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## The Role of Convertible Securities in Corporate Finance

George W. Dent

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## The Role of Convertible Securities in Corporate Finance

George W. Dent, Jr.\*

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## I. INTRODUCTION

Why are convertible securities used in corporate finance? Critics claim that the combination of disparate features in these securities makes no more sense than packaging apples and oranges together.<sup>1</sup> Under this view convertibles are a zero-sum game: any benefits to purchasers come at the expense of the issuer, and vice versa. If this is so, the use of convertibles must be a mistake for the issuer or the purchaser, or both. However, just as bees continued to fly and pitchers still threw curve balls even when scientists declared these acts physically impossible, corporations still issue and investors still purchase convertible securities despite their alleged uselessness. The persistent use of convertibles evidences that they must serve a purpose.

Some economists believe that convertibles deter issuers from exploiting lenders by undertaking high risk projects with negative net present value.<sup>2</sup> Others claim that convertibles credibly signal positive information about the issuer, thereby overcoming investors' fears of false disclosures.<sup>3</sup> A third thesis argues that medium quality firms use convertibles to avoid both the negative reaction of stock markets to equity financings and the risks of bankruptcy created by straight debt.<sup>4</sup> The remaining explanation sees

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1. See William A. Klein, *The Convertible Bond: A Peculiar Package*, 123 U. PA. L. REV. 547, 553 (1975); see also B. GRAHAM ET AL., *SECURITY ANALYSIS* 601-02 (4th ed. 1962); Wilbur G. Lewellen & George A. Racette, *Convertible Debt Financing*, 8 J. FIN. & QUANTITATIVE ANALYSIS 777, 784-86, 791 (1973) (reflecting the Modigliani-Miller thesis that "the market value of any firm is independent of its capital structure"); Franco Modigliani & Merton H. Miller, *The Costs of Capital, Corporation Finance, and the Theory of Investment*, 48 AM. ECON. REV. 261, 268 (1958).

2. See Michael J. Brennan & Eduardo S. Schwartz, *The Case for Convertibles*, 1 CONTINENTAL BANK J. APPLIED CORP. FIN. 55, 59 (1988); Richard C. Green, *Investment Incentives, Debt, and Warrants*, 13 J. FIN. ECON. 115, 115-17 (1984); Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305, 345 (1976); Wayne H. Mikkelsen, *Convertible Debt and Warrant Financing: A Study of the Agency Cost Motivation and the Wealth Effects of Calls of Convertible Securities* 19-28 (1980) (unpublished manuscript, on file with the author); Clifford W. Smith, Jr. & Jerold B. Warner, *On Financial Contracting*, 7 J. FIN. ECON. 117, 141-42 (1979).

3. See Michael J. Brennan & Alan Kraus, *Efficient Financing Under Asymmetric Information*, 42 J. FIN. 1225, 1237-40 (1987); George M. Constantinides & Bruce D. Grundy, *Optimal Investment With Stock Repurchase and Financing as Signals*, 2 REV. FIN. STUD. 445, 461 (1989); Jeremy C. Stein, *Convertible Bonds as Backdoor Equity Financing*, 32 J. FIN. ECON. 3, 13-14 (1992).

4. Stein, *supra* note 3, at 19.

convertibles as discouraging equity holders from prematurely dissolving highly leveraged firms.<sup>5</sup>

This Article examines these theories and finds them insufficient even for public companies, to which they are supposed to apply. They fare worse yet for private firms which use convertibles even more frequently. Indeed, no one theory explains all uses of convertibles. Convertibles can reduce agency costs by reconciling differences in risk aversion and diminishing managers' exploitation of investors, but they can also promote managers' interests at the expense of shareholders. The mix of factors varies from case to case. Thus, the role of convertibles proves complex and diverse.

After describing convertible securities (part II) and existing explanations for their use (part III), this Article challenges those explanations for public offerings (part IV), and for private placements by both public (part V) and private firms (part VI). Part VII examines the frequent use of convertible preferred stock ignored by prior studies. Part VIII discusses some implications of the Article's conclusions for future research on capital structure.

## II. CONVERTIBLE SECURITIES

Convertible securities are a major vehicle for financing businesses.<sup>6</sup> The typical convertible is debt (note, debenture, or bond) or preferred stock that can be exchanged by the holder within a stated period for common stock of the issuer.<sup>7</sup> The conversion ratio is fixed when the convertible is issued.<sup>8</sup> A conversion option is valuable to holders, so convertible debt carries a lower interest rate than straight debt of the same issuer.<sup>9</sup> Convertibles tend to be used by companies that are smaller and riskier than those that finance with straight debt.<sup>10</sup>

Convertibles are often callable—the issuer may redeem them during a stated period at a stated price, which is usually the issue price, plus any accrued, unpaid interest or

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5. See Stewart C. Myers, *The Determinants of Corporate Borrowing*, 5 J. FIN. ECON. 147, 153-55 (1975); Jacques A. Schnabel, *An Agency-Theoretic Perspective on Participation Clauses in Loan Contracts*, 20 J. BUS. FIN. & ACCT. 133, 133-34 (1993).

6. See Randall S. Billingsley et al., *The Choice Among Debt, Equity, and Convertible Bonds*, 11 J. FIN. RES. 43, 43 (1988) ("[F]rom 1980 to 1985 U.S. firms raised between six percent and ten percent of their total long-term funds with convertible debt issues").

7. See WILLIAM A. KLEIN & JOHN C. COFFEE, JR., *BUSINESS ORGANIZATION AND FINANCE* 294 (5th ed. 1993).

8. The conversion price is usually 10-20% above the market price of the common at the time of issue. See Robert M. Soldofsky, *The Risk-Return Performance of Convertibles*, J. PORTFOLIO MGMT., Winter 1981, at 81.

9. *Id.* The difference averages about 3%, but varies from case to case. For example, conversion is more valuable (so the difference in interest rates from straight debt is greater) when the conversion price is closer to the market price of the common. Likewise, convertible preferred stock commands lower dividends than straight preferred. *Id.*

10. RICHARD A. BREALEY & STEWART C. MYERS, *PRINCIPLES OF CORPORATE FINANCE* 549 (4th ed. 1991) ("[C]onvertibles tend to be issued by the smaller and more speculative firms"); see also Billingsley et al., *supra* note 6, at 49 (asserting that "smaller [public] firms are more likely to issue either equity or convertibles, while large firms tend to issue debt"); Brennan & Schwartz, *supra* note 2, at 56 ("[C]ompanies issuing convertibles tend to be those for which uncertainty about risk is likely to be greatest").

dividends, plus a call premium.<sup>11</sup> Calls must be preceded by notice which enables holders to convert to common stock before redemption.<sup>12</sup> When the conversion value exceeds the call price, issuers can, and often do, force conversion by giving notice of redemption.<sup>13</sup>

### III. RECEIVED EXPLANATIONS OF CONVERTIBLES

An inviting justification for convertibles is that they offer investors the best of both worlds—the superior protection of a senior security and the opportunity to take common stock if its value rises. If convertibles are the best of both worlds for investors, though, they must be the worst of both worlds for issuers (or, more precisely, their shareholders). When an issuer prospers, the investor converts at a bargain price and shares the prosperity. Yet, when the firm languishes, the investor keeps the senior security with its income and liquidation preferences while shareholders get little or nothing. However, if a convertible is priced to reflect these benefits to investors, the advantage to the investor disappears.

Can convertibles be efficient—better for not just one side, but for both? Legal scholars have ignored this question, but several financial economists have tackled it. Some of them advance a “risk incentive” theory:<sup>14</sup> equity holders can exploit holders of straight debt (i.e., creditors, including lenders) by taking on risky (i.e., high variance) projects with negative net present value. If the projects and the firm fail, creditors bear much of the loss. If the projects succeed, however, lenders get only a limited, fixed return while equity holders reap most of the gains. Convertibles, it is argued, solve this problem by enabling lenders to convert to equity if the projects succeed.<sup>15</sup> By forcing shareholders to share the profits from successful projects, convertibles deter issuers from undertaking projects with negative net present value.

Firms seeking capital must assure investors that negative information about the firm has not been withheld. Some economists posit that convertibles bridge the “infor-

11. See Klein & Coffee, *supra* note 7, at 249; William W. Bratton, Jr., *The Economics and Jurisprudence of Convertible Bonds*, 1984 WIS. L. REV. 667, 678 (call price is “usually fixed at par plus a small premium”). Calls are often prohibited for some period (often two years) after issue. See *id.* at 678 n.38.

12. Notice is required by the federal securities laws even if not by contract. See LOUIS LOSS, *FUNDAMENTALS OF SECURITIES REGULATION* 924 (1983).

13. Wallace N. Davidson III et al., *Signaling with Convertible Debt*, 30 J. FIN. & QUANTITATIVE ANALYSIS 425, 430 (1995) (demonstrating that nearly half of convertible debt issues in study were called); Wayne H. Mikkelsen, *Convertible Calls and Security Returns*, 9 J. FIN. ECON. 237, 239 (1981).

14. The term is used by Green, *supra* note 2. The same phenomenon is called “risk shifting” by M. P. Narayanan, *On the Resolution of Agency Problems by Complex Financial Instruments: A Comment*, 42 J. FIN. 1083, 1083 (1987); “wealth transfer” by Robert A. Haugen & Lemma W. Senbet, *Resolving the Agency Problems of External Capital Through Options*, 36 J. FIN. 629, 640 (1981); and “asset substitution” by Smith & Warner, *supra* note 2, at 118-19. Shareholders can also increase risk to creditors by “claim dilution”—i.e., adding more debt. See Smith & Warner, *supra* note 2, at 118.

15. See sources cited *supra* note 2. Put another way, increases in the issuer’s risk reduce the value of the debt component by increasing the value of the equity component of convertibles. Brennan & Schwartz, *supra* note 2, at 59; see also VICTOR BRUDNEY & WILLIAM W. BRATTON, *CORPORATE FINANCE* 400 (4th ed. 1993) (“The more volatile the price of the stock, the higher the value of the call [i.e., option to purchase the stock]”).

mation asymmetry" between issuers and investors by giving investors the safety of a debt instrument in case the firm's disclosures prove false. Only if the firm thrives will the investors take equity in the firm by converting the debt to common stock.<sup>16</sup>

Jeremy Stein advances a financial distress theory based on pecking order concepts—"good" firms borrow while "bad" firms issue stock. A "medium" firm fears "the negative inference the market would draw":<sup>17</sup> that the firm is "bad" if it issues stock. Straight debt is also unattractive because of the costs of financial distress,<sup>18</sup> including bankruptcy. Therefore, medium firms issue convertibles.

Several implications flow from Stein's theory. First, managers view convertibles as "delayed" or "backdoor" equity, not as "sweetened debt."<sup>19</sup> Second, convertibles are "especially valuable for firms that: 1) are characterized by significant informational asymmetries; and 2) might incur large costs of financial distress if they added more debt to their capital structure."<sup>20</sup> Third, issuing convertibles should not injure a company's stock price as does issuing equity.<sup>21</sup>

In a company with debt, shareholders might liquidate rather than obtain new financing, even if the firm has a positive net present value, if returns on new financing would be inadequate. This "underinvestment" problem<sup>22</sup> can arise even though creditors want the firm to continue. An equity feature in the debt (including, but not limited to, convertibility) diminishes this problem by reducing the interest on the debt. Therefore, it is less likely that interest will consume so much income that equity holders will liquidate a firm with positive net present value.<sup>23</sup>

#### IV. PUBLIC OFFERINGS OF CONVERTIBLES

##### A. The "Risk Incentive" Hypothesis

The risk incentive theory assumes that "all agents are risk-neutral,"<sup>24</sup> but most managers are risk-averse. Most shareholders are risk-neutral toward each public company because they diversify away risk by holding a broad portfolio of investments. Man-

16. See sources cited *supra* note 3.

17. Stein, *supra* note 3, at 8. For a general discussion of pecking order theories, see Lakshmi Shyam-Sunder & Stewart C. Myers, Testing Static Trade-Off Against Pecking Order Models of Capital Structure 4 (1993) (unpublished manuscript, on file with the author).

18. See Stein, *supra* note 3, at 8-9.

19. Stein finds evidence for this in the attitudes of managers and in the fact that two-thirds of convertible bonds issued eventually are converted. *Id.* at 12, 15. But see *infra* text accompanying notes 49-51.

20. Stein, *supra* note 3, at 13-14 (citing empirical evidence); see also Jensen & Meckling, *supra* note 2, at 354. Such firms are known as "highly leveraged firms."

21. Stein, *supra* note 3, at 15-17 (including empirical evidence). But see Larry Y. Dann & Wayne H. Mikkelson, *Convertible Debt Issuance, Capital Structure Change and Financing-Related Information*, 13 J. FIN. ECON. 157, 184 (1984) ("Significant negative abnormal returns accrue on average to common shareholders of firms announcing a new public offering of convertible debt."); B. Espen Eckbo, *Valuation Effects of Corporate Debt Offerings*, 15 J. FIN. ECON. 119, 149 (1986) ("Convertible debt offerings have a negative impact on the firm's common stock price.").

22. See sources cited *supra* note 5.

23. See Schnabel, *supra* note 5, at 135.

24. Stein, *supra* note 3, at 5. Others make the same assumption even while recognizing that it skews results. See, e.g., Constantinides & Grundy, *supra* note 3, at 450.

agers avoid risk because they cannot diversify their investment of both money and human capital in the firm.<sup>25</sup> High variance projects may increase the stock price of firms with debt, but they also raise the risk of bankruptcy. Most public company executives own but a tiny share of the firm's stock, so their potential gains from risky projects are small. Bankruptcy, however, threatens their compensation, perquisites, discretion, and even their jobs. Thus, "the claim that the manager holds on the firm in the form of his wage contract has some of the characteristics of debt."<sup>26</sup> His interests may align more with the creditors' than with the shareholders'. Tying compensation to share price by giving managers stock or stock options does not necessarily cure this problem. It rewards success, but fear of personal loss from a falling stock price may increase the risk aversion of managers who own a large block of a firm's stock.<sup>27</sup>

Shareholders do not control most public firms; the risk-averse managers do.<sup>28</sup> In public firms, then, the risk incentive problem is minor, as their call practices show. Calls typically occur when "the conversion value of the called debt claims exceeds the call price . . . [O]n average common stock values fall approximately two percent at the announcements of convertible debt calls . . . ."<sup>29</sup> The damage to shareholders may actually be greater.<sup>30</sup> This indicates that managers make calls not to maximize share value, but to diminish their own risk by reducing debt, which they do as soon as the expected damage to stock price is small enough to avoid a shareholder revolt.<sup>31</sup> If undue

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25. See John C. Coffee, Jr., *Shareholders Versus Managers: The Strain in the Corporate Web*, 85 MICH. L. REV. 1, 37 (1986) ("There is a natural incentive . . . for managers to limit their debt financing to as low a value as is consistent with signalling"); see also Stephen A. Ross, *The Determination of Financial Structure: The Incentive-Signalling Approach*, 8 BELL J. ECON. 23, 33-35 (1977) (explaining that managers' risk aversion may affect choice of financial structure).

26. Jensen & Meckling, *supra* note 2, at 353.

27. See Coffee, *supra* note 25, at 18, 24; Dennis W. Carlton & Daniel R. Fischel, *The Regulation of Insider Trading*, 35 STAN. L. REV. 857, 869, 875-76 (1983).

28. In reliance on the managers' risk-aversion, some lenders waived or weakened covenants and suffered losses in leveraged buyouts in the 1980s. Still, the use of covenants in public debt offerings continues to decline. See ILEEN B. MALITZ, *THE MODERN ROLE OF BOND COVENANTS* 43-44 (The Research Foundation of the Institute of Chartered Financial Analysts 1993) (indicating that the same is true of private placements); Mark Carey et al., *The Economics of Private Placements: A New Look*, 2 FIN. MARKETS, INSTITUTIONS, & INSTRUMENTS, Aug. 1993, at 1, 29 (explaining that the decline of covenants may reflect a market glitch. Public bond funds seek higher yields to attract investors, even at the expense of more valuable covenants, which investors cannot value. Competition then forces purchasers in private placements to waive or weaken covenants, too.).

29. Mikkelsen, *supra* note 13, at 237, 239.

30. Stock prices are affected only by unexpected news. If the market expects that management will probably call convertibles and that the call will reduce share values, share prices will already be diminished to reflect that expectation.

31. Mikkelsen recognizes that call practices reflect the managers' own interests, not the shareholders', but he does not speculate on how calls benefit managers. Mikkelsen, *supra* note 13, at 243. Calls may also have an "information effect." "[I]f managements, in anticipation of difficult times, have a tendency to clear the decks of fixed and semi-fixed obligations by forcing conversion, the market would then come to recognize forced conversions as unfavorable auguries, and mark down the stock prices accordingly." Brennan & Schwartz, *supra* note 2, at 62. Calls may signal management's intentions as well as its expectations about market conditions. Conversion reduces interest payments and thus increases free cash flow. When convertibles are called, the market may expect the managers to waste some of this extra cash flow. Cf. *infra* note 60 and accompanying text (noting that managers tend to waste free cash flow).

risk-taking threatens lenders, convertibility does not significantly alleviate that threat. Conversion prices are set at a premium over the issuer's share price at time of issue,<sup>32</sup> so conversion makes sense only if the stock price rises sharply or the value of the debt collapses. Managers take high risks only when a firm is in dire straits. However, at that point, the firm's stock price will have fallen and conversion will make no sense, even if the value of the debt has also dropped.<sup>33</sup> Therefore, making debt convertible does not deter extreme risk-taking.

In fact, most debt is not convertible. Rather, lenders obtain covenants that require the borrower to maintain compliance with various financial tests and limit asset substitution.<sup>34</sup> These tests both limit risk-taking and provide an early tripwire signalling an issuer's financial distress. If convertibles were employed when an issuer is considered likely to undertake undue risk, covenants would be especially stringent in convertible financings. In practice, however, the opposite is true—covenants tend to be tighter for straight debt.<sup>35</sup>

Although managers dislike risk, shareholders of firms with straight debt have an incentive to increase risk. Convertibles may limit this incentive and thereby reduce shareholder pressure on managers to increase risk.<sup>36</sup> Still, for public firms excessive risk-taking is a minor concern, and convertibility is only a secondary protection against that concern.

A variant of the risk incentive theory asserts that convertibles are issued by firms already viewed as risky.<sup>37</sup> Risky firms face higher interest rates for straight debt than safer firms, but convertibility is more valuable for risky firms.<sup>38</sup> Thus, a risky firm may be able to issue convertibles at the same interest rate as a safer firm. This benefit comes at a price, however. The conversion option is more dilutive of the common stock of a risky firm than it is for a safer firm. Thus, this variant also fails to identify any advantage to shareholders stemming from use of convertibles; the beneficiaries still seem to be the managers.

The risk incentive theory posits that convertibility exists primarily to deter issuers from undertaking risky projects with negative net present value. It would follow that convertibles are primarily debt. This clashes with the "asymmetric information" and "financial distress" theories, which primarily view convertibles as equity.<sup>39</sup> It also

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32. See Soldofsky, *supra* note 8, at 81.

33. Because creditors are preferred over shareholders in bankruptcy, a firm's stock price drops faster than the value of its debt if it approaches bankruptcy. In theory, taking on high-variance projects might increase a firm's share price before the results of the projects are known. However, conversion only makes sense when share price rises above the conversion price, which is usually 10-20% above the market price at the time of issue. See *id.* at 82. If such an increase can be achieved at all, it comes only by assuming far greater risk than most risk-adverse managers would even consider.

34. See Smith & Warner, *supra* note 2, at 117. Other covenants limit dividends and redemptions. The latter are designed primarily for other purposes, but also deter high risk-taking by keeping issuers out of a parlous financial condition in which the shareholders might be tempted to take high risks.

35. See Bratton, *supra* note 11, at 673.

36. See Brennan & Schwartz, *supra* note 2, at 59 (stating that managers may issue convertibles to reduce pressure to assume high risk).

37. *Id.* at 58-59.

38. Brudney & Bratton, *supra* note 15, at 400.

39. See *infra* text following note 41, text accompanying note 42.



clashes with the tenet of the financial distress theory that managers shun straight debt because they are risk-averse.

### B. The "Asymmetric Information" Hypothesis

A second theory is that convertibles bridge an information asymmetry between investors and issuers.<sup>40</sup> A related thesis is that convertibles "make sense whenever it is unusually costly to assess the risk of debt" because of extraordinary uncertainty.<sup>41</sup> Under this view, convertibles reassure investors about the issuer's disclosures and stability: if information proves false and the issuer falters, the investor retains the seniority of debt. The investor's primary interest is in equity, however. Thus, this explanation views convertibles primarily as "backdoor equity."<sup>42</sup> This makes no sense for the issuer. If the issuer is confident its stock price will rise, why give investors a bargain conversion price? For a firm plagued by information asymmetries, "it would be even better to issue straight debt, retiring it with proceeds of a stock issue after the stock price has risen."<sup>43</sup> Nor does the asymmetric information thesis square with the view of convertibles as "sweetened debt." If investors fear deceit and default, convertibility won't help because conversion makes sense only if an issuer prospers. The investors would prefer straight debt, which carries a higher interest rate and tighter restrictive covenants than convertibles. That covenants are less stringent for convertibles<sup>44</sup> suggests that information asymmetries are not the main concern of investors.

### C. The "Financial Distress" Hypothesis

Stein posits that "good" firms borrow but "medium" firms issue convertibles because they fear financial distress (i.e., bankruptcy). Therefore, medium firms never mimic good firms.<sup>45</sup> This thesis fails on several grounds. First, it contradicts Stein's own assumption that medium firms know "with certainty" that they will be able to force conversion by calling the convertibles.<sup>46</sup> If a firm "knows" this, the risk of financial distress must be zero, and the firm is "good" and should borrow. The "certainty" postulate also undermines Stein's view of convertibles as "backdoor equity" rather than "sweetened debt": if success is assured, why not borrow and refinance more cheaply after the firm succeeds?<sup>47</sup>

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40. See sources cited *supra* note 3.

41. See BREALEY & MYERS, *supra* note 10, at 549.

42. See Stein, *supra* note 3, at 13-14 (stating that convertibles are backdoor equity and are used by firms with "significant informational asymmetries").

43. Brennan & Schwartz, *supra* note 2, at 57. The issuer could also refinance with new debt at a lower interest rate. The response that the firm does not issue debt because it is too risky for lenders is discussed under the "financial distress hypothesis." See *infra* text accompanying notes 46, 48-49, and 51-52.

44. See Bratton, *supra* note 11, at 673.

45. Stein, *supra* note 3, at 8.

46. *Id.* Indeed, Stein later calls the assumption unrealistic. *Id.* at 10. He also assumes that the call price of convertibles is less than the issue price. *Id.* at 7. This is implausible; investors would not agree to allow calls that would cause them to lose money. In fact, calls almost always require payment of a premium. See Bratton, *supra* note 11, at 678-79.

47. See *supra* text accompanying note 43 (quoting Brennan & Schwartz).

Second, many issuers do mimic better firms by disseminating false information, even though deception is illegal.<sup>48</sup> Indeed, fear of deceit underlies the asymmetric information hypothesis. With or without deception, many medium firms mimic good firms by trying to borrow. The obstacle is the lenders' unwillingness, not the issuers'. Third, the cost of bankruptcy<sup>49</sup> to diversified shareholders is modest; much of the cost is borne by creditors and managers. Thus, avoidance of this cost does not explain why shareholders would prefer convertibles to straight debt.

Stein's view of convertibles as "backdoor equity" also clashes with the risk incentive theory,<sup>50</sup> although the evidence here is mixed. Stein cites evidence that 70% of convertibles are converted,<sup>51</sup> but other studies show that convertibles are primarily debt.<sup>52</sup> A more persuasive version of the financial distress theory emerges if we alter some of its assumptions. First, issuers of convertibles are not certain that they will be able to force conversion; therefore, they face a real threat of bankruptcy. Second, although creditors bear much of the *ex post* costs of bankruptcy, lenders add the possibility of these costs to the (risk-free) interest rate they demand. Charging higher interest, however, exacerbates the danger of bankruptcy. Convertibility, then, not only adds an equity component and thereby lowers the interest rate on the debt component, but also reduces the risk of bankruptcy costs that increase the required interest rate.

However, even this revised thesis does not explain most uses of convertibles. The lower interest rate on convertibles is too small to save many firms from bankruptcy. Further, to reduce interest costs, other strategies make more sense than issuing convertibles. A firm can simply forego outside financing,<sup>53</sup> issue secured debt, or issue preferred stock, which cannot trigger bankruptcy. Issuers can also offer stringent restrictive covenants. In fact, convertibles carry more lenient covenants than straight debt, which shows that lowering the risk of bankruptcy is not a primary reason for using convertibles. In sum, the financial distress theory does not explain the use of convertibles.

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48. *E.g.*, Securities Act of 1933, § 12(2), 15 U.S.C. § 771(2) (1992); SEC Rule 10b-5, 15 C.F.R. § 240.10b-5 (1992).

49. Stein calls these the costs of "financial distress," which indicates that insolvency can arise without formal bankruptcy proceedings. Stein, *supra* note 3, at 6. He defines these costs to comprise the "time and resources devoted to litigation." *Id.*

50. See *supra* text accompanying note 39. The "asymmetric information" thesis, however, supports Stein's view. See *supra* text accompanying note 19; see also Davidson et al., *supra* note 13 (stating that, on average, convertible bonds are at-the-money within 1.5 years of issue).

51. Stein, *supra* note 3, at 10.

52. See Randall S. Billingsley et al., *Valuation of Primary Issue Convertible Bonds*, 9 J. FIN. RES. 251, 256-57 (1986) (concluding that the average convertible bond at the time of issue is 38% equity and 62% debt); see also Randolph P. Beatty et al., *On the Nonstationarity of Convertible Bond Betas: Theory and Evidence*, 28 Q. REV. ECON. & BUS. 15 (1988) (comparing prices and returns of 97 issues of convertibles to those of stocks and bonds; 77 exhibited characteristics of debt, 20 exhibited characteristics of equity).

53. This would not be true when convertibles are used to refinance straight debt, but that use seems to be fairly rare.

#### D. The "Underinvestment" Theory

The underinvestment theory<sup>54</sup> helps to explain the use of convertibles only in special circumstances. The lower interest rates on convertible debt encourage an issuer to invest by reducing the cost of a project, but convertibility also dilutes the possible returns per share. The net effect of the two opposing influences is probably minimal in determining whether a project has positive net present value for incumbent shareholders. Further, managers tend not to liquidate profitable firms prematurely, but rather to retain their positions by preserving firms that should be dissolved.<sup>55</sup> Thus, the underinvestment problem is probably significant only where managers oversee many enterprises (as often happens with real estate ventures), but have no large personal stake in any one.

Even when underinvestment is a threat, it can be addressed in other ways. Debt securities typically impose prepayment penalties (i.e., call premiums)<sup>56</sup> that discourage issuers from paying off debt rather than (re)investing, which eliminates much of the difference in interest rates between convertible and straight debt. This indicates that the underinvestment theory does little to explain the use of convertibles.

#### E. Toward a More Complex Theory of Convertibles

In sum, no existing theory offers a convincing general explanation for the public sale of convertibles. These hypotheses are not worthless; each may help explain some cases. A comprehensive theory, however, must be more complex and detailed than any theory offered so far.

The managers' risk aversion undermines some theories of convertibles, but gives birth to others. Managers' compensation is often tied to firm earnings. Interest charges reduce earnings, thus reducing managers' pay. The lower interest rate on convertibles benefits managers by boosting earnings. Conversion reduces earnings per share, but increases total earnings on which compensation is sometimes based.<sup>57</sup> Even if a manager's pay is tied to per-share earnings, conversion occurs only if the firm prospers, while the benefit of a lower interest rate is realized if the firm stagnates. In effect, investors in convertibles assume some of the firm's risk by taking a lower interest rate than straight lenders if the firm falters but a higher return (through conversion) if the firm thrives. Risk-averse, nondiversified managers prefer this tradeoff, though risk-neutral shareholders would not.

Managers' risk aversion helps explain why convertibles are used mostly by riskier firms. Managers lose much more than (diversified) shareholders or creditors do from bankruptcy. Such losses include compensation, perquisites, managerial discretion, and even their jobs. Thus, Stein's financial distress theory, though weak from the perspective of shareholders, is more robust when applied to the managers. Managers' risk

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54. See *supra* text accompanying note 5.

55. Cf. *infra* text preceding note 58 (explaining how managers make special efforts to avoid dissolution in bankruptcy).

56. See KLEIN & COFFEE, *supra* note 7, at 677.

57. See GRAEF S. CRYSTAL, IN SEARCH OF EXCESS: THE OVERCOMPENSATION OF AMERICAN EXECUTIVES 56 (1992) (providing an example of compensation based on total after-tax profits).

aversion also explains why issuers frequently call convertibles even though calls usually reduce share prices: managers make calls so as to save interest costs and reduce the personally significant threat of bankruptcy.<sup>58</sup>

It follows from the foregoing that the pecking order theory—that stable firms borrow, weak firms issue stock, and medium firms issue convertibles—must be supplemented by considering how firmly entrenched the firm's managers are. Those who are firmly entrenched are freer to avoid risk than managers who are not. The latter may be compelled to accept more debt than they would like, while the former will lean more toward equity; those in the middle will issue convertibles.<sup>59</sup>

Convertibles also protect their holders, not so much from deceit (as the asymmetric information thesis posits) or from excessive risk (as the risk incentive theory claims) as from mismanagement. The best way to divide a pie evenly is to have one person slice and the other choose his piece. Convertibles exploit this principle. Managers, who control the day-to-day business, are necessarily the slicers. If investors indicate in advance which slice they want—debt or equity—the managers can diminish that slice. If the investors choose after the slicing, however, the managers' incentive is to slice the pie fairly.

Managers can be lazy or self-serving. Many pursue firm growth by reinvesting free cash, even when potential returns are low.<sup>60</sup> Interest payments on debt reduce free cash. Knowing how managers fear debt, investors see the use of convertibles not as a signal of managers' veracity or caution, as the risk incentive and information asymmetry theories posit, but as supporting the managers' implied promise to forego waste, self-dealing, and sloth and to work hard to induce conversion by raising the firm's share price. Purchasers pay a higher price for this implied promise, which offsets the dilutive effect of convertibility on stock value. An issuer can achieve the same result by issuing straight debt, performing so well that its stock price rises, and then refinancing with equity, but the transaction costs of refinancing could exceed the savings from cheaper capital. Managers also dislike the higher interest rates on straight debt for reasons already discussed.

This analysis also explains why new issues of equity impair stock prices<sup>61</sup> while new issues of convertibles do not<sup>62</sup>—equity investors see the issuance of convertibles

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58. This accords with the theory that managers make calls when they predict harder times for the firm. See *supra* note 31 and accompanying text.

59. This tendency will be offset somewhat by the effects of the managers' share holdings. Managers who own much stock share some of the outside shareholders' receptivity to risk. In most public companies, though, the manager-owned portion of stock is too small for this factor to be very significant.

60. See William J. Baumol et al., *Efficiency of Corporate Investments: Reply*, 55 REV. ECON. & STAT. 128, 128-31 (1973) (stating that returns on reinvested earnings tend to be low); William J. Baumol et al., *Earnings Retention, New Capital and the Growth of the Firm*, 52 REV. ECON. & STAT. 345, 354 (1970) (stating that during 1948-59, returns on retained earnings for U.S. firms averaged between 3% and 4.6%; for firms that issued little new equity, returns approached zero); Michael C. Jensen, *Agency Costs of Free Cash Flow, Corporate Finance and Takeovers*, 76 AM. ECON. REV. 323, 328 (1986) (stating that returns on reinvested earnings tend to be low).

61. See Brennan & Schwartz, *supra* note 2, at 56.

62. See *supra* note 21 and accompanying text.

as a signal that managers will not waste free cash flow, but expect to succeed in increasing share price. Issuing common stock sends a contrary signal.

Convertibles also tap small niches in the capital markets. Margin requirements are more liberal for convertibles than for equity,<sup>63</sup> so investors can borrow more while still purchasing equity-like securities. Convertibles are safer than straight equity but riskier than straight debt. This may appeal to some investors.<sup>64</sup> There may also be inefficiencies in the trading of convertibles that sophisticated investors can exploit.<sup>65</sup>

"How do shareholders gain from the use of convertibles?" may be the wrong question for financial economists to ask. Managers prefer convertibles to straight debt because they are risk-averse, so we need only ask: Do shareholders lose from the use of convertibles? A negative answer to that question is plausible.<sup>66</sup> If shareholders are mostly indifferent, managers will use convertibles as better suited than debt to their own purposes.

The conclusions here show that formal economic analysis alone cannot explain the use of convertibles. First, many factors influence the use of convertibles. A formal theory would have to weight each factor precisely, a hopelessly complex task. Some factors, such as the managers' risk-aversion and the strength of non-officer shareholders, cannot be gauged by outsiders. Further, the use of convertibles involves many questions beyond the decision whether to issue convertibles, such as conversion ratios, restrictive covenants, and call premiums. Thus, the use of convertibles is too complex to be explained by any single formula. Once this complexity is recognized, however, we can work toward an explanation that is more thorough and realistic, albeit less simple and elegant, than existing theories.

## V. PRIVATE PLACEMENTS OF CONVERTIBLES BY PUBLIC COMPANIES

Some public companies eschew public offerings and sell convertibles in private placements to one or a few financial institutions. Public offerings carry lower interest rates<sup>67</sup> but have higher transaction costs<sup>68</sup> and are possible only for large, stable issuers.<sup>69</sup> These higher costs, rarely prohibitive for large issues, can be crucial for smaller

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63. For example, under the Federal Reserve Board's Regulation T, which regulates the extension of credit by broker-dealers, the margin for publicly traded stocks may not be less than 50%, but the margin for bonds (including convertibles) that meet certain criteria is set by the private exchange where the trade occurs. 12 C.F.R. §§ 220.2(q), (t), 220.18(a), (b) (1988).

64. Risk can be mitigated in better ways, such as investing in a diversified mutual fund, but some investors may prefer to create their own portfolios and invest in convertibles.

65. See William K. S. Wang, *Some Arguments That the Stock Market is Not Efficient*, 19 U.C. DAVIS L. REV. 341, 386 (1986) ("[C]onvertibles often sell at approximately conversion value even though the convertible is significantly superior to the common into which it is convertible. In an efficient market, such mispricing should not occur.").

66. See *supra* note 21 and accompanying text (stating that the announcement of an issue of convertibles has little effect on share prices).

67. See Carey et al., *supra* note 28, at 9, 24. This reflects "both the greater liquidity of public bonds and the smaller costs of credit analysis (i.e., information production) that public lenders bear." *Id.* at 9.

68. See Jeffrey A. Timmons & Dale A. Sander, *Everything You (Don't) Want to Know About Raising Capital*, HARV. BUS. REV., Nov.-Dec. 1989, at 70, 71 (stating that costs "can run 15% to 20% of a smaller [public] offering and can go as high as 35% in some instances").

69. See Carey et al., *supra* note 28, at 3 (explaining that "[o]nly well-known, large corporations with few

offerings. Thus, both the issuer and the offering tend to be smaller for private placements than for public offerings of securities of any type, including convertibles.<sup>70</sup> Most studies of convertibles analyze public offerings because the authors are financial economists who test hypotheses against price movements in public securities markets. Their findings may not be valid for private placements. For example, conversion is rarer for convertibles sold privately.<sup>71</sup> This suggests that convertibles, which are often viewed as "backdoor equity" when sold publicly, are usually not so viewed in private placements by public companies. Why?

The asymmetric information thesis is even less persuasive here than for public offerings. Purchasers in private placements are sophisticated and usually specialized financial firms skilled at both analyzing public information about the issuer and personally investigating the issuer to uncover any hidden problems.<sup>72</sup> The size of the purchase is also relevant. A private purchase of securities worth tens of millions of dollars merits a deeper inspection than does the typically smaller purchase by each buyer in a public offering.

Several factors make these convertibles more "sweetened debt" than "backdoor equity." First, managers of the smaller companies that make private placements tend to own a larger fraction of the issuer's stock than do managers of the larger firms that make public offerings. Small firm managers are, therefore, warier of the dilutive effect of convertibles on stock prices. They also care more than managers of larger firms about the tax benefits of debt to issuers.<sup>73</sup> Second, private placements employ stricter covenants because amendments can be easily negotiated if a covenant becomes more of a burden to the firm than a benefit to the investor.<sup>74</sup> Protected by these tighter cove-

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information problems have access to the public debt market").

70. See *id.* at 7. (reporting that the leading study found a median of \$32 million for private placements of straight debt (1989) and \$150 million for public offerings). The median size of private placement issuers was \$500 million in total assets, while the median for public issuers was \$1.5 billion. *Id.* at 17. Thus, private placements are both smaller and provide less of the issuer's capitalization than public offerings do—the median private placement is 6.4% of the issuer's total assets, while the median public offering is 10% of total assets. On the other hand, the ratio of debt to assets is slightly higher and the interest coverage ratio slightly lower for issuers of private placements than for public issuers. *Id.*

71. The conversion premium is smaller for public deals (about 10%) than for private placements (30-40%). Memorandum from James Schelling, CIGNA, Inc., to the author (Sept. 5, 1994) (on file with the author). Accordingly, conversion is rarer in private placements. Moreover, investors rarely convert privately placed convertibles and hold the stock. Instead, the conversion option is cashed out by the issuer paying the investor the difference between the conversion price and the value of the stock. See *id.*

72. See Carey et al., *supra* note 28, at 23 (reporting that 20 insurance companies purchase 56% of privately placed debt). Purchasers investigate the issuer beforehand and monitor the issuer after purchasing. *Id.* at 3; see also MARCEL KAHAN & BRUCE TUCKMAN, PRIVATE VS. PUBLIC LENDING: EVIDENCE FROM COVENANTS 1-2, 17-20 (1995) (unpublished manuscript on file with the author) (private debt agreements require and facilitate more monitoring). This scrutiny outweighs any increase in information asymmetries arising from the exemption of private placements from review by the Securities and Exchange Commission. Securities Act of 1933, § 4(2), 15 U.S.C. § 77d(2) (1992).

73. Interest on debt is deductible for federal income tax purposes. I.R.C. § 163 (1988). Dividends on stock are not.

74. See Edward Zinbarg, *The Private Placement Loan Agreement*, 31 FIN. ANALYSTS J. 33, 35 (1975) ("In any given year, we will, on average, receive one modification request per loan on the books. In no more than five per cent of these cases will we refuse the request or even require any quid pro quo . . .") (emphasis

nants, private purchasers need not rely so heavily on convertibility. Third, the insurance companies that purchase many privately placed convertibles have long-term liabilities to provide for and are therefore not as impatient to convert as many public investors.<sup>75</sup>

Conversion also poses a greater threat to the managers' control in a private placement than in a public offering. Conversion of a public issue can strengthen the managers' control by scattering the firm's stock more widely and diluting the power of large shareholders. Conversion of a private issue by a single institution, conversely, adds a powerful new shareholder who might constrain management. For all of these reasons, conversion ratios are higher and conversion is rarer in private placements.

Why, then, don't these firms issue straight debt? The combination of securities in any public offering of convertibles will appeal to some investors but not others.<sup>76</sup> In a private placement, however, a purchaser negotiates for the precise combination of covenants, interest rate, and conversion rate it wants. Most of these purchasers are financial institutions whose equity investments are limited by law.<sup>77</sup> As quasi-equity, convertibles may offer higher returns without counting against these limits. Issuers may concede these higher returns because transaction costs are lower for private placements.

The financial distress theory is more applicable to private than public offerings. The lower interest rate on convertibles reduces an issuer's risk of bankruptcy. The difference is usually too small to warrant use of convertibles by a large firm,<sup>78</sup> but for the smaller, riskier, public firms that make private placements, the difference may be decisive.<sup>79</sup> On the other hand, lower interest rates are a tradeoff for convertibility, and conversion is rarer in private than in public offerings, so the benefit of lower rates for convertibles may not be that great.<sup>80</sup>

Since managers of issuers in private placements own a larger share of stock than do managers in public issues, they have more incentive to take risks at the expense of creditors. This suggests that the risk incentive theory is more valid for private than for public issues of convertibles. However, even in smaller public companies, managers avoid high variance projects to preserve their jobs. Moreover, the tighter covenants used in private placements limit risk-taking.<sup>81</sup> In private as in public offerings,<sup>82</sup> convert-

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in original); see also Malitz, *supra* note 28, at 10 n.8 (stating that "privately placed debt is more restrictive than public issues").

75. See Memorandum from James Schelling, *supra* note 71; see also KAHAN & TUCKMAN, *supra* note 72, at 23, 27 (call protection is greater in private debt agreements in order to accommodate the asset-liability management needs of lenders).

76. See Klein, *supra* note 1, at 553.

77. See, e.g., OHIO REV. CODE ANN. § 3907.14 (Baldwin 1995).

78. See *supra* text preceding note 53.

79. Convertibility is more valuable in risky than in stable firms. See *supra* text accompanying note 38.

80. See Memorandum from James Schelling, *supra* note 71. Because call premiums are smaller for public deals, the interest rate discounts are larger than in private placements. See *id.*

81. See Malitz, *supra* note 28, at 10 n.8 ("[P]rivately placed debt is more restrictive than public issues"). Covenants are expensive to draft yet imperfect because risk cannot be defined precisely; it must be attacked indirectly. See Morey W. McDaniel, *Bondholders and Corporate Governance*, 41 BUS. LAW. 413, 428-29 (1986). Thus, covenants may block a promising project, but permit an unsound project. See Henry Hansmann & Reinier Kraakman, *Hands-Tying Contracts: Book Publishing, Venture Capital Financing, and Secured Debt*, 8 J.L. ECON. & ORGANIZATION 628, 649 (1992); Jensen & Meckling, *supra* note 2, at 338. Covenants also curb risk by forbidding an issuer to change its main business, to sell major assets, or to merge. See Smith

ibles do little to solve any lingering risk incentive problem. In short, the risk incentive theory seems no more valid for private than for public offerings.

## VI. CONVERTIBLE DEBT IN PRIVATE COMPANIES

### A. *The Different Role of Convertibles in Private Companies*

Private firms rely more heavily on convertibles and use them for different reasons than do public firms.<sup>83</sup> Private firms are not publicly traded, so their motive for issuing convertibles is not to avoid "the negative inference the market would draw" from issuing equity.<sup>84</sup> Many public issuers of convertibles are highly leveraged and use calls to force conversion;<sup>85</sup> private issuers of convertibles often have little debt and rarely use calls.<sup>86</sup> Many private firms issue convertible preferred stock; few public firms do. Investors also view convertibles of private firms differently, if only because there is no market for their stock if the purchaser converts. In sum, private companies use convertibles very differently than do public firms.

The rest of part V considers why private companies use convertible debt rather than straight debt or straight equity. Part VI discusses the use of convertible preferred stock.

### B. *Convertibles vs. Straight Debt*

Debt is usually cheaper (i.e., commands lower returns) than equity because debt is safer for investors.<sup>87</sup> Interest on debt is also deductible for the issuer's federal income tax; dividends on stock are not.<sup>88</sup> Thus shareholders generally favor debt over equity financing. Managers of private firms own more of their companies' equity than do public firm managers, so they, too, may prefer debt. Issues of debt also constrain the managers' control less than issues of stock.<sup>89</sup> Why, then, do private companies issue convertibles rather than straight debt?

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& Warner, *supra* note 2, at 125-31. Lenders monitor an issuer's compliance with covenants, which is costly. Monitoring costs are foreseen by the lender and reflected in pricing the debt, so that ultimately the costs are borne by the shareholders. See Myers, *supra* note 5, at 161. This encourages issuers to agree to covenants that limit monitoring costs by limiting risk-taking.

82. See *supra* text accompanying notes 24-39.

83. This reflects the heavier use of convertibles by smaller firms, see *supra* note 10, which are more likely to be private, and the higher level of inside ownership in private firms. See Michael Frierman & P.V. Viswanath, *Agency Problems of Debt, Convertible Securities, and Deviations from Absolute Priority in Bankruptcy*, 37 J.L. & ECON. 455, 456-57 (1994).

84. Stein, *supra* note 3, at 8.

85. See *supra* text accompanying note 13.

86. Call protection is greater for privately than for publicly placed bonds. Carey et al., *supra* note 28, at 6, 24.

87. If the expected returns from the business exceed the interest on debt, debt will be cheaper than equity. See RICHARD A. BOOTH, *FINANCING THE CORPORATION* § 2:05, at 14 (1993).

88. I.R.C. § 163 (1988).

89. See *supra* text following note 74.



### 1. Risk Incentives, Information Asymmetries, and Waste

Managers of private firms own considerable equity and, thus, might be attracted to high variance projects, as the risk incentive theory posits. Even for private firms, however, the theory is flawed; private firm managers are still more cautious than outside shareholders. As with private placements by public firms,<sup>90</sup> tight restrictive covenants curb risk-taking. Lenders to a private firm often require its managers to guaranty the debt,<sup>91</sup> which discourages managers from high variance projects. Given all these factors, convertibility plays a minor role in deterring excessive risk-taking by the issuer.<sup>92</sup>

The discipline convertibles impose on managerial diligence and use of cash flow<sup>93</sup> is not significant for private firms, which rarely have much free cash flow and whose managers have less incentive to waste assets or be slothful because they own substantial blocks of stock. The asymmetric information theory seeks to explain why convertibles are used instead of equity, not in lieu of straight debt.

### 2. Financial Distress, Risk Adjustment, and Control

Stein's thesis that firms issue convertibles in response to fear of bankruptcy is weak for public firms,<sup>94</sup> but may be more valid for private firms. Issues of convertibles tend to be smaller for private than for public companies, but they generally constitute a larger portion of the private firm's capital, so the higher cost of straight debt weighs more heavily on private firms. The cash flow needed to pay interest is less predictable for private firms. Many small companies expand rapidly and need all the cash they can get for growth. Even if a company can pay high interest, doing so may stunt its growth.<sup>95</sup>

Although risky firms face high interest rates on loans, the value of convertibility for risky firms is higher,<sup>96</sup> so the difference in interest rates between straight and convertible debt is larger for them than for more stable public firms. The impact of this difference on managers' compensation<sup>97</sup> makes convertibles attractive to private firms. The higher interest rate on straight debt could also be illegal as usury. Simply foregoing

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90. See Malitz, *supra* note 28, at 10 n.8 ("[P]rivately placed debt is more restrictive than public issues").

91. See 2 ROBERT J. HAFT, VENTURE CAPITAL AND SMALL BUSINESS FINANCINGS § 2B.04[3], at 2B-33 (rev. ed. 1992). Many private debt agreements also restrict self-dealing by the issuer's managers. Such restrictions are rare in public debt offerings. See KAHAN & TUCKMAN, *supra* note 72, at 10.

92. Holders of convertibles of private firms also often participate in control, and in such cases the restrictive covenants are generally less stringent. See *infra* text accompanying notes 98-99. To some extent this practice supports the risk-incentive theory—the covenants are looser than the covenants for straight debt because convertibility discourages holders of straight equity from undertaking high variance projects. However, the right of holders of convertibles to participate in control indicates that their interests do not coincide completely with the other shareholders'. Attitude toward risk is one area in which their interests may diverge.

93. See *supra* text accompanying note 60.

94. See *supra* text accompanying notes 45-53.

95. See BREALEY & MYERS, *supra* note 10, at 549; Clifford G. Holderness & Dennis P. Sheehan, *Monitoring an Owner*, 30 J. FIN. ECON. 325, 329 (1991) (explaining that "[o]perating cash flows, even when they were positive, were insufficient to finance [Turner Broadcasting System's] rapid growth").

96. See BRUDNEY & BRATTON, *supra* note 38, at 400.

97. See *supra* text accompanying note 57.

outside financing is an option for most public firms, but not for the many private firms which must grow to survive.

Finally, purchasers of convertibles from private firms often guard against managerial opportunism by participating in control of the firm by electing directors.<sup>98</sup> Some investors obtain "event-of-election" or "voting switch" clauses that give them control if the issuer defaults or fails to meet agreed financial tests.<sup>99</sup> Holders of straight debt rarely vote because their interests clash so sharply with the shareholders'. Instead, holders of debt rely on restrictive covenants. However, tight covenants can thwart profitable projects. Holders of convertibles who have an equity interest and a voice in control can accept less stringent covenants that are less likely to bar promising ventures. In sum, convertibles may make more sense than straight debt in private firms because they better align the interests of the managers and investors.

### C. Convertibles vs. Straight Equity

#### 1. Comparison With Initial Public Offerings

If straight debt is not feasible, most private firms prefer to finance by "going public." Managers favor an initial public offering (IPO) over a private sale of stock because an IPO infringes less on the managers' control,<sup>100</sup> brings a higher price for the stock, and creates a market for the managers' own shares.<sup>101</sup> However, private sales to institutional investors are often possible when IPOs are not because institutions are superior monitors. The public cannot adequately investigate an unseasoned company before investing or observe the company's progress and participate in its control after investing. However, institutional investors can.<sup>102</sup>

Why are IPOs made with common stock while private placements commonly use convertibles? Several factors are relevant, including the difficulties of using restrictive covenants and special voting arrangements in public issues and the desire of existing shareholders to create a market for their own stock. Also, public investors buy convertibles only if there is an existing market where the issuer's stock can be sold after conversion. Public offerings of convertibles do not create such a market.

#### 2. "Backdoor Equity" or "Sweetened Debt"?

To reduce interest costs, private firms make conversion attractive. Therefore, both sides usually view convertibles of small firms as essentially equity. The frequent use of preferred stock rather than debt as the convertible senior security supports this view.

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98. See 2 HAFT, *supra* note 91, § 2B.05[1][C], at 2B-94.

99. See I MICHAEL J. HALLORAN ET AL., VENTURE CAPITAL AND PUBLIC OFFERING NEGOTIATION 359 (1991).

100. In an IPO, shares are scattered among many purchasers; in a private placement, they are concentrated in one potentially powerful (and generally sophisticated) investor.

101. See William J. Torpey & Jerry A. Viscione, *Mezzanine Money for Smaller Businesses*, HARV. BUS. REV., May-June 1987, at 116, 116-17.

102. This confirms the intuition of Jensen and Meckling that "monitoring activities . . . become specialized to those institutions and individuals who possess comparative advantages in these activities." Jensen & Meckling, *supra* note 2, at 354.

Even when convertible debt is used, it is often expressly subordinated to other debt which reduces the value of the debt component and accentuates the equity component. This importance is often underscored by giving the holders voting rights as if the securities were already converted.<sup>103</sup>

### 3. Financial Distress, Risk Incentives, and Information Asymmetries

The risk incentive and financial distress theories attempt to explain why debt is made convertible, not why convertibles are used instead of equity. The asymmetric information theory may help answer the latter question. In one respect, the information asymmetry problem is greater in private than in public firms. As major shareholders, managers suffer dilution if the firm sells stock cheaply. Therefore, they may be tempted to lie to raise the price at which the stock is sold.<sup>104</sup> Convertibles protect investors from deceit: if stock proves less valuable than the issuer represented, the investors keep the senior security and the shareholders bear the loss.

As with private placements by public issuers, however, careful investigation by a sophisticated purchaser deters such deception.<sup>105</sup> In addition, purchasers often require the issuer's managers to verify disclosures or even to guaranty the debt.<sup>106</sup> This also discourages deception. Thus, the debt component of convertibles is not the only protection against deceit. Moreover, other factors are more important in dictating the use of convertibles rather than straight equity.

### 4. Opportunism and Divergent Expectations

Managers can exploit other shareholders as well as creditors. They can take exorbitant compensation, waste cash flow, or indulge in self-dealing. Restrictive covenants do not solve the problem. Covenants are rare in issues of straight equity, and some kinds of opportunism, such as sloth, are hard to stop or even to detect except by expensive monitoring. Unlike creditors, shareholders can vote, but most lack board representation. Even investors with board representation stay out of operational details, where most mismanagement occurs.<sup>107</sup> Convertibles protect investors from the damage managerial misconduct does to shareholders—the investor simply keeps the senior security.<sup>108</sup>

Managers and investors may disagree about a firm's prospects.<sup>109</sup> Suppose they

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103. See 2 HAFT, *supra* note 91, § 2B.05[1][C], at 2B-94.

104. See Jensen & Meckling, *supra* note 2, at 334. It follows that Stein's conclusion that bad and medium firms do not mimic good firms, see *supra* text accompanying note 45, is even less valid for private than for public firms.

105. See *supra* note 72 and accompanying text.

106. See 2 HAFT, *supra* note 91, § 2B.04[3], at 2B-33.

107. Intruding in operations breeds conflict with managers and can expose investors to liability as controlling persons for the debts of the issuer under the federal securities laws, see THOMAS L. HAZEN, THE LAW OF SECURITIES REGULATION § 7.7 (2d ed. 1990), or under the corporate law doctrine of piercing the corporate veil, see ROBERT C. CLARK, CORPORATE LAW § 2.4 (1986). Also, even sophisticated institutions have a limited capacity for detailed monitoring.

108. See *supra* text following note 59.

109. See LAWRENCE E. MITCHELL & LEWIS D. SOLOMON, CORPORATE FINANCE AND GOVERNANCE 443 (1992).

agree on what the firm will be worth if it develops a new widget, that it will go bankrupt if it fails to develop the widget, and what its assets will be worth if it goes bankrupt. However, they disagree on the probability of failure; the managers gauge it at 10%, the investors at 30%. Convertibles can resolve their disagreement. Both groups prefer this to straight equity because investors value the senior security more than managers do.<sup>110</sup> This kind of disagreement is undoubtedly common; managers tend to be optimistic about their ventures.<sup>111</sup>

Convertibles also protect managers from opportunism by investors. Investors who hold straight equity need more control, which they can abuse by firing the managers or cutting their compensation or perquisites. Such action can result either from the investors' bad faith<sup>112</sup> or from an honest mistake about the managers' worth. Managers also resist firings or pay cuts that are in a sense proper—as when the firm finds someone who can do the job better. Agents, including managers, often accept lower pay in return for protection against removal for reasons other than misconduct or incompetence. Investors can also exploit managers indirectly, such as by selling the firm to a buyer who fires the managers.<sup>113</sup> The senior security in a convertible protects investors without allowing them what managers would consider excessive interference in running the firm.

Managers can obtain job security by contract, but drafting and enforcing such contracts is costly. Using convertibles is cheaper. Convertibles of private firms are typically converted only when the entire company is sold or goes public. Once a firm is public, the shareholders face a collective action problem that hinders them from exploiting managers.

### 5. Avoiding Limbo and Assuring Liquidity

Some firms neither flourish nor fail, but limp along in what is sometimes called limbo.<sup>114</sup> If a firm pays managers more than they can earn elsewhere, managers will continue the business even though liquidation would benefit the shareholders. If the

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110. Assume there is agreement that, if the new widget succeeds, the firm will be worth \$100; if it does not, the firm's liquidation value will be \$20. The manager, then, values the firm at \$92; the investor values it at \$76. A bond entitled to the firm's entire liquidation value in bankruptcy and convertible into 50% of its stock would be valued by the investor at \$41 (1/2 of 70% of \$100 = \$35, plus 30% of \$20 = \$6). To get equal value from straight equity the investor would demand about 54% of the stock (54% of \$76 = \$41.04). The manager, however, values the convertible at \$47 (1/2 of 90% of \$100 = \$45, plus 10% of \$20), and values 54% of the stock in an equity-only structure at nearly \$50 (54% of \$92 = \$49.68). Thus, both are happier if the investor takes the convertible.

111. The problem can also be avoided by issuing straight debt, but debt runs counter to the managers' risk-aversion and creates cash flow problems. See *supra* text preceding note 90, following note 94.

112. A manager may be worth much more to her present firm than to any other. In addition, finding another job may require high search costs. Employment agreements requiring officers who quit to surrender their stock at less than fair market value further deter them from leaving. If investors control the firm, they can exploit these conditions by paying officers less than the officers' value to the firm.

113. Investors may also liquidate a firm to withdraw their investment after the managers have incurred the sunk costs of their (undercompensated) efforts. Denying the investors control prevents what may be an inefficient withdrawal. See Hansmann & Kraakman, *supra* note 81, at 646-47.

114. See George W. Dent, Jr., *Venture Capital and the Future of Corporate Finance*, 70 WASH. U. L.Q. 1029, 1046 (1992).

company will never pay dividends, go public, or be sold, its stock is basically worthless. Indeed, for outside investors limbo is worse than bankruptcy; if a company fails, investors can at least recognize a tax loss on their investment.<sup>115</sup> Managers should bear the loss if limbo stems from their misconduct. Limbo can also result from market conditions. Since managers should be able to foresee bad market conditions better than investors can, investors may reasonably insist that managers bear most of the loss in that case as well.

Limbo is less of a problem in public firms; inadequate managers can be ousted by the board, in a proxy fight, or by a tender offer. These are rarely possible in a private company. The stock market also gives liquidity for the stock of public companies. In private firms, which lack this market, convertible debt provides liquidity through payments of interest and of principal at maturity. These payments also discipline managers by requiring them to devote some cash flow to investors, not just to their own compensation.

#### D. Why Not a Combination of Debt and Equity?

Some functions of convertibles could be served by a combination of straight debt and straight equity,<sup>116</sup> but using convertibles is superior in several ways. First, a convertible financing requires only one set of negotiations, often with an investor who already knows the firm, rather than two sets of negotiations, at least one probably being conducted with a stranger to the firm.<sup>117</sup> Transaction costs multiply if the two deals must be coordinated.<sup>118</sup> For instance, the interest rate on debt may depend on issuing more equity, but the terms of the equity may depend on how much the company borrows.<sup>119</sup> Lenders want tight restrictive covenants, but equity investors oppose them. Tight covenants are less important for a single issue of a convertible debt.

Second, many unseasoned companies are too risky to obtain straight debt even if they simultaneously issue more equity.<sup>120</sup> They can borrow, if at all, only with convertible debt. Third, borrowing can violate existing covenants that limit the issuer's incurrence of debt even if the issuer simultaneously issues more equity. Convertibles are often subordinated to existing debt and therefore may not violate these covenants. Finally, with a combination of straight debt and straight equity, the holders of the straight debt would encounter the risk-incentive problem while equity purchasers might face the asymmetric information problem. These concerns alone may not justify the use of convertibles, but they add to the other concerns supporting their use.

Of course, many firms do issue both straight debt and straight equity, with or without the additional use of convertibles. Again, no simple predictive formula is possible because a firm's choice depends on several factors.

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115. See *id.* at 1046 n.71; see also I.R.C. § 165(a) (1988) (permitting a deduction for "any loss sustained").

116. See BOOTH, *supra* note 87, § 2:19, at 55 (citing Arthur Fleischer, Jr. & William L. Cary, *The Taxation of Convertible Bonds and Stock*, 74 HARV. L. REV. 473 (1961)).

117. See Dent, *supra* note 114, at 1042 n.51.

118. See *id.*

119. See *id.*

120. See *supra* text accompanying note 48.

### E. Conclusion

The benefits of convertibles are greater for private companies than public companies. Therefore, it is not surprising that private firms make more extensive use of convertibles.

## VII. CONVERTIBLE PREFERRED STOCK

Why is convertible preferred stock often used by private companies but almost never by public companies?

### A. Convertible Preferred vs. Convertible Debt

Debt has some advantages over preferred stock. Payment of interest on debt is an enforceable legal duty; preferred stock dividends can be skipped indefinitely. Holders of debt securities share pro rata with other creditors (including trade creditors and tort claimants) in bankruptcy; preferred shareholders are junior to creditors. Interest on debt is also deductible for federal income tax purposes; preferred stock dividends are not.<sup>121</sup>

For unseasoned companies, however, preferred stock may be superior. Bankruptcy courts can subordinate convertible debt to other claims, especially if the holders participate in control of the firm, as they often do.<sup>122</sup> Even the lower interest payments on convertible debt would cripple many small firms. Dividends on preferred stock can be skipped indefinitely or conditioned on the firm's meeting certain goals, thereby conserving needed cash.<sup>123</sup> The protections investors forfeit by taking preferred instead of debt can be offset by the greater control in firm decision-making available to preferred shareholders.

Debt and equity financings are not mutually exclusive. Small firms often borrow, but a loan may be conditioned on the issuer's selling more stock. Preferred stock meets this condition. Many lenders also limit the firm's ability to assume more debt. Preferred stock does not count against debt limits.<sup>124</sup> Thus, convertible preferred stock facilitates further borrowing while debt, even if convertible, hinders it.

Tax factors may also entice unseasoned issuers to favor preferred over debt. Deductibility of interest is of no immediate benefit if a firm is not a taxable entity<sup>125</sup> or is not yet profitable. At best, use of the deduction must wait until profits start to flow.

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121. I.R.C. § 163 (1976).

122. 11 U.S.C. § 510 (1988); *see also* Holderness & Sheehan, *supra* note 95, at 339 (stating that preferred stock is used in part to avoid danger of subordination).

123. Dividends can be mandated if the issuer's earnings reach certain levels. This avoids burdens on the issuer if business falters, but requires dividends if business thrives. *See* BOOTH, *supra* note 87, § 2:14, at 41-42. The same condition can be attached to payment of interest on debt, but the debt might then be treated as stock for tax and bankruptcy purposes. *See* Holderness & Sheehan, *supra* note 95, at 327; I.R.C. §§ 385, 1001 (1988).

124. The same purpose can be achieved with subordinated debt. *See* BOOTH, *supra* note 87, § 3:02, at 3. However, even subordinated debt requires interest payments, which may worry other creditors.

125. Many firms with 35 or fewer shareholders elect to be S Corporations, which pay no federal income tax. I.R.C. §§ 1361-1379 (1995).

Moreover, the Internal Revenue Service may treat large interest payments as dividends and bar a deduction.<sup>126</sup> Many purchasers of convertibles from private companies are corporations, which favor preferred stock because they can exclude most dividends, but not interest, received for federal income tax purposes.<sup>127</sup> This is not true for the individuals and other non-corporate investors who purchase most convertibles issued by public companies. In sum, convertible debt may be more burdensome to an issuer than convertible preferred, while the benefits of debt to the investor may be minor or illusory.

### B. *Convertible Preferred vs. Straight Equity*

Why is convertible preferred used instead of straight equity; that is, why is backdoor equity preferred to front door equity?

#### 1. *Asymmetries of Information and Expectations*

Information asymmetries explain the use of convertible preferred even less than the use of convertible debt because preferred provides less protection than debt against deceit. Asymmetric expectations are probably also less important here because preferred has a lower status, and thus a lower value, than debt in bankruptcy.

#### 2. *Avoidance of Limbo and Mismanagement*

Because preferred stock dividends can be deferred indefinitely, preferred does not protect against limbo and assure liquidity as debt does. It does, however, protect investors better than straight equity. Dividends on common stock are usually prohibited unless all dividends due on the preferred are paid. Preferred stock is also senior to common in liquidation.<sup>128</sup>

These features alone do not fully protect investors, however. Managers can draw compensation while paying no dividends on either common or preferred stock.<sup>129</sup> The liquidation preference on preferred stock can also induce managers to delay liquidation and collect compensation until no assets remain. These problems can be avoided by event-of-election clauses that permit the preferred shareholders to seize control of the

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126. I.R.C. §§ 385, 1001 (1988).

127. I.R.C. § 243 (1988).

128. See ROBERT W. HAMILTON, FUNDAMENTALS OF MODERN BUSINESS § 15.4.1 (1989); Holderness & Sheehan, *supra* note 95, at 339 (illustrating where preferred stock is chosen over common to get liquidation preference).

129. See Memorandum from James Schilling, *supra* note 71 (stating that investors have found it difficult to limit compensation by contract).

firm if certain financial goals are not met<sup>130</sup> and by redemption clauses that permit them to "put" their stock to the company in defined circumstances.<sup>131</sup> Common stock lacks such features.

### 3. Opportunistic Dissolution

A company with few tangible assets could issue common stock and then quickly liquidate. All shareholders would share pro rata in the proceeds even though new investors paid much more for their stock.<sup>132</sup> Even if dissolution stems from honest, unexpected disputes, it is unfair for some investors to profit while others suffer loss from the conflict. Moreover, dissolution may be triggered by insiders seeking to seize firm assets at a bargain price.<sup>133</sup> To avoid this, investors often demand a senior security (including preferred stock) with a liquidation preference. This reduces, if not eliminates, the managers' opportunity to profit from a bargain purchase or an inequitable division of assets on liquidation.

## VIII. CONVERTIBLES AND THE CAPITAL STRUCTURE PUZZLE

Thirty-eight years ago, Modigliani and Miller advanced the "irrelevance hypothesis"—"the average cost of capital to any firm is completely independent of its capital structure . . . ."<sup>134</sup> In this view, capital structure is a zero-sum game—the interest of each group of security holders comes at the expense of other groups. Scholars have tried to disprove this thesis by showing the efficiency implications of capital structure. The conclusion here, that convertibles are efficient, undermines the irrelevance hypothesis and improves our understanding of capital structure.

130. See I HALLORAN ET AL., *supra* note 99, at 359 (discussing event-of-election clauses). Another approach requires payment of dividends on the preferred, but permits payment in either cash or stock. Payment of dividends in stock increases the preferred shareholders' voting power and can eventually enable them to control the board. See Holderness & Sheehan, *supra* note 95, at 331, 334 (discussing *Turner Broadcasting*); see generally Philippe Aghion & Patrick Bolton, *An Incomplete Contracts Approach to Financial Contracting*, 59 REV. ECON. STUD. 473 (1992) on the advantages of contingent control agreements.

131. See BOOTH, *supra* note 87, § 2:15, at 44-45. On the use of puts to limit executive perquisites, see Haugen & Senbet, *supra* note 14, at 634-36.

132. See HARRY G. HENN & JOHN R. ALEXANDER, *LAW OF CORPORATIONS* § 383, at 1152 (3d ed. 1983) ("[A]ll shareholders upon liquidation participate ratably in the net assets . . ."). For example, if an investor pays \$3 million for half the stock and the proceeds on liquidation are \$4 million, the investor receives only \$2 million. The initial shareholders get the other \$2 million, even if they paid much less for their stock. This scenario is not far-fetched because the liquidation value of most small companies is far less than the going concern value on which the price of the investor's stock is calculated. See generally FRANK H. EASTERBROOK & DANIEL R. FISCHER, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* 242 (1991); ROBERT C. CLARK, *CORPORATE LAW* 786 (1986).

133. The managers' circumstances may thwart such plays. On dissolution, firm assets generally are sold at auction. See F. HODGE O'NEAL & ROBERT B. THOMPSON, *OPPRESSION OF MINORITY SHAREHOLDERS* §§ 5:21-5:22 (2d ed. 1993). Managers often lack the money to bid fair value for the assets. Wealthier outside investors could then purchase the assets for a bargain price. However, investors usually cannot run the firm themselves. Without the managers' skills, the firm's assets may be worthless to them. Also, managers could find other investors to finance a scheme to grab the assets in an auction at a bargain price.

134. Modigliani & Miller, *supra* note 1, at 278.



Some commentators posit that efficiency is promoted by dividing claims among specialists in different kinds of information.<sup>135</sup> Convertibles, however, combine different kinds of claims. Yet, the use of convertibles does not necessarily contradict the specialization thesis. Some uses of convertibles are dominated by specialists like insurance companies.<sup>136</sup>

Most analyses of capital structure, including most work on convertibles, "assume shareholder wealth maximization as the corporate objective."<sup>137</sup> This assumption ignores the separation of ownership and control: managers control most companies and often use control to further their own interests, not the shareholders' interests.<sup>138</sup> Managers often issue convertibles because they serve the managers' own interests better than other means of financing. Investors may also prefer convertibles because they limit managerial opportunism better than other securities. In short, convertibles are often Pareto superior to other sources of capital when considering the interests of managers and (new) investors. Many convertible financings, however, are not optimal for non-manager shareholders. The losses outside shareholders incur from these financings are an agency cost. This suggests that future work on all aspects of capital structure should concentrate on agency costs and the separation of ownership and control.

This Article also calls into question efforts to explain capital structure by any simple formula. Many financial economists advance a "pecking order" theory: strong firms borrow because of the tax advantages of debt, while weaker firms issue equity because the costs of possible financial distress (i.e., bankruptcy) from added debt outweigh those tax advantages.<sup>139</sup> The uses of convertibles reveal this theory to be hopelessly simplistic; the managers' risk-aversion and consumption preferences must be factored into the equation.

Moreover, although the preferences of individual investors can generally be disregarded when modeling decisions about capital structure, managers' personal preferences cannot be ignored.<sup>140</sup> Thus, no formula, however complex, can explain capital structure decisions if it ignores the personal preferences of the managers of a particular firm. The significance of managers' personal preferences cannot be limited to convertible financings. Nor can it be limited to the question of when a firm will obtain external financing and what general form the financing will take. For example, in debt financings some managers may agree to a higher interest rate in exchange for more lenient covenants that infringe less on their discretion and pose a lesser threat to their control.

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135. See D. Bruce Johnsen, A Transaction Cost Theory of Corporate Finance, With Applications to Security, Bankruptcy, and the Nature of Economic Organization (May 1994) (unpublished manuscript, on file with the author).

136. See Carey et al., *supra* note 28, at 23.

137. Shyam-Sunder & Myers, *supra* note 17, at 4.

138. This idea was popularized by Adolf Berle and Gardiner Means in *THE MODERN CORPORATION AND PRIVATE PROPERTY* 87-90, 124 (1932), but the idea goes back at least to Adam Smith. See ADAM SMITH, *AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS* 700 (E. Cannan ed. 1966).

139. See Shyam-Sunder & Myers, *supra* note 17, at 2; Stein, *supra* note 3, at 3-5.

140. For example, managers differ in their attitudes about how hard to work and compensation for that work versus other managerial perquisites (or "staff").

Studies of capital structure must also focus on private companies and private placements by public companies. Unlike public offerings, private placements (even by public companies) are individually negotiated with one or a few large institutions that carefully investigate the issuer before investing and then monitor the issuer after investing. These institutions can easily approve amendments to agreements, but they need special arrangements to achieve liquidity because their investment is not publicly traded. Unlike public companies, private firms have managers who are major shareholders and are not vulnerable to hostile tender offers or proxy fights. Therefore, major investors often negotiate for board seats and even contingent rights to seize control from the managers. As a result, private financings differ in many ways from the public offerings on which financial economists typically focus. If we are to understand the entire field of finance, then, we cannot ignore private financing or simply assume that it is the same as public financing.

Existing work on this subject also argues for closer collaboration between economists and legal scholars in the field of corporate finance. Lawyers draft the documents that create a capital structure and the law interprets these documents and fixes default rules to govern situations not covered by contract. In the last twenty-five years, lawyers, judges, and legal scholars have profited from economic analyses of the law in many areas, including corporate finance, but they still have much to learn from financial economists. Financial economists can also profit from cooperation. They have largely ignored non-public companies because they focus on securities markets, wherein private companies are not traded. Yet, the vast majority of corporations are non-public, comprising a growing segment of the economy. To understand their behavior, economists will need the help of lawyers who work closely with these companies.

## IX. CONCLUSION

Financial economists have tried, but failed, to construct a single theory to explain the use of convertible securities. The role of convertibles is complex and dependent on several factors. The impossibility of a single, comprehensive theory is aesthetically disappointing, but appreciation of the more complex reality gives us a better understanding of convertibles. Use of convertibles will grow in the future because of their flexibility, especially in private placements. This trend will be abetted by the increasing share of the economy occupied by private firms, which make greater use of convertibles than do public companies. A richer understanding of convertibles helps us as lawyers, economists, investment bankers, and industrialists to improve corporate financing, on which economic growth depends so heavily.