WHY DO FIRMS *REALLY* ISSUE CONVERTIBLE BONDS? EVIDENCE FROM THE FIELD

Ming Dong, Marie Dutordoir, Chris Veld*

Abstract

We conduct interviews with financial managers in Australia, Canada, the U.K., and the U.S. to study the question why companies issue convertible bonds. For the vast majority of the firms, convertible bonds are chosen because managers find straight debt too costly. Convertible bonds are preferred to equity either because of the pecking order or because of managers' perceived equity undervaluation and share dilution. Our results suggest that managers time the issuance of convertible bonds based on the demand of the investors and the misvaluation of the firms' debt and equity. The evidence lends considerable support to the theory of management-investor differences in opinion about firm's risk, but yields very little support to the theories of risk shifting, sequential financing, or backdoor equity.

May 2, 2011

JEL: G32, G13, G24
Keywords: Convertible Debt, Convertible Arbitrage, Semi-Structured Interviews

* Ming Dong is from Schulich School of Business, York University, Toronto, M3J 1P3, Canada; e-mail: mdong@ssb.yorku.ca; phone: (416) 736-2100 ext. 77945. Marie Dutordoir is from Manchester Business School, Manchester, M15 6PB, United Kingdom; e-mail: Marie.Dutordoir@mbs.ac.uk; phone: 44 (0) 161-2753936. Chris Veld is from University of Glasgow, Glasgow, G12 8QQ, United Kingdom; E-mail: chris.veld@glasgow.ac.uk; phone: 44 (0) 141-3305572. Part of the research for this paper was completed when Chris Veld was affiliated with the University of Stirling and when he was visiting the University of Melbourne. The authors are grateful to the executives who participated in the interviews for this study. They also thank Jean-Pierre Feneche, Eileen Fischer, Campbell Harvey, Gordon Roberts, Chris Robinson, Yulia Veld-Merkoulova, and seminar participants at Simon Fraser University and University of Stirling for their helpful comments and suggestions. They also gratefully acknowledge the research assistance of Andréanne Tremblay, and the assistance of Donna McKendrick and Jessica McKinley in transcribing the interviews. Furthermore, they gratefully acknowledge the financial support by the Social Sciences and Humanities Research Council of Canada (SSHRC), the Institute of Chartered Accountants of Scotland, and the Carnegie Trust for Universities of Scotland. The usual disclaimer applies.

1. Introduction

Exchange-listed companies have a wide range of possibilities when they seek to attract new sources of financing. Firms can use equity in the form of internally generated funds or issue new shares of common stock. Alternatively, they can use debt in the form of bank loans or bond issues. The use of hybrid securities represents yet another possibility. The most well-known hybrid securities are convertible bonds which, at the option of the holder, can be exchanged in shares of common stock of the issuing company. A large number of companies have used convertible bonds in the past. But, what motivates companies to issue convertibles? The well-known textbook of Hillier, Ross, Westerfield, Jaffe, and Jordan (2010) states that (p. 674): "*probably there is no other area of corporate finance where real-world practitioners get as confused as they do on the reasons for issuing convertible debt."*[1] This paper aims to provide fresh insights into the motivations for firms to issue convertible bonds, by conducting in-depth interviews with corporate managers from Australia, Canada, the United Kingdom, and the United States.

According to the textbook of Hillier et al. (2010), practitioners generally argue that convertible bonds offer the possibility to issue equity at a higher price than the currently prevailing stock price and/or to attract debt at a low interest rate. These motives will be referred to in the remainder of this paper as the "practitioner" motives. The first claim is refuted by academics who argue that the conversion price cannot be compared to the current stock price. Academics also reject the second argument by arguing that the lower coupon interest on convertible bonds is caused by the fact that the holder gets the option to buy stock in the future. Since an option is a right and not an obligation, this option has a value, which is reflected in the lower coupon rates of convertibles.

The academic finance literature provides several theories on why companies issue convertible debt. Brennan and Schwartz (1988) argue that convertibles are useful when managers and outsiders disagree about the value of the firm. Green (1984) develops a theory in which convertibles are used in order to avoid the risk shifting problem. Mayers (1998) argues that convertibles are particularly useful for companies that have a need for sequential financing, and Stein (1992) argues that convertibles are used as backdoor

[1] This quote is from the European edition of the textbook. Exactly the same quote can also be found in other editions of this textbook.

equity by firms for which raising common equity would be too expensive. In this study, we directly ask financial managers the reasons for issuing convertible bonds, and in the process verifying the validity of both the practitioner view and the four afore-mentioned specific convertible bond theories. In addition, we look at various other stakeholders of the company including investment banks and (potential) investors such as hedge funds.

Most existing studies on convertible bond issuance use quantitative, large sample analyses (see, for example, Davidson, Glascock, and Schwarz, 1995; Lewis, Rogalski, and Seward, 1999, 2001, 2003; Dutordoir and Van de Gucht, 2009). In addition, a limited number of papers use a survey approach to study motivations of convertible bond issuers (Pilcher, 1955; Brigham, 1966; Billingsley and Smith, 1996; Graham and Harvey, 2001; Bancel and Mittoo, 2004; Brounen, De Jong, and Koedijk, 2006). *A priori* it would be expected that these two approaches are highly complementary. The large sample studies provide interesting results on, for example, how the capital markets react to convertible bond announcements. Survey studies, on the other hand, should provide insights in what managers really think. However, their findings seem to contradict each other. Whereas most of the large sample analyses seem to support the earlier mentioned academic theories, most the questionnaire studies come up with support for the practitioner motives.

The interview approach allows us to gain new insights on the question why companies issue convertibles that are not picked up with either large sample analyses or questionnaires. The main advantages of the interview approach compared to the survey method are threefold. The first and foremost advantage is that we first let the managers tell us the reasons for issuing convertible bonds, rather than restrict them to a specific set of theories and let them verify these theories, as is done in a survey study. This way allows us to find out the real reasons for issuing convertibles (such as, as the results turn out, the pecking order, market timing, and debt covenants considerations) which we actually do not know *a priori*. Second, interviews enable a direct interaction between researcher and interviewee. This interaction leads to more flexibility in the research design than when using survey analyses. In some cases, we find that the interviewee identifies reasons for convertible bond issuance not covered in our questions. For example, the participants revealed, to our surprise, that four out of the six U.S.

convertible issues in our sample used call spread overlays, with the purpose of boosting the effective conversion premium, thereby reducing the degree of share dilution.[2] One of these issues used cash settlement to reduce the fluctuation of accounting earnings as a result of recent changes in the U.S. accounting rules. To our knowledge, these motivations have not been documented in the literature, and would thus not have been picked up by a more structured analysis. Third, the interview approach enables a richer, more in-depth approach of the main research question. Instead of forcing managers to give schematic answers, they can give more subtle responses. For example, several respondents believe convertible bonds can be viewed as delayed equity, which may seem consistent with the Stein (1992) theory. However, the interview approach allows us to look at this theory from multiple angles – whether the same managers are equally happy if conversion does not occur; the importance and reasons for callability; whether the managers are reluctant to issue equity because of the adverse selection problem of equity issuance. Taken together, the evidence offers only weak support to the original backdoor equity theory, and managers do not actually have a clear preference between the "sweetened debt" and "delayed equity" motivations. Such answers are impossible to obtain via more structured approaches such as survey analyses.

Our paper also contributes to the recent literature on the impact of investors of the firm on security choice decisions. As argued by Baker (2009), corporate finance studies have traditionally focused on the corporate supply side, thereby implicitly considering the investor side as a black box with perfectly elastic and competitive demand. However, a number of recent articles show that corporate finance actions can also be influenced through investor demand channels (e.g., Faulkender and Peterson, 2006; Leary, 2009; Lemmon and Roberts, 2010). In the context of convertible bond offerings, the investor side is particularly interesting and relevant, since it has undergone two substantial changes over the past decade. Around the beginning of the 21st century, the convertible

[2] In a call spread overlay a company uses equity derivatives to synthetically increase the effective conversion price. Lewis and Verwijmeren (2011) give the example of a company that issues a convertible with a low interest rate and then uses part of the proceeds to buy call options on its own shares with the exercise price set equal to the conversion price. The net effect of this combination synthetically increases the exercise price in the conversion option itself. If the company had simply issued a convertible with a higher conversion price, the interest rate would have been higher. By using call spread overlays, the issuing firm gets to report low interest expenses for accounting purposes and a higher effective interest rate for tax purposes. See Lewis and Verwijmeren (2011) for details.

investor population shifted from long-only investors towards convertible bond arbitrageurs (mainly hedge funds), who buy convertibles and short the underlying stock. During the recent global financial crisis, in turn, the fraction of convertible bond arbitrageurs among convertible bond investors sharply declined and long-only investors came back into play. A number of recent studies have analyzed the impact of convertible arbitrageurs on convertible bond issuance volumes (Choi, Getmansky, Henderson, and Tookes, 2010; De Jong, Duca, and Dutordoir, 2010), convertible bond design (Brown, Grundy, Lewis, and Verwijmeren, 2011; De Jong, Dutordoir, and Verwijmeren, 2011), and convertible bond announcement returns (Duca, Dutordoir, Veld, and Verwijmeren, 2010). One problem associated with these quantitative studies is that they cannot directly measure the actions of convertible bond arbitrage funds, since these funds do not have to provide publicly available information on their investment activities. Moreover, from an econometric viewpoint it is not easy to disentangle the impact of supply-related factors from demand-related factors. Our study contributes to this recent strand of literature by explicitly asking convertible bond issuers about the influence of convertible bond arbitrageurs on their security choice decisions.

The main findings of our analysis are the following. The most common reason for issuing convertible bonds is a combination of two factors. First, firms generally prefer debt to equity financing either because of perceived equity undervaluation/share dilution or simply the pecking order financing. Second, managers often use convertible bonds when ordinary debt financing is simply not possible or only possible at prohibitive terms. This motivation accounts for 19 out of the 20 companies in our sample (the remaining company uses convertible bonds in order to buy back shares). Among the 19 companies, convertible bonds reduce direct interest costs in terms of coupon rates in 13 cases, convertible debt relaxes restrictive covenants that are required in straight debt in three cases, and straight debt is inaccessible in the remaining three cases. Overall, some generic considerations for security issuance, including the debt to equity pecking order, perceived market misvaluation (the undervaluation of the firm's debt and equity),[3] and the

[3] Equity undervaluation discourages the firm from issuing equity, and debt undervaluation increases the interest cost of straight debt. For the argument of convertible bond being less costly than straight debt to hold, it is necessary that the high conversion option value compensate for the low valuation of the straight

flexibility associated with the convertible debt (less restrictive covenants), are the key motivations for companies to issue convertible bonds.

In contrast, many of the views in the current literature about why firms issue convertibles are not supported. First of all, the interviews clearly show that managers do not follow the practitioner's motives suggested by the textbooks. All managers are very well aware of the pitfalls of convertible bonds: they realize that the low coupon comes at a price and they also realize that conversion is not in their own hands. There is also very little support for most of the academic theories considered. Both the risk shifting theory of Green (1984) and the sequential financing theory of Mayers (1998) only receives very limited support, and none of the executives believes these theories drive the convertible issuance decision. With respect to the backdoor equity theory of Stein (1992), although several respondents mention "delayed equity" as a motive for issuing convertibles, other aspects of the managers' answers suggest that managers are practically indifferent between the "sweetened debt" or delayed equity roles of the convertible, the reason for the call provision is often not to increase the equity share of the capital structure, and adverse selection effects of equity issuance are never cited as a reason for not issuing equity. Moreover, the recent practice of cash settlement in convertible issues provides more evidence inconsistent with the backdoor equity theory, because the intention in such deals is clearly not to issue equity. Therefore, the Stein (1992) theory receives at best weak support. The management-investor difference in opinion theory of Brennan and Schwartz (1988), on the other hand, resonates with the managers fairly well. In fact, nine out of 17 managers agree with this theory's implication that when investors overrate the risk of the firm, issuing convertible can reduce the cost of financing compared to issuing straight debt because of the increased value of the conversion option.

In addition, managers also time the market and when funds are not pressing and they have flexibility with timing, they issue convertible debt when there appears to be a "window of opportunity" in terms of the increased stock price of the firm or the temperature of the overall convertibles market. Managers check closely the demand of investors, most often via the investment banks. One of the managers puts the role of

---

debt. This point is reflected in the theory of Brennan and Schwartz (1988) which received considerable support from the interviews as well.

investor demand this way: "*Well, I read through the questions, it was as if the people who are asking for the money have all the choices (..). It is the market. If I want to sell oranges, I have to sell oranges that I know the people want to buy*".

The role of arbitrageurs is special in convertible bond issuance, even though their relative importance as compared to the "long-only" investors has declined since the start of the recent global financial crisis. Managers have mixed feelings about hedge funds. On one hand, they are often concerned about the arbitrage activities (i.e., buying the convertibles and shorting the stock) pushing down the stock price before the issuance or before the maturity of the convertible bonds, and sometimes monitor the hedge fund effects on stock trading via investment banks. When the convertible bonds are over-subscribed, managers may strategically allocate a limited proportion of the offer to hedge funds and a majority of the offer to the rest of the investors. On the other hand, they like the fact that the presence of hedge funds enhances liquidity and enables expedited issuance of the convertibles.

The remainder of this paper is structured as follows. Section 2 provides the theoretical background on the potential motivations for firms to issue convertibles. Section 3 presents the methodological basis for our study and Section 4 describes the selection of the interviewees and the way that we conducted the interviews. A discussion of the most important results is presented in Section 5. The paper concludes in Section 6.

2. Literature review

Academic theories explaining convertible debt issuance are generally based on agency costs and asymmetric information models. Brennan and Schwartz (1988) develop a theory in which the managers of the firm and outside investors disagree on the risk of the firm. Managers consider the firm to be of medium risk and the market considers the firm to be of high risk. Issuing straight debt in such a situation would result in the firm paying an excessively high coupon interest rate. This would not be the case with issuing convertibles, since a higher risk translates into a higher value of the conversion option. Brennan and Kraus (1987) develop a model that is based on the same principle: managers and outside investors disagree on the risk of the assets in place. Here the solution is also found by issuing convertibles, similar to the model of Kim (1990).

Green (1984) focuses on the risk of the firm's future projects instead of on the risk of the assets in place. After issuing straight debt, shareholders have an incentive to increase the riskiness of the firm. The reason is that they capture the entire upside potential of a risky strategy, whereas they bear only part of the risk thanks to their limited liability. Convertible bonds offer a means to align the incentives of bondholders with shareholders.

Stein (1992) argues that convertible bonds can be used as "backdoor equity financing". He models convertible debt as a suitable financing instrument for firms that have to issue an equity-type security because of prohibitively high financial distress costs, but that want to avoid some of the adverse selection costs that would be associated with common equity financing. Since convertibles generally have a smaller equity component than shares, convertible issuance is less likely to be perceived as a signal of firm overvaluation, thus inducing smaller adverse selection costs. Stein (1992) provides a crucial role for the call provision in convertible debt. By calling their outstanding convertibles, issuers can force the bondholders to convert their bonds into shares in the near future, and thus obtain delayed equity financing. This argument is not the same as the practitioner's argument that convertibles can be used to issue equity at a higher price than the current stock price. The practitioner's argument is based on a misconception from the management side. Stein's model is based on rational managers, who act in a situation where the firm is misvalued due to asymmetric information.

Mayers (1998) argues that convertibles can overcome the free cash flow problem described by Jensen (1986) by providing funds at the start of the project and by attaching an investment option for future financing. A related benefit of convertible debt is that it reduces future issuance costs associated with real investment options. Similar in spirit are the models of Isagawa (2000), Cornelli and Yosha (2003), and Wang (2010).

A number of quantitative studies have tested the validity of the above rationales (see e.g. Davidson, Glascock, and Schwarz, 1990; Lewis, Rogalski, and Seward, 1998, 2001, 2003; Loncarski, Ter Horst, and Veld, 2008; Dutordoir and Van de Gucht, 2009). Overall, these studies suggest that, thanks to the flexibility in the convertible debt design,

convertibles can be used both as an alternative to debt and as backdoor-equity, albeit not by the same firm types.

Besides the quantitative analyses, there are also a limited number of studies that examine the validity of the practitioner motives for the issuance of convertibles and the academic motives. Early U.S. based survey results of Pilcher (1955) and Brigham (1966) are mainly consistent with the practitioner motives. Graham and Harvey (2001) survey 392 U.S. CFOs about the factors driving their capital structure decisions. They find that the majority of the participants view convertible bonds as an inexpensive way to issue delayed common stock. This finding can either imply a support for the practitioner (and academically wrong) argument for issuing convertibles or for the theory of Stein (1992). Graham and Harvey (2001) find only moderate support for the rationale of Brennan and Schwartz (1988) and no support for the theory of Green (1984).[4] Brounen et al. (2006) replicate the Graham and Harvey (2001) survey analysis among 313 CFOs of U.K., French, and German companies, and obtain very similar findings. Bancel and Mittoo (2004) conduct a survey among 29 CFOs of companies domiciled in eight different European countries. They obtain moderate support for the rationales of Brennan and Schwartz (1988) and Mayers (1998) and no evidence for the risk shifting hypothesis of Green (1984). They find strong support for the backdoor-equity hypothesis but, like with the Graham and Harvey (2001) study, it is not clear whether this is support for the practitioner argument or for the theory of Stein (1992).

3. Methodological basis for our study

This paper is based on a series of interviews with managers of companies that have issued convertible bonds. The use of interviews is common in most business disciplines, such as Accounting, Management, and Marketing.[5] However, in Finance interviews are much less popular. This is remarkable, since one of the few interview papers, the dividend study by Lintner (1956), still forms one of the cornerstones of the literature on dividend policy. Lintner (1956) interviewed 28 managers of carefully selected companies on their

[4] Graham and Harvey (2001) do not ask questions about the theory of Mayers (1998).
[5] See, e.g., Gummesson (2005) for an overview of qualitative research in marketing. An example of a study in accounting that uses interviews is Gibbins, Richardson, and Waterhouse (1990).

dividend policy. Based on the outcome of these interviews he constructed his model on dividend policy in which companies base their dividends on a long-run target payout ratio. Another path-breaking interview study is the book of Donaldson (1961). He studies the debt-equity choice using a number of techniques, including interviews with managers of 25 Chief Financial Officers (CFOs). His research was the basis for the pecking order theory (see Myers, 1984; Myers and Majluf, 1984). Cools (1993) carries out a field study in which he interviews 50 CFOs of large Dutch companies about the capital structure of their companies. Dong, Robinson, and Veld (2009) interview professional investors about the question why they want dividends. Veld (1994) also uses interviews in his study on why companies issue warrant-bond loans. However, the main focus of that study is the use of questionnaires. Recently, a similar approach has successfully been used by others in top finance journals (see Graham and Harvey, 2001; Brav, Graham, Harvey, and Michaely, 2005). These studies also use questionnaires and do interviews on the side. The interpretation of interviews in their studies is mostly included in footnotes.

The methodological basis for the current project is provided by Glaser and Strauss (1967) and is called grounded theory. Grounded theory is a qualitative method that embodies the commonsense basis for most social science research. Bettner, Robinson, and McGoun (1994) explain how qualitative research such as grounded theory can provide valuable contributions to finance research. The earlier mentioned paper by Lintner (1956) is an example of grounded theory.

4. Selection of interviewees and interview procedure

4.1. Selection of interviewees

Our study focuses on convertible bond issuers domiciled in Australia, Canada, the United Kingdom, and the United States. These countries were selected for the following reasons. First, the countries are relatively homogeneous in terms of capital market characteristics. As outlined in La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997), they all have a common-law system with equal shareholder protection rights (the Antidirector Rights Index has a value of 4 for Australia, Canada, and the U.K., and a value of 5 for the U.S.). Second, previous studies on convertible bond issuance in the U.K. (Abhyankar and

Dunning, 1999, Wolfe, Daliakopoulos, and Gwilym, 1998), Canada (Loncarski, Ter Horst, and Veld, 2008, 2009), Australia (Magennis, Watts, and Wright, 1998; Suchard and Singh, 2006), and the U.S. (see e.g. Lewis et al., 2003, and Brown et al., 2011) document that all four countries have well-established, reasonably sized convertible bond markets, which provides us with a sufficiently large pool of firms to contact for interviews. A third motivation is practical in nature: all four countries are English-speaking, which substantially reduces potential misinterpretation of interview answers due to language barriers. Moreover, Australia, Canada, and the U.K. are easily accessible by one or more of the authors of this study. Although the U.S, is less accessible for the authors compared to the other three countries, we also included that country in our study for the same reasons as the other three countries. In addition, it is the largest convertible bond market and there have been recent innovations in the design of convertibles in the U.S. such as the use of derivatives in combination with convertible debt.

We started the selection of the companies by downloading a list of all convertible bonds issued by companies in the aforementioned four countries between January 1, 2005 and December 31, 2010 from the Thomson One Banker (a.k.a. Security Data Company) New Issues Database. We occasionally supplemented possible events with convertible issue announcements in the financial news. We focus on relatively recent offerings since for those offerings it is more likely that the persons responsible for the security choice are still employed in the company and also still have a good recollection of the decision-making at the time of the issue. Since we had a preference for face-to-face interviews, we had some limitations for Australia, Canada, and the U.K. in order to keep travel costs manageable. Therefore we limited ourselves to Australian companies that were all from the area in and around Melbourne, Canadian companies in the Greater Toronto area, and U.K. companies based in London, the Midlands, or Scotland. In total we approached 44 companies in these three countries that fit the above mentioned conditions (11 in the U.K., 14 in Australia, and 19 in Canada). All these companies were sent letters on official university letterhead paper. The letters were generally addressed to the CFO, but in a few cases we could not find the CFO, and we addressed the letter to the CEO, the Chair, or a financial spokesperson that we identified from the website of the company. These letters were followed up by a combination of telephone calls and e-mails. In total

14 companies participated in an interview (six in the U.K., three in Australia, and five in Canada). That is a response rate of 31.8%. The response rate was highest in the U.K. (54.5%), followed by Canada (26.3%), and Australia (21.4%). Finally, we randomly selected 76 U.S. convertible issuers to contact in order to be interviewed by phone.[6] We used a combination of regular mailing, phone calls, and e-mails to secure six interviews with U.S. executives, with an overall response rate of 7.9%. The reasons for companies from the four countries not to participate were very diverse: in some cases the person(s) responsible for the decision had left, in other cases the managers did not want to spend time on this project, and in a few cases the reason for not participating was not explained. In several cases we never received an actual rejection, but we gave up after several telephone calls and e-mails were either not answered, or we were promised several times that the company would get in touch which never materialized. The reason for the lower U.S. response may have been that managers have a greater dislike for an interview by phone compared to an interview in person.

4.2. Interview procedure

We follow a semi-structured interview approach. We first compiled a list with interview questions based on convertible bond issuance motivations suggested by the literature. The list has been revised and edited multiple times until all three authors of the paper agreed on its clarity and relevance. The length of questions is such that we should be able to complete each interview within one hour. The reason for this time limit is that we did not want to take up more time from the companies than necessary (in order to limit the no-response bias) and also to avoid loss of concentration.

Table 1 presents some descriptive information about our sample firms. The interviews were conducted between December 2009 and February 2011. We conducted a total of 20 interviews involving 22 convertible issues. Seven of the interviews were conducted by phone, one was conducted with one author in-person and the second author calling in. Each of the remaining 12 interviews was completed in-person by one of the co-authors.

[6] In the end we managed to do one of the six interviews with U.S. companies in person, because the CFO happened to be visiting Toronto.

[Please insert Table 1 here]

The interviews took between slightly less than half an hour and slightly more than an hour, depending on the length of the answers and the availability of the interviewee. We gave most interviewees the chance to look into the questions beforehand (by sending the questions by e-mail), and most of them used this option. Interviewees were guaranteed anonymity.

Shortly after conducting the interviews, the interview tapes were transcribed by a professional native English speaking transcriber. We used two transcribers for all interviews. Subsequently, the interview transcripts were thoroughly checked by the person that conducted the interview for any remaining errors or omissions.[7]

In order to give an idea about the type of companies that we interviewed, we include Table 2 that presents some descriptive statistics of the sample firms.

[Please insert Table 2 here]

The differences between the means and the medians of variables such as Sales, Total Assets, and Market Equity Value show that most of the firms in our sample tend to be smaller companies with a few bigger companies as the exception.[8] Based on the Return on Assets (ROA) it can be concluded that the majority of firms are not very profitable: the mean ROA is negative and the median is not very much above zero. These numbers have to be interpreted in the context of the Global Financial Crisis during or around the time these convertibles were issued. The mean and median of the proceeds divided by total assets shows that in most cases the issue represented a relatively substantial amount of money for the issuing company.

5. Results

We summarize the main findings from the interviews in Table 3, and discus the salient results in this section.

[Please insert Table 3 here]

[7] After having completed all the interviews we found out that we did not ask all the questions about the four theories or, in some cases, that we did not always receive an answer to the question that we asked. Therefore we followed up with some interviewees by additional e-mail questions.

[8] We have not included minimum and maximum numbers for these variables in order to avoid a possible identification of the companies involved.

5.1. Why do firms issue convertible bonds?

We first asked the managers why they issued convertible bonds. Even though support for the specific theories on why companies issue convertibles is limited, there seems to be much more support for two general capital structure theories: the pecking order theory and the market timing theory. Appendix 3 includes a detailed summary of the answers that the managers in our sample gave on this question.

5.1.1. The reasons for choosing convertible debt

When we pool the responses together, we can classify the reasons for the firms to issue convertibles in two broad categories. In the first category, the issuers chose convertible bonds instead of straight debt or equity, because straight debt was too costly or not accessible and equity was not preferred either because firms followed the pecking order or because equity was perceived to be more costly than convertible debt. In the second category, convertible bonds were issued to finance stock buyback.

The first category includes 19 issuers that can be further divided in three subcategories. The first subcategory (Type 1) is most common and includes 13 firms (involving 14 convertible issues, because one firm had two separate convertible bond issues). In these cases the firm could consider debt, and normally would prefer debt to equity financing. However, at the time of financing, straight debt became prohibitively costly or the debt capacity was close to full. Also, equity was not preferred to convertibles, either because the firm followed the pecking order or because equity was viewed as more costly than convertibles. The latter reasoning could be based on the belief of management that the stock was underpriced (three companies) or that new equity would lead to dilution (three companies), or simply because of the lower priority of equity according to the pecking order (one company).

In the second subcategory (Type 2), three firms chose convertible bonds because of the less restrictive covenants associated with convertibles compared to straight debt. For all the three firms, there was still debt capacity in the firm and debt was preferred to equity to follow the pecking order. One firm could have used a subordinated bank facility which was free of restrictive covenants, but the cost analysis gave an advantage to the convertible bond after a run-up in the firm’s stock price (Firm 14 in Appendix 3). For the

other two firms, which were both in Canada, convertibles had the added advantage over equity of being able to repay in stock rather than cash at the issuer's choice. In all three cases, the covenants of straight debt were perceived to be the main extra cost compared to convertible debt.

The third subcategory (Type 3) includes three firms and is similar to the first subcategory in that the firm would have preferred debt to equity financing, but straight debt (either bank debt or corporate bond loans) was so costly that it was not accessible to the firm, which left the firm with the choice of equity or convertible debt. Again, convertible bonds were preferred to equity, either because equity was viewed as more costly than convertibles owing to the belief of management that the stock was underpriced or the level of dilution of an equity issue.

The remaining two convertible issues in our sample (from the same company) were offered to finance the repurchase of equity that was believed to be undervalued (Type 4). For a very profitable firm with a large amount of cash on the balance sheet, why did the firm issue securities to buy back shares? The main reason was to avoid the tax payment -- most of the cash of the firm was generated overseas, and if the firm wanted to use this cash to buy back shares, it had to pay roughly 30% on taxes to the U.S. government. Therefore, they prefer to borrow money in the form of security issuance because the cost of borrowing is much lower than the tax rate. The reasons to use convertible rather than straight debt are the following. In one issue, convertible debt was preferred to straight debt to hedge against the bad state: even though the management believed its stock was undervalued, there was no guarantee it would go up. If the stock would go up, borrowing at a fixed rate (on straight debt) would be a good deal; but should the stock price go down, borrowing at a fixed rate to buy back shares would be too costly, and the lower coupon of the convertible compared to straight debt would reduce the loss from the buyback. In the other issue, the coupon rate of the convertible debt was floating and contingent on the stock price, and the firm benefited from the higher interest tax deduction than the coupon payment, regardless how the stock price would perform after the buyback.

5.1.2. The pecking order theory

A theme that emerges from the responses is that, when debt capacity is available (16 out of 20 firms), most of the convertible issuers (13 out of 16) follow the pecking order of financing: firms prefer debt to (external) equity financing.[9] For example, one of the executives states: "*shareholders would have not ordinarily been expecting you to finance an acquisition with equity when you have a perfectly acceptable under-stressed balance sheet*". Similarly, another executive (from the same country) made clear that "*I think for us the first priority was always likely to be issuance in the corporate bond market in terms of plain vanilla debt*". In another case, an executive from a different country explained that "*we didn't use equity because we felt a lot of available leverage on our balance sheet*". The general preference for debt over equity is consistent with the finding of a recent study by Lemmon and Zender (2010) who show that when firms have debt capacity, they tend to follow this pecking order for external financing. In the remaining three out of four firms, debt is not a viable option, and the pecking order is not applicable to these firms. In the fourth case, the firm issued convertible debt to repurchase equity.

5.1.3. Market timing – the impact of stock valuation on security choices

The interviews show that the valuation level of the firm's own stock is also an important ingredient for the choice of convertibles. This result means that market timing plays a role.

When asked whether the stock price level of their company affected the decision to issue convertible bonds, almost all respondents agreed that the stock price level was important for their decision. Ten firms believed that their shares were underpriced. Another three companies believed that issuing equity would be too dilutive to the shareholders. In an efficient market, if a company issues equity to fund a positive NPV project, the new shares should bring along value and there should be no dilution to the shareholders. Therefore, the fact that the executives believe equity issuance would be dilutive suggests that their shares were underpriced. Taken together, in 13 out of 20 cases, the firm perceived its stock as being underpriced. Although our sample of executives is from firms that have issued convertibles, the statistics compare similarly to Graham's

[9] These are all Type 1 companies. The three exceptions are Firms 4, 7, and 12 from Appendix 3.

(1999) finding that two-thirds of the executives feel that their common equity is undervalued and only 3% think their stock is overvalued.

As an example of the advantage of the interview method, the respondents revealed, to our surprise, that four out of the six U.S. convertible issues were combined with a call spread transaction. The managers wanted to use such a spread overlay to boost the effective conversion premium – understandably at a substantial cost as an "expensive insurance", to reduce potential share dilution. Related to this topic a manager revealed that one purpose of use cash settlement is also related to the perceived share dilution: "*I know from my experience of here and other places that the bias has really been to avoid the dilution as much as possible, settle in cash if you can*." Lewis and Verwijmeren (2011) also document that the use of call spread and cash settlement is quite common in U.S. firms (9.8% convertible debt issuers use call spread transactions and 43.1% contain a potential cash settlement in their sample), but they argue that the purpose of using these features is to boost the earnings per share. The latter argument is not supported by our interviews. Our evidence reinforces the conclusion that the concern about share dilution is most likely linked to perceived equity undervaluation.

Consequently, an underpriced firm would prefer to issue convertibles to equity because they should expect their share price to increase. As one executive puts it: "*Yes, you know if you don't like issuing your shares at a low price then at least do a convert. If you're unhappy with your share price the last thing you want to do is to issue equity unless you really have to. It's a desperation measure*".

Five respondents viewed their stock's recent rally as a window of opportunity to issue convertible bonds at lower cost. Another six believed that a high stock price or conversion premium was helpful for issuing convertibles.

Another aspect of market timing is that all but three issuers indicated that they looked for the "window of opportunities" and issued convertibles when they felt the market was hot for the convertible debt instrument. The three issuers that did not seek such windows of opportunities were all clearly in financial distress and needed the funds right away. Therefore, whenever firms had the financial flexibility about when to issue, they all timed the issuance when the convertible bond market was hot.

To summarize, two features determine the choice of convertible bonds over straight debt or equity for 16 out of the 20 respondents in our sample. First, there was a preference of debt to equity financing, often because of equity undervaluation or share dilution consideration. Second, convertible debt was preferred to straight debt, either because of the lower perceived cost (a special case of the high cost of straight debt is that straight debt is inaccessible) or because of the less restrictive covenants of the convertibles. It follows that convertible bonds were the preferred financing method.

5.1.4. Practitioner motives

We investigate whether managers believe the practitioner motives that are mentioned e.g. in the textbook of Hillier et al. (2010). We find that most respondents mention that they are happy paying a lower interest rate on convertible bonds than they would otherwise have had to pay on straight debt. Most managers are also happy with the idea of selling equity in the future at a higher price than the current stock price. However, these results do not really mean that the managers believe that convertible bonds are a cheap source of capital or a sale of equity at a higher price. They all seem to be aware of the fact that the coupon is lower because of the conversion privilege and most of them realize that ultimate conversion is not in their own hands. As one of the managers states: "*Our reason for issuing was, because it was an attractive source of finance. Actually, it gave us a coupon of 4%, whereas if we had done a straight bond of similar maturity, the coupon would have been near 10%, so it does significantly lower our cash cost of interest. Obviously, there is an equity element in there, which is attractive to investors and that is why you get the cheap coupon, of course*". The managers are also very well aware of the fact that the decision to convert or not lies with the holder of the convertible bonds and not with themselves. One of the respondents argues: "*I assume that it won't convert, because that is the cautious thing to do*".[10]

Some managers use some of the practitioner arguments, but at other points in the interview they clearly show that this argument is not the driving force and they are aware

[10] There is one exception, where a manager states: "*We view it as safer debt, subordinated debt, that we can always repay in stock*".

of the trade-off between a lower coupon and more advantageous conversion privileges. For example, one manager argues about the case where the convertible gets converted: "*So, everyone is happy in that case, it's equity and if it's not, it doesn't convert, then it's been very cheap debt (..) you're sort of in a win-win situation*". However, earlier in the interview he shows that he is aware of the pitfalls in the convertible bond market: "*I've always looked at, as the CFO, that the convertible market is one of those markets that it's a dangerous market to go into if the market is cold. It opens up and when there is a window open, you can get very attractive terms and you can pay very low interest coupons.*" The overall conclusion about the practitioner motives is that they do not seem to explain the reason that these companies decided to issue convertibles.

5.2. Convertible bond theories

During the interviews we mentioned the four main academic theories on why companies issue convertible bonds: the risk shifting theory of Green (1984), the sequential financing theory of Mayers (1988), the backdoor equity financing theory of Stein (1992) and the argument of Brennan and Schwartz (1988) that convertibles are suitable when there is a disagreement between the company and the market on the riskiness of the firm. We then asked the managers whether they felt whether any of these theories applied to their own motive to issue convertibles.

The theory of Green (1984) did not receive support from all but one of the 18 respondents who we checked this theory with, and none of the respondents said that this theory drove the issuance decision. Some companies did not see debt as an alternative, and those that did consider debt, did not find the argument valid. The latter group included a respondent who argued that their decisions were "*far more pragmatic than that*". One respondent was not convinced that shareholders prefer higher risk. Another executive quickly reacted to the mention of this theory as follows: "*I've never seen that in practice, so I throw that thesis out right away. The world does not think that way, companies don't think that way, (and) shareholders don't think that way*." These responses confirm results from earlier questionnaire studies (e.g., Graham and Harvey, 2001 and Bancel and Mittoo, 2004) that find that there is very little support amongst practitioners for the theory of Green (1984).

The sequential financing theory of Mayers (1998) was similarly not confirmed by the respondents. Out of 17 executives consulted with this question, only one provided a reasonable account for why this theory might be relevant to the issuing firm: "*Yes, I think that makes sense because if you don't convert you effectively give yourself more leverage for a longer period of time. If you've got an investment opportunity you're willing to sacrifice the equity dilution because you're going to have some other projects that are going to yield more earnings which will offset that dilution*." Another two companies indicated that this theory makes sense to them. However, even for these three firms, the managers did not really speak to the predictions of the Mayers (1998) theory about how convertible bonds reduce the free cash flow problem of overinvestment or the reduction of future issuance costs. Also, none of the respondents stated that this theory directly affected the issuance decision. As one manager explained, *"Not that we don't need money until the future for future acquisitions. I don't know what other people would think, but I think nobody has the crystal ball what the reasons will be like in the future. If you are borrowing money today, you'd better like the pricing assuming you don't have future use of the money but the current use is valid."* Bancel and Mittoo (2004) find that the use of convertible debt to signal growth opportunities is found to be important by the managers in their survey. However, they also argue that the argument that convertibles provide flexibility in financing future investment opportunities, which is important in the Mayers model, only receives modest support from the managers in their study. Therefore, our results are in line with their study.

The backdoor equity theory of Stein (1992) appears only supported by at best four out of 20 issuers. The four cases provide a rather loose support for the theory because strictly speaking, under this theory the issuer is reluctant to issue equity because of the adverse selection problem of equity issuance (Myers and Majluf, 1984). In reality these respondents did not want to issue straight equity because of stock underpricing. None of the respondents believed that the adverse selection problem of equity issuance is a reason for delaying equity issuance. For example, one of the respondents made an interesting remark when he argued against the adverse selection problem in issuing equity: "*I think rather than play guessing games, I just think I would rather crystallize the cash on an equity deal if I thought my stock was overvalued. Because, if the stock trades and then it*

comes down to where it should be, I really haven't taken advantage of that inflated stock price". In addition, in one of the three cases, the executive could not recall whether the convertible was callable, while callability is very important under Stein's (1992) theory. Although several executives concurred with one prediction of the theory – that firms use convertibles as a delayed equity technique, the executives would feel equally happy with not converting into equity, in which case the convertibles serve as a cheap debt. Also, the Stein (1992) theory was not supported when the callability feature was viewed as a means to refinance at a lower cost instead of specifically getting equity on to the capital structure.

When firms use cash to settle the convertible bond payments, no new shares will be issued. Therefore, as two of the respondents stated, the Stein (1992) backdoor equity theory is not supported in these cases. The recent trend of cash settlement deals as documented by Lewis and Verwijmeren (2011), casts further doubt on the backdoor equity theory.

The low support for the Stein (1992) seems to be at odds with previous survey papers of Billingsley and Smith (1996), Graham and Harvey (2001), Bancel and Mittoo (2004), and Brounen et al. (2006), who all find strong evidence for the delayed equity argument. However, in line with our results Bancel and Mittoo (2004) argue that the managers in their sample do not find the callability provision to be important, while that is an essential element in the Stein (1992) model.

Nine out of the 17 respondents consulted with the Brennan and Schwartz (1988) theory felt that the theory's argument applied to them.[11] Responses that we received included: "*I am going to agree with you, we are saying the same thing. The interest rate on our debt would have been more expensive, and this is because it spoke to sort of the perceived risk of the company, and because of that, you were able to get a more beneficial rate on the convertible. I think that did play intuitively one of the reasons we went down that path*." As a second example, one executive commented on this theory: "*This risk of the company to an extent was reflected in the market wanting 11% from us, because they thought (..) we're not convinced that they can re-finance. There is all sorts*

[11] Previous survey studies by Graham and Harvey (2001) and Bancel and Mittoo (2004) only find moderate support for this theory.

of things going on, lots of chatter". Another manager believed that excess risk assessment of the investors can lead to high volatility of the stock, which in turn makes convertibles more preferable: "*For sure, if you think there is going to be volatility in the future and you think that future projects are going to increase the risk profile; investors will probably stay away from your stock because they don't want to lose value. … For sure, if there is uncertainty I think convertible debentures are a bit of an easier sell than equity* ." In fact, the fundamental assumptions of Brennan and Schwartz (1988) are remarkably similar to market timing on the debt side: the theory assumes that investors underprice the firm's debt (i.e., overestimate the yield of its bond), and overestimate the firm's risk and stock volatility, leading to the high valuation of the conversion option, which makes the convertible bond preferable to straight debt. Furthermore, if we combine the theory of Brenan and Schwartz (1988) with the pecking order (or undervaluation of the firm's stock), we can also explain why the convertible is preferred to straight equity, thereby explaining 19 of the 21 convertible issuers in our sample (as mentioned in Section 5.1.2).

5.3. The credit ratings of convertible issuers

It was remarkable that many of the companies we talked to were in some kind of financial distress, which is what led them to convertibles. For that reason we looked up the credit ratings for the companies in our sample. The results are included in Table 3.[12] In three of the issues, the executive indicated that debt was not a serious option for them, because banks would not lend money to the company and the bond market was closed. At the same time equity was not always a viable option, because of the (perceived) undervaluation or dilution of the stock, or because investors preferred a convertible security rather than straight equity. For the remaining 17 issues, four did not have a credit rating, seven had a speculative rating, five had a low-investment grade rating from Moody's (Baa) and one had a National Association of Insurance Commission rating of NAIC2, which according to the manager, roughly corresponds to a low-investment grade rating. Two managers directly made the remark that convertibles should not be used for

[12] In case companies did more than one convertible bond issue, we only included the credit rating at the time of the last issue.

firms with high credit ratings or with no constraints.[13] The result that most convertible issuers tend to have a low credit rating is consistent with Lewis and Verwijmeren (2011), who document that only 17.7% of convertible debt issuers have an investment-grade credit rating.

Brennan and Schwartz (1988, p. 56) argue that convertibles should mainly be used by companies with great uncertainty and risk, "*that is, the companies for which the costs of straight debt appear prohibitively (and needlessly) expensive*." Our findings from the interviews suggest that the low credit rating of the issuers are indeed related to the Brennan and Schwartz (1988) argument, because straight debt of poorly rated firms is costly and convertible debt is a way to reduce this cost through the conversion option when this option is valued highly relative to the debt.

5.4. The demand side of the market

Most of the academic literature on motives for companies to issue convertible bonds studies the topic from the supply side of the market. Apart from the recent papers on convertible arbitrage, there is little attention for the demand side of the market. However, as already shown in the previous two sub-sections, the interviews show that the demand side of the market is very important for the company decision to issue convertibles. After we discussed the theoretical motives with one manager he remarked: "*Well, I read through the questions, it was as if the people who are asking for the money have all the choices (..). It is the market. If I want to sell oranges, I have to sell oranges that I know the people want to buy*". Also other respondents strongly emphasize the demand side of the market: "*We thought the market opened up to this convertible debt type of instrument on very favorable terms and we decided to take advantage of it and seize the opportunity*" and *"The demand was there on the convert side*".

Strongly related to this discussion is the fact that most of the companies in our study indicate that the advice of the investment bank played an important role in the decision to issue convertible bonds. Sixteen out of 19 companies call the role of the

[13] In addition to the 20 interviews with companies that issued convertibles, we also did one interview with a company (in Australia) that decided *not* to issue convertibles. The most important reason for that company to issue convertibles was that there impression was that they are usually issued by companies with worse credit ratings.

investment bank important. Only two companies do not find the role of the investment bank to be important. The most common role of the investment bank is to act as a mediator between the issuer and the investors, providing information about investor demand and the temperature of the market. The investment banks can also provide inputs about the design of the instruments, such as whether to settle payments in cash (see Section 5.8).

Two respondents argued that investment banks have an incentive to "push" convertibles, because they are easy for them to arrange: "*Well, I think any CFO is continually being chased and annoyed by the banks to issue convertibles, because convertibles are very easy for the banks to do. It is a relatively standard process. Compared to raising straight equity or straight debt it is quite good fees for not much effort*". The reason that convertibles are "an easy deal" for investment banks is that they are largely placed with hedge funds. Hedge funds have the ability to decide on a convertible bond issue in a time period of an hour. As one respondent commented: "*Don't forget that it is a community that can make a decision in a heartbeat. So, that was one of the reasons why you could announce one of these deals at 9 am and price it at 10.30 am, because the hedge funds don't have to see management and do a credit committee, and decide how much they want to buy, which is sort of a process you go through in a regular bond road show, which might take 2 or 3 days*". The same respondent also mentions the related advantage that a convertible bond deal does not take much of the management's time. This situation is different with a straight bond issue, which takes much more time and, hence, requires a lot of indirect costs compared to a convertible bond issue.

Most of the companies (18 out of 20) indicate that hedge funds were involved as buyers of their convertibles. However, only two companies thought that the hedge funds would take up more than 50% of their issue. The latter result is remarkable, since the majority of the convertibles were placed before the financial crisis. Previous academic studies and the financial press often mention that in this period some 70-80% of all convertibles were placed with hedge funds.[14] This result means that either the companies that we interviewed allocated less convertibles to hedge funds than the average company

[14] See, for example, Brown et al. (2011).

or that the companies do not realize how large the influence of hedge funds for their particular issue was. Two companies mentioned that if they have the discretion in allocating the convertible issues (i.e., when the issue is over-subscribed), they would impose a limit of about 25% to the hedge funds, and allocate the rest of issues to long-only investors. Three other issuers said that they used similar practices to allocate a limited proportion of the issue to hedge funds.

We also asked the managers about their experiences with hedge funds. Most companies were very happy with the speed of issuance (see the earlier quote). Besides that, many respondents mention the liquidity provision of hedge funds as an advantage. On the other hand, other companies considered the potential short selling of their stock by the hedge funds as a disadvantage of the participation of hedge funds in the issues. However, most respondents were *"not overly concerned*". Some companies accepted it as a fact of live: "*You are always worried about that* (the role of hedge funds), *but you can do nothing about that. The whales swim in the sea and you have to swim in the sea too*" or "*That was definitely something we thought about and were aware of, but we talked through that phenomenon with our bankers and we thought that it was going to be a short term blip only and we concluded that we weren't going to let that stop us from doing the transaction, so it wasn't really a big issue for us*". Other companies had the investment bank checking for the potential impact of the short selling: "*I think we were very nervous about it, we were cautious and we did take a lot of advice on the impact of it*". Another company mentioned about the conclusion of the investment bank: "*their view was there wasn't a lot of shareholders who were prepared to borrow or lend stock*".

5.5. Convertible bonds and warrant-bond loans as alternatives

Finance textbooks generally present convertible bonds and warrant-bond loans as alternatives. However, in practice the market for warrant-bond loans seems to have become moribund. This phenomenon is remarkable, because from a theoretical point of view there are advantages to warrant-bonds over convertible bonds for both issuers and investors. Issuers can fix a different amount of nominal debt and potential equity in case of warrant-bond loans. Buyers of warrant-bonds have the option to separately trade the bonds and the warrants. Besides that, based on a meta-analysis of 35 academic papers,

Abdul Rahim, Goodacre, and Veld (2011) find the announcement effect associated with a warrant-bond loan issue is significantly higher than that of a convertible bond issue.

The remarkable result from the interviews was that only one company did consider warrant-bonds as an alternative. The other 18 companies (that we asked the question to) all argued that warrant-bonds were not a valid alternative. Most companies argued that the market would not be interested in buying warrant-bond loans. Representative answers to the question "Did you consider the combination of warrants and bonds as an alternative for a convertible bond issue?" were: "*People start to wonder why you are doing it. Why don't you just do a straight convertible like most people do?"* and "*No. I think that the convertible bond was a better understood instrument. It was easier to sell, to be honest*". Many of the answers to this question also hinted at the important role of the banks as sellers of the instruments, for example: "*The banks don't tend to market it too much*" and "*No, I think that it was a matter of that wasn't what the banks were selling".* These answers emphasize the importance of the buy-side of the market and also of the banks as intermediaries in this market. Also, the only company that considered warrant-bond loans considered them because they received an offer from an investment bank in another country to place an issue of warrant-bond loans with them. In the end they declined that offer, because they conditions of the convertible bonds were better than the warrant-bond loan offer.

The responses also reveal several more in-depth insights. Seven executives believed that the investors of convertibles normally form a unique pool that is distinct from straight debt and equity investors. Therefore, the potential buyers for convertibles are different from the buyers of straight bonds or the buyers of warrants. One implication of this finding, as expressed by two managers, is that under the alternative straight debt plus warrants scheme, the company will have a hard time finding investors of straight bonds, especially if the firm does not have an investment-grade rating. Another implication of this finding, as pointed out by other two executives, is that with the component alternative, the issuer cannot force conversion of the debt into equity and get rid of the debt, because the warrant holders and debt holders are often different. Therefore, the separate debt and warrant approach would introduce more uncertainty to a firm's capital structure. In addition, three executives cited the higher coupon or restrictive

covenants associated with straight bonds as a main reason for not going down the path of a warrant-bond offer – in line with the main theme of our finding that convertible debt is used to reduce the financing cost of straight debt. One executive suggested that debt holders typically do not like their bonds to be callable but on the other hand not convertible to equity.

Another reason provided by one manager is that warrants are viewed by investors as "sweeteners" and when issued in combination with straight debt, send a negative signal to the market that the issue is an unusually difficult one. Still another reason given by one firm is that warrants do not have much value for a firm that pays high dividends on a regular basis because the stock price is quite stable; the true value of convertibles for such a firm is not the value of the conversion option, but rather the less restrictive covenants associated with convertibles compared with straight debt.

5.6. The expected stock price reaction at the convertible bond announcement

We also asked respondents whether the expected stock price reaction at the convertible bond announcement played a role for them. This stock price reaction consists of two components. The first component is a permanent stock price decline related to the signaling content of convertible bonds. Since convertibles encompass an equity component, their announcement may be interpreted by the market as a signal of firm overvaluation (Myers and Majluf, 1984). Consistent with this interpretation, many early event studies on convertible bond announcement effects find a negative stock price reaction on convertible bond announcement dates (see Eckbo, Masulis, and Norli, 2007 and Abdul Rahim et al., 2011, for reviews of the literature). A second component is a stock price decline due to the short selling transactions of convertible bond arbitrageurs around the convertible bond issuance date (which falls shortly after or together with the announcement date for most recent offerings). As shown by Duca, Dutordoir, Veld, and Verwijmeren (2010), part of this stock price decline reverses shortly after the convertible bond issuance. Our motivation for asking this question is to assess whether managers are aware of these two components in the stock price reaction to convertible bond offerings, and to verify to what extent the expectation of a negative stock return around the convertible bond announcement has affected their decision.

As mentioned before, most respondents believed their stock price was undervalued rather than overvalued. However, they still expected a negative announcement effect because of the perceived share dilution if the conversion would occur. Most respondents were not very concerned about the expected shorting by hedge funds, since the shorting behavior would at most only result in a "*short-term blip*" (one respondent referred to the stock price decline as a *"technical sag"*). Of course, there could be a selection bias in these answers, in the sense that firms that refrained from issuing convertibles out of fear for the shorting behavior of arbitrageurs would obviously not be interviewed.

Some managers were quite concerned about the negative price pressure from the hedge funds. Five respondents explicitly said they made sure to allocate most of the issues to long-only investors. But other interviewees seem to put relatively little weight on the announcement period stock price returns. Two respondents explicitly state that they "*can't remember*" the stock price reaction, four said that they focus on the long-term and not on the short-term.

However, other managers do use the announcement period stock performance as a measure of the quality of the deal. Two interviewees expressed satisfaction of deal execution by citing that the stock price did not move at the announcement of the convertible offer. Here is how one respondent described why the issue went well: "*The market said 'oh we get it, this [call spread transaction] is a really smart thing for you to do and we are not going to worry about the dilution, so the stock price didn't move. This is really cheap fixed cost capital for a period of time; it fills in a ladder of maturity on your debt schedule that is the five year ladder, so you filled that in now*.'"

5.7. The limit of convertible debt financing

Although we did not ask directly this question, five issuers stated or implied that convertible bonds should not exceed a certain proportion of the capital structure. One reason is that the convertible issuer does not have control over whether, when, and at what price the debt will be converted into equity. This argument is especially true when there is a heavy involvement of convertible arbitrageurs, because they can short sell the firm's stock, while at the same time buying the convertibles. Five executives recognized

that hedge funds are often short-term holders of convertibles and can create extra uncertainty and price pressure for the firm. Two firms explained that hedge funds are interested in driving down the stock before the announcement of the convertible issue (by speculating about the issue) and making the firm sell the conversion option cheap to them.

Another suggested reason a firm should be careful about the use of convertibles is that the conversion often takes place at a non-optimal time for the firm, as reflected the following comment: "*It's very often the case that when markets are in a growth phase and certainly for an industry like ours which is very much linked to the economic cycle then your own share price is performing and your own cash generation is performing and you don't necessarily need to convert equity at that point. So, the conversion of the bond can come at the wrong time*."

Finally, one manager explained that convertible debt should not take a big proportion of the capital structure (10% is about right). If that limit is exceeded, the stock will trade like a convertible rather than a regular stock, as he explained: "*If you suddenly have a very positive thing you'll find a lot of people will obviously be buying but you'll have that the response will be damped slightly and vice versa on the negative side you'll find people buying and this is just to offset their trading position against the convertible so you may see more volumes but the volatility will go down slightly if your convertible is too big a part of your corporate capital structure*."

5.8. Other topics

We asked whether accounting and/or taxation played a role in the decision to issue convertible bonds. Most respondents argued that there was no fundamental role for either taxes or accounting. At best these factors were considered as side-issues. One manager put describes accounting this way: "*I suppose you could argue under IFRS the nature of convertible bonds actually makes the balance sheet look slightly better, in the bifurcation of the equity and the debt but the truth is we were more concerned with the commercials what we would almost call the management accounts basis. In our view until a bond holder chooses to convert we've still got a liability so the fact that you're showing a*

small liability in the balance sheet I think is maybe giving you slightly too much comfort. No, I don't think the accounting played a role".

For most companies accounting and taxes were not major considerations. Accounting did not play a role for 12 out of 20 companies. Taxes did not feature in 7 out of 20 cases. In 7 cases accounting played a minor role and in 11 cases taxes played a minor role. For only two companies, taxes were an important consideration and for accounting this was the case for one company. This last mentioned company was a U.S. issuer that presents an interesting case of accounting playing an important role in affecting the design of convertible instrument. A new feature of this convertible offer is that it was a "cash convertible" instrument, meaning the instrument will be settled purely in cash rather than shares. The reason is accounting rather than economics: under the recent accounting rules, when a call spread is used, the call option the firm bought is recorded as an asset, whose value fluctuates from quarter to quarter, causing fluctuations in the reported earnings if regular convertible instrument is issued, because the imbedded option of regular convertible is recorded as a balance sheet equity (and won't offset the call option gains/losses). Instead, with a cash convertible instrument, the imbedded option part of the convertible bond is recorded as a liability, whose mark-to-market value gains/losses directly offset the gains/losses on the call option, thereby causing a smoothing of the reported earnings. This design was in fact suggested by the investment bank. It was only about the 5th firm in its industry to do this "cash combo" deal. According to the executive, the downside of cash settlement is that it makes the instrument more bond-like.

We asked 16 companies whether industry peers played a role for them in the decision to issue convertible bonds. None of these companies indicated that industry peers played any direct role. In one case, the issuer was the industry leader and the decision to issue was not influenced by peers. However, the managers do use other convertible bond issuers (generally not in the same industry) as one indication of the temperature of the convertible bond market.

We also asked all 20 companies whether the bonds were callable and whether the callability provision was important for them. Ten issuers indicated that this provision was important for them, mostly because of the flexibility that it provides: the call option

allows the company to get rid of the debt part of the convertibles, or issue debt at a lower cost, or create debt capacity to issue more debt to finance investment projects such as acquisitions. One respondent commented on the importance of callability as follows: "*Very important, because you know I want that optionality. If rates continue to be really low or I want to retire my debt and at that point I am generating lots of cash, well, I want the option of paying down that debt and getting rid of it*." For some other companies, the provision was much less important. Two companies did not know whether their bonds were callable but indicated the call provision would be useful only for firms that generate enough cash flows. Four company's bonds were non-callable, because they did not feel like paying for the callability provision.

6. Summary and conclusions

In this paper we use interviews to study why companies issue convertible bonds. The interviews show that the managers in our sample are very well aware of the pitfalls of using convertible bonds. They realize that the lower coupons compared to straight debt arise from the convertibility option. They are also aware of the fact that conversion is not up to them but to investors. There is very little support for the academic motives for the issuance of convertible bonds, with the exception of the Brennan and Schwartz (1988)'s theory that companies issue convertibles when management and investors have different opinions about the firm's risk. In contrast, there is a strong support for more general security issuance theories such as pecking order and market timing. Firms choose convertible bonds over straight debt to reduce the cost of financing in terms of interest payment or debt covenants, and choose convertibles over equity because of perceived share undervaluation and share dilution. Another interesting finding is that the decision to issue convertible bonds seems to also be driven by investor demand. Especially the presence of hedge funds that can make very quick decisions is an important driver for the decision to issue convertibles. Also the advice and guidance of investment banks is of importance.

In our sample of 20 companies of four countries, the U.S. firms appear to be more likely to combine convertible bonds with derivatives trades. Four out of six U.S. firms used call spread overlays to reduce the share dilution effect, and one firm used derivatives

to convert fixed coupon into floating rate or make the coupon rate contingent on the stock price. There are some other institutional differences such as accounting and tax rules. However, despite these differences, the central findings about the reasons for issuing convertible bonds, as well as the roles of investment banks and hedge funds, are remarkably robust across countries.

Even though we believe that our sample of 20 companies is representative for companies issuing convertible bonds, we should also acknowledge some limitations of our research. It is likely that managers who have a good knowledge of convertibles and managers for whom the convertible bond offering turned out to be successful are more likely to agree on an one-hour interview on the topic than managers who are less familiar with the instrument and/or managers who have bad experiences with convertibles, possibly because they are ill-advised. This self-selection bias is difficult, or even impossible, to avoid.

We believe that our research identifies new items that can be included in large sample (quantitative) studies. For example, we find that convertible bond issuers often have low credit ratings with undervalued equity, situations where the conversion option has the most potential to reduce the financing cost. We also uncover a new motivation for firms to combine convertible issues with call spread overlays, which is to boost the effective conversion premium and reduce potential share dilution. In addition, cash settlement is related to both share dilution avoidance and accounting earnings smoothing. Large sample research to confirm these and other forces should further advance our understanding of convertible bonds and security issuance in general.

References:

Abdul Rahim, N., Goodacre, A., and Veld, C.: "Wealth effects of convertible bond loans and warrant-bond loans: A meta-analysis", *Working paper, University of Stirling and University of Glasgow*, March 2011.

Abhyankar, A. and Dunning, A.: "Wealth effects of convertible bond and convertible preference share issues: An empirical analysis of the UK market", *Journal of Banking and Finance* 23, 1999, pages 1043-1065.

Arsiraphongphisit, O.: "The information conveyed by debt and equity announcements in Australia", *International Journal of Banking and Finance* 5, 2008, pages 61-86.

Baker, M.: "Capital market driven corporate finance", *Annual Review of Financial Economics* 1, 2009, pages 1-41.

Bancel, F. and Mittoo, U.: "Why do European firms issue convertible debt", *European Financial Management* 10, 2004, pages 339-374.

Bettner, M.S., Robinson, C., and McGoun, E.: "The case for qualitative research in finance", *International Review of Financial Analysis* 3, 1994, pages 1-18.

Billingsley, R.S. and Smith, D.M.: "Why do firms issue convertible debt?", *Financial Management* 25(2), 1996, pages 91-97.

Brav, A., Graham, J.R., Harvey, C.R., and Michaely, R.: "Payout policy in the 21st century", *Journal of Financial Economics* 77, 2005, pages 483-527.

Brennan, M. and Kraus, A.: "Efficient financing under asymmetric information", *The Journal of Finance* 42, 1987, pages 1225-1243.

Brennan, M.J. and Schwartz, E.S.: "The case for convertibles", *Journal of Applied Corporate Finance* 1, 1988, pages 55-64.

Brigham, E.F.: "An analysis of convertible debentures", *The Journal of Finance* 21, 1966, pages 35-54.

Brounen, D., De Jong, A., and Koedijk, K.: "Capital structure policies in Europe: Survey evidence", *Journal of Banking and Finance* 30, 2006, pages 1409-1442.

Brown, S., Grundy, B., Lewis, C., and Verwijmeren, P.: "Convertibles and hedge funds as distributors of equity exposure", *Working paper, New York University, University of Melbourne, Vanderbilt University, and Free University of Amsterdam*, January 2011.

Casson, P.: "A re-examination of the case for accounting separately for the debt and equity features of convertible debt", *Journal of Business Finance & Accounting* 25, 1998, pages 595-612.

Choi, D., Getmansky, M., Henderson, B., and Tookes, H.: "Convertible bond arbitrageurs as suppliers of capital", *Review of Financial Studies* 23, 2010, pages 2492-2522.

Cools, K.: "Capital structure choice: Confronting (meta)theory, empirical tests & executive opinion", Drukkerij/Uitgeverij H. Gianotten B.V., 1993.

Cornelli, F. and Yosha, O.: "Stage financing and the role of convertible securities", *Review of Economics Studies* 70, 2003, pages 1-32.

Davidson, D., Glascock, J., and Schwarz, T.: "Signaling with convertible debt", *Journal of Financial and Quantitative Analysis* 30, 1995, pages 425-440.

De Jong, A., Duca, E., and Dutordoir, M.: "Do convertible bond issuers cater to investor demand?", *Working paper, Erasmus University and Manchester Business School* September 2010.

De Jong, A., Dutordoir, M., and Verwijmeren, P.: "Why do convertible issuers simultaneously repurchase stock? An arbitrage-based explanation", *Journal of Financial Economics* , 2011, pages 113-129.

De Roon, F. and Veld, C.: "Announcement effects of convertible bond loans: An empirical analysis for the Dutch market", *Journal of Banking and Finance* 22, 1998, pages 1481-1506.

Donaldson, G.: "Corporate debt capacity: A study of corporate debt policy and the determination of corporate debt capacity", *Harvard Business School, Division of Research, Harvard University*, 1961.

Dong, M., Robinson, C., and Veld, C.: "Why individual and professional investors want dividends", In: "*Dividends and dividend policy*", H. Kent Baker (ed.), Kolb Series in Finance, John Wiley and Sons, Inc., Hoboken (New Jersey), 2009, pages 405-420.

Duca, E., Dutordoir, M., Veld, C., and Verwijmeren, P.: "Why are convertible bond announcements associated with increasingly negative abnormal stock returns? An arbitrage-based explanation", *Working paper, Erasmus University Rotterdam, Manchester Business School, University of Glasgow, and Free University Amsterdam*, December 2010.

Dutordoir, M. and Van de Gucht, L.: "Why do Western European firms issue convertibles instead of straight debt or equity?", *European Financial Management* 15, 2009, pages 563-583.

Eckbo, B., Masulis, R., and Norli, O.: "Security offerings", In: "*Handbook of Corporate Finance: Empirical Corporate Finance*", Vol. 1, North Holland, Amsterdam, 2007, pages 233-373.

Faj, R.G., Brozovsky, J.A., Edwards, J.E., Lobingier, P.G., and Hicks, S.A.: "Incorporating International Financial Reporting Standards (IFRS) into intermediate accounting", Lecture Notes, Virginia Tech, 2008.

Faulkender, M. and Petersen, M.A.: "Does the source of capital affect capital structure?", *Review of Financial Studies* 19, 2006, pages 45-79.

Fenech, J.P.: "The stock market reaction to Australian convertible debt issues: New evidence", *Investment Management and Financial Innovations* 3, 2008, pages 90-98.

Gibbins, M., Richardson, A., and Waterhouse, J.: "The management of corporate financial disclosures: opportunity, ritualism, policies and processes", *Journal of Accounting Research* 28, 1990, pages 121-143.

Glaser, B.G. and Strauss, A.L.: "*The discovery of grounded field theory: Strategies for qualitative research*", Aldine Press, Chicago, 1967.

Graham, J.R., Quarter 2, 1999 FEI Survey. http://www.duke.edu/~jgraham, 1999.

Graham, J.R., and Harvey, C.R.: "The theory and practice of corporate finance: evidence from the field", *Journal of Financial Economics* 61, 2001, pages 187-243.

Green, R.: "Investment incentives, debt, and warrants", *Journal of Financial Economics* 13, 1984, pages 115-136.

Gummesson, E.: "Qualitative research in marketing: Road-map for a wilderness of complexity and unpredictability", *European Journal of Marketing* 39, 2005, pages 309-327.

Hillier, D., Ross, S., Westerfield, R., Jaffe, J., and Jordan, B.: "*Corporate Finance*," European edition, McGraw-Hill Irwin, New York, 2010.

Isagawa, N.: "Convertible debt: An effective financial instrument to control managerial opportunism", *Review of Financial Economics* 9, 2000, pages 15-26.

Jensen, M.: "Agency cost of free cash flow, corporate finance and takeovers", *American Economic Review* 76, 1986, pages 323-339.

Kim, Y.O.: "Informative conversion ratios: A signaling approach", *Journal of Financial and Quantitative Analysis* 25, 1990, pages 229-243.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R.: "Legal determinants of external finance", *The Journal of Finance* 52, 1997, pages 1131-1150.

Leary, M.: "Bank loan supply, lender choice and corporate capital structures", *The Journal of Finance* 64, 2009, pages 1143-1185.

Lemmon, M. and Roberts, M.: "The response of corporate financing and investment to changes in the supply of credit", *Journal of Financial and Quantitative Analysis* 45, 2010, pages 555-587.

Lemmon, M.L. and Zender, J.F.: "Debt capacity and tests of capital structure theories", *Journal of Financial Quantitative Analysis* (forthcoming), 2010.

Lewis, C.M., Rogalski, R.J., and Seward, J.K.: "Is convertible debt a substitute for straight debt or for common equity", *Financial Management* 28, 1999, pages 5-27.

Lewis, C.M., Rogalski, R.J., and Seward, J.K.: "The long-run performance of firms that issue convertible debt: An empirical analysis of operating characteristics and analyst forecasts", *Journal of Corporate Finance* 7, 2000, pages 447-474.

Lewis, C.M., Rogalski, R.J., and Seward, J.K.: "Industry conditions, growth opportunities and market reactions to convertible debt financing decisions", *Journal of Banking and Finance* 27, 2003, pages 153-181.

Lewis, C.M. and Verwijmeren, P.: "Convertible Security Design and Contract Innovation", *Journal of Corporate Finance* (forthcoming), 2011.

Lintner, J.: "Distribution of incomes of corporations among dividends, retained earnings, and taxes", *The American Economic Review* 46, 1956, pages 97-113.

Loncarski, I., Ter Horst, J., and Veld, C.: "Why do companies issue convertible bonds: a review of theory and empirical evidence", In: "*Advances in Corporate Finance and Asset Pricing*", L.D.R. Renneboog (ed.), Elsevier, Amsterdam, 2006, pages 105-132.

Loncarski, I., Ter Horst, J., and Veld, C.: "Why do companies issue convertible bonds? An empirical analysis for the Canadian market", *Canadian Journal of Administrative Sciences* 25, 2008, pages 214-236.

Loncarski, I., Ter Horst, J., and Veld, C.: "The rise and demise of the convertible arbitrage strategy", *Financial Analysts Journal* 65, 2009, pages 35-50.

Mayers, D.: "Why firms issue convertible bonds: the matching of financial and real investment options", *Journal of Financial Economics* 47, 1998, pages 83-102.

Magennis, D., Watts, E., Wright, S.: "Convertible notes: The debt versus equity classification problem", *Journal of Multinational Financial Management* 8, 1998, pages 303-315

McInnes, W.M., Draper, P.R., and Marshall, A.P.: "Accounting for convertible loan stock: A decomposition approach", *Accounting and Business Research* 21, 1991, pages 253-263.

McMurray, K.M. and Zelnik, J.: "*What's news in tax: Analysis that matters from Washington National Tax*", KPMG, January 31, 2011.

Myers, S.: “The capital structure puzzle”, *The Journal of Finance* 39, 1984, pages 575-592.

Myers, S. and Majluf, N.S.: “Corporate financing and investment decisions when firms have information that investors do not have”, *Journal of Financial Economics* 13, 1984, pages 187-221.

Pilcher, C.: “Raising capital with convertible securities”, *Michigan Business Studies* (University of Michigan, Ann Arbor, MI), 1955.

Scott, T., Wiedman, C., and Wier, H.: “Transaction structuring and Canadian convertible debt”, *Contemporary Accounting Research* (forthcoming), 2011.

Shah, A.K.: “Exploring the influences and constraints on creative accounting in the United Kingdom”, *The European Accounting Review* 7, 1998, pages 83-104.

Stein, J.C.: “Convertible bonds as backdoor equity financing”, *Journal of Financial Economics* 32, 1992, pages 3-21.

Suchard, J.A.: “The impact of rights issues of convertible debt in Australian markets”, *Journal of Multinational Financial Management* 17, 2007, pages 187-202.

Suchard, J.A. and Singh, M.: “The determinants of the hybrid security issuance decision for Australian firms”, *Pacific-Basin Finance Journal* 14, 2006, pages 269-290.

Veld, C.: “Motives for the issuance of warrant-bond loans by Dutch companies”, *Journal of Multinational Financial Management* 4, 1994, pages 1-24.

Wang, S.: “Convertibles in sequential financing”, *Review of Finance* 13, 2009, pages 727-760.

Wolfe, S., Daliakopoulos, S., and Gwilym, O.: “Equity valuation effects of the issuance of convertible bonds: UK evidence”, 1999, *The Journal of Fixed Income* 9, pages 7-18.

Table 1. Descriptive Information of Sample Firms[15]

Company Code	Interviewee Job Title	Year of Issuance
AUS1	CFO	2008
AUS2	CFO	2007
AUS3	CFO	2005
CAN1	CFO	2008
CAN2	VP Finance	2007
CAN3	CFO	2007
CAN4	VP Finance	2009
CAN5	CFO	2008
UK1	1) CFO and 2) Director of Corporate Finance	2007
UK2	Deputy Group Finance Director	2009
UK3	Treasurer	2009
UK4	1) CFO and 2) Co-founder	2010
UK5	Treasurer	2009
UK6	Finance Director	2009
US1	Senior Finance Manager	2009
US2	VP & Treasurer	2010
US3	CFO	2006
US4	CFO	2011
US5	CFO	2010
US6	Assistant Treasurer	2008

[15] In case of multiple issues, only the year of the last issue is mentioned (in order to avoid identification of the firms).

Table 2. Descriptive statistics of sample firms.

This table contains descriptive statistics of the 20 firms that we interviewed on their decision to issue convertible bonds. All amounts are translated in US dollars using the exchange rate one week before the issuance date. Sales are defined in millions of US dollars. Total assets is defined as the book value of assets one week before the issuance date. Return on Assets (ROA) is defined as net income divided by the book value of assets (total assets). The market-to-book equity ratio is defined as the market value of assets (one week before the issuance date) divided by the book value of assets (one week before the issuance date).

	Mean	Median
Sales ($M)	2589	965
Total assets ($M)	8989	2363
Market value of equity ($M)	4042	1336
Total debt ratio	0.313	0.312
Return on assets (ROA)	-0.195	0.004
Market-to-book equity	3.131	2.914
Proceeds ($M)	280	118
Proceeds / Total assets	0.183	0.068

Table 3. Summary of Interview Findings

Question	Response	Number of responses (Fraction of available responses)[a]
Why do firms issue convertible bonds?		
Why was convertible bond used instead of straight debt or equity?	Type 1: Straight debt (including bank loan) was too costly in terms of coupon rate. Equity was not preferred either because the firm followed the pecking order or because equity would be more costly than convertible bond (owing to dilution or stock underpricing).	13 (12/20)
	Type 2: Straight debt was too costly in terms of restrictive covenants, and equity was not chosen because of the pecking order or share dilution.	3 (3/20)
	Type 3: Straight debt was not accessible. Equity issue would be more costly than convertible bond (because of dilution or stock underpricing).	3 (3/20)
	Type 4: Convertible debt was issued to repurchase equity that was undervalued. In one issue, convertible debt was preferred to straight debt to hedge against the bad state: if the stock price would drop after the stock buyback, the lower coupon of the convertible compared to straight debt would reduce the loss from the buyback. In the other, the coupon rate of the convertible debt was floating and linked to the stock price, and the firm benefited from the higher interest tax deduction than the coupon payment.	1 (2/20)
Does the firm follow the pecking order of financing?	When debt capacity is available: The firm follows the pecking order of financing and prefer debt to equity for external financing	13 (13/20)
	Debt is not a viable option because the firm has not obtained steady cash flow from operation	3 (3/20)
	Not necessarily, depends on use of financing or stage of growth	3 (3/20)
	Not necessarily, firm needs to keep the balance sheet in equilibrium in terms of debt service ratio	1 (1/20)
The importance of market timing to convertible issuance[a]	Respondent believed that stock was underpriced	10 (10/20)
	If stock underpricing was not mentioned explicitly: issuing equity would be too dilutive	3 (3/20)
	Call spread overlay was used in combination of the convertible to reduce share dilution from conversion	4[b]
	Recent stock rally was helpful for convertible bond issuance decision	5
	High current stock price or the conversion premium was helpful for the convertible bond issuance decision	6[b]

	If stock price was lower, would use more straight debt as opposed to convertible bond, or more convertible bond as opposed to equity	3[b]
	Would use equity if stock price was significantly higher or had little potential to increase further (a.k.a. when equity is overvalued)	5
	Recent stock price increase was too much for the firm to issue more equity (not enough shareholders wanted to buy new shares)	1
	If stock price was much lower, would not use convertible instrument because the stock price would be too low, even after conversion, and if the stock price would drop the firm would have to pay back debt.	1
	Issued convertible bond when the convertibles market was hot	17 (17/20)
Was your convertible bond more like debt or equity?	More like debt	9 (9/17)
	More like equity	4 (4/17)
	Uncertain/It was a combination of debt and equity	4 (4/17)
Confirmation of convertible bond theories		
Risk shifting between debt and equity holders (Green 1984)	Theory makes sense, but did not drive issuance decision	1 (1/18)
	Rejected	17 (17/18)
Sequential financing theory (Mayers 1998)	Theory played a role	1 (1/17)
	Theory makes sense, but did not drive issuance decision	2 (2/17)
	Rejected	14 (13/17)
Backdoor equity theory (Stein 1992)	(Partially) supported	4 (4/20)
	Rejected	16 (16/20)
Investors-management Different opinions about firm risk (Brennan and Schwartz 1988)	Supported	9 (9/17)
	Rejected	7 (3/17)
	Theory makes sense when times are bad, but did not drive issuance decision	1 (1/17)
Credit rating		
The credit rating of sample convertible bond issuers	High investment-grade long-term debt (Moody's A or above)	0 (0/20)
	Low investment-grade long-term debt (Moody's Baa3-Baa1)	6 (6/20)
	Speculative-grade long-term debt (Moody's Ba1 or below)	7 (7/20)
	Debt is unrated and accessible	4 (4/20)

	Debt is unrated and not a viable option	3 (3/20)
The demand side of the market		
Role of investment banks	The investment bank played an important role as an intermediary	16 (16/19)
	The investment bank was not important for the issuance	2 (1/19)
	Investment banks were overpaid for relatively little work	1 (1/19)
Role of hedge funds / arbitrageurs[c]	Provide liquidity / make convertible bonds easy and quick to sell	6
	Normally have a negative impact on stock price before convertible bond issue	5
	Hedge fund involvement in convertible bonds has declined since the recent global financial crisis	5
	Firm allocated a limited portion of convertible bonds to hedge funds when issue was oversubscribed	5
	Hedge fund may have a short-term negative effect on stock price and should not affect corporate financing decision	4
	Hedge funds provide most of the buying, and their stock shorting is good for the share buyback	2
	Can have a negative impact on stock price prior to convertible bond maturity	1
	Hedge funds help provide a healthy market and reduce the cost of the instrument	1
	Firm may use private placement to prevent from negative effects of hedge fund short selling	1
	Not important / can't do anything about them	4
	Hedge fund may have a short-term negative effect on stock price and the firm repurchased some shares to reduce this impact	1
Warrant-bond combination as an alternative to convertibles		
Instead of convertible bond, why not consider straight debt and detachable warrant?[c]	Not what the investment banks pitched or the investors wanted	8
	Convertibles investors are normally a special pool, different from debt and equity investors	7
	Better keep it simple as convertible bond to make it easy to sell	6
	Straight bonds with call option for the issuer is harder to sell to investors especially when are not convertible	3
	Straight debt would be too costly in terms of coupon and covenants	3
	Firm cannot force conversion with straight debt plus detachable warrants, because straight debt and warrant buyers may not be the same investors (convertibles can be a good idea for a completely	2

	"ungeared" firm)	
	Warrants are viewed as "sweeteners" and may signal an unusually difficult debt issue	1
	For a high dividend-paying firm, warrants are of little value (the true value of a convertible bond is that convertible bond is associated with fewer covenants and can be repaid in stock in Canada)	1
The limit of convertible debt financing		
Any reason why firms should not use too much convertible debt?	convertible debt should only be a small proportion of the capital structure	5
	A significant part of convertible bond investors are short-term hedge funds who create more uncertainty for the firm. Firm should prefer long-only investors for their securities	5
	Firm cannot be sure whether, when, and at what price the convertible bond will be converted into equity (partly because of hedge fund short-selling before the issue or before the maturity of the convertible bond)	3
	Firm may have to sell the conversion option cheap to hedge funds	1
	Conversion often occurs at a non-optimal time for the issuer (conversion happens when firm has good cash flows and does not need to raise new equity)	1
	Firm's stock may trade more like a convertible bond rather than a regular stock if convertible bond is too much of the capital structure	1
Other topics		
Were accounting and taxes a consideration for issuing convertible bonds?	Accounting was an important consideration	1 (1/20)
	Accounting was a minor consideration, either positive or negative, but it did not drive the issuance decision	7 (7/20)
	Accounting did not play any role	12 (12/20)
	Tax was an important consideration	2 (2/20)
	Tax was a minor consideration, either positive or negative, but it did not drive the issuance decision	11 (11/20)
	Tax did not play any role	7 (7/20)
Did industry peers affect convertible bond issuance decision?	We were the leader and were not affected by peers at the time	1 (1/16)
	Other recent issuers, not necessarily in the same industry, was used as part of the information to gauge the temperature of the market	15 (15/16)

Was the convertible bond callable and why?	Yes, useful to force conversion and get rid of debt overhang / raise more debt / re-finance at lower cost	10 (10/20)
	Yes, this was a standard feature and was necessary	2 (2/20)
	Yes, useful to signal the potential to convert to a reasonably high price	1 (1/20)
	Yes, useful to protect from paying too high a coupon rate	1 (1/20)
	No, firm prepared to let convertibles run their course and convert[d]	2 (3/20)
	No, firm has to pay for the call option	1 (3/20)
	No, the call provision would impact the marketability of the conversion instrument	1 (1/20)

[a]: When a fraction is indicated, the number of responses is measured as a proportion of total non-missing responses to a certain question. In cases where the respondents provided additional insights or answers to an unasked question, the fraction is not indicated.

[b] In case of one company that did two convertible bond issues, this argument only applied to one of the two issues.

[c] For this question respondents often gave more than one answer; hence the total number of observations is larger than 20.

[d] The management of one of the companies that gave this answer was responsible for two convertible bond issues. This answer only applied to the last convertible. The first issue was callable, because at that time the management found it useful to protect itself from paying a high coupon for too long.

Appendix 1: Accounting and tax treatment of convertibles in Australia, Canada, the United Kingdom, and the United States.

Accounting reasons may play a role in the decision to issue convertible bonds. The appropriate accounting treatment of convertible bonds has been a debated topic for a very long time (see, e.g. McInnes, Draper, and Marshall, 1991, and Shah, 1998). There are two opposing points of view (Casson, 1998). The first is that convertible debt should be presented as a single instrument on the balance sheet of the issuer. The second viewpoints holds that is possible to identify separate debt and equity components of convertible debt and that they can be separately presented in the balance sheet. Since 2005 UK listed companies are required to prepare consolidated accounts on the basis of International Financial Reporting Standards (IFRS). IFRS requires "split accounting" for convertibles, whereby the proceeds are allocated between a liability component (at its fair value) and an equity component (the residual amount). In contrast the US GAAP recognizes the entire amount of proceeds for convertible debt as a liability unless it includes a beneficial conversion feature (Fay, Brozovsky, Edmonds, Lobingier, and Hicks, 2008). Scott, Wiedman, and Wier (2011) present an interesting analysis for Canada. From 1996 to 2003 Canadian companies enjoyed some flexibility in their reporting for convertible bonds. The authors find that this flexibility was widely used with some companies treating the offerings exclusively as a liability, and others treating them exclusively as equity.

A recent change in U.S. accounting rules only applies to convertible bonds that may (partially) be settled in cash (FSP APB 14-1). This new rule requires an issuer of an FSP 14-1 convertible to separately account for the liability and equity components of the debt. This allocation results in a discount on the debt component equal to the difference between the total proceeds received and the value of the debt component. This discount is amortized to earnings as deductible interest expense over the expected life of the convertible (see McMurray and Zelnik (2011) for further details). However, for tax purposes, this allocation between the liability and the conversion right is not permitted (see McMurray and Zelnik, 2011).

Appendix 2: Outline of interview questions

Opening statements

This is a recording on *** date of the interview ***, *** name(s) of the person(s) to be interviewed *** and *** name of the interviewer ***. *** first name of the interviewer *** is the interviewer. *** name of the person to be interviewed *** is the *** job title and affiliation of the person to be interviewed ***. The academic and ethical rules are as follows: *** first name of the person to be interviewed *** can stop at any point, he can change his mind about anything he has said, he can ask me not to quote him, and he will, both he and his employer, not be identified in any way in anything that we publish.
For the record, also, the other authors on this work, even though they are not present, are *** names and affiliations of the co-authors who are not present during the interview ***

Q1. What were the reasons for your company to issue *** amount of convertible notes in the year of ***?

Q2. Did you consider either straight debt or equity as an alternative for a convertible bond issue? Which did you consider? What were the most important reasons to choose for convertible bonds instead of these alternative instruments?

Q3. Was your decision to issue convertibles motivated by recent offerings by industry peers?

Q4. Did the stock price at the time of the announcement play a role?

Q5. Did the expected stock price reaction at the convertible bond announcement play a role?

Q6. Did you consider the role of convertible bond arbitrageurs in your decision to issue convertible bonds?

Q7. Did you consider the combination of warrants and straight bonds as an alternative for a convertible bond issue?

Q8. In your opinion, is a convertible bond more like a straight bond or more like equity?

Q9. What was the role of the investment bank in the decision to issue convertible bonds?

Q10. Did accounting reasons play a role in the decision to issue convertible bonds? Is there any tax advantage in offering convertibles?

Q11. What was the most important consideration for whether to include a callability provision?

Q12. Did overall stock market valuations and volatility play a role in the convertible bond issuance decision? Did the credit market play a role?

Q13. There are a number of theories that try to explain why companies issue convertibles. I would like to briefly run those by you to see what you think of them.

1) Does your company have a lot of real investment options? One theory says that convertible bonds are used when companies have real investment options; and given the uncertainty of these options, companies prefer to issue convertible bonds. Do you agree?

2) Do you believe that convertibles are suitable to protect bondholders against unfavorable actions (such as making very risky investments) by managers or stockholders?

3) One theory says that convertible bonds are used when the management and shareholders have different opinions about the value or risk of the firm's assets. Do you agree?

4) One theory says that convertible bonds are used as a backdoor to equity. You actually want to issue equity, but equity issuance sends a bad signal to the investors. Do you agree?

Q14. What other questions should I have asked?

Appendix 3. Reasons Given by the Interviewees for Why the Convertible Instrument Was Chosen for Each of the Sample Firms

Company Code (Type[a])	Why Convertible Was Issued Instead of Straight Debt or Equity
Firm 1 (Type 1)	1. Bank debt market was closed at the time. Banks believed the firm's project was risky and the firm would need to issue equal amount of equity to have the ability to service any new debt. 2. Convertible bond was cheaper compared to straight bank debt in terms of coupon rate. Also, convertible was cheaper than equity in terms of the dilution amount and timing (in 5 years). 3. Another reason for not issuing straight debt was that the covenant structure that the banks were proposing was fairly prohibitive. 4. Equity was not considered because the firm's stock was underpriced (the market was skeptical about the value of the asset and future projects). Convertible bonds would have very limited effect of dilution in comparison to an equity issue: they would convert to equity at a premium while new equity would be issued at a discount. 5. As part of the convertible issue the firm negotiated a carve-out to allow the firm to raise future secured debt if needed.
Firm 2 (Type 1)	1. Convertible was preferred to straight debt because of the lower yield. 2. The firm preferred debt to equity financing when debt capacity was still available. But the leverage level had gone up, and the firm believed in a tipping point of 20% as to how much convertible debt the firm should have on the balance sheet. So, this convertible was done as a "combo offer" along with an equity issue. 3. Share price had recently gone down, and analysts did not view it a good decision to issue equity. 4. If share price were even lower, the firm would have used more convertible and reduced the total amount of issuance.
Firm 3 (Type 1)	1. The bank debt market was closed at the time. Straight bond yield was much higher than the yield on convertible (about 10% compared with 4%), and the differential was at an extreme level. 2. Equity was not considered because the firm had ruled it out (because of the debt-to-equity pecking order). Also, convertible would have limited effects of share dilution compared to an equity offer. 3. The firm issued a second positive trading statement in a two-month period. Share price had come off its low and almost tripled – which was critical for issuing a meaningful amount of convertible capital. 4. The convertible market was hot; strong demand came not only from hedge funds but from the long-only convertible bond funds. Volatility of firm's stock was high which helped on conversion premium.
Firm 4 (Type 1)	1. The reason for issuing convertible was pricing: conversion premium was a historical high (30%) in the industry, compared to below 20% of the normal figure. 2. Recent stock price rally encouraged the firm to issue convertible. Otherwise the firm would have hesitated. 3. The firm also issued debt and equity around the same time, but wanted to use all these instruments to keep balance sheet in equilibrium, in terms of the debt service coverage ratio.
Firm 5 (Type 1)	1. The reason for choosing convertibles was to reduce the cost of financing: straight debt was too expensive because the firm did not have a credit rating,

	and private debt would be covenant-heavy and pricy. 2. Equity was undervalued and the firm did not issue equity to avoid that level of dilution. 3. If the stock was trading significantly higher, the firm would've given a more serious consideration to an equity offer. 4. The firm used call spread overlay, and the purpose was to reduce the potential share dilution by increasing the effective conversion premium.
Firm 6 (Type 1)	1. The banking market had become so difficult even from relationship banks. 2. Equity was not considered because of share dilution and undervaluation considerations. 3. The firm was pretty confident that the future growth of the business would enable conversion of that debt rather than being forced to repay it after 5 years. 4. The firm believed that it's always more efficient to finance at least partially by debt.
Firm 7 (Type 1)	1. The firm chose convertible bond over straight debt because the cost of straight debt was much higher. 2. The firm did not want to issue equity for fear of dilution, and the stock traded around book tangible value and was believed to be underpriced. 3. The firm used call spread overlay in combination with the convertible offer, so that share dilution will occur only after the stock price increases above a level that is much higher than the conversion price, to reduce the potential of share dilution. 4. Economic cost of the convertible and call spread transaction was significantly cheaper than (only about half of) straight debt coupon rate. Issuing convertible also saved the implicit cost of covenants. 5. This CB instrument makes it more likely (than straight debt) to be able to go to the public market and raise the fund.
Firm 8 (Type 1)	1. The firm believed stock was underpriced and did not want to issue equity. Management had told shareholders that the firm would not issue equity. 2. Cost of straight bonds was too high. Yield reached 11% ("too painful to consider at its simplest") and even that could not guarantee bond sale. 3. The firm wanted to issue convertible to signal to the market that it had financing capabilities, thereby reducing the future cost of debt. 4. The convertible market opened. The issue was heavily over-subscribed which allowed the firm to achieve a high conversion premium.
Firm 9 (Type 1)	1. Convertible was cheaper and had much lower coupon rate than straight debt. 2. The firm did not issuing straight equity because of dilution concern and also the belief that the shares were underpriced. 3. Convertible also represented delayed equity, and the lower coupon more than compensated for any dilution to equity holders. 4. The convertible market was getting hot and convertible debt was becoming a fairly common instrument. Companies of similar sizes were using them. 5. If valuation was lower, the firm might consider straight debt. If management believed there was not much potential for the stock price to go up, then the firm would issue equity because the conversion price would never be reached.
Firm 10 (Type 1)	1. The first priority would be to issue straight debt. However, the firm had just issued a large amount of straight bonds. The bank debt market was dysfunctional at the time. Convertible was chosen because straight bond yield was more than double the yield on convertible, and the yield differential between straight debt and convertible was at an extreme level. 2. Equity was not issued because the firm did not want the dilution. Convertible

	would have very limited effect in terms of dilution in comparison to an equity issue. 3. The convertible issue was also intended to eliminate speculation about a rights issue of equity. (The respondent believed that the first 2 reasons were more generic.) 4. The firm was monitoring the convertible market for about 18 months. It was good timing on the convertible market at the time. 5. Share price had rallied more than 50% recently and the rally coincided with very attractive market conditions. But stock price wasn't the primary reason for convertible decision – less important compared to equity issue (which the respondent believes is more of a play on stock price).
Firm 11 (Type 1)	1. Debt capacity was close to full (20% of total assets was in straight asset-backed debt). Any incremental subordinated debt would be quite expensive. The firm didn't want to "over-gear" the business. 2. Equity was not issued because the firm did not want the dilution. Shares were believed to be underpriced because the executive felt that growth opportunities had not been realized or reflected in the share price. 3. Timing was right, and the price and coupon rates were good. (The executive said: "We were lucky with our timing because I think the window closed quite quickly again afterwards.")
Firm 12 (Type 1)	1. Management believed that the firm's stock was "well valued". Stock was trading near all time highs. If the convertible debt was converted into shares, the conversion price would be so high that share dilution would be a "good problem to have". If the convertible debt would not be converted, the coupon would be lower compared with straight debt. 2. The firm did not issue equity because of dilution concerns: it preferred to issue at conversion price rather than the current price. The firm did not use debt because convertible debt had lower coupon rate. 3. If the stock was trading significantly lower, the firm would've not issued convertible, because if the stock price would go up, the effective price to issues shares would still be too low; and if price would go down, the firm would still be left with debt to pay. 4. The convertible market was good and many recent issues from other firms were oversubscribed.
Firm 13 (Type 1)	1. Straight debt was too costly compared to convertible debt. The yield on straight debt was nearly three times the yield on convertible. 2. Equity was not considered because of share dilution. The respondent believes that equity is the most expensive form of financing because of dilution, and believes that everyone company prefers debt to equity financing if possible. 3. The firm believed that stock price was at least not overvalued, and perhaps undervalued because the firm used call spread transactions to reduce share dilution effects. 4. The Convertible market was fairly strong.
Firm 14(Type 2)	1. Most important: Convertible debt avoided restrictive covenants that would have disallowed the use of funds for actions such as acquisitions. 2. Recent share price increase (20-30%) made convertible less costly compared to subordinated bank loans. 3. The convertible market was getting hot. There is a window open for very attractive terms and low interest coupons. Hurdle rates (i.e., conversion rates) could be very high. 4. Didn't consider equity issue because shareholders (especially the 4-5 large shareholders) did not want that level of dilution. Shareholders were "perfectly

	happy with the convertible". 5. The leverage level was not aggressive, and shareholders would prefer to use debt to equity issuance.
Firm 15 (Type 2)	1. The firm did not consider straight debt because of the covenants and increase in the debt/equity leverage. Straight debt was considered, but was not selected because of the financial constraints associated with it. 2. The opportunity to take on convertible debt became available and the firm seized it. 3. The conversion premium was unusually high-- 40% compared to the norm of 10-20%. 4. Stock price had gone up (doubled) though still *undervalued.* Equity issue would be too dilutive; issuing at the conversion price would be more reasonable.
Firm 16 (Type 2)	1. There was room in the debt structure, but the firm did not consider straight debt because of the covenants. 2. Convertible was considered as a safer debt which can be settled by shares. 3. The convertible market became more active. 4. Stock pricing was "not there" for an equity issue in the sense that the stock price had gone up substantially and shareholders would not believe a big potential to gain.
Firm 17 (Type 3)	1. Bank debt was not extendable. The firm had no access to straight debt. 2. Equity was not considered because shareholders (including a large shareholder who was going to provide substantial funds) wanted to have the *option* of converting to equity rather than just straight equity. 3. Stock price was fairly priced even thought the firm was in financial distress. Conversion premium (about 50%) set a reasonable target for the price, so if conversion had happened, both existing shareholders and convertible note holders would have been quite happy.
Firm 18 (Type 3)	1. Straight debt was not possible because the firm did not have significant revenues. 2. The firm was not ready to list its stock in the European market where the investor base should be (the technology resonates better with European investors). Shareholders were not supportive to issue new equity in Australia. 3. The firm was looking for a bridging finance. The financing was a life-and-death question for the firm's existence. The firm believed that if the listing in Europe could happen, that would lift a big doubt about financing and share price in Australia would rally. 4. Even though unhappy with the stock price, the firm believed that the stock price was a fair reflection of the financial stress at the time.
Firm 19 (Type 3)	1. Bank debt was not accessible, and the firm had no access to straight debt because the firm had not established steady cash flows with positive earnings. 2. Equity was not considered because the stock was down and underpriced, and convertible could take advantage of perhaps a better stock price in the future. 3. Shareholders, including two large shareholders who were going to provide substantial funds, preferred convertible bonds.
Firm 20 (Type 4)	1. The firm believed that its stock was undervalued. The firm wanted to issue a debt-instrument to buy back shares, instead of using its own cash stored overseas, to save tax. 2. Convertible was used instead of straight debt mainly to reduce the downside risk: If stock price would go down, convertible would be less costly because its coupon rate was lower than straight bond. Straight debt would turn out to be a

	good instrument only if the stock price would go up. Put differently, the firm was risk averse and wanted to avoid being a stock picker. 3. The firm used call spread transactions to effectively boost the conversion stock price and further protect from share dilution. 4. The firm also used interest rate swap to convert fixed coupon into floating coupon payments, to match the balance sheet cash that was earnings a floating rate.

[a]: "Type" refers to one of the four types of primary reasons why convertible was chosen instead of straight debt or equity, as specified in the entry for the first question of Table 3.