, we re-ran our analyses while relaxing this assumption (thus allowing for possible within-country dependence). Results are mainly similar to those reported for the final model for both bond costs and ratings.<sup>14</sup> Thus, the assumption of independent residuals does not materially affect our conclusions.

#### *D.3. Excluding bond issues by financial institutions*

In our initial sample, we did not eliminate bond issues by banks and insurance companies. Because of the differences that could exist between financial and non-financial

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<sup>14</sup> Results are available upon request.

firms regarding debt financing and governance characteristics, our results could be influenced by the inclusion of the financial sector in our sample. After excluding financial institutions from the initial sample, we are left with 209 and 231 observations for the debt costs and the ratings model, respectively. When we re-run our costs and ratings models with these observations, we obtain almost similar results (unreported but available upon request) as in the final model with all bond issuers.

#### *D.4. Excluding the U.K. sample*

Issues from the U.K. account for close to 35% of our sample. To test whether such weight of UK issues has affected our results, we re-run our regressions excluding observations from the U.K. In unreported results, we find similar findings regarding all the legal variables except for debt enforcement days (ENFORCDYS) which loses its significance in the cost model, and for the cost of insolvency proceeding (COST\_INSLV) which becomes significant and negative (as expected) in the ratings model. Particularly, for both the cost and ratings models, the creditor rights index remains insignificant while the debt enforcement measures still keep their significance and signs. However, for both bond costs and ratings models, the expropriation measure (C\_O) is not significant while it keeps its expected sign. A possible explanation is provided by our previous result that only Western European debtholders anticipate expropriation, and are sensible to the voting/cash-flow rights divergence. Excluding around 35% of the European observations from our sample increases the likelihood that Asian observations become more influential (C\_O is more likely to be insignificant as in the Asian sample).

#### *D.5. Excluding the 1997 data*

During the financial crisis of 1997, financial markets faced troubled times, especially in Asian countries. The data collected during that period could then be affected. To test whether our results are affected by such bias, we exclude all 1997 issues and we re-run our final models.<sup>15</sup> Our unreported results are qualitatively the same as our original inferences.

#### *D.6. Endogeneity issues*

In our COST regressions, we did not include the rating as a potential explanatory variable. Some previous studies, however, argue that ratings may be a determinant for the cost of debt (see for example Chen et al., 2007; Yu, 2005 among others). In such a case, the results reported for the COST model would suffer from an endogeneity problem caused by the omission of the rating variable. We control for this situation in two ways: first, we re-run our final COST model (model (1), **Table VIII**) by simply adding the rating as an extra control variable. Second, as in Anderson et al (2003), we re-run our final COST model and we add the residual values of the RATING where the predicted values are generated by regressing RATING on its control variables as in Table 9.<sup>16</sup> This second alternative is motivated by the fact that our RATING and COST models have basically the same explanatory variables. Thus, simply adding the raw rating variable in the COST model, could bias results. Albeit the difference in these two approaches, the regression results (unreported but available upon request) are very similar, and broadly confirm the conclusions drawn from the main model of **Table VIII**.

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<sup>15</sup> In unreported result we find similar findings when we exclude both 1997 and 1998 data from our sample.

<sup>16</sup> The unique difference compared to the regression reported in Table 9 is that the estimation is done using OLS technique instead of ordered probit. This is because we are seeking for numerical values of rating that would be subtracted from the real values to obtain the residuals.

## V. Concluding Remarks

Our main goal in this study is to explore the combined effect of the ultimate ownership structure (hence the potential risk of expropriation by the controlling shareholders) and the quality of creditors' protection on the costs and ratings of corporate bonds in a large set of developed and developing countries. Using data on the ultimate ownership of firms around the world, we proxy for the likelihood of expropriation by controlling shareholders by the voting and cash-flow rights divergence. Our hypothesis is that large shareholders with voting rights in excess of their cash-flow rights could threaten the interests of minority stockholders as well as those of bondholders, essentially by undertaking less (or not) profitable projects that increase the likelihood of bankruptcy. We find that expropriation by controlling shareholders affects indeed debt costs and ratings. Using data on the identity of the ultimate owner, we find strong evidence that family control has a positive and significant effect on bond costs and a negative and significant effect on bond ratings. This result goes against evidence from U.S firms as documented by Anderson et al. (2003). The authors find indeed that family ownership concentration in the U.S. is negatively associated with the agency cost of debt, and they explain their result by the fact that founding families are concerned by their reputation, and by the firm survival. Our results can be rationalized as follows: First, when they are in a controlling position, families are more likely to extract private benefits that harm debtholders' interests. Second, these families avoid capital dilution to preserve their control, and are more likely to use debt financing as opposed to equity financing, hence higher leverage ratios. Control in the hands of widely held financial firms has a positive effect on bond ratings *only*, while State control affects neither bond costs nor bond ratings.

We also test whether debtholders in East Asian countries are less alert to expropriation by controlling shareholders than those in West European countries (as originally hypothesized by Faccio et al. (2001)). High fear of expropriation should result in a higher debt cost that is required by debtholders. As expected, East Asian bondholders do not seem to anticipate expropriation by controlling shareholders, while their West European counterparts are aware of such threat, and accordingly charge a higher interest rate for issuing firms with a wider discrepancy.

Finally, we adopt a large set of regulatory institutions to proxy for the quality of investor protection in the country, and examine their impact on the costs of debt financing and credit ratings. We find that a better debtholders' protection generally reduces bond costs and increases corporate bond ratings. More importantly, we find that, for both bondholders and rating agencies, *debt laws enforcement* is more important than the *existence of laws on the book*. Indeed, our results show that the creditor rights index has no significant effect on bond costs and ratings, while most measures of debt enforcement (the existence of a public credit registry, the estimated cost of insolvency proceedings, the efficiency of the bankruptcy process, and the number of contract enforcement days) are statistically and economically significant. This finding suggests that both debtholders and rating agencies value the quality of debt enforcement, which is important for authorities who want to develop local debt markets: More efforts should be devoted to the enforcement of laws, such as creating credit registries and/or taking the appropriate measures to reduce the cost of insolvency proceedings, and the number of days it takes to resolve a payment dispute through courts, rather than the enactment of new laws.

These results are robust to several sensitivity checks such as the use of alternative benchmarks, the exclusion of issues by financial firms, those by British firms, and those during the Asian financial crisis of 1997.

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**Table I: Variables Description and Data Sources**

This Table reports the descriptions of the variables used in this study.

Variable	Description	Source
COST	Yield to maturity on the bond issues minus the yield to maturity on a US treasury bond of similar maturity (in basis points).	Fixed Investment Securities Database
RATING	Ordinal variable taking on value from 1 to 7 that represent the S&P bond ratings. For more details on the transformation procedure, see APPENDIX I.	Fixed Investment Securities Database
C_O	A measure of the likelihood of expropriation by excess control. It is the difference between voting and cash-flow rights of the largest shareholders at a 10% level.	Claessens et al. (2000) & Faccio and Lang (2002)
FAMILY	A dummy variable equals to 1 if the controlling shareholder is a family.	Claessens et al. (2000) & Faccio and Lang (2002)
MANAGER	A dummy variable equals to 1 if a member of the controlling family is a CEO, Honorary Chairman, Chairman, or Vice-Chairman	Claessens et al. (2000) & Faccio and Lang (2002)
STATE	A dummy variable equals to 1 if the controlling shareholder is a State.	Claessens et al. (2000) & Faccio and Lang (2002)
WHELDFIN	A dummy variable equals to 1 if the controlling shareholder is a Widely held financial firm.	Claessens et al. (2000) & Faccio and Lang (2002)
Creditor rights (CREDRIGHTS)	An index reflecting creditor rights. It is formed by adding 1 when (1) the country imposes restrictions , such as creditors consent or minimum dividends to file for reorganization; (2) secured creditors are able to gain possession of their security once the reorganization petition has been approved (no automatic stay); (3) secured creditors are ranked first in the distribution of the proceeds that result from the disposition of the assets of a bankrupt firm; and (4) the debtor does not retain the administration of its property pending the resolution of the reorganization. The index ranges from zero to four.	La Porta et al. (1998)
Public registry (PUBREGIS)	A dummy variable equals 1 if a public credit registry operates in the country, 0 otherwise. A public registry is defined as a database owned by public authorities (usually the Central Bank or Banking Supervisory Authority), that collects information on the standing of borrowers in the financial system and makes it available to financial institutions. The variable is constructed as at January for every year from 1978 to 2003.	Djankov et al. (2007)
Cost of the Insolvency (COST_INSLV)	The estimated cost of the bankruptcy proceeding for a firm. It is the ratio of all kinds of costs (authority costs, accountant fees, inspector fees, bankruptcy administrator fees,...) to the value of the insolvency estate.	Djankov et al. (2006)
Efficiency of the bankruptcy process (EFFDBTENFORC)	It is the present value of the terminal value of the firm after bankruptcy costs. It reflects the value preserved in debt enforcement proceedings. Higher values indicate higher efficiency of the debt enforcement.	Djankov et al. (2006)
Contract enforcement days (ENFORCDYS)	The number of days to resolve a payment dispute through courts. It is the number of calendar days to enforce a contract of unpaid debt worth 50% of the country's GDP per capita. The variable is constructed as at January 2003.	Djankov et al. (2007)
Newspaper circulation / population (NEWS)	Circulation of daily newspapers divided by population.	Dyck and Zingales (2004)

Table I- *Continued*

Variable	Description	Source
Corruption (CORRUPTION)	An index (ranges from 0 to 10) that indicates the level of corruption in the government. Low ratings indicate higher corruption levels.	International Country Risk Guide (ICR)
Inflation Rate (INFLATION)	Annual percentage changes of the country Consumer Price Index.	International Financial Statistics (IFM)
Debt Market Size (DEBTMKTSIZE)	It is the ratio of the sum of bank debt of private sector and outstanding non-financial bonds to GNP.	International Financial Statistics
Economic Development (GDPGROWTH)	Average annual growth of per capita GDP.	International Financial Statistics
Maturity (LMAT)	The logarithm of the years to maturity.	Fixed Investment Securities Database
Issue size (LISIZE)	The logarithm of the size (offering amount) of the issue (in US \$ 1,000).	Fixed Investment Securities Database
Firm size (ASSET)	The annual total assets for the year preceding the bond issue, or last available (in US \$ 1,000).	Worldscope
Risk (STDNINC)	The operational risk as measured by the standard deviation of the net annual incomes for the five years before the bond issue, or last available.	Worldscope
Performance (ROI)	The Return On Investments as of the year before the bond issue, or last available.	Worldscope
Leverage (LEVERAGE)	The ratio of total debts to total assets for the year preceding the bond issue, or last available.	Worldscope
(FINANCE)	A dummy variable that equals 1 if the firm operates in the financial sector; 0 otherwise.	Fixed Investment Securities Database
(UTILITY)	A dummy variable that equals 1 if the firm operates in the utility sector; 0 otherwise	Fixed Investment Securities Database
(HIGHTEC)	A dummy variable that equals 1 if the firm operates in the high-technology industry; 0 otherwise	American Electronics Association (AeA) website
(BFRCRISIS)	A dummy variable that equals 1 if the bond was issued before 1997; 0 otherwise	Fixed Investment Securities Database
(YRS9798)	A dummy variable that equals 1 if the bond was issued between 1997 and 1998; 0 otherwise	Fixed Investment Securities Database
(POSTCRISIS)	A dummy variable that equals 1 if the bond was issued after 1998; 0 otherwise	Fixed Investment Securities Database
(ASIA)	A dummy variable that equals 1 if the firm is from Asia; 0 otherwise	Claessens et al. (2000) & Faccio and Lang (2002)

**Table I- *Continued***

<b>Variable</b>	<b>Description</b>	<b>Source</b>
(EUROPE)	A dummy variable that equals 1 if the firm is from Europe; 0 otherwise	Claessens et al. (2000) & Faccio and Lang (2002)

**Table II: Data Distribution**

This table provides a description of the distribution of bond yields' and bond ratings' data across countries in our sample.

Country	Initial Data available on bond yields and ratings	Bond yield data after eliminating all missing values		Bond rating data after eliminating all missing values	
		Raw	%	Raw	%
Austria	26	3	1.15	4	1.20
Belgium	1	0	0.00	0	0.00
Finland	2	1	0.38	1	0.30
France	65	47	18.01	58	17.47
Germany	115	10	3.83	32	9.64
Hong Kong	9	2	0.77	4	1.20
Indonesia	1	1	0.38	1	0.30
Ireland	4	2	0.77	3	0.90
Italy	6	5	1.92	3	0.90
Japan	12	5	1.92	7	2.11
Malaysia	10	9	3.45	7	2.11
Norway	25	18	6.90	15	4.52
The Philippines	19	13	4.98	16	4.82
Portugal	1	1	0.38	1	0.30
Singapore	11	7	2.68	6	1.81
South Korea	26	16	6.13	20	6.02
Spain	2	0	0.00	0	0.00
Sweden	19	15	5.75	16	4.82
Switzerland	32	0	0.00	21	6.33
Thailand	17	10	3.83	7	2.11
Taiwan	7	0	0.00	0	0.00
UK	158	96	36.78	110	33.13
Total	568	261	100.00	332	100.00

**Table III: Summary Statistics**

This table reports summary statistics. The variables' descriptions appear in Table I. The significance levels of correlations with COST and RATING are given into parentheses.

Variable	Mean	Std. Dev.	Min	Max	Pearson Correlation with COST	Pearson Correlation with RATING
COST	150.403	125.848	0	816	-	-0.527 (0.000)
RATING	4.637	1.351	1	7	-0.527 (0.000)	-
LMAT	9.192	7.814	0.961	99.997	0.065 (0.299)	-0.130 (0.022)
LISIZE	12.458	1.154	6.910	18.420	-0.208 (0.000)	0.171 (0.002)
ASSET (in US\$ millions)	108	186	0.058	754	-0.15 (0.0167)	0.271 (0.000)
STDNINC (in US\$ millions)	0.419	0.930	0.000	5.843	-0.007 (0.903)	0.027 (0.633)
ROI	7.49	20.576	-43.89	252.45	-0.082 (0.187)	-0.006 (0.906)
LEVERAGE	42.788	23.941	0	206.38	0.213 (0.000)	-0.016 (0.773)
C_O	3.601	8.493	0	54.36	0.139 (0.025)	-0.107 (0.061)
FAMILY	0.278	0.448	0	1	0.231 (0.000)	-0.435 (0.000)
MANAGER	0.028	0.165	0	1	0.084 (0.180)	-0.157 (0.005)
STATE	0.188	0.391	0	1	-0.137 (0.005)	0.162 (0.004)
WHELDFIN	0.197	0.398	0	1	0.072 (0.247)	0.253 (0.000)
INFLATION	2.226	1.446	-1.583	8.844	0.15 (0.016)	-0.372 (0.000)
GDPGROWTH	3.132	2.211	0.3	11.56	-0.204 (0.001)	-0.010 (0.849)
DEBTMKTSIZE	0.947	0.259	0.1	1.22	-0.211 (0.000)	0.235 (0.000)
CREDRIGHTS	2.625	1.388	0	4	-0.097 (0.122)	0.059 (0.302)
PUBREGIS	0.412	0.492	0	1	-0.159 (0.010)	0.277 (0.000)
COST_INSLV	9.221	8.167	1	38	0.271 (0.000)	-0.245 (0.000)
EFFDBTENFORC	72.918	20.219	17.5	96.1	-0.157 (0.011)	0.070 (0.218)
ENFORCDYS	224.482	156.504	60	1 390	0.111 (0.075)	-0.159 (0.005)
NEWS	3.099	1.284	0	8	-0.166 (0.007)	0.223 (0.000)
CORRUPTION	8.5	1.627	2	10	-0.21 (0.000)	0.310 (0.000)

**Table IV: Ultimate Ownership Structure and Debt Costs**

This table reports the OLS regression results for the debt costs on the ultimate ownership structure and firm- and issue- control variables. The variables' descriptions are presented in Table I. \*\*\*, \*\*, and \* refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable: COST	(1)	(2)	(3)	(4)	(5)	(6)	(7)	East Asian	West European
Constant	165.197 (0.000)***	155.911 (0.000)***	142.350 (0.000)***	162.140 (0.000)***	182.342 (0.000)***	174.442 (0.000)***	163.072 (0.000)***	200.904 (0.000)***	155.529 (0.000)***
LMAT	13.965 (0.028)**	16.692 (0.012)**	15.703 (0.008)***	14.507 (0.023)**	16.762 (0.006)***	10.975 (0.082)*	20.344 (0.001)***	1.795 (0.908)	22.805 (0.003)***
LISIZE	-21.877 (0.005)***	-20.806 (0.007)***	-16.950 (0.020)**	-20.638 (0.008)***	-14.358 (0.057)*	-26.125 (0.001)***	-20.176 (0.006)***	-25.017 (0.100)*	-18.772 (0.025)**
ASSET	-15.533 (0.003)***	-14.710 (0.005)***	-9.791 (0.050)**	-14.992 (0.004)***	-14.903 (0.002)***	-12.840 (0.022)**	-20.406 (0.000)***	-5.765 (0.518)	-21.465 (0.000)***
STDINC	17.028 (0.007)***	19.661 (0.003)***	18.855 (0.002)***	17.385 (0.005)***	21.420 (0.003)***	20.782 (0.001)***	17.839 (0.002)***	20.886 (0.099)*	19.965 (0.000)***
ROI	-11.372 (0.017)**	-9.323 (0.051)*	-14.006 (0.003)***	-11.241 (0.020)**	-13.593 (0.007)***	-12.006 (0.010)***	-12.116 (0.021)**	-36.149 (0.106)	-11.663 (0.089)*
LEVERAGE	24.774 (0.001)***	23.265 (0.003)***	20.719 (0.004)***	25.070 (0.001)***	26.549 (0.000)***	22.109 (0.004)***	21.186 (0.003)***	16.532 (0.331)	19.775 (0.016)**
INFLATION	5.590 (0.354)	8.029 (0.200)	7.862 (0.158)	6.887 (0.250)	7.179 (0.215)	9.814 (0.129)	9.064 (0.124)	7.904 (0.702)	13.122 (0.136)
GDPGROWTH	-35.793 (0.000)***	-33.923 (0.000)***	-33.903 (0.000)***	-34.643 (0.000)***	-23.904 (0.002)***	-41.754 (0.000)***	-35.411 (0.000)***	-71.786 (0.000)***	-30.638 (0.000)***
DEBTMKTSIZE	-13.373 (0.058)*	-11.569 (0.117)	-19.103 (0.009)***	-13.604 (0.056)**	-20.423 (0.006)***	-15.251 (0.030)**	-14.662 (0.044)**	-50.137 (0.010)**	-2.548 (0.711)
C_O		2.418 (0.064)*					15.959 (0.030)**	18.265 (0.133)	26.249 (0.001)***
FAMILY			65.791 (0.000)***				34.536 (0.000)***	37.017 (0.012)**	30.279 (0.000)***
MANAGER				55.746 (0.153)			-4.237 (0.620)	-19.858 (0.001)***	0.745 (0.933)
STATE					-73.467 (0.000)***		-8.410 (0.131)	-30.579 (0.069)*	1.184 (0.818)
WHELDFIN						-62.667 (0.005)***	-8.329 (0.230)	26.491 (0.366)	-24.061 (0.001)***
FAMILYxC_O							23.118 (0.000)***	4.591 (0.740)	17.631 (0.013)**
STATExC_O							-2.371 (0.671)	--- (a)	-10.702 (0.050)**
WHELDFINxC_O							8.836 (0.061)*	--- (a)	13.489 (0.027)**
<i>Country Dummies</i>	<i>Yes</i>								
<i>Industry Dummies</i>	<i>Yes</i>								
<i>Year Dummies</i>	<i>Yes</i>								
N	256	256	256	256	256	256	256	58	198
F	5.63	5.77	6.55	5.63	6.04	5.82	6.37	5.77	4.51
Sig.	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Adj. R-Square (%)	40.83	42.18	45.92	41.47	43.51	42.41	49.2	73.41	40.99

(a) Variable dropped because of lack of variability.

**Table V: Ultimate Ownership Structure and Debt Ratings**

This table presents the Ordered Probit regression results of debt ratings on ultimate ownership structure, as well as firm- and issue- control variables. The variables' descriptions are presented in Table I. \*\*\*, \*\*, and \* refer to significance at the 1, 5, and 10% level respectively. (Coefficients are multiplied by 100)

Dependent variable: RATING	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LMAT	-19.700 (0.001)***	-21.700 (0.000)***	-14.900 (0.012)**	-17.300 (0.005)***	-20.700 (0.001)***	-9.200 (0.144)	-20.300 (0.001)***
LISIZE	21.508 (0.000)***	21.045 (0.000)***	16.076 (0.004)***	21.262 (0.000)***	18.632 (0.002)***	31.515 (0.000)***	29.036 (0.000)***
ASSET	30.400 (0.000)***	29.883 (0.000)***	23.106 (0.000)***	29.768 (0.000)***	28.812 (0.000)***	30.003 (0.000)***	38.278 (0.000)***
STDINC	-13.976 (0.002)***	-15.366 (0.001)***	-18.246 (0.000)***	-15.667 (0.001)***	-16.803 (0.003)***	-18.874 (0.000)***	-16.083 (0.000)***
ROI	-0.954 (0.839)	-2.266 (0.637)	3.937 (0.374)	-3.376 (0.459)	-0.377 (0.935)	2.569 (0.607)	0.044 (0.993)
LEVERAGE	0.044 (0.994)	1.451 (0.821)	3.174 (0.605)	-1.841 (0.774)	-0.547 (0.932)	-4.669 (0.450)	0.909 (0.878)
INFLATION	-39.009 (0.000)***	-39.938 (0.000)***	-43.173 (0.000)***	-43.720 (0.000)***	-40.714 (0.000)***	-44.916 (0.000)***	-47.542 (0.000)***
GDPGROWTH	10.375 (0.062)*	10.225 (0.074)*	10.662 (0.058)*	7.789 (0.181)	4.757 (0.475)	21.254 (0.001)***	17.863 (0.005)***
DEBTMKTSIZE	1.937 (0.750)	0.633 (0.920)	13.308 (0.044)**	3.514 (0.543)	5.746 (0.369)	6.852 (0.268)	6.162 (0.359)
FINANCE	33.607 (0.000)***	34.463 (0.000)***	29.389 (0.000)***	39.732 (0.000)***	35.714 (0.000)***	27.397 (0.000)***	41.716 (0.000)***
UTILITY	1.148 (0.851)	1.892 (0.756)	-2.304 (0.728)	2.740 (0.659)	-3.485 (0.609)	-0.806 (0.896)	4.243 (0.507)
HIGHTEC	-32.181 (0.000)***	-30.924 (0.000)***	-28.036 (0.000)***	-34.126 (0.000)***	-29.516 (0.000)***	-32.121 (0.000)***	-34.564 (0.000)***
YRS9798	0.364 (0.957)	-0.694 (0.918)	3.394 (0.632)	-0.144 (0.983)	0.442 (0.948)	5.104 (0.450)	-4.662 (0.493)
POSTCRISIS	-8.341 (0.239)	-8.322 (0.244)	-7.630 (0.262)	-9.079 (0.184)	-6.440 (0.362)	-8.304 (0.267)	-11.593 (0.091)*
EUROPE	7.387 (0.280)	8.082 (0.243)	9.765 (0.148)	9.883 (0.155)	7.324 (0.278)	16.155 (0.041)**	9.603 (0.230)
C_O		-1.424 (0.058)*					-18.848 (0.008)***
FAMILY			-107.535 (0.000)***				-49.737 (0.000)***
MANAGER				-152.480 (0.000)***			-20.914 (0.002)***
STATE					38.922 (0.052)*		2.531 (0.702)
WHELDFIN						119.893 (0.000)***	35.082 (0.000)***
FAMILYxC_O							-24.048 (0.000)***
STATExC_O							10.472 (0.245)
WHELDFINxC_O							-7.856 (0.030)**
N	307	307	307	307	307	307	307
Sig.	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Model Chi2	161.78	160.3	190.65	165.62	192.77	133.46	158.14
Pseudo R-Square (%)	13.54	13.98	18.67	15.67	14.01	17.78	24.29

**Table VI: Regulatory Institutions and Debt Costs**

This table reports the OLS regression results of debt costs on regulatory institutions, as well as firm- and issue- control variables. The variables' descriptions are presented in Table I. \*\*\*, \*\*, and \* refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable: COST	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	165.663 (0.000)***	165.614 (0.000)***	165.408 (0.000)***	165.890 (0.000)***	165.336 (0.000)***	166.117 (0.000)***	165.596 (0.000)***	165.67 (0.000)***
LMAT	12.295 (0.047)**	12.247 (0.049)**	13.149 (0.039)**	12.261 (0.048)**	12.063 (0.050)**	10.963 (0.092)*	13.011 (0.036)**	10.669 (0.115)
LISIZE	-22.507 (0.003)***	-22.509 (0.003)***	-22.130 (0.005)***	-22.476 (0.003)***	-22.208 (0.003)***	-22.850 (0.003)***	-22.665 (0.003)***	-21.940 (0.004)***
ASSET	-14.748 (0.004)***	-14.784 (0.004)***	-15.471 (0.004)***	-14.894 (0.003)***	-14.620 (0.005)***	-14.837 (0.004)***	-15.075 (0.004)***	-15.030 (0.004)***
STDINC	16.971 (0.007)***	16.936 (0.007)***	17.001 (0.006)***	16.893 (0.006)***	16.789 (0.007)***	16.820 (0.006)***	17.081 (0.007)***	16.651 (0.006)***
ROI	-11.494 (0.018)**	-11.420 (0.018)**	-11.328 (0.019)**	-11.566 (0.016)**	-11.085 (0.024)**	-11.598 (0.016)**	-11.161 (0.021)**	-11.639 (0.015)**
LEVERAGE	24.946 (0.001)***	25.065 (0.001)***	24.959 (0.001)***	25.031 (0.001)***	25.186 (0.001)***	24.639 (0.001)***	25.182 (0.001)***	24.520 (0.001)***
INFLATION	4.718 (0.454)	4.864 (0.437)	5.185 (0.400)	5.072 (0.414)	5.365 (0.382)	5.203 (0.410)	5.695 (0.353)	4.179 (0.512)
GDPGROWTH	-36.427 (0.000)***	-36.731 (0.000)***	-36.370 (0.000)***	-36.250 (0.000)***	-37.236 (0.000)***	-36.646 (0.000)***	-36.303 (0.000)***	-36.886 (0.000)***
DEBTMKTSIZE	-13.838 (0.050)**	-13.695 (0.055)*	-13.339 (0.065)*	-13.819 (0.054)*	-13.319 (0.065)*	-13.787 (0.058)*	-13.414 (0.060)*	-13.712 (0.054)*
CREDRIGHTS	-0.125 (0.986)							-0.083 (0.990)
PUBREGIS		-19.728 (0.003)***						-24.017 (0.000)***
COST_INSLV			19.134 (0.006)***					21.844 (0.003)***
EFFDBTENFORC				-3.319 (0.631)				-16.067 (0.000)***
ENFORCDYS					7.048 (0.091)*			9.294 (0.001)***
NEWS						-15.933 (0.020)**		-22.062 (0.000)***
CORRUPTION							-31.111 (0.000)***	-2.247 (0.684)
<i>Country Dummies</i>	<i>Yes</i>							
<i>Industry Dummies</i>	<i>Yes</i>							
<i>Year Dummies</i>	<i>Yes</i>							
N	256	256	256	256	256	254	256	254
F	5.48	5.51	5.46	5.49	5.54	5.38	5.57	4.8
Sig. Adjusted R-Square (%)	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
	40.05	40.41	39.95	40.08	40.43	39.68	40.5	39.77

**Table VII: Regulatory Institutions and Debt Ratings**

This Table reports the Ordred Probit regression results of debt ratings on the regulatory institutions, firm- and issue-control variables. The variables' descriptions are presented in Table I. \*\*\*, \*\*, and \* refer to significance at the 1, 5, and 10% level respectively. (Coefficients are multiplied by 100)

Dependent variable: RATING	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LMAT	-19.700 (0.001)***	-20.400 (0.001)***	-19.800 (0.001)***	-19.700 (0.001)***	-19.700 (0.001)***	-18.900 (0.001)***	-19.700 (0.001)***	-26.200 (0.000)***
LISIZE	21.500 (0.000)***	21.800 (0.000)***	21.800 (0.000)***	21.500 (0.000)***	22.900 (0.000)***	22.200 (0.000)***	21.900 (0.000)***	25.500 (0.000)***
ASSET	30.400 (0.000)***	30.900 (0.000)***	30.500 (0.000)***	30.300 (0.000)***	31.000 (0.000)***	31.100 (0.000)***	30.600 (0.000)***	37.600 (0.000)***
STDINC	-13.900 (0.002)***	-14.400 (0.005)***	-13.900 (0.002)***	-14.000 (0.003)***	-14.100 (0.005)***	-14.100 (0.001)***	-14.100 (0.002)***	-19.300 (0.000)***
ROI	-0.943 (0.840)	-0.862 (0.852)	-1.091 (0.815)	-0.788 (0.866)	-0.766 (0.869)	-1.378 (0.775)	-0.924 (0.844)	-3.252 (0.554)
LEVERAGE	0.014 (0.998)	-0.984 (0.873)	0.201 (0.975)	-0.360 (0.954)	-0.064 (0.992)	1.291 (0.843)	0.066 (0.992)	1.673 (0.795)
INFLATION	-38.990 (0.001)***	-39.224 (0.001)***	-39.839 (0.001)***	-38.619 (0.001)***	-39.848 (0.001)***	-42.362 (0.001)***	-39.339 (0.001)***	-49.727 (0.001)***
GDPGROWTH	10.398 (0.063)*	10.185 (0.064)*	10.094 (0.073)*	10.421 (0.065)*	10.221 (0.064)*	11.047 (0.045)**	11.011 (0.040)**	10.055 (0.068)*
DEBTMKTSIZE	1.957 (0.747)	1.721 (0.776)	1.618 (0.792)	2.140 (0.725)	2.648 (0.658)	2.660 (0.662)	2.176 (0.720)	4.290 (0.491)
FINANCE	33.663 (0.000)***	35.771 (0.000)***	33.589 (0.000)***	34.178 (0.000)***	33.944 (0.000)***	32.676 (0.000)***	33.187 (0.000)***	42.219 (0.000)***
UTILITY	1.200 (0.842)	2.024 (0.740)	0.960 (0.875)	1.520 (0.802)	1.458 (0.811)	0.455 (0.942)	1.385 (0.820)	1.253 (0.845)
HIGHTEC	-32.166 (0.001)***	-32.075 (0.001)***	-32.349 (0.001)***	-31.992 (0.001)***	-32.277 (0.001)***	-33.279 (0.001)***	-32.309 (0.001)***	-37.487 (0.001)***
YRS9798	0.385 (0.954)	0.995 (0.884)	0.639 (0.925)	0.485 (0.943)	0.783 (0.907)	0.104 (0.988)	0.210 (0.975)	-0.570 (0.932)
POSTCRISIS	-8.343 (0.240)	-8.987 (0.215)	-7.983 (0.262)	-8.639 (0.229)	-7.901 (0.275)	-7.559 (0.288)	-8.829 (0.207)	-7.449 (0.299)
EUROPE	7.363 (0.282)	8.348 (0.234)	7.240 (0.289)	7.792 (0.262)	6.330 (0.352)	6.254 (0.356)	6.044 (0.374)	9.992 (0.164)
CREDRIGHTS	-0.851 (0.876)							-0.238 (0.970)
PUBREGIS		18.299 (0.004)***						33.103 (0.000)***
COST_INSLV			-4.610 (0.597)					-9.222 (0.282)
EFFDBTENFORC				-7.337 (0.264)				26.805 (0.000)***
ENFORCDYS					-16.066 (0.003)***			-33.080 (0.000)***
NEWS						14.390 (0.032)**		55.860 (0.000)***
CORRUPTION							11.074 (0.101)	-4.890 (0.476)
N	307	307	307	307	307	304	307	304
Model Chi2	169.48	172.59	179.85	185.81	177.26	174.59	204.22	304.45
Sig.	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Pseudo R-Square	13.54	14.46	13.59	13.69	14.04	14.3	13.86	23.19

**Table VIII: The Determinants of Debt Costs**

This table reports the OLS estimates of the final model of debt costs. The variables' descriptions are presented in Table I. \*\*\*, \*\*, and \* refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable: COST	Expected Sign	(1) Basic model	(2) 2SLS	(3)
Constant	?	163.024 (0.000)***	162.590 (0.000)***	142.566 (0.000)
LMAT	+	18.328 (0.006)***	14.730 (0.035)**	3.998 (0.443)
LISIZE	?	-19.184 (0.007)***	-18.306 (0.014)**	2.994 (0.587)
ASSET	?	-21.701 (0.000)***	-19.257 (0.000)***	-5.721 (0.519)
STDINC	+	17.814 (0.001)***	16.632 (0.002)***	9.224 (0.228)
ROI	-	-12.669 (0.015)**	-12.653 (0.029)**	0.380 (0.957)
LEVERAGE	+	20.938 (0.004)***	22.887 (0.001)***	14.441 (0.016)**
INFLATION	+	7.460 (0.200)	7.707 (0.193)	-0.271 (0.958)
GDPGROWTH	-	-35.315 (0.000)***	-37.037 (0.000)***	-10.133 (0.000)***
DEBTMK'TSIZE	-	-14.632 (0.037)**	-12.903 (0.071)*	-13.668 (0.000)***
C_O	+	19.172 (0.007)***	18.564 (0.011)**	7.270 (0.194)
FAMILY	?	33.119 (0.000)***	31.894 (0.000)***	17.477 (0.001)***
MANAGER	?	-3.276 (0.689)	-8.253 (0.375)	16.034 (0.002)***
STATE	?	-8.513 (0.100)*	2.147 (0.695)	-0.935 (0.870)
WHELDFIN	?	-8.056 (0.228)	12.570 (0.115)	-8.669 (0.093)*
FAMILYx C_O	?	19.567 (0.003)***	13.615 (0.036)**	-6.562 (0.144)
STATEx C_O	?	-5.110 (0.374)	-8.421 (0.224)	-0.039 (0.996)
WHELDFINx C_O	?	11.376 (0.017)**	-2.675 (0.631)	-3.614 (0.115)
CREDRIGHTS	-	0.140 (0.981)	6.343 (0.290)	-6.764 (0.171)
PUBREGIS	-	-27.886 (0.000)***	-25.141 (0.000)***	-8.333 (0.019)**
COST_INSLV	+	24.267 (0.000)***	22.876 (0.000)***	10.033 (0.000)***
EFFDBTENFORC	-	-17.156 (0.000)***	-15.680 (0.000)***	-20.831 (0.000)***
ENFORCDYS	+	9.040 (0.010)***	14.269 (0.000)***	7.420 (0.128)
NEWS	-	-19.021 (0.000)***	-13.073 (0.003)***	-5.624 (0.206)
CORRUPTION	-	-2.449 (0.626)	-9.258 (0.133)	1.935 (0.699)
<i>Country Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Industry Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Year Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
N		254	254	120
F		6.16	5.19	2.98
Sig.		(0.000)***	(0.000)***	(0.000)***
Adjusted R-Square (%)		51.48	46.25	39.91

**Table IX: The Determinants of Debt Ratings**

This table reports the Probit estimates of the final model of debt ratings. The variables' descriptions are presented in Table I. \*\*\*, \*\*, and \* refer to significance at the 1, 5, and 10% level respectively. (Coefficients are multiplied by 100).

Dependent variable: RATING	Expected Sign	(1) Final model
LMAT	-	-25.758 (0.000)***
LISIZE	?	34.079 (0.000)***
ASSET	?	45.400 (0.000)***
STDINC	-	-21.648 (0.000)***
ROI	+	-2.124 (0.737)
LEVERAGE	-	5.043 (0.435)
INFLATION	-	-57.054 (0.000)***
GDPGROWTH	+	18.653 (0.004)***
DEBTMKTSIZE	+	9.733 (0.161)
FINANCE	?	49.654 (0.000)***
UTILITY	?	4.080 (0.537)
HIGHTEC	?	-40.622 (0.000)***
YRS9798	?	-7.208 (0.315)
POSTCRISIS	?	-10.344 (0.123)
EUROPE	?	11.104 (0.175)
C_O	-	-17.922 (0.002)***
FAMILY	?	-55.421 (0.000)***
MANAGER	?	-27.219 (0.000)***
STATE	?	3.886 (0.593)
WHELDFIN	?	44.018 (0.000)***
FAMILYxC_O	?	-24.504 (0.000)***
STATExC_O	?	17.829 (0.002)***
WHELDFINxC_O	?	-9.041 (0.032)**
CREDRIGHTS	+	1.056 (0.879)
PUBREGIS	+	14.743 (0.051)*
COST_INSLV	-	-12.529 (0.170)

Table IX- *Continued*

<b>Dependent variable: RATING</b>	<b>Expected Sign</b>	<b>(1) Final model</b>
EFFDBTENFORC	+	25.455 (0.001)***
ENFORCDYS	-	-51.289 (0.000)***
NEWS	+	44.239 (0.000)***
CORRUPTION	+	-6.649 (0.328)
N		304
Model Chi2		250.26
Sig.		(0.000)***
Pseudo R-Square		32.43

**APPENDIX I: S&P Credit Rating Transformations**

<b>S&amp;P Initial Ratings</b>	<b>Transformation</b>
AAA	7
AA+	6
AA	6
AA-	6
A+	5
A	5
A-	5
BBB+	4
BBB	4
BBB-	4
BB+	3
BB	3
BB-	3
B+	2
B	2
B-	2
CCC+	1
CCC	1
CCC-	1
CC	1
C	1
D	1

**ARTICLE 2:**

**MANAGERIAL OPPORTUNISM, COST OF DEBT  
FINANCING AND REGULATION CHANGES:  
EVIDENCE FROM THE SARBANES-OXLEY ACT  
ADOPTION**

## **Managerial Opportunism, Cost of Debt Financing and Regulation Changes: Evidence from the Sarbanes-Oxley Act Adoption**

### **Abstract**

This paper investigates the impact of managerial opportunism on the cost of debt financing. Using managerial entrenchment and earnings management activities to proxy for managers' opportunism, we find that firms with less entrenched managers enjoy lower corporate bond costs and higher credit ratings. In addition, our results suggest that bondholders generally require higher bond costs, while rating agencies assign lower credit ratings to firms that inflate their earnings (i.e. income-increasing earnings management). We further investigate the role of the Sarbanes-Oxley Act adoption on the perceptions of these two debt market actors. We find strong evidence that the dramatic changes required by this Act have enhanced the "monitoring" role of the debt market since we document that the above results are generally observed only for the post-SOX period.

**Key Words:** opportunism, entrenchment, earnings management, Debt Costs and Ratings, Sarbanes-Oxley Act.

**JEL Classification:** G24, G32, G38, K22, K42, M41.

## **I. Introduction**

A large body of the finance literature is devoted to the relationship between managers and shareholders. Previous research mostly investigates the impact of governance mechanisms on shareholders wealth. Surprisingly, despite the growing size of the corporate bond market, particularly in the U.S., little attention has been devoted to the impact of governance on bondholders' wealth. For example, Sengupta (1998) investigates the effect of the firm's corporate disclosure quality on the cost of its debt, and finds that the cost of debt is negatively affected by the quality of disclosure, especially for firms that have a higher market uncertainty (as measured by the variance of the stock returns). Anderson, Mansi, and Reeb (2003) observe that ownership concentration in the hands of the founding family reduces the agency cost of debt. They interpret their finding by the fact that this type of investors, with undiversified holdings, is probably more concerned with the firm's survival which they intend to pass on to subsequent generations. As a consequence, family firms reduce the risk undertaken within the firm, which is obviously desirable from the bondholders' point of view. Also, Bhojraj and Sengupta (2003) explore the effect of institutional ownership and outside directors on bond ratings and yields. Their results point to lower bond costs and higher bond ratings for firms with greater institutional ownership, and a larger proportion of outside directors. More recently, Ashbaugh, Collins and LaFond (2006) document that credit ratings are positively affected by the quality of financial transparency and by board independence, ownership and expertise. Moreover, credit ratings are negatively related to shareholder rights, to the CEO being also Chief of the board, and to ownership concentration (as measured by the number of blockholders owning 5% or more of the firm).

When they invest their money, debtholders face two major problems: the expropriation risk by major shareholders, and the opportunistic behaviour of the firm's managers. The first problem rises when the ownership structure of the firm is dominated by one or some controlling shareholders who hold control beyond their ownership stake. In their pioneering work, Jensen and Meckling (1976) provide an extensive analysis of this risk. The authors document that, in this case, controlling shareholders will operate wealth transfers from debtholders in their favour, for example by undertaking riskier projects that are rewarding to shareholders but costly to debtholders. This risk shifting conflict will result in new agency costs commonly called the agency costs of debt.

The second problem faced by debtholders is managerial opportunism. In the financial theory, it is argued that management behaviour can exacerbate the default risk of the firm. The "managerial" firm defined by Berle and Means (1932) is characterized by a separation between ownership and control. This type of firm was later analyzed by Jensen and Meckling (1976). Within this firm, managers are not perfect agents for shareholders because they may adopt a non value-maximizing behaviour. For example, they can entrench themselves by undertaking specific-investments that have a higher value only if they stay in the firm, investing in projects in which they have experience, no matter what their impact on shareholders value is, and making the firm's contracts as implicit as possible (Shleifer and Vishny, 1989). This makes managers very costly to replace. Moreover, managers can use their discretion in reporting financial information. Indeed, they may use their judgment in estimating losses from bad debts, or even in shifting expenditures and gains between periods. This behaviour, while misleading, is very difficult to detect. These activities of opportunistic earnings management have been empirically well documented. For example, Kieschnick and Urcan (2006) document income increasing discretionary accruals prior to the issuance of convertible debt, especially for

firms who use public placements. Also, Chin, Lin, and Lee (2005) find that earnings management is pervasive in the year of issue of convertible bonds in Taiwan.

Although this handful of studies bridges the literature on debt markets and corporate governance, there are still relevant questions that need to be addressed. For example, how do bond market actors react to an opportunistic managerial behaviour? Do they play a determinant role in designing the corporate governance, or do they act passively? Does this role, if any, interact with the legal/regulatory environment of the firm? In other words, do changes in the regulatory environment lead to changes in the role and perception of these actors?

We are aware of only two studies that partially tried to fill this gap in the literature. Bharath, Sunder and Sunder (2004) investigate the role of commercial banks, as sophisticated investors, in curbing the lower accounting quality of firms. They find evidence that these actors, charge higher loan spreads, offer shorter loan maturities, and require more collateral from firms reporting excessive abnormal accruals. Despite the originality of its findings, this study doesn't tell us anything about the perception (and hence the monitoring role) of bondholders and ratings analysts. More recently, Demirtas, Ghosh, Rodgers, and Sokobin (2006) argue that firms engage in opportunistic earnings management to obtain higher credit ratings. They empirically document unusually abnormal positive accruals before the rating date. This opportunistic earnings management activity is followed by a reversal in the subsequent years.

This paper seeks to empirically highlight the potential effect of managerial opportunism on the debt financing costs for a sample of U.S. companies. Our main goal is to firstly assess the perceptions of the corporate bond market about management misbehaviour, and secondly to investigate the impact of regulation changes on these

perceptions. The assessment of the perceptions of bondholders reflect, among others, whether they are aware of (and price) the risk of managerial opportunism. An affirmative answer to this question should be interpreted as an indication of effective monitoring by the debt market in the firm's corporate governance. In the first part of the empirical analysis, we examine the impact of managerial opportunism on the costs of publicly traded U.S. bonds. Unlike prior studies (namely Bharath, Sunder and Sunder, 2004 and Demirtas, Ghosh, Rodgers, and Sokobin, 2006), we measure managerial opportunism along two dimensions; managerial entrenchment and earnings management activities. Both are a natural manifestation of a misleading conduct of managers and prior studies have shown their negative impact on firms' performance (Gompers, Ishii, and Metrick, 2003; Bebchuk, Cohen and Ferrell, 2004; Teoh, Welch, and Wong, 1998a and 1998b; DuCharme, Malatesta, and Sefcik, 2001 and 2004; Xie, 2001, among others). Using a sample of American corporate bonds issued between 1995 and 2006, we find strong evidence that firms with less entrenched managers enjoy lower corporate bond costs and higher credit ratings. As for the second dimension of managerial opportunism –i.e. earnings management activities–, we find that bondholders generally charge higher bond costs, while rating analysts assign lower ratings for firms that inflate their earnings (income-increasing earnings management). For income-decreasing earnings management activities (i.e. firms with negative abnormal accruals), we do not find a similar pattern. We interpret this finding by the fact that increasing income activities through abnormal accruals is more likely to reflect an opportunistic behaviour. Indeed, managing earnings downward, unlike income increasing activities, is more likely to take place when the firm has generated substantial profits, and generally aims to make earnings appear more stable. Moreover, it allows managers to make more reserves (profits) for the future. Inflating

income, however, is more of an indication of poor current performance, and reflects an attempt by managers to camouflage it.

In the second part of the empirical analysis, we investigate the effect of changes in the legal/regulatory environment on the perceptions of bondholders and rating agencies. We particularly focus on the Sarbanes-Oxley Act (here-after SOX), considered as one of the most important business reforms since the Securities Exchange Act of 1934. Given the dramatic changes required by SOX, we hypothesize that bondholders and rating agencies will be less tolerant towards managerial opportunism after the SOX adoption, since this regulation aims at reducing such misleading conduct. Thus, any detected opportunism after this regulation will reflect the great “appetite” of managers to consume private benefits, and hence should be severely punished. Our results support this conjecture. We find that, after SOX, both bondholders and rating analysts become more aware of the risk of opportunistic behaviour by managers. Mainly, in the post-regulation change period (SOX), bondholders charge higher costs and rating agencies assign lower ratings to firms with more entrenched management. Furthermore, bondholders react only to income-increasing earnings management activities by rising bonds costs after the SOX passage only. As regards rating agencies, they appear to assign lower ratings for firms that inflate their abnormal accruals for both the pre- and the post-SOX periods, while they seem to “value” income-decreasing earnings management activities particularly after SOX.

Our overall findings point to a two-sided story: On the one hand, we find that debt markets effectively act as an “external monitor” of managers. On the other hand, our results suggest that the SOX enactment contributes (at least partially) to the effectiveness of bond markets as monitors.

The paper contributes to the existing literature in many ways. Our findings contribute to our understanding of the role of the debt market in the economy through the study of the perceptions of its actors. Further, our results indirectly assess the effectiveness of SOX. While previous studies analyze the impact of SOX on the existence of misbehaviour activities (comparison of some pattern before and after SOX enactment), we investigate whether SOX induced changes in the perceptions of some governance actors such as bondholders and credit rating agencies. We find strong support for the effectiveness of SOX in improving the control exerted by these actors on the firm's managers. This finding adds new voices to those supporting SOX.

The rest of the paper proceeds as follows. Section II presents the theoretical framework and develops our hypotheses. Section III describes the methodology used and presents some descriptive statistics. Section IV and V discuss the empirical findings while section VI concludes.

## **II. Managerial Opportunism, Debt Cost, and SOX: Hypotheses**

### **Development**

#### ***A. Literature Review***

A large body of the literature views managerial entrenchment as a natural manifestation of managerial opportunism. Shleifer and Vishny (1989) argue that managers are able to counter the disciplinary mechanisms of the firm by entrenching themselves. Their model shows that managers tend to undertake specific-investments that have a higher value only if they stay in the firm making themselves costly to replace. Moreover, the authors point out that managers are more likely to invest in projects in which they

have experience, no matter what their impact on the shareholders value will be, and that managers tend to make the firm's contracts as implicit as possible.

In a leading research, Gompers, Ishii, and Metrick (2003) construct an entrenchment index to proxy for the managerial power within the firm. The index consists on the 24 governance provisions followed by the Investor Responsibility Research Center (IRRC) and that benefit to the managers. The authors document a negative relation between this index and the Tobin's Q (a measure of the firm value), as well as the stockholders returns. In the same vein as Gompers, Ishii, and Metrick (2003), Bebchuk, Cohen and Ferrell (2004) analyze the impact of managerial entrenchment on firm value and stockholder returns. Using an entrenchment index that consists of the six most influential governance provisions, they find that entrenching managers reduce the firm value as measured by Tobin's Q. They also find that firms with higher levels of the entrenchment index have larger negative abnormal returns.

Another widespread manifestation of the opportunistic behaviour of managers is earnings management. In 1989, Schipper defines Earnings management (EM) as a *“purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain.”*<sup>17</sup> More recently, Healy and Wahlen (1999) define EM as follows: *“when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.”*<sup>18</sup> Most previous studies dealing with EM focused on three main questions: why is there EM? How do managers proceed to manage earnings? And what are the consequences of such behaviour? Empirical results suggest that managers opportunistically manipulate earnings to achieve personal goals.

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<sup>17</sup> K. Schipper (1989), p. 92.

<sup>18</sup> Healy and Wahlen (1999), p. 368.

They generally use many techniques such as income smoothing, real activities and accruals. For example, Roychowdhury (2006) shows that managers manipulate reported margins using real activities such as lowering prices to temporarily increase sales, overproducing to report lower costs, and reducing discretionary expenditures. Also, and in relation with equity offerings, some studies document that managers use their discretion to overstate the reported income just before the Initial Public Offerings (IPOs) and Seasoned Equity Offerings (SEOs) in order to increase their proceeds (Teoh, Welch, and Wong, 1998a and 1998b; Rangan, 1998, DuCharme, Malatesta, and Sefcik, 2001 and 2004; Roosenboom, Goot, and Mertens, 2003). In a more general context, Xie (2001) shows that the market generally overprices abnormal accruals.

Surprisingly, a large body of this developing literature on managerial opportunism mainly analyzes the impact of this phenomenon from a shareholders' point of view (Gompers, Ishii, and Metrick, 2003; Bebchuk, Cohen and Ferrell, 2004; Teoh, Welch, and Wong, 1998a and 1998b; Rangan, 1998, DuCharme, Malatesta, and Sefcik, 2001 and 2004; Roosenboom, Goot, and Mertens, 2003). Despite the significant current size and growth of the corporate debt markets (particularly in the U.S.), little attention has been devoted to studying the relation between managerial opportunism and debt financing. For example, Kieschnick and Urcan (2006) analyze the behaviour of firms prior to the issuance of convertible debt. Their results show that there are income increasing discretionary accruals prior to the issuance, especially for firms who use public placements. Furthermore, Chin, Lin, and Lee (2005) find that in Taiwan, earnings management is pervasive in the year of issue of convertible bonds. In a study relatively closer to ours, Demirtas, Ghosh, Rodgers, and Sokobin (2006) argue that firms engage in opportunistic earnings management to obtain higher credit ratings. Their results document unusually abnormal positive accruals before the rating date, followed by a reversal in the subsequent

period. Our study will use corporate bond yields to proxy for the cost of debt. Also, in addition to earnings management (as measured by abnormal accruals), we use another proxy for managerial opportunism –i.e. the managers’ entrenchment index-. In a study on the cost of bank loans, Bharath, Sunder, and Sunder (2004) find that firms with higher earnings management pay higher costs on their bank loans. The authors interpret their finding by the fact that banks are able to detect income manipulation by firms and price it. They hence charge higher costs for firms that have such practices.

Whether or not bondholders are sophisticated enough to detect and penalize managers’ opportunism remains an open empirical question that needs to be explored. The present research aims to fill this gap in the literature on the impact of managerial opportunism on investors’ wealth. Specifically, the paper aims to document to which extent American investors are sophisticated and assume their role as effective “monitors”. Obviously, an entrenched behaviour results in value destruction (Gompers, Ishii, and Metrick, 2003; Bebchuk, Cohen and Ferrell, 2004), and hence an increase of the firm’s likelihood of bankruptcy. Also, opportunistic EM misleads outsiders’ perception of the true economic performance of the company. Indeed, managers could use their discretion to alter earnings for two main reasons: to find the appropriate (debt) financing for their projects (Sercu, Bauwhede and Willekens, 2006; Kieschnik and Urcan, 2006), and/or to respect their debt contract covenants (DeFond and Jiambalvo, 1994). Debtholders, as an important firm’s capital supplier, must be aware of this behaviour within the firm. If they anticipate such behaviour, bondholders will ask for higher yields. Given these considerations, we posit the following testable hypothesis:

***Hypothesis 1: Managerial opportunism positively affects bond costs***

***B. Regulatory Changes: The Impact of the Sarbanes-Oxley Act***

Initiated by Senator Paul Spyros Sarbanes and Congressman Michael Graver Oxley, the Sarbanes Oxley Act was approved by the American President in 2002. The SOX Act establishes new governance standards for U.S. public companies and accounting firms. The Act aims to build the confidence of investors and other market participants in the integrity of the US financial system. To achieve this objective, the Act emphasizes the necessity to improve the independence of the audit committee, to enhance the responsibilities of the top officers (mainly the CEO and the CFO), to separate accounting from consulting services, and to guarantee a more efficient assessment of internal controls by auditors and management.

The debate over the effectiveness of SOX is still raging today. Although some studies doubt the effectiveness of SOX (Romano, 2005; Ribstein; 2002, among others), many other studies support it and highlight its positive effects. For example, Lai (2003) document a higher auditor independency after the implementation of SOX. Cohen, Krishnamoorthy, and Wright (2002) conduct a semi-structured interview with 36 auditors to assess the impact of some corporate governance actors (such as the board of directors and the audit committee) on the audit process. For this pre-SOX period, the authors find that “auditors view management as the primary driver of corporate governance”, which is inconsistent with the prescription of the agency theory that recommends a set of mechanisms to oversee management’s activities. Their study shows also that audit committee is ineffective and lacks expertise and power to supervise managers. In 2008, the same authors (Cohen, Krishnamoorthy and Wright) extend their former study and analyze the interactions that auditors have with different firms’ actors (mainly audit committee, board members and management). They document a significant improvement in the governance structure after the SOX enactment. This suggests that the dramatic changes in the responsibilities of the firms’ actors (management, board, audit committee,

and auditors) required by SOX, improved the audit process and ensured a more active and diligent audit committee.

Managerial opportunism through earnings management activities has also attracted a substantial amount of empirical academic researches. The main question is to determine whether the SOX enactment succeeded in curbing such activities. Aono and Guan (2007) examine the managers' manipulative behaviour to round earnings (what they call cosmetic earnings management) before and after SOX. Their results suggest that such opportunistic behaviour, although it was considerable in the two-year period prior to the Act, decreased substantially during the post SOX period. They conclude that the SOX Act has an effective role in deterring managers' misbehaviour. Cohen, Dey and Lys (2008) associate accrual-based earnings management with the "opportunistic behaviour hypothesis". The authors document a significant decline in earnings management activities after the SOX passage, while they find an increase in these activities during the period preceding the Enron collapse.

Following the passage of SOX, firms are expected to be more efficient and thus managers are expected to be more disciplined. Many studies have confirmed the positive effect on stock market of the SOX passage (Li, Pincus and Rego, 2008; Berger, Li, and Wong, 2005; Lai, 2003). The positive stock price reaction reflects, among other things, the expectation of market participants of the positive effect of the Act (namely its effect in reducing information uncertainty by improving financial reporting). Assuming that SOX is efficient in curbing managers' opportunism, any detected opportunistic behaviour of managers will be heavily punished by bondholders. This is because any opportunistic behaviour that persists after the SOX implementation will reflect the deep intention and the strong desire of management to consume private benefits. Thus, one would expect

that bondholders will be more sensitive to the managerial opportunism in the post-SOX period than in the pre-SOX period. Given these considerations, this study aims to empirically test the following hypothesis:

*H2: The positive effect of managerial opportunism on bond costs would be more pronounced in the after-SOX period*

### III. Methodology and Descriptive Statistics

#### *A. Specifications*

To test the relationship between managerial opportunism and bond yields, we use the following general specification:

$$COST = f(\text{Managerial opportunism proxy}, \text{Issuer Characteristics}, \text{Issue Characteristics}) \quad (1)$$

This model will be estimated using the OLS method.

#### *B. Data Sources and Variables*

Corporate bonds costs (COST) are obtained by subtracting the yield to maturity on a US treasury bond from the yield to maturity on the corporate debt issue with similar maturity.

Our Debt data are from *The Fixed Investment Securities Database*. This database contains information on the type of the issue, the coupon, the yield to maturity, the rating, the maturity, the offering amount as well as many other characteristics (covenants, convertible,...). Data on issuer characteristics (performance, risk, size, leverage, and the auditor's name) are from Compustat, and data on the executive ownership are from Standard & Poor's ExecuComp database.

We analyze all American corporate bond issues during the period between 1995 and 2006. We follow Anderson, Mansi and Reeb (2003) and we gather all issues of the same firm during the same year in a portfolio. This allows us to compute for each firm-year the characteristics of the bonds portfolio. Firm bonds portfolio's characteristics (yield to maturity, maturity, offering amount,..) are the weighted-average of the characteristics of the bonds issued during the same year by the same firm. We use the issue size as weightings. After excluding firms from the finance and the utility industries, we obtain an initial sample of 1 431 firm/year observations. We are not able to compute the yield to maturity for 413 observations, which reduces the sample for the COST variable to 1 018 observations. **Table I** presents the distribution of our sample per year (Panel A) and per industry (Panel B).

[INSERT TABLE I ABOUT HERE]

Our first proxy for managerial opportunism is the entrenchment index which is initially developed by Bebchuk, Cohen, and Ferrell (2004). Managers' opportunism leads them to pursue strategies that enforce their power within the firm. Managers can choose specific investments that have value only if they are managed by them. These manager-specific investments, although not beneficial to shareholders, reduce the likelihood for managers of being replaced. According to Weisbach (1988), "*Managerial entrenchment occurs when managers gain so much power that they are able to use the firm to further their own interests rather than the interests of shareholders.*"<sup>19</sup> The entrenchment index of Bebchuk et al. (2004) aims to assess the power of managers. It is based on the six most influential provisions that the Investor Responsibility Research Center (IRRC) follows. These entrenching provisions are staggered boards, supermajority requirements for mergers, supermajority requirements for

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<sup>19</sup> Weisbach (1988), 435.

charter amendments, limits to shareholder amendments of the bylaws, poison pills and golden parachute. For a period between 1990 and 2004, and depending on the existence of each one of these provisions, the authors construct their entrenchment index, ranging from 0 to 6, which reflects the number of provisions that the firm has in a particular year.<sup>20</sup> A higher index indicates strong entrenched managers.<sup>21</sup>

Our second proxy for managerial opportunism is the earnings management (EM) activities. Managers have a considerable discretion to manipulate firm's performance and report to outsiders misleading information in order to increase the attractiveness of the firm in the eyes of potential investors. For example, managers could use their judgment in estimating losses from bad debts, or even in shifting expenditures and gains between periods. SEC Chairman Arthur Levitt says that "*earnings reports reflect the desires of management rather than the underlying financial performance of the company.*" Many factors could lead managers to manage earnings (e.g. to reach analysts' forecasts, to satisfy contractual obligations, to get promotions or compensations, to reach internal unrealistic plans and budgets,...). Nevertheless, and regardless of the motivation behind managers' EM, both investors and regulatory authorities generally agree on the fact that EM is a misleading activity that hides behind it an opportunistic behaviour. Thus, for many outsiders, EM means a poor financial and accounting reporting quality that leads to a lack of confidence of investors on how the company is run.

We measure earnings management with abnormal accruals. We compute the abnormal accruals using the modified Jones'1991 model to which we add the adjustment

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<sup>20</sup> Since we have no data on the Entrenchment Index after 2004, models that include this variable are for the period 1995-2004.

<sup>21</sup> For a detailed description on how the Entrenchment Index is constructed, see Bebchuk et al. (2004).

proposed by Kothari et al. (2005). This adjustment suggests a further ROA-matching to take into account the performance of the firm.

Finally, we include some other control variables related to the issue and issuer characteristics (maturity, issue size, the existence of convertible provision, the size of the firm, its leverage, its performance, its industry, and its risk level). The variables used in this study are:

<b>COST</b>	:	The weighted-average yield to maturity on the firm's outstanding traded debt minus the yield to maturity on US treasury bond of similar maturity (in basis points). We used the issue size as weightings.
<b>LMAT</b>	:	The logarithm of the weighted-average years to maturity on the firm's outstanding bonds. We used the issue size as weightings.
<b>ISIZE</b>	:	The weighted-average size (offering amount) of the firm's outstanding bonds in \$1,000 million.
<b>CONVRT</b>	:	The percentage of firm's convertible bonds. It is a weighted-average of a dummy variable that equals 1 if the bond is convertible, 0 otherwise.
<b>Abnormal Accruals</b>	:	It is the abnormal accruals from the Modified Jones' model (1991) in the spirit of Kothari et al. (2005). First we Compute Modified Jones' 1991 abnormal accruals for our sample. Then, we match each firm with another firm-year in the same 2-digit SIC code and having the closest ROA. The Modified Jones-model performance-matched abnormal accrual is the difference between the firm's Modified Jones' model abnormal accrual and the matched firm's Modified Jones-model abnormal accrual for the same year.
<b>E_INDEX</b>	:	It is the proxy for the managerial power within the firm from Bebchuk, Cohen and Ferrell (2004). The index consists of 6 governance provisions followed by the Investor Responsibility Research Center (IRRC) and that benefit to the managers. These provisions are staggered boards, supermajority requirements for mergers, supermajority requirements for charter amendments, limits to shareholder amendments of the bylaws, poison pills and golden parachute. The index ranges from 0 to 6 which reflects, for the period between 1990 and 2004, the number of provisions that the firm has in a particular year. A higher index indicates strong entrenched managers.
<b>AUDITOR</b>	:	A dummy variable that equals 1 for firms with Big Four auditors, and 0 otherwise.
<b>INSDOWN</b>	:	Percentage of total shares outstanding held by the firm's executive.
<b>PERFORM</b>	:	The firm operational performance as measured by the Return On Assets.

- LEVERAGE:** Leverage as long term debts divided by total assets.
- RISK** : The standard deviation of the Net Income (in \$1,000 million) for the 5 recent years (or the maximum available).
- LASSET** : Logarithm of total assets.

Our model can thus be written as follows:

$$\begin{aligned}
 \mathbf{COST} = & a_0 + a_1 \mathbf{AUDITOR} + a_2 \mathbf{INSDOWN} + a_3 \mathbf{PEFORM} + a_4 \mathbf{LEVERAGE} + a_5 \mathbf{RISK} + \\
 & a_6 \mathbf{LASSET} + a_7 \mathbf{LMAT} + a_8 \mathbf{ISIZE} + a_9 \mathbf{CONVRT} + a_{10} \mathbf{Managerial Opportunity Measure} + \mathbf{Year} \\
 & \mathbf{Dummies} + \mathbf{Industry Dummies} + e_i \quad (1)
 \end{aligned}$$

### ***C. Descriptive Statistics***

Panel A of **Table II** reports descriptive statistics of the variables used in this study. During the sample period, the average (median) yield to maturity is about 156.575 bps (116.692 bps) beyond the corresponding US Treasury bond. As for the two managerial opportunism proxies, the mean value (median) of the unsigned abnormal accruals is 0.203 (0.094), while the average (median) of the entrenchment index is 2.478 (3). We also report descriptive statistics for the pre- and post-SOX periods. At first glance, we document no significant differences between the two periods. However, after SOX, firms have a slightly lower performance while becoming more risky.

[INSERT TABLE II ABOUT HERE]

Panel B of the same table presents the Pearson and Spearman correlations between the managerial opportunism proxies and our key dependent variable; COST. The entrenchment index has a positive and significant correlation with bond costs. As for the unsigned abnormal accruals, they are also positively and significantly correlated with corporate bond costs. However, we could not interpret at this stage this latter positive

correlation since unsigned -i.e. absolute value of- abnormal accruals include both income increasing and decreasing earnings management activities. We will later investigate whether the direction (upward vs. downward) of the earnings manipulation has an impact on the bondholders and rating agencies' perceptions. Panels C and D, of the same table, report means comparison tests. In Panel C, we use the median value of the E\_INDEX variable to split our sample into two sub-samples: firms with low vs. high entrenchment index. As we can see, higher managerial entrenchment is associated with higher costs. Panel D reports the same while using unsigned abnormal accruals as a proxy for managerial opportunism. Bond costs are also statistically higher for firms with excessive unsigned abnormal accruals.

#### **IV. Empirical Results**

We start in the next section (section A) by analyzing the effect of managers' opportunism, as measured by managerial entrenchment index and abnormal accruals, on the perceptions of bondholders. Then, in section B, we investigate whether these perceptions will change after the adoption of the SOX Act.

##### **A. Managerial Opportunism & Bond Costs**

###### **A. 1. Evidence from Managerial Entrenchment**

We begin with the analysis of the effect of Managerial Entrenchment on corporate bond costs. **Table III** reports regression results. Model (1) reports our basic OLS regression model. All the variables are significant and have their expected signs except for the big four variable (AUDITOR), managerial ownership (INSDOWN) and the maturity (LMAT) which are not significant at any conventional statistical level. Particularly, bond spreads are positively affected by the firm's leverage (LEVERAGE) as well as by its risk

level (RISK). Moreover, bond spreads respond negatively to a higher firm performance (PERFORM), a larger issue and firm size (ISIZE and LASSET), and to the percentage of convertible bonds that are issued by the firm during the year.

[INSERT TABLE III ABOUT HERE]

Model (2) of the same table presents the OLS regression results of bond spreads on the entrenchment index (E\_INDEX) and all other control variables. As we can see, bond cost is positively and significantly affected by the firm leverage and the risk level, while it is negatively and significantly affected by the firm's size and the existence of a convertible clause. We also note that the maturity and the auditor variables become significant and have their expected signs. As regards our key variable, the E\_INDEX, it is highly significant and, as expected, has a positive effect on bond costs (a coefficient of 5.196 with a significance level of 2.3%). That is, an increase of the entrenchment index by one level, results in an increase of the yields by more than 5 bps beyond those of the US treasury bonds. The whole model generates an F-Statistic of 22.2 and an adjusted-R<sup>2</sup> of 36.44%. Overall, entrenched managers seem to represent a potential source of risk for bondholders. Consequently, these latter ask for higher yields to be fully compensated for the risk they face.

Thus, as a first result, we can say that firms with less entrenched managers enjoy lower corporate bond costs.

### **A. 2. Evidence from Earnings Management**

In a related paper, Bharath, Sunder and Sunder (2004) examine the role of commercial banks in curbing the lower accounting quality of firms. They find evidence that banks charge higher loan spreads, offer shorter loan maturities, and require more

collateral from firms reporting excessive abnormal accruals. Our main goal in this section is to extend this evidence and to see whether this earnings manipulation activity is also detected and priced by bondholders. Thus, our second proxy for managerial opportunism is Earnings Management as measured by the absolute value of abnormal accruals. As stated before, we have applied the performance-matching adjustment (Kothari et al., 2005) to the modified Jones' model. Model (1) of **Table IV** reports results. Despite its positive sign (as expected), the absolute value of abnormal accruals appears to be insignificant in our model (probability of 0.312). That means that the magnitude of the abnormal accruals itself doesn't matter for bondholders. The other variables, however, keep their expected signs and significance levels as in our basic model (model (1) of **Table III**).

[INSERT TABLE IV ABOUT HERE]

Previous studies suggest that managers can use their discretion to overstate reported earnings during poor performance years and understate reported earnings during good performance years, because outside investors are very sensitive to the variability of earnings. In relation with equity offerings for example, Teoh, Welch, and Wong (1998a, 1998b) and Rangan (1998) document that managers opportunistically report positive (income-increasing) abnormal accruals to increase earnings before initial public offerings (IPOs) and seasoned equity offerings (SEOs). Empirical findings also document a significant subsequent stock underperformance following this income-increasing behaviour. A similar pattern is also observed with stock-financed acquisitions (Erickson and Wang 1999). These evidences suggest that investors are more likely to be sensitive to income-increasing activities. Two reasons could explain this perception: first, income decreasing is more likely to take place when the firm has generated substantial benefits. In

that case, managers would use income-decreasing activities to stabilize earnings and make reserves for the future. Second, income decreasing is less likely to be misleading since reporting less accruals for one year implies more accruals for the subsequent ones. Thus, to be able to assess the right effect of earnings management on debt costs, one should focus not only on the magnitude of abnormal accruals, but also on their direction. Hence, our second step is to analyze the effect of signed abnormal accruals on bond costs to see whether the sign (direction of the accruals manipulation) does matter for bondholders. We expect that income-increasing abnormal accruals, unlike income-decreasing ones, have a (more) pronounced effect on bond spreads. We split our sample into two sub-samples depending on the sign of the firm's abnormal accruals. Models (4) and (7) of **Table IV** show the results for these two sub-samples. For firms that overstate earnings, the coefficient of abnormal accruals is positive (21.68) and statistically significant at less than 5% level. Meanwhile, there is no significant impact of earnings management activities on bond costs for firms understating their earnings. In other words, bondholders seem to ask for higher bond costs from firms that inflate their earnings, but they seem more tolerant with those that understate earnings.

### **B. The Impact of SOX on the relation between Managerial Opportunism & Bond Costs**

Several studies document the role of SOX in improving the corporate governance environment in US. The dramatic changes in the responsibilities of the firms' actors required by SOX should put more pressure on the management to adopt a value-maximizing strategy, and give up their opportunistic behaviour. Thus, any management misbehaviour that remains after the SOX adoption can be interpreted by outside investors as a managers' "uncontrollable appetite" to continue consuming private benefits. In this

case, one would expect that the effect of managerial opportunism on debt costs will be more pronounced in the post-SOX period. That is, bondholders should be more sensitive to entrenched managers and earnings management activities. To test this thesis, we propose to analyze the effect of managerial opportunism for the pre-SOX and post-SOX periods separately. We took July 2002 as a split date. As in the previous section, we first investigate the effect of managerial entrenchment on corporate bond costs. Then we analyze the impact of earnings management, our second proxy for managers' opportunism, on bond costs.

### **B.1. The Impact of the SOX on the relation between Managerial Entrenchment and the Bond Costs**

Models (3) and (4) of **Table III**, report results on the effect of the entrenchment index on debt costs for both the pre- and post-SOX periods. For the pre-SOX period, we observe the same pattern for the majority of the control variables as for the whole sample (model (2) of the same table). Our managers' opportunism proxy, E\_INDEX, is not significant in the model, while it keeps its expected positive sign. Instead, in the post-SOX period model, the entrenchment index is positive and highly significant (coefficient of 10.47, and a probability of 0.009). Indeed, an increase of the E\_INDEX by one unit (i.e. the existence of one more IRRC governance provision within the firm) increases the cost of the firm's bonds by more than 10 bps beyond the US Treasury bond. Overall, this finding suggests that bondholders are more sensitive to the managerial entrenchment after the Sarbanes-Oxley Act adoption since their charge higher yields after its passage.

Interestingly, the coefficient of the executive ownership variable, INSOWN, is positive and becomes highly significant only in the post-SOX period. Hence, it seems that bondholders, who previously did not significantly price management ownership (since it is

not significant for the pre-SOX period), have changed their perception and now see managerial ownership as a factor that exacerbates the risk of expropriation by managers. The auditor being one of the big four reduces bond costs before the SOX Act, but it has no significance after SOX.

Overall, our conclusion is that bondholders are aware of the managers' opportunistic behaviour and reflect this awareness in their assessment of the firm risk. This pattern is however more prevalent after SOX.

## **B.2. The Impact of SOX on the relation between Earnings Management and the Bond Costs**

Finally, we investigate the impact of the SOX adoption on the relationship between earnings management activities and the costs of corporate bonds. Models (2) and (3) of **Table IV**, show that unsigned abnormal accruals have no statistical impact on bond costs for both pre and post-SOX periods. As in previous sections, we split the sample into two sub-samples depending on the sign of the accruals to investigate whether this finding is similar for income increasing and income decreasing earnings management activities. Results for firms that inflate their income are reported in models (5) and (6) of **Table IV** (respectively for the pre- and the post-SOX periods). As we can see from those models, only in the post SOX period, do the absolute values of abnormal accruals affect positively the cost of bonds (the coefficient of this variable is positive and significant at less than 5% level). For the pre-SOX period, bond costs are not statistically affected by earnings management activities. For the income-decreasing sub-sample, bondholders do not seem to price downward-earnings management activities, for both the pre- and the post-SOX periods (models (8) and (9) of the same table).

To conclude with the impact of the Sarbanes-Oxley Act, our results suggest that bondholders become, after the SOX adoption, more aware of the risk of entrenched management. As a consequence, they reflect this perception on the bond costs (higher costs for firms with more entrenched management). As for the second proxy of managerial opportunism, earnings management, we find that bondholders react only to income-increasing management activities by charging higher bonds costs after the SOX passage.

### **C. Robustness Checks**

#### *C.1. Are these changes due to the SOX enactment or to the financial scandals of 2001 & 2002?*

One could argue that the documented changes in the perceptions of bondholders are more likely to be the result of the financial scandals of 2001 and 2002 (including Enron, WorldCom, Global Crossing, Adelphia Communications and others) rather than the passage of the Sarbanes-Oxley Act. To test this conjecture, we analyze the period before the SOX enactment and after the beginning of the accounting scandals. If the above findings of Section B are the results of these scandals, one would expect that the documented changes would be present for this sub-period. **Table V** reports regression results for the COST variable. As we can see, both the entrenchment index and abnormal accruals are insignificant in all models for the period just before the adoption of the SOX Act. Thus, it appears that our findings, and particularly the changes in the perceptions of the debt market, are not likely to be the result of the scandals of 2001 and 2002.

[INSERT TABLE V ABOUT HERE]

#### *C. 2. Endogeneity Problem*

In our COST models, we did not include the rating as an explanatory variable. Some previous studies, however, argue that ratings may be a determinant of the cost of debt (see for example Chen et al., 2007; Yu, 2005 among others). If it is the case, our results for the COST model would suffer from an omitted variable issue. To control for this potential problem, we follow the method of Anderson et al. (2003) and we re-run our COST models in which we add the residual values from the regression of S&P credit ratings on some issuer and issue characteristics that prior studies have shown their relevance.<sup>22</sup> The regression results (unreported) broadly lead to the same conclusions. Particularly, bond costs are higher for firms with more entrenched managers and for firms that inflate their income.

## **V. Further Analyses: Using Bond Rating as a Proxy for Debt Costs**

In this section, we will use another proxy for corporate debt costs; credit ratings. Bond ratings are scores that reflect the perceptions of rating agencies regarding the issuer's creditworthiness. Many studies claim that credit bond ratings, which are global assessments of the firm's default risk, contain an evaluation of the quality of the firm's corporate governance (e.g. Bhojraj and Sengupta (2003); Ashbaugh et al., 2006; Demirtas et al., 2006). In the previous sections, we have documented that bondholders directly detect and punish managerial opportunism. That means that they don't (only) rely on rating analysts to assess managers' skills and their propensity to consume private benefits. Thus, the use of these ratings as a second proxy of the bond costs could shed more light on the documented results from the bond yields. Moreover, this alternative measure let us analyze the issue from another point of view; the one of another, yet probably more

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<sup>22</sup> To facilitate the analysis, and following Ashbaugh, Collins and LaFond (2006), we transform S&P ratings into seven ordering numerical categories as presented in **Appendix I**.

sophisticated, corporate bond market. Results from this section should clarify to which extent rating agencies are fulfilling their “monitoring” role.

We use the S&P credit ratings (RATING). These ratings assess the creditworthiness of the obligor with respect to its debt obligations. There are 22 ratings ranging from the highest AAA to the lowest D. To facilitate the analysis, and following Ashbaugh, Collins and LaFond (2006), we transform these ratings into seven ordering numerical categories (see **Appendix I**).

We will estimate the following model:

$$\begin{aligned} \text{Prob.}(\mathbf{RATING}=\mathbf{R}) = & \Phi(a_1 \cdot \mathbf{AUDITOR} + a_2 \cdot \mathbf{INSDOWN} + a_3 \cdot \mathbf{PEFORM} + a_4 \cdot \mathbf{LEVERAGE} + \\ & a_5 \cdot \mathbf{RISK} + a_6 \cdot \mathbf{LASSET} + a_7 \cdot \mathbf{LMAT} + a_8 \cdot \mathbf{ISIZE} + a_9 \cdot \mathbf{CONVRT} + a_{10} \cdot \mathbf{Managerial Opportunity Measure} \\ & + \mathbf{Year Dummies} + \mathbf{Industry Dummies} + e_j) ; \text{ Where } \mathbf{R} \text{ is in } \{1,2,3,4,5,6,7\} \quad (2) \end{aligned}$$

This model will be estimated using an Ordered Probit Model, since the dependent variable is ordinal. As with bond yields, we will first try to assess the impact of managerial opportunism on credit bond ratings, then we will investigate to which extent this relation, if any, is affected by the adoption of the Sarbanes-Oxley Act.

### **A. Bond Ratings & Managerial Entrenchment**

Model (1) of **Table VI** reports the Ordered Probit Estimation results for the rating model. For this basic model, we do not include any proxy for managerial opportunism. Bond rating is, as expected, positively affected by the auditor being one of the big four (AUDITOR), by the firm performance (PERFORM) and the existence of the convertible clause (CONVRT), while it responds negatively to the levels of leverage (LEVERAGE) and risk (RISK), to the firm size (LASSET), and to the bonds maturity (LMAT).

However, the size of the issue (LSIZE) seems to have no significant impact on bond ratings. Also, the percentage of shares held by the firm's managers appears to increase the probability of getting higher debt ratings. That means that rating agencies consider managers' ownership as an incentive that induces managers to be more efficient. Ashbaugh et al. (2006) argue that insider ownership (i.e. directors and officers) could increase the risk of expropriation for bondholders. However, their empirical results show that this variable has no significant effect on bond rating. On the contrary, our findings suggest that managers' ownership is positively perceived by rating analysts.

[INSERT TABLE VI ABOUT HERE]

In model (2) of the same table, we introduce our first proxy of managerial opportunism, the entrenchment index. As expected, the entrenchment index has a negative effect on bond ratings (coefficient of -0.041). This coefficient is statistically significant at less than 10% level. Thus, firms with less entrenched managers enjoy higher credit ratings. All the other control variables are statistically significant (at less than 10% level) and have their expected signs. The only exception is CONVERT which loses its significance once we introduce the entrenchment variable.

### **B. Bond Ratings & Earnings Management**

Now, let us turn to our second proxy of managerial opportunism, earnings management. Model (1) of **Table VII** reports results for the whole sample. Our main focus is on the unsigned abnormal accruals. The coefficient of this variable is statistically insignificant at any conventional level (coefficient of 0.039 with a probability of 0.587). This means that rating agencies do not rely on the magnitude of abnormal accruals to assess the quality of management reporting. The other explanatory variables are significant

except for ISIZE which remains insignificant. Particularly, auditor choice (AUDITOR) and managerial ownership (INSDOWN) continue to be positive and highly significant.

As previously done with debt costs, we further test whether rating agencies rely on the direction of the accruals manipulation (over/understating reported earnings). To do so, we regress the ratings on the unsigned abnormal accruals for both sub-samples. Model (4) of **Table VII** reports a *negative* and highly significant coefficient of unsigned abnormal accruals for the income increasing sub-sample –i.e. higher positive abnormal accruals reduce credit bond ratings-. However, model (7) of the same table shows a *positive* and significant coefficient of the same variable for the income-decreasing sub-sample. Thus, the lower the negative abnormal accruals the firm reports, the higher would be its ratings. This result suggests that rating agencies appreciate and reward income decreasing activities, while they sanction the income increasing ones. We contend that this is probably because positive abnormal accruals are more likely to reflect opportunistic management intentions. Hence, rating agencies appear to be, as the commercial banks are in the study of Bharath et al. (2004), sophisticated enough to detect opportunistic behaviour through earnings management and to price them in their rating assessment.

[INSERT TABLE VII ABOUT HERE]

Overall, our results suggest that rating agencies assign lower ratings for firms that have more entrenched managers, and for those with high positive abnormal accruals. Moreover, they seem to value income decreasing activities.

### **C. The Impact of the SOX on the relation between Managerial Opportunism and the Bond Ratings**

We will now investigate the effect of the SOX adoption on the relation between managerial opportunism and bond ratings. The last two columns of **Table VI** present results for managerial entrenchment. Prior to the SOX adoption, rating agencies' perceptions are not statistically affected by the level of managers entrenchment within the firm (the coefficient of E\_INDEX in model (3) is insignificant). Nevertheless, after SOX, the entrenchment index is negatively related to bond ratings (the coefficient is -0.095). This coefficient is significant at less than 10% level, which suggests that rating agencies downgrade their ratings for firms with more entrenched managers only for the post-SOX period.

Models (5), (6), (8) and (9) of **Table VII**, report results for the relation between credit ratings and earnings management, our second managerial opportunism proxy. Regressions (5) and (6) are for the income-increasing sub-sample, while regressions (8) and (9) are for the income-decreasing one. There is strong evidence that rating agencies are aware of the opportunistic managerial behaviour through earnings management. In fact, increasing earnings is reflected in lower ratings in both pre- and post-SOX periods. On the contrary, after SOX, income-decreasing earnings management activities are priced by rating agencies since the probability of getting a higher rating is positively affected by unsigned (but originally negative) abnormal accruals.

Overall, our results suggest that rating agencies, like the bondholders, become, after the SOX adoption, more aware of the risk of entrenched management. As a consequence, they reflect this perception on the credit ratings (lower ratings for firms with more entrenched management). As for the second proxy of managerial opportunism, earnings management, we find that rating agencies are more severe than bondholders with income-increasing firms since they assign lower ratings for these firms *before* and *after* the SOX

adoption. For income-decreasing firms, however, they appear to value this behaviour, particularly after the SOX passage.

The comparison between results from the use of the debt yields and the credit ratings has many implications. It appears that rating analysts are able to detect and punish managerial opportunism. Unlike bondholders, they are aware of income-increasing earnings management activities even before the enactment of SOX. This is expected because of the technical and financial resources of rating agencies that let them be sophisticated enough to perform their “monitoring” role. Moreover, firms are constrained to please, not only rating analysts, but also the other market participant, mainly bondholders. Indeed, beyond the rating agencies assessment, our findings suggest that bondholders take into account corporate governance features while setting the return on their investments.

## **VI. Concluding Remarks**

This study investigates the impact of managerial opportunism on the cost of debt financing. We use a managerial entrenchment index, introduced by Bebchuk et al. (2004), and abnormal accruals, to proxy for managers’ opportunism, while we use the corporate bonds costs and their ratings to proxy for debt financing costs. We hypothesize that firms where managers are more opportunistic bear higher bond costs and have lower bond ratings. Our overall results support this conjecture. Particularly, we find that firms with less entrenched managers enjoy lower corporate bond costs and higher credit ratings. Our results also suggest that bondholders generally require higher bond costs from firms that inflate their earnings (income-increasing earnings management). Rating agencies, however, seem to be also sophisticated since they assign lower ratings for firms with higher positive abnormal accruals. Moreover, they seem to price income decreasing activities. This result

points to the fact that increasing income activities through abnormal accruals is more likely to be considered as an opportunistic behaviour. Instead, unlike income increasing activities, income decreasing ones are more likely to be observed when the firm has generated substantial benefits, and allow managers to make more reserves (profits) for the future.

We also examine the impact of regulatory changes on these perceptions, by focusing on the Sarbanes-Oxley Act adoption in 2002. We find that both bondholders and rating agencies become more aware of the risk of opportunistic management after SOX. Particularly, in the post-regulation change period (SOX), bondholders charge higher costs and rating agencies assign lower ratings to firms with more entrenched management. Moreover, bondholders react only to income- increasing earnings management activities by rising bonds costs after the SOX passage. As for rating agencies, they appear to be intolerant with firms that inflate their abnormal accruals (by downgrading their ratings) for both pre- and post-SOX periods, while they seem to “value” income-decreasing earnings management activities particularly after the SOX passage.

Overall, the dramatic changes required by this Act have improved the controlling role of bondholders and rating analysts in corporate governance, who seem to become more active and diligent.

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**Table I: Sample Description**

This table reports the Distribution of the sample. Panel A presents the number of observation per year. Panel B presents the number of observation per industry.

***Panel A: Sample Distribution  
per years***

<b>Year</b>	<b>Number</b>	<b>Percent</b>
1995	83	5.8
1996	105	7.34
1997	96	6.71
1998	131	9.15
1999	126	8.81
2000	100	6.99
2001	174	12.16
2002	154	10.76
2003	186	13
2004	155	10.83
2005	104	7.27
2006	17	1.19
<b>Total</b>	<b>1 431</b>	<b>100%</b>

***Panel B: Sample Distribution per Industries***

<b>Industry</b>	<b>Number</b>	<b>Percent</b>
<b>Manufacturing</b>	718	50.17
<b>Services</b>	320	22.36
<b>Trades</b>	224	15.65
<b>Mining &amp; Construction</b>	158	11.04
<b>Other</b>	11	0.77
<b>Total</b>	<b>1 431</b>	<b>100%</b>

**Table II: Summary Statistics**

This table reports descriptive statistics (Panel A), correlation analyses (Panel B), and mean comparison tests for each dependent variable (Panels C & D). For Panel C, we used the median value of the E\_INDEX to split our sample into two groups. For Panel D, we used the median of |Abn. Accruals| as a threshold. The variables are: COST: The weighted-average yield to maturity on the firm's outstanding traded debt minus the yield to maturity on US treasury bond of similar maturity (in basis points). |Abn. Accruals|: It is the abnormal accruals from the Modified Jones' model (1991) in spirit of Kothari et al. (2005). E\_INDEX: An index that assesses the managerial entrenchment power and consists on the 6 governance provisions followed by the Investor Responsibility Research Center (IRRC) (from Bebchuk, Cohen and Ferrell, 2004). AUDITOR: A dummy variable that equals 1 for firms with Big Four auditors, and 0 otherwise. INSDOWN: Percentage of total shares outstanding held by the firm's executive. PERFORM: The firm operational performance as measured by the Return On Assets. LEVERAGE: Leverage as long term debts divided by total assets. RISK: The standard deviation of the Net Income (in \$1,000 million) for the 5 recent years (or the maximum available). LASSET: Logarithm of total assets. LMAT: The logarithm of the weighted-average years to maturity on the firm's outstanding bonds (We used the issue size as weightings). ISIZE: The weighted-average size (offering amount) of the firm's outstanding bonds (in \$1,000 million). CONVRT: The percentage of firm's convertible bonds. It is a weighted-average of a dummy variable that equals 1 if the bond is convertible, 0 otherwise. \*, \*\*, \*\*\* imply significance at 10%, 5%, and 1% level respectively.

***Panel A: Descriptive Statistics***

Variable	Whole Sample				Pre-SOX Period				Post-SOX Period			
	Obs	Mean	Median	Std. Dev.	Obs	Mean	Median	Std. Dev.	Obs	Mean	Median	Std. Dev.
<b>COST</b>	1018	156.575	116.692	117.069	717	155.210	117.000	112.552	301	159.827	115.000	127.324
Abn. Accruals	1283	0.203	0.094	0.460	877	0.182	0.091	0.426	406	0.250	0.099	0.525
<b>E_INDEX</b>	1215	2.478	3	1.240	814	2.436	3	1.278	401	2.564	3	1.156
<b>AUDITOR</b>	1431	0.84	1	0.36	969	0.78	1	0.41	462	0.98	1	0.14
<b>INSDOWN</b>	1431	1.017	0	2.372	969	1.074	0	2.481	462	0.898	0	2.121
<b>PERFORM</b>	1431	0.043	0.054	0.148	969	0.050	0.059	0.159	462	0.028	0.045	0.120
<b>LEVERAGE</b>	1431	0.260	0.249	0.158	969	0.253	0.237	0.161	462	0.273	0.271	0.153
<b>RISK</b>	1431	0.187	0.058	0.761	969	0.136	0.054	0.312	462	0.293	0.068	1.254
<b>LASSET</b>	1431	7.865	7.815	1.393	969	7.837	7.827	1.343	462	7.925	7.794	1.494
<b>LMAT</b>	1431	2.333	2.300	0.576	969	2.300	2.297	0.583	462	2.401	2.305	0.555
<b>ISIZE</b>	1431	0.474	0.250	2.731	969	0.476	0.250	2.753	462	0.471	0.250	2.685
<b>CONVRT</b>	1431	0.279	0	0.436	969	0.233	0	0.415	462	0.374	0	0.464

Table II - *Continued**Panel B : Correlations Analyses*

Variables	Pearson Correlation		Spearman Correlation		
	<i>Abn.Accruals</i>	E_INDEX	<i>Abn.Accruals</i>	E_INDEX	
COST	<i>Corr.</i>	0.109	0.0633	0.111	0.0661
	<i>Sig.</i>	(0.001)**	(0.068)*	(0.000)***	(0.057)*
	<i>Obs.</i>	896	830	896	830

*Panel C: Mean Comparison Tests using E\_INDEX as factor*

	Group	N	Mean	T-test (P < t)	Wilcoxon-Mann-Whitney (P >  t )
COST	Low E_INDEX	358	135.09	(0.004)***	(0.015)**
	High E_INDEX	472	152.96		

*Panel D: Mean Comparison Tests using |Abn. Accruals| as factor*

	Group	N	Mean	T-test (P < t)	Wilcoxon-Mann-Whitney (P >  t )
COST	Low  Abn. Accruals	436	142.17	(0.001)***	(0.000)***
	High  Abn. Accruals	435	165.59		

**Table III : The effect of Managerial Entrenchment on Bond Costs**

This table reports OLS regression results of the COST on Managerial Entrenchment and a set of explanatory variables. COST: The weighted-average yield to maturity on the firm's outstanding traded debt minus the yield to maturity on US treasury bond of similar maturity (in basis points). E\_INDEX: An index that assesses the managerial entrenchment power and consists on the 6 governance provisions followed by the Investor Responsibility Research Center (IRRC) (from Bebchuk, Cohen and Ferrell, 2004). AUDITOR: A dummy variable that equals 1 for firms with Big Four auditors, and 0 otherwise. INSDOWN: Percentage of total shares outstanding held by the firm's executive. PERFORM: The firm operational performance as measured by the Return On Assets. LEVERAGE: Leverage as long term debts divided by total assets. RISK: The standard deviation of the Net Income (in \$1,000 million) for the 5 recent years (or the maximum available). LASSET: Logarithm of total assets. LMAT: The logarithm of the weighted-average years to maturity on the firm's outstanding bonds (We used the issue size as weightings). ISIZE: The weighted-average size (offering amount) of the firm's outstanding bonds (in \$1,000 million). CONVRT: The percentage of firm's convertible bonds. It is a weighted-average of a dummy variable that equals 1 if the bond is convertible, 0 otherwise. \*, \*\*, \*\*\* imply significance at 10%, 5%, and 1% level respectively.

Dependent variable = COST	Expected Sign	Basic Model (1)	Whole Sample (2)	Pre-SOX (3)	Post_SOX (4)
Constant	?	486.828 (0.000)***	244.140 (0.000)***	333.161 (0.000)***	428.858 (0.000)***
AUDITOR	-	-10.266 (0.156)	-15.132 (0.031)**	-16.165 (0.021)**	2.819 (0.937)
INSDOWN	?	-0.046 (0.978)	0.165 (0.902)	-0.861 (0.563)	6.522 (0.009)***
PERFORM	-	-295.629 (0.001)***	-101.013 (0.194)	-76.928 (0.179)	-467.757 (0.000)***
LEVERAGE	+	98.425 (0.000)***	115.229 (0.000)***	112.177 (0.000)***	79.041 (0.054)*
RISK	+	37.980 (0.000)***	29.996 (0.004)***	86.146 (0.051)*	38.957 (0.002)***
LASSET	?	-39.429 (0.000)***	-25.897 (0.000)***	-18.398 (0.000)***	-42.307 (0.000)***
LMAT	+	6.509 (0.123)	8.689 (0.036)**	0.595 (0.898)	20.866 (0.046)**
ISIZE	?	-1.22 (0.000)***	-12.2 (0.210)	-3.72 (0.006)***	2.95 (0.049)**
CONVRT	-	-160.970 (0.000)***	-139.661 (0.000)***	-117.005 (0.000)***	-215.358 (0.000)***
<i>Year Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Industry Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
E_INDEX	+		5.196 (0.023)**	2.999 (0.266)	10.471 (0.009)***
N		1018	830	564	266
F		31.10	22.2	21.55	11.74
Sig.		(0.000)***	(0.000)***	(0.000)***	(0.000)***
Adj. R-Square (%)		38.71	36.44	41.84	37.57

**Table IV : The effect of Earnings Management on Bond Costs**

This table reports OLS regression results of the COST on Earnings Management and a set of explanatory variables. COST: The weighted-average yield to maturity on the firm's outstanding traded debt minus the yield to maturity on US treasury bond of similar maturity (in basis points). |Abn. Accruals|: It is the abnormal accruals from the Modified Jones' model (1991) in spirit of Kothari et al. (2005). AUDITOR: A dummy variable that equals 1 for firms with Big Four auditors, and 0 otherwise. INSDOWN: Percentage of total shares outstanding held by the firm's executive. PERFORM: The firm operational performance as measured by the Return On Assets. LEVERAGE: Leverage as long term debts divided by total assets. RISK: The standard deviation of the Net Income (in \$1,000 million) for the 5 recent years (or the maximum available). LASSET: Logarithm of total assets. LMAT: The logarithm of the weighted-average years to maturity on the firm's outstanding bonds (We used the issue size as weightings). ISIZE: The weighted-average size (offering amount) of the firm's outstanding bonds (in \$1,000 million). CONVRT: The percentage of firm's convertible bonds. It is a weighted-average of a dummy variable that equals 1 if the bond is convertible, 0 otherwise. \*, \*\*, \*\*\* imply significance at 10%, 5%, and 1% level respectively.

Dependent variable = COST	Predicted Sign	<i>Whole sample</i>			<i>Income-Increasing</i>			<i>Income-Decreasing</i>		
		<i>Pre&amp;Post-SOX</i> (1)	<i>Pre-SOX</i> (2)	<i>Post-SOX</i> (3)	<i>Pre&amp;Post-SOX</i> (4)	<i>Pre-SOX</i> (5)	<i>Post-SOX</i> (6)	<i>Pre&amp;Post-SOX</i> (7)	<i>Pre-SOX</i> (8)	<i>Post-SOX</i> (9)
<b>Constant</b>	?	522.706 (0.000)***	371.029 (0.000)***	566.462 (0.000)***	494.309 (0.000)***	387.114 (0.000)***	676.743 (0.000)***	403.429 (0.000)***	365.566 (0.000)***	525.200 (0.000)***
<b>AUDITOR</b>	-	-8.593 (0.232)	-9.154 (0.218)	7.100 (0.855)	-0.726 (0.943)	-0.629 (0.951)	-74.444 (0.080)*	-17.477 (0.101)	-18.777 (0.092)*	41.834 (0.024)**
<b>INSDOWN</b>	?	-0.352 (0.826)	-0.346 (0.847)	3.332 (0.310)	-1.393 (0.523)	-0.345 (0.888)	-3.076 (0.593)	0.703 (0.759)	-0.555 (0.829)	7.802 (0.061)*
<b>PERFORM</b>	-	-323.774 (0.003)***	-267.712 (0.011)**	-671.357 (0.000)***	-573.416 (0.000)***	-598.387 (0.000)***	-594.604 (0.003)***	-246.480 (0.020)**	-184.104 (0.028)**	-749.788 (0.000)***
<b>LEVERAGE</b>	+	95.132 (0.001)***	88.540 (0.012)**	102.737 (0.028)**	97.709 (0.029)**	85.429 (0.107)	127.579 (0.123)	80.830 (0.043)**	76.059 (0.124)	105.298 (0.060)*
<b>RISK</b>	+	39.040 (0.000)***	30.977 (0.135)	38.157 (0.005)***	35.963 (0.001)***	50.724 (0.101)	37.563 (0.037)**	51.091 (0.017)**	15.865 (0.580)	42.379 (0.107)
<b>LASSET</b>	?	-39.745 (0.000)***	-35.657 (0.000)***	-50.942 (0.000)***	-39.125 (0.000)***	-35.199 (0.000)***	-55.180 (0.000)***	-41.247 (0.000)***	-34.674 (0.000)***	-46.601 (0.000)***

Table IV - Continued

Variables	Predicted Sign	Whole sample			Income-Increasing			Income-Decreasing		
		Pre&Post-SOX (1)	Pre-SOX (2)	Post-SOX (3)	Pre&Post-SOX (4)	Pre-SOX (5)	Post-SOX (6)	Pre&Post-SOX (7)	Pre-SOX (8)	Post-SOX (9)
LMAT	+	6.720 (0.136)	2.273 (0.649)	14.872 (0.257)	9.614 (0.165)	8.507 (0.248)	12.094 (0.560)	9.218 (0.162)	2.682 (0.723)	15.680 (0.437)
ISIZE	?	-1.060 (0.000)***	-1.470 (0.000)***	61.300 (0.043)**	-0.897 (0.012)**	-1.350 (0.000)***	58.900 (0.221)	-0.422 (0.513)	-0.923 (0.077)*	65.800 (0.106)
CONVRT	-	-169.207 (0.000)***	-162.549 (0.000)***	-207.719 (0.000)***	-209.176 (0.000)***	-193.954 (0.000)***	-273.903 (0.000)***	-149.559 (0.000)***	-151.133 (0.000)***	-196.364 (0.004)***
<i>Year Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Industry Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>/Abn. Accruals/</i>	+	3.734 (0.312)	2.775 (0.648)	11.663 (0.164)	<b>21.682</b> <b>(0.034)**</b>	23.163 (0.155)	<b>20.718</b> <b>(0.039)**</b>	1.584 (0.678)	1.494 (0.691)	7.535 (0.512)
N		871	617	254	415	288	127	456	329	127
F		27.47	32.02	13.06	17.81	17.13	9.52	12.30	14.32	12.88
Sig.		(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Adj. R-Square (%)		39.03	41.21	40.59	39.97	43.94	32.17	38.76	40.68	46.16

**Table V: Robustness Checks with COST**

This table reports OLS regression results of the COST on Managerial Entrenchment and Earnings Management for the period between the beginning of 2001 accounting scandals and the enactment of the Sarbanes-Oxley Act. COST: The weighted-average yield to maturity on the firm's outstanding traded debt minus the yield to maturity on US treasury bond of similar maturity (in basis points). E\_INDEX: An index that assesses the managerial entrenchment power and consists on the 6 governance provisions followed by the Investor Responsibility Research Center (IRRC) (from Bebchuk, Cohen and Ferrell, 2004). |Abn. Accruals|: It is the abnormal accruals from the Modified Jones' model (1991) in spirit of Kothari et al. (2005). AUDITOR: A dummy variable that equals 1 for firms with Big Four auditors, and 0 otherwise. INSDOWN: Percentage of total shares outstanding held by the firm's executive. PERFORM: The firm operational performance as measured by the Return On Assets. LEVERAGE: Leverage as long term debts divided by total assets. RISK: The standard deviation of the Net Income (in \$1,000 million) for the 5 recent years (or the maximum available). LASSET: Logarithm of total assets. LMAT: The logarithm of the weighted-average years to maturity on the firm's outstanding bonds (We used the issue size as weightings). ISIZE: The weighted-average size (offering amount) of the firm's outstanding bonds (in \$1,000 million). CONVRT: The percentage of firm's convertible bonds. It is a weighted-average of a dummy variable that equals 1 if the bond is convertible, 0 otherwise. \*, \*\*, \*\*\* imply significance at 10%, 5%, and 1% level respectively.

Dependent variable : COST	Predicted Sign	E_INDEX		Abn. Accruals	
		(1)	Whole sample (2)	Income-Increasing (3)	Income-Decreasing (4)
Constant	?	396.821 (0.000)***	422.371 (0.000)***	469.914 (0.001)***	416.855 (0.000)***
AUDITOR	-	-49.807 (0.016)**	-5.641 (0.763)	-27.748 (0.436)	2.607 (0.913)
INSDOWN	?	-2.599 (0.372)	-0.177 (0.975)	2.651 (0.680)	-11.095 (0.170)
PERFORM	-	-877.765 (0.000)***	-331.480 (0.082)*	-921.305 (0.007)***	-179.423 (0.136)
LEVERAGE	+	30.480 (0.571)	93.822 (0.227)	-16.612 (0.906)	145.850 (0.078)*
RISK	+	32.418 (0.582)	-11.770 (0.695)	17.852 (0.757)	-46.884 (0.189)
LASSET	?	-19.403 (0.026)**	-29.760 (0.000)***	-29.543 (0.017)**	-29.040 (0.006)***
LMAT	+	15.088 (0.203)	5.929 (0.705)	15.100 (0.587)	-5.619 (0.771)
ISIZE	?	-33.100 (0.049)**	-1.230 (0.001)***	-0.762 (0.231)	12.600 (0.614)
CONVRT	-	-146.741 (0.000)***	-197.393 (0.000)***	-257.745 (0.000)***	-143.024 (0.002)***
<i>Year Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Industry Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
E_INDEX	+	2.828 (0.616)			
Abn. Accruals	+		4.782 (0.164)	21.904 (0.166)	2.329 (0.482)
N		183	207	97	110
F		11.02	45.71	24.49	7.10
Sig.		(0.000)***	(0.000)***	(0.000)***	(0.000)***
Adj. R-Square		34.85	21.33	23.55	18.51

**Table VI: The effect of Managerial Entrenchment on Bond Ratings**

This table reports Ordered Probit Regression results of the RATING on Managerial Entrenchment and a set of explanatory variables. RATING: The weighted-average S&P rating scores of the firm's outstanding traded bonds. E\_INDEX: An index that assesses the managerial entrenchment power and consists on the 6 governance provisions followed by the Investor Responsibility Research Center (IRRC) (from Bebchuk, Cohen and Ferrell, 2004). AUDITOR: A dummy variable that equals 1 for firms with Big Four auditors, and 0 otherwise. INSDOWN: Percentage of total shares outstanding held by the firm's executive. PERFORM: The firm operational performance as measured by the Return On Assets. LEVERAGE: Leverage as long term debts divided by total assets. RISK: The standard deviation of the Net Income (in \$1,000 million) for the 5 recent years (or the maximum available). LASSET: Logarithm of total assets. LMAT: The logarithm of the weighted-average years to maturity on the firm's outstanding bonds (We used the issue size as weightings). ISIZE: The weighted-average size (offering amount) of the firm's outstanding bonds (in \$1,000 million). CONVRT: The percentage of firm's convertible bonds. It is a weighted-average of a dummy variable that equals 1 if the bond is convertible, 0 otherwise. \*, \*\*, \*\*\* imply significance at 10%, 5%, and 1% level respectively.

Dependent variable = RATING	Expected Sign	Basic Model (1)	Whole Sample (2)	Pre-SOX (3)	Post_SOX (4)
AUDITOR	+	0.223 (0.007)***	0.345 (0.000)***	0.304 (0.002)***	1.043 (0.001)***
INSDOWN	?	0.035 (0.005)***	0.051 (0.001)***	0.054 (0.003)***	0.059 (0.095)*
PERFORM	+	0.653 (0.004)***	0.634 (0.004)***	0.439 (0.004)***	1.476 (0.046)**
LEVERAGE	-	-0.558 (0.008)***	-0.403 (0.084)*	-0.713 (0.012)**	0.160 (0.689)
RISK	-	-0.0604 (0.001)***	-0.137 (0.006)***	-0.1725 (0.069)*	-0.1306 (0.099)*
LASSET	?	-0.131 (0.000)***	-0.170 (0.000)***	-0.182 (0.000)***	-0.136 (0.026)**
LMAT	-	-0.127 (0.008)***	-0.120 (0.015)**	-0.109 (0.068)*	-0.270 (0.011)**
ISIZE	?	-0.001 (0.666)	0.005 (0.067)*	0.005 (0.136)	0.007 (0.969)
CONVRT	+	0.238 (0.004)***	0.125 (0.177)	0.029 (0.802)	0.445 (0.009)***
<i>Year Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Industry Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
E_INDEX	-		<b>-0.041</b> <b>(0.097)*</b>	-0.015 (0.611)	<b>-0.095</b> <b>(0.053)*</b>
N		1431	1215	814	401
Model Chi-2		229.96	222.76	135.02	84.2
Sig.		(0.000)***	(0.000)***	(0.000)***	(0.000)***
Pseudo R-Square (%)		4.97	5.64	5.20	6.79

**Table VII : The effect of Earnings Management on Bond Ratings**

This table reports Ordered Probit Regression results of the RATING on Earnings management and a set of explanatory variables. RATING: The weighted-average S&P rating scores of the firm's outstanding traded bonds. |Abn. Accruals|: It is the abnormal accruals from the Modified Jones' model (1991) in spirit of Kothari et al. (2005). AUDITOR: A dummy variable that equals 1 for firms with Big Four auditors, and 0 otherwise. INSDOWN: Percentage of total shares outstanding held by the firm's executive. PERFORM: The firm operational performance as measured by the Return On Assets. LEVERAGE: Leverage as long term debts divided by total assets. RISK: The standard deviation of the Net Income (in \$1,000 million) for the 5 recent years (or the maximum available). LASSET: Logarithm of total assets. LMAT: The logarithm of the weighted-average years to maturity on the firm's outstanding bonds (We used the issue size as weightings). ISIZE: The weighted-average size (offering amount) of the firm's outstanding bonds (in \$1,000 million). CONVRT: The percentage of firm's convertible bonds. It is a weighted-average of a dummy variable that equals 1 if the bond is convertible, 0 otherwise. \*, \*\*, \*\*\* imply significance at 10%, 5%, and 1% level respectively.

Dependent variable = RATING	Predicted Sign	Whole sample			Income-Increasing			Income-Decreasing		
		Pre&Post-SOX (1)	Pre-SOX (2)	Post-SOX (3)	Pre&Post-SOX (4)	Pre-SOX (5)	Post-SOX (6)	Pre&Post-SOX (7)	Pre-SOX (8)	Post-SOX (9)
AUDITOR	+	0.225 (0.011)**	0.226 (0.018)**	0.470 (0.118)	0.235 (0.052)*	0.220 (0.096)*	0.524 (0.101)	0.247 (0.059)*	0.270 (0.051)*	-0.167 (0.830)
INSDOWN	?	0.033 (0.015)**	0.040 (0.007)***	0.008 (0.826)	0.037 (0.049)**	0.045 (0.019)**	-0.034 (0.592)	0.018 (0.370)	0.025 (0.298)	0.024 (0.603)
PERFORM	+	0.647 (0.007)***	0.516 (0.009)***	1.414 (0.025)**	0.567 (0.014)**	0.378 (0.012)**	1.847 (0.012)**	1.039 (0.017)**	1.088 (0.030)**	0.558 (0.578)
LEVERAGE	-	-0.493 (0.029)**	-0.651 (0.017)**	-0.277 (0.504)	-0.770 (0.021)**	-0.999 (0.015)**	-0.593 (0.323)	-0.298 (0.352)	-0.368 (0.355)	-0.338 (0.560)
RISK	-	-0.060 (0.000)***	-0.138 (0.058)*	-0.032 (0.162)	-0.053 (0.001)***	-0.746 (0.014)**	-0.015 (0.551)	-0.076 (0.125)	-0.067 (0.421)	-0.097 (0.174)
LASSET	?	-0.142 (0.000)***	-0.125 (0.001)***	-0.142 (0.021)**	-0.158 (0.000)***	-0.084 (0.157)	-0.151 (0.116)	-0.135 (0.001)***	-0.120 (0.016)**	-0.169 (0.049)**
LMAT	-	-0.121 (0.017)**	-0.114 (0.058)*	-0.283 (0.017)**	-0.148 (0.050)**	-0.165 (0.078)*	-0.256 (0.133)	-0.177 (0.016)**	-0.177 (0.040)**	-0.348 (0.035)**
ISIZE	?	-0.001 (0.688)	-0.001 (0.672)	-0.060 (0.792)	-0.006 (0.143)	-0.002 (0.704)	-0.354 (0.416)	0.004 (0.604)	0.002 (0.743)	0.169 (0.569)

Table VII - *Continued*

Variables	Predicted Sign	<i>Whole sample</i>			<i>Income-Increasing</i>			<i>Income-Decreasing</i>		
		<i>Pre&amp;Post-SOX</i> (1)	<i>Pre-SOX</i> (2)	<i>Post-SOX</i> (3)	<i>Pre&amp;Post-SOX</i> (4)	<i>Pre-SOX</i> (5)	<i>Post-SOX</i> (6)	<i>Pre&amp;Post-SOX</i> (7)	<i>Pre-SOX</i> (8)	<i>Post-SOX</i> (9)
CONVRT	+	0.216 (0.013)**	0.140 (0.197)	0.500 (0.005)***	0.025 (0.841)	-0.009 (0.950)	0.306 (0.263)	0.381 (0.002)***	0.303 (0.059)*	0.570 (0.021)**
<i>Year Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Industry Dummies</i>		<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>/Abn. Accruals/</i>	-	0.039 (0.587)	-0.011 (0.914)	0.089 (0.344)	<b>-0.313</b> <b>(0.002)***</b>	<b>-0.247</b> <b>(0.029)**</b>	<b>-0.513</b> <b>(0.28)**</b>	<b>0.153</b> <b>(0.029)**</b>	0.111 (0.250)	<b>0.192</b> <b>(0.063)*</b>
N		1256	857	399	568	401	167	688	456	232
Model Chi-2		210.20	144.74	106.67	121.37	83.29	112.29	155.66	92.80	67.52
Sig.		(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Pseudo R-Square (%)		5.23	5.37	4.47	5.37	6.07	5.56	6.75	6.23	7.31

**APPENDIX I: S&P Credit Rating Transformations**

<b>S&amp;P Initial Ratings</b>	<b>Transformation</b>
AAA	7
AA+	6
AA	6
AA-	6
A+	5
A	5
A-	5
BBB+	4
BBB	4
BBB-	4
BB+	3
BB	3
BB-	3
B+	2
B	2
B-	2
CCC+	1
CCC	1
CCC-	1
CC	1
C	1
D	1

## **CONCLUSION GÉNÉRALE**

Notre but dans ce travail était d'analyser l'impact de la qualité de la gouvernance des entreprises sur leur coût de financement par émission d'obligations. Le coût de financement par obligations a été mesuré par le rendement jusqu'à l'échéance exigé par les obligataires, ainsi que par la notation (*Rating*) des obligations émises. La qualité de la gouvernance interne, quant à elle, a été appréhendée par certaines variables qui reflètent deux types de risque auxquels font face les détenteurs des obligations, à savoir, le risque d'expropriation par les actionnaires majoritaires et le risque d'un comportement opportuniste de la part de l'équipe dirigeante. Ceci est motivé par le fait que la probabilité de faillite d'une entreprise est affectée par le comportement de ces deux types d'acteurs qui peuvent entamer des activités opportunistes afin d'augmenter leur propre bien-être au dépend d'une destruction de valeur des actifs de l'entreprise.

Dans un premier essai, nous nous sommes intéressés au risque d'expropriation par les actionnaires ultimes et son impact sur le coût et le rating des obligations. Étant donné que ce risque est plus présent dans les entreprises à actionnariat concentré, et qu'à travers le monde la structure de propriété a tendance à être moins diffuse qu'aux États-Unis, nous avons choisi un contexte international pour voir l'impact de ce risque sur le financement par obligations. Nos résultats montrent que la divergence entre la part de contrôle et la part dans le capital, notre première mesure d'expropriation, influence positivement le coût des obligations et négativement leurs ratings. Ceci implique que les obligataires ainsi que les agences de rating sont conscients du risque d'expropriation que présente la divergence entre le contrôle et la propriété et dont bénéficient les actionnaires majoritaires. Aussi, nous avons trouvé que ces deux acteurs considèrent qu'un contrôle dans les mains des

familles est synonyme d'un risque d'expropriation élevé puisque nos résultats montrent que la présence de ce type d'actionnaires augmente les coûts des obligations et réduit leurs ratings. Ce dernier résultat ne confirme pas celui de Anderson et al. (2003) qui ont trouvé qu'aux États-Unis l'existence des familles réduit le coût de financement par dette, celles-ci étant obsédées par leur réputation et par le désir de préserver l'entreprise pour leurs descendants. Toutefois, les auteurs n'ont pas utilisé une mesure de l'actionnariat ultime pour dériver leurs résultats et se sont limités à des mesures de propriété directe.

Nous avons également analysé l'impact de la qualité de la protection des droits des créiteurs sur le coût et le rating des obligations. Notre hypothèse de base stipulait qu'une meilleure protection dans un pays donné devrait se refléter dans des coûts de financement moindres et des ratings plus élevés pour les obligations des entreprises du pays en question. Nos résultats supportent généralement cette hypothèse puisque nous avons trouvé que plus les obligataires se sentent protégés, plus faibles seraient les coûts des obligations et plus élevés seraient leurs ratings. Toutefois, nous avons remarqué un phénomène très intéressant qui se résume dans le fait que les obligataires, ainsi que les agences de rating s'intéressent essentiellement à l'application des lois qui protègent les droits des créiteurs et non pas à l'existence de ces lois en soi.

Dans le deuxième essai, nous nous sommes donnés comme objectif d'analyser l'effet de l'opportunisme managérial sur le coût de financement par obligations. Étant donné que l'opportunisme des dirigeants réduit la valeur des actifs de l'entreprise et augmente ainsi son risque de faire défaut, nous soutenons l'hypothèse selon laquelle l'opportunisme managérial devrait augmenter le coût de financement par obligations et réduire le rating de ces obligations. Deux mesures ont été employées pour appréhender l'opportunisme managérial, à savoir, l'enracinement des dirigeants (*Managerial Entrenchment*) et la manipulation des bénéfices (*Earnings Management*). Nos résultats empiriques montrent

que les entreprises où les dirigeants sont moins enracinés profitent d'un taux sur les obligations plus faible, et d'un rating plus élevé. De plus, il paraît que les obligataires exigent un rendement plus élevé alors que les agences de rating assignent un score plus bas pour les firmes qui manipulent leurs bénéfices à la hausse (*income-increasing earnings management*). Ceci pourrait être dû au fait que la manipulation des bénéfices à la hausse, contrairement à leur manipulation à la baisse, est surtout synonyme d'une mauvaise performance que les dirigeants cherchent à camoufler via les activités de manipulation. Au contraire, manipuler les bénéfices à la baisse implique généralement des profits substantiels que les dirigeants veulent préserver sous forme de réserves pour les périodes futures. Également, la manipulation à la baisse pourrait être motivée par des tentatives pour stabiliser le bénéfice dans le temps, qui est en soi un élément apprécié par les acteurs du marché.

Ayant ainsi déterminé les perceptions des deux acteurs les plus importants sur le marché obligataire quant à l'existence d'un comportement opportuniste de la part des dirigeants, nous avons ensuite examiné l'effet d'un changement réglementaire majeur sur ces perceptions. Nous avons pris l'exemple de la loi Sarbanes-Oxley adoptée en 2002 et qui avait comme objectif d'imposer des pratiques de gouvernance plus serrées après les scandales financiers qui ont secoué le marché American au début des années 2000. Nous avons trouvé qu'en général, les obligataires ainsi que les agences de ratings, ne sont devenus effectivement conscients de ce risque d'opportunisme managérial qu'après l'adoption de ladite loi. En effet, nos résultats montrent que c'est généralement après l'adoption de l'Acte de Sarbanes-Oxley que les obligataires chargent un coût supérieur et les agences de rating réduisent leurs cotes pour les entreprises dont les dirigeants sont plus enracinés. La même tendance est constatée pour les entreprises qui manipulent leurs bénéfices à la hausse.

En conclusion et après ce tour d'horizon, nous pouvons avancer que le marché de la dette, au delà de son rôle de financement, semble remplir également une fonction primordiale pour le développement de l'économie toute entière, à savoir, réduire les comportements opportunistes des actionnaires majoritaires et des dirigeants. En effet, cette étude suggère que pour se procurer les capitaux nécessaires à des coûts moindres, il est primordial d'avoir une structure de gouvernance interne qui dénonce le comportement déviant des actionnaires majoritaires et des gestionnaires. Nous pouvons facilement inférer les retombées de cette affirmation au niveau macroéconomique. Avoir des fonds au moment opportun et à des coûts minimales (voire quasi-nuls) permettraient aux investissements de prendre de l'essor. Ces investissements, communément reconnus comme les moteurs de la croissance d'une nation, généreraient une demande de taille pour la main-d'œuvre et d'autres intrants, et par conséquent une distribution de nouveaux revenus qui déclencherait la consommation des produits générés par d'autres investissements. On entre ainsi dans un cercle précieux qui assure un développement soutenu pour le système économique du pays. Toutefois, ce système ne peut être fonctionnel qu'en présence d'un cadre réglementaire qui assure et protège son fonctionnement. Dans notre deuxième essai, nous avons bien illustré ceci par l'impact de la ratification de l'Acte de Sarbanes-Oxley. Ce cadre réglementaire doit donc veiller au respect des droits de chaque agent économique. En l'absence d'un tel cadre, ou en cas de dysfonctionnement, d'autres alternatives seraient sans doute envisagées par les agents économiques pour protéger leurs propres intérêts. Le fait que les obligataires exigent un coût plus élevé pour les entreprises qui ont plus de propension à exproprier leurs richesses n'est qu'une simple illustration de ce phénomène.