# CONVERSION RIGHTS AND THE DESIGN OF FINANCIAL CONTRACTS

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## I. INTRODUCTION

Most of the academic insights into the capital structure decision of a corporation have been based on the dichotomous choice between debt and equity. A debt investor purchases the right to receive a sequence of payments at specified future dates. If the firm fails to meet its payment obligation, the debtholder is entitled to force the firm to surrender assets that may be sold to satisfy the debt. In contrast, an equity investor is entitled to the residue after the claims of creditors are satisfied in full. The equityholder may receive dividends, but these are paid at the discretion of the firm's management and only to the extent allowed by law and by the firm's contracts with its debtholders. Equityholders vote for the directors of the company, who govern the firm through their appointees, the managers.

The foregoing characteristics of the plain debt and equity contracts may be varied along a number of dimensions. Thus, the attention of financial economists seems to have shifted from the optimal mix of debt and equity financing to the design of securities.[1] As contracting flexibility is exploited, securities combining the identifying characteristics of debt and equity emerge, blurring the distinctions between the two traditional financing paradigms and correspondingly diluting their analytical usefulness. Therefore, a superior taxonomy for understanding capital structure may be one that abandons the debt-equity dichotomy and refers directly to

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1. *See, e.g.*, Franklin Allen, *The Changing Nature of Debt and Equity: A Financial Perspective, in* ARE THE DISTINCTIONS BETWEEN DEBT AND EQUITY DISAPPEARING? 12 (Richard W. Kopcke & Eric S. Rosengren eds., 1989). Philippe Aghion & Patrick Bolton, *An Incomplete Contracts Approach to Financial Contracting*, 59 REV. ECON. STUD. 473 (1992) (discussing governance or control attributes of securities).

the various financial and governance features that may be embodied in any given financial instrument. From the latter perspective, we outline the principal building blocks in the remainder of Part I.

A firm's capital structure allocates its cash flow among the firm's investors and specifies the times at which each investor is paid its allocation. An investor's claim may be (1) fixed, (2) contingent on the value of a specified asset (such as the market price of a commodity) or a flow variable (such as the earnings of the issuer), (3) within the discretion of the issuer (as in the case of common stock dividends), or (4) a combination of these features. An investor is entitled to receive from the issuer the value of its claim in cash at specified times or on the occurrence of specified events. For example, a bondholder is entitled to payment of the principal at the maturity date specified in the bond instrument and, in the case of a coupon bond, is entitled to receive cash payments of interest at specified times prior to the principal repayment. In most cases, the bondholder is also entitled to payment upon any event of default defined in its contract with the issuer.

The firm's contracts with its investors also assign the levers by which they may influence the firm's decisions. This is most obvious in the case of the common stockholder who has the right to vote for the appointment or displacement of directors and who can enforce the directors' fiduciary obligations to the corporation. However, short debt maturities make firms sensitive to the concerns of debtholders, and restrictive covenants in trust indentures, loan agreements, or preferred stock issues constrain the firm's decisions. These covenants may be quite broad and restrictive enough to require the assent of the securityholder to important decisions of the firm.

An investor's claim is defined not only by its contractual rights against the issuer, but also by the relation between the investor's claim and those of other investors. This concept of relative standing is most clearly reflected in the notion of priority within a hierarchical capital structure. In general, priority determines the right of the investor to be paid in full before claims with lower priority are paid anything. The position of a financial claim in the hierarchical structure of the issuer is often explicit: a bond may be contractually assigned a priority as senior, junior, or subordinated, or the issuer may grant a mortgage or security interest over all or a subset of the firm's assets. However, priority can effectively be replicated by giving an investor the right to have its claim, or a part of it (e.g., coupon interest), paid earlier rather than later. This may be accomplished by specifying a short maturity date, making a demand loan,

or providing restrictive events of default.[2]

A class of investors is entitled to the residue after all others have been paid their claims, and this residue has no upper bound. Traditionally, these investors also hold the lowest priority in the hierarchy: the paradigmatic common shareholder who enjoys the surplus in good times must also stand at the end of the queue in dissolution or liquidation, and usually has no right to force the payment of dividends or the redemption of its stock. Under the conventional conception of capital structure, this is viewed as a natural balance. Common stockholders are thus regarded as the residual claimants of a solvent corporation because both the dollar gained and the dollar lost by the corporation at the margin belongs to them. Voting rights are assigned to this class predominantly because they are the residual claimants and therefore have the best incentives to promote firm value maximization.[3]

Some financial contracts allow the investor to convert its security into another security of the issuer. A distinction is often drawn between upstream and downstream conversion based on whether the new security enjoys higher or lower priority than the converted security. Although there are many types of convertible financing,[4] we discuss only one instance each of downstream and upstream convertible securities: subordinated debt that is convertible into common stock and common stock that is puttable in exchange for subordinated indebtedness. The former is far more widely used.[5] Other than in closely held corporations, the right of a common

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2. Alternatively, some bonds have reset provisions that raise coupon payments in response to increased default risk, thereby effectively accelerating repayment of part of the loan. *See, e.g.*, John D. Finnerty, *An Overview of Corporate Securities Innovation*, J. APPLIED CORP. FIN., Winter 1992, at 23, 36.

3. *See, e.g.*, FRANK H. EASTERBROOK & DANIEL R. FISCHEL, THE ECONOMIC STRUCTURE OF CORPORATE LAW 63-72 (1991). Other explanations do not depend on the shareholders' upside participation. They focus simply on the fact that shareholders have the lowest priority and are unable to force payment of their claim and renegotiation of their contract without dissolution or liquidation. *See* OLIVER E. WILLIAMSON, THE ECONOMIC INSTITUTIONS OF CAPITALISM 304-06 (1985).

4. John Finnerty describes a variety of securities with convertible features, including redeemable preferred stock, convertible exchangeable preferred stock, preferred equity redemption cumulative stock (PERCS), and liquid yield option notes (LYONS). Finnerty, *supra* note 2, at 33-36. In leveraged transactions—such as buyouts, takeovers, and recapitalizations—mezzanine financing has been common since the mid-1980s. It usually involves a fixed claim such as subordinated debt or preferred stock combined with equity participation in the form of, for example, warrants, stock appreciation rights, or common stock. *See, e.g.*, John R. Willis & David A. Clark, *An Introduction to Mezzanine Finance and Private Equity*, J. APPLIED CORP. FIN., Summer 1989, at 77.

5. During the period 1900 to 1988, an average of 9.3% of the total corporate debt issues were convertible debt instruments, with the annual proportion ranging between 0% and 40.3%. F.C. JEN ET

stockholder to put its shares to the corporation for cash or debt is a relatively recent innovation.[6]

While the terms of convertible debt are determined by contract, corporate law constrains the use of puttable common stock, reflecting a greater concern with upstream rather than downstream conversions. This concern seems to be due to the attention paid to the direction of conversion rather than to the state-contingent characteristics of the relevant instruments. However, the distinction between upstream and downstream conversion is largely the product of the historical dominance of the debt and equity paradigms in finance, and it is of limited analytical use. Rather, consistent with the taxonomy suggested at the outset, hybrid securities such as convertibles should be examined for their state-contingent combination of features.

In general, a holder of either type of convertible instrument will delay its decision to exercise its conversion until the moment before the right expires.[7] In insolvent states, the priority of these hybrids is clear and unique, regardless of the direction of the conversion: both rank as (typically subordinated) debt claims. The only difference is that the puttable stockholder must take the affirmative step of conversion to assert that priority. In at least some solvent states, investors in either type of hybrid are entitled to share in the residue of the firm. Given these similarities, the relevant inquiry is not the direction of conversion. Rather, the focus of analysis should be: (1) efficiency gains yielded by the

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AL., CONVERTIBLE BOND FINANCING: THE SIGNIFICANCE OF COSTS OF FINANCIAL DISTRESS AND GROWTH FUNDING NEEDS (State University of New York at Buffalo School of Management, Working Paper No. 765, 1993). In a sample of 497 debt offerings made by industrial firms during 1964-1982, 75 were convertible debt issues. B. Espen Eckbo, *Valuation Effects of Corporate Debt Offerings*, 15 J. FIN. ECON. 119, 127 (1986).

6. Nevertheless, Allen and Gale suggest that upstream conversions have a long history:

> In the seventeenth century, a number of English firms undertook conversions to benefit particular shareholders. For example, in 1631 King Charles I was allowed to convert his shares in the New River Company into debt when the company did not do as well as expected. In 1724 stockholders in the York Buildings Company converted half their shares into debt that had equal priority with the firm's existing debt.

FRANKLIN ALLEN & DOUGLAS GALE, FINANCIAL INNOVATION AND RISK SHARING 12 (1994).

7. In the absence of call provisions, interest, or dividend payments, there is no reason for the convertible securityholder to give up the valuable option to convert before maturity. Convertible debtholders, however, may choose to exercise their conversion option before its maturity date if the dividend yield on the stock is sufficiently higher than the coupon rate on the bond. *See, e.g.*, Kenneth B. Dunn & Kenneth M. Eades, *Voluntary Conversion of Convertible Securities and the Optimal Call Strategy*, 23 J. FIN. ECON. 273 (1989) (exploring the interaction between the investors' conversion strategy and the firm's decision to call the bonds).

combination of a priority claim in bad times and participation in the residue in good times;[8] (2) the effect on these gains of the legal restrictions imposed by corporate law on puttable stock; and (3) the concerns, if any, raised by the packaging of the state-contingent structure of financial claims with the governance features of puttable stock, namely voting rights.

Part II of this Article discusses the gains yielded by convertible debt financing. Convertible debt can act as a signal of favorable private information and can mitigate the incentives of shareholders to promote excessive risk taking by the firm. Part III describes puttable stock and the legal regulation that bears on it. The regulation of puttable stock ranges from prohibition to the requirement that the firm be solvent after the exercise of the put. Part IV compares convertible debt and puttable stock. In the absence of legal restrictions, a firm may structure puttable stock to replicate the state-contingent financial claims of convertible debt. The difference in the direction of the conversion option is of no consequence. As a result, the issuance of puttable stock might be explained as yielding the same gains as those identified in the discussion of convertible debt in Part II.

Part V discusses the effect of the mildest form of legal restrictions on puttable stock, the solvency requirement, on these potential gains. This restriction dampens the signalling function that is otherwise served by puttable stock and has, at best, a mixed effect on the mitigation of risk-taking incentives by shareholders of the firm. Finally, we suggest that the state-contingent structure of either convertible bond or puttable stock claims causes the holders of these claims to exhibit extreme risk preference when their conversion options are at or near the money. In this interval of firm value, convertible bondholders have little control over firm decisions while puttable stockholders may be able to exercise voting rights. The voting rights held by risk-preferring puttable stockholders counteract the beneficial effect of the issuance of puttable stock on the risk-taking incentives of other common stockholders. In the end, the firm issuing puttable stock is likely to take more risk than a similar firm issuing convertible debt, and may be no better in this regard than a firm issuing ordinary common stock instead.

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8. An interesting question is why secured or senior debt convertible into common stock is not observed. The combination of high priority with residual claim may be evolving, however, in several different forms. For example, in 1990, Brooke Group Ltd. issued contingent value rights (CVRs) which are senior secured obligations secured by cash, government bonds, and other securities. *See infra* note 36. In many cases, puttable stock itself may have de facto priority due to the short maturity of the put and its redemption for cash or short-term notes.

## II. THEORIES OF CONVERTIBLE DEBT

The most prominent explanations for convertible debt suggest that it reduces the costs of information asymmetries and financial agency problems.[9] Myers and Majluf demonstrate that, if there is significant private information about the value of the firm, the issuance of equity is viewed by the market as information that the firm's equity is overvalued.[10] Therefore, a firm with favorable private information may prefer to finance its new projects by issuing debt rather than equity. In particular, the firm may choose to issue short-term debt that matures at the time the favorable information is expected to be revealed to the market.[11] At that time, the firm may refinance on better terms either by borrowing at a lower rate or by issuing equity at a higher price. Like short-term debt, convertible debt also defers the sale of equity until private information is revealed to the

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9. The argument that financial innovation helps to complete financial markets is an uneasy case at best when the novel security can be priced by equating it to a combination of existing securities. *See* Nils H. Hakansson, *The Fantastic World of Finance: Progress and the Free Lunch*, 14 J. FIN. & QUANTITATIVE ANALYSIS 717, 722-24 (1979). It may be, however, that the firm can combine existing claims to satisfy investor tastes at a lower cost than financial intermediaries providing this service. This suggests a transaction cost explanation for hybrid instruments. *See* Robert C. Merton, *On the Application of the Continuous-Time Theory of Finance to Financial Intermediation and Insurance*, 14 GENEVA PAPERS ON RISK AND INSURANCE 225 (July 1989) (setting forth a transaction cost explanation for the role of intermediaries in financial derivatives markets). The development by Merrill Lynch of liquid yield option notes (LYONs), which are puttable convertible zero coupon bonds, seems to have been motivated by such an attempt to provide retail investors with an attractive package of debt and stock options. *See* John J. McConnell & Eduardo S. Schwartz, *The Origin of LYONs: A Case Study in Financial Innovation*, J. APPLIED CORP. FIN., Winter 1992, at 40, 41-42. Other explanations suggest that innovations are motivated by the minimization of private costs of regulation (particularly tax). *See, e.g.*, Robert C. Merton, *The Financial System and Economic Performance*, 4 J. FIN. SERVICES RES. 263, 264-72 (1990).

10. Stewart C. Myers & Nicholas S. Majluf, *Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have*, 13 J. FIN. ECON. 187, 188, 209-10 (1984). Given this information effect, Myers suggests a pecking order for outside financing in ascending order of risk: debt, hybrids such as convertibles, and finally equity. Stewart C. Myers, *The Capital Structure Puzzle*, 39 J. FIN. 575, 581-85, 589-90 (1984). This pecking order is consistent with empirical results on the effect of the announcement of public issues of equity, convertible debt and straight debt on firm stock prices. *See* Paul Asquith & David W. Mullins, Jr., *Equity Issues and Offering Dilution*, 15 J. FIN. ECON. 61, 70-71 (1986) (reporting -3.2% two-day announcement period equity returns in response to the issuance of seasoned equity); Eckbo, *supra* note 5, at 134 (reporting -1.70% announcement period returns for convertible debt, and returns that were not significantly different from zero for straight debt).

11. *See* Mark J. Flannery, *Asymmetric Information and Risky Debt Maturity Choice*, 41 J. FIN. 19 (1986) (asserting that issuing short-term debt tells the market that insiders view the firm's prospects optimistically); Douglas W. Diamond, *Debt Maturity Structure and Liquidity Risk*, 106 Q.J. ECON. 709 (1991) (arguing that a borrower is more likely to choose short-term debt if it has favorable information that, once revealed to the market, will allow refinancing at a lower rate).

market.[12] However, while short-term debt has a definite maturity, convertible debt may define periods within which the holder may convert and the issuer may force conversion by exercising its call privilege. Therefore, the time at which the favorable information is revealed does not have to be predicted with as much precision when convertible, rather than short-term, debt is used to defer the issuance of equity.

The informational advantages of short-term or convertible debt financing must be weighed against the risk that the borrower may be unable to refinance the debt when it matures or to meet periodic coupon obligations during the term of the debt.[13] This risk depends on the financial condition of the firm and may therefore suggest a signalling role for the use of convertible debt. Jeremy Stein proposes the following separating equilibrium.[14] High-quality firms issue long-term debt to benefit from the informational gains identified above. Given their excellent financial condition, the expected marginal costs of financial distress are trivial. Low-quality firms issue equity because the expected financial distress costs from debt financing outweigh the gains from mimicking higher quality firms. Medium-quality firms have nontrivial concerns about financial distress and signal that their equity is undervalued by issuing debt with a conversion price higher than the current market price.[15] Unless the stock

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12. Surveys of firms which have issued convertibles indicate that in many cases convertibles are issued with the intent to eventually shift debt into equity when stock prices rise. *See* J. Ronald Hoffmeister, *Use of Convertible Debt in the Early 1970s: A Reevaluation of Corporate Motives*, Q. REV. ECON. & BUS., Summer 1977, at 23, 28 (reporting that 64% of respondents cite the possibility of shifting debt into equity as one of two main reasons for issuing convertibles); Eugene F. Brigham, *An Analysis of Convertible Debentures: Theory and Some Empirical Evidence*, 21 J. FIN. 35, 51 (1966) (reporting that 73% of respondents claim that they were primarily interested in obtaining equity when using convertibles). In a sample of convertible bonds studied by Asquith, approximately two-thirds of these bonds were eventually converted into equity. Paul Asquith, Convertible Debt: A Dynamic Test of Call Policy (MIT Sloan School of Management, Working Paper, 1991).

13. Several authors have commented on the tradeoff between the concern about financial distress caused by taking on debt and the discount on equity issuance. *See, e.g.*, Bradford Cornell & Alan C. Shapiro, *Financing Corporate Growth*, J. APPLIED CORP. FIN., Summer 1988, at 6, 15-16 (regarding the financing of growth firms); Diamond, *supra* note 11.

14. *See* Jeremy C. Stein, *Convertible Bonds as Backdoor Equity Financing*, 32 J. FIN. ECON. 3 (1992). Constantinides and Grundy model a different separating equilibrium produced by a financing policy that combines the issuance of convertible debt with an open market stock repurchase. Unlike Stein, they assume no financial distress costs. George M. Constantinides & Bruce D. Grundy, *Optimal Investment with Stock Repurchase and Financing as Signals*, 2 REV. FIN. STUD. 445 (1989).

15. Stein argues "that companies may find convertible bonds an attractive middle ground between the negative informational consequences associated with an equity issue and the potential for costly financial distress associated with a debt issue." Stein, *supra* note 14, at 19. Stein also shows that short-term debt will not have the same effect as convertible debt if there is a "steady-state level of information asymmetry" concerning the firm's quality. *Id.* at 9-10, 19-20. In that case, the medium-quality firm may decide not to refinance its debt with an equity issue if at the maturity date of the debt

price rises to make conversion attractive, the firm will be saddled with additional leverage that increases the expected cost of financial distress. If the equity price does rise, the issuer can typically get rid of the debt by exercising its call privilege and thereby forcing the conversion into equity. On the basis of its favorable private information, the firm expects that the debtholder will choose to convert. This theory predicts that convertibles tend to be issued by highly levered and high-growth companies, which are likely to be characterized both by information asymmetries and financial distress concerns.

The benefit from deferring the issuance of equity through convertible debt financing is qualified by the effect of the firm's exercise of its call privilege. A firm that calls its convertible debt in order to force conversion communicates to the market its expectation that impending difficulties may make the firm's debt obligations more difficult to service or that its equity is now overvalued. Indeed, this information effect may explain the negative stock price reaction to call announcements.[16] Therefore, the issuance of callable convertible debt may not avoid, but rather simply postpone, the Myers and Majluf information effect of equity financing unless the firm refrains from calling the debt and waits for the holder to convert.[17] However, the delay in calling the debt has a cost: the risk of

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its private information is optimistic. *Id.* at 20. Thus, it is important that the firm issue a debt security with a contractual precommitment to issue equity.

16. *See* Wayne H. Mikkelson, *Convertible Calls and Security Returns*, 9 J. FIN. ECON. 237 (1981) (reporting that announcement of convertible bond calls are accompanied by an average 2% decrease in stock prices); Ajai K. Singh et al., *Underwritten Calls of Convertible Bonds*, 29 J. FIN. ECON. 173 (1991) (stating that the negative stock price reaction is larger when the conversion value is near the call price at the time of the conversion-forcing call). In contrast, but consistent with the information story of calls, Cowan, Nayar, and Singh find a positive announcement effect of calls of out-of-the-money conversion options. While the firm pays a premium to the bondholder in this case, the action serves as a signal that separates the announcement from the pool of call announcements that imply bad news. Arnold R. Cowan et al., *Calls of Out-of-the-Money Convertible Bonds*, FIN. MGMT., Winter 1993, at 106.

17. Under perfect market assumptions, a firm should call a convertible bond as soon as its conversion value exceeds its call price. However, firms typically delay calling convertible bonds until the conversion value is at least 20% above the call price. Paul Asquith & David W. Mullins, Jr., *Convertible Debt: Corporate Call Policy and Voluntary Conversion*, 46 J. FIN. 1273, 1277 (1991). Harris and Raviv propose a sequential signalling model in which calls convey unfavorable information, while delaying conveys favorable information (i.e., that managers expect the stock price to continue rising). Milton Harris & Artur Raviv, *A Sequential Signalling Model of Convertible Debt Call Policy*, 40 J. FIN. 1263 (1985).

A number of other explanations for call delays have been advanced. Constantinides and Grundy argue that call delays signal future dividend increases. GEORGE CONSTANTINIDES & BRUCE GRUNDY, CALL AND CONVERSION OF CONVERTIBLE CORPORATE BONDS: THEORY AND EVIDENCE (Center for Research in Security Prices, University of Chicago, Working Paper No. 180, 1987). Jaffee and Shleifer argue that the call notice period (typically 30 days, during which the bondholders may decide whether

financial distress until conversion, which the holder usually has the incentive to defer until the last possible moment.

Whereas information theories view convertible debt as deferred equity, agency cost explanations view it as a debt instrument with an option to convert to equity. Unlike long-term debtholders, convertible debt investors are relatively insensitive to the variance of the firm's returns because they can participate in the firm's profits through their conversion privilege.[18] Furthermore, this participation in equity dampens the incentives of a solvent debtor to increase the riskiness of its projects and thereby reduces related agency costs of debt (e.g., the cost of covenants and monitoring for all debt classes).[19] Indeed, if a firm wishes to defer the issuance of equity for the reasons given above, it may prefer to do so through convertible debt rather than short-term debt because of the concerns even short-term lenders have about risk alteration. However, the agency cost savings of convertible debt are easily overstated since it does not prevent the exacerbation of risk alteration incentives when the debtor is insolvent or near insolvency. At that point the equityholders no longer have any liquidation interest in the firm and prefer any project that offers them a chance at positive value, even if they may have to share the profit with the convertible bondholders.[20]

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to convert or to tender the bonds for cash) potentially exposes the firm to financial distress costs since the firm's stock price may decline during this period and the firm may be forced to redeem the bond. Dwight Jaffee & Andrei Shleifer, *Costs of Financial Distress, Delayed Calls of Convertible Bonds, and the Role of Investment Banks*, 63 J. BUS., at S107, S108 (1990). Asquith and Mullins attribute the delay to differences in tax rates between the firm and the investors. Asquith & Mullins, *supra*, at 1287.

18. Brennan and Schwartz suggest that convertible debt removes the significance of uncertainty concerning the risk of the firm because its value is relatively invariant to firm risk. When the firm invests in a high-risk project, the value of the conversion option rises and offsets some of the decline in the value of the fixed claim. The authors suggest an information-based theory along the same lines. If the market overestimates the risk of a small-growth company, it will undervalue the company's straight debt but overvalue the conversion feature. Michael J. Brennan & Eduardo S. Schwartz, *The Case for Convertibles*, J. APPLIED CORP. FIN., Summer 1988, at 56. Similarly, Brennan and Kraus suggest that the conversion ratio and the face value of a convertible bond signal to investors the firm's private information about its risk. They predict that the firm's risk is a decreasing function of the conversion ratio and an increasing function of the face value of the bond. Michael J. Brennan & Alan Kraus, *Efficient Financing Under Asymmetric Information*, 42 J. FIN. 1225 (1987). Brennan and Her provide empirical support for this proposition. Michael J. Brennan & Constance Her, Convertible Bonds: Test of a Financial Signalling Model (UCLA School of Management, Working Paper 12-93, 1993).

19. *See, e.g.*, Clifford W. Smith, Jr. & Jerold B. Warner, *On Financial Contracting: An Analysis of Bond Covenants*, 7 J. FIN. ECON. 117 (1979); Richard C. Green, *Investment Incentives, Debt, and Warrants*, 13 J. FIN. ECON. 115 (1984). Convertible debt does not mitigate another agency problem associated with leverage, namely underinvestment or debt overhang. *See generally* Stewart C. Myers, *Determinants of Corporate Borrowing*, 5 J. FIN. ECON. 147 (1977).

20. *See* Barry E. Adler, *Bankruptcy and Risk Allocation*, 77 CORNELL L. REV. 439, 463 (1992).

## III. PUTTABLE/REDEEMABLE COMMON STOCK

Subject to legal and contractual restrictions, a firm may purchase its issued stock for cash or its own debt. The notion of a corporation agreeing to repurchase its own stock at some time in the future is not new, particularly in closely held corporations. Owners of closely held corporations often wish to restrict the transfer of shares to preserve the character of their corporation. Yet, such restrictions deprive the stock of liquidity. To compensate, corporations enter into buyout agreements under which the shareholder agrees to sell and the corporation agrees to purchase the firm's stock on the occurrence of specified events in the future, particularly the death of the shareholder. Similar agreements are used in connection with the issuance of common stock to employees. To motivate its employees to work hard and to remain with the corporation, the corporation may permit them to share in any appreciation in firm value by issuing stock to them. Yet, by contract, the firm and the employee agree that, on termination, the employee will sell the shares to the firm. In the context of both the employee and the investor in the closely held firm, the price may be fixed or it may be based on a variable benchmark that reflects changes in the value of the shares.

Until recently, shareholder rights to put common stock back to the corporation were granted only through privately negotiated agreement between the shareholder and the corporation. Most corporate statutes did not allow firms to embed such put rights in stock descriptions in the articles of incorporation. This limitation gave rise to two problems. First, it was much more costly for a public company to grant these rights by contract to a class of dispersed shareholders. Second, the rights were not as visible to the public as they would be if revealed in the articles. One of the innovations of the Revised Model Business Corporation Act (RMBCA) was to permit the articles of incorporation to provide that a class of stock is redeemable at the instance of the shareholder.[21] Many states have

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21. Under § 6.01(c)(2), the articles may authorize one or more classes of shares that:

> are redeemable or convertible as specified in the articles of incorporation (i) at the option of the corporation, the shareholder, or another person or upon the occurrence of a designated event; (ii) for cash, indebtedness, securities, or other property; (iii) in a designated amount or in an amount determined in accordance with a designated formula or by reference to extrinsic data or events.

MODEL BUSINESS CORP. ACT ANN. § 6.01(c) (1993). *See also* MODEL BUSINESS CORP. ACT ANN. § 6.01(c) cmt. (1985); Bayless Manning, *Assets in and Assets out: Chapter VI of the Revised Model Business Corporation Act*, 63 TEX L. REV. 1527, 1531-32 (1985).

adopted this provision,[22] and New York and Delaware have different provisions that also permit the issuance of common shares redeemable at the option of the shareholder.[23] Statutes that allow common shares to be redeemable at the option of the shareholder typically also allow common stock to be exchanged, at the shareholder's option, for debt of the corporation (upstream conversion) because the new indebtedness is no more prejudicial to other investors than payment in cash.[24] However, any redemption or conversion from common equity to debt is subject to the restrictions on distributions that are included in the corporate statutes to protect creditors.

Corporate statutes prohibit the purchase or redemption by a corporation of its own shares if, after the transaction, the firm would be insolvent in either the equity or balance sheet sense.[25] Equity solvency requires that the corporation be able to pay its debts as they become due in the usual course of business. For the purpose of calculating balance sheet solvency, shares with dissolution rights senior to the redeemed shares are typically

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22. *See, e.g.*, VA. CODE ANN. § 13.1-638 (Michie 1990). *See generally* MODEL BUSINESS CORP. ACT ANN. § 6.01 and commentary at 305-27 (1993).

23. DEL. CODE ANN. tit. 8, § 151(b) (1991) (allowing the stock of any class of series to be made subject to redemption by the corporation at the option of the stockholder provided that (with three exceptions) at the time of redemption the corporation has outstanding shares of at least one class or series of stock with full voting powers and not subject to redemption); N.Y. BUS. CORP. LAW § 512(a)-(c) (McKinney 1986 & Supp. 1994) (allowing a class of stock to be redeemable if there is another class not subject to redemption). See also N.J. STAT. ANN. § 14A:7-6(1) (West Supp. 1994), which permits redeemable common shares and thereby "affords a technique superior to the present practice of reliance on 'buy-sell' agreements between shareholders and the corporation." N.J. STAT. ANN. § 14A:7-6(3), 1968 Commissioner's Comment (West 1969).

24. *See* MODEL BUSINESS CORP. ACT ANN. § 6.01(c)(2) (1993); DEL. CODE ANN. tit. 8, § 151(b), (e) (1991). *But see* N.Y. BUS. CORP. LAW § 519(a)(1) (McKinney 1986); MODEL BUSINESS CORP. ACT ANN. § 15(e) (1971) (providing that shares may be convertible into any other class except a class having superior priority as to dividends or distribution of assets upon liquidation). *Cf.* CAL. CORP. CODE § 402 (West 1990) (neither prohibiting nor directly addressing upstream conversion).

25. For example, § 6.40(c) of the Model Business Corporations Act provides:

> No distribution may be made if, after giving it effect:
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> (1) the corporation would not be able to pay its debts as they become due in the usual course of business; or
>
> (2) the corporation's total assets would be less than the sum of its total liabilities plus (unless the articles of incorporation permit otherwise) the amount that would be needed, if the corporation were to be dissolved at the time of the distribution, to satisfy the preferential rights upon dissolution of shareholders whose preferential rights are superior to those receiving the distribution.

MODEL BUSINESS CORP. ACT ANN. § 6.40(c) (1993). *See also* Manning, *supra* note 21, at 1530. Most statutes hold directors jointly and severally liable for any improper distributions, but allow them to sue the recipient shareholders for contribution. *See, e.g.*, MODEL BUSINESS CORP. ACT ANN. § 8.33(b)(2) (1993) (providing that a director is entitled to contribution from each shareholder for the amount the shareholder accepted knowing the distribution violated § 6.40 or the articles of incorporation).

treated as if they were liabilities. These are the only solvency requirements that the RMBCA imposes on firms purchasing or redeeming stock. Other statutes are more restrictive. For example, Delaware prohibits the corporation from purchasing or redeeming its stock when its capital is impaired or would thereby become impaired.[26]

The corporation's debt may be used to redeem its common shares, or the common shares may be expressly exchangeable into debt instruments.[27] In either case, the firm may issue debt to shareholders exercising their put only if the solvency tests are satisfied at the time of the issue. If they are not, the debt is not an enforceable claim in a subsequent bankruptcy proceeding.[28] In the past, a number of courts have held that the firm also must be solvent when it makes payments under this debt.[29] However, more recent statutes (notably the RMBCA) provide that the requirements for repurchase or redemption must be satisfied only at the time the debt is issued.[30] The argument in favor of a one-time test is compelling: if the corporation is entitled to make a cash distribution, the creditors would be

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26. DEL. CODE ANN. tit. 8, § 160(a)(1) (1991). In New York, the firm may redeem out of surplus if it would remain solvent after the redemption, and may redeem out of stated capital if it can remain solvent and if net assets would not be reduced below the stated capital after the redemption. N.Y. BUS. CORP. LAW § 513(a)-(c) (McKinney 1986 & Supp. 1994). California law provides that a distribution (which includes purchase or redemption of shares) may not be made unless either (a) the corporation has retained earnings at least equal to the amount of the distribution or (b) after the distribution, the corporation would have both (1) total assets equal to or exceeding 1¼ times its liabilities (as defined) and (2) current assets at least equal to its current liabilities. CAL. CORP. CODE § 500(a), (b) (West 1990).

27. *See supra* note 21.

28. *See* Reiner v. Washington Plate Glass Co., 711 F.2d 414, 417 (D.C. Cir. 1983) (holding that where the corporation had inadequate surplus at the time of the stock repurchase, the security interest granted failed with the underlying obligation). *See also In re* Flying Mailmen Service, 539 F.2d 866, 870-72 (2d Cir. 1976) (Friendly, J.); *In re* Bell Tone Records, Inc., 86 F. Supp. 806, 810 (D.N.J. 1949). Yet, a few courts have permitted former shareholders to recover ahead of creditors who had knowledge of the repurchase at the time they advanced funds to the corporation. *See, e.g.*, Tracy v. Perkins-Tracy Printing Co., 153 N.W.2d 241, 245-47 (Minn. 1967); Cross v. Beguelin, 169 N.E. 378, 379 (N.Y. 1929). For a critique of the surplus test and creditors with knowledge of repurchase, see David R. Herwitz, *Installment Repurchase of Stock: Surplus Limitations*, 79 HARV. L. REV. 303, 315-16 (1965).

29. *See, e.g.*, Neimark v. Mel Kramer Sales, Inc., 306 N.W.2d 278, 283 (Wis. Ct. App. 1981) (holding that insolvency test must be applied both at time of purchase and when each installment payment is made). *See also In re* Flying Mailmen Service, 539 F.2d at 869 (regarding New York law); *In re* Trimble Co., 339 F.2d 838, 842-43 (3d Cir. 1964) (regarding Pennsylvania law). *See* MODEL BUSINESS CORP. ACT ANN. § 6 (1971) (amended 1980) ("No purchase of or payment for its own shares shall be made at a time when the corporation is insolvent or when such purchase or payment would make it insolvent.").

30. *See, e.g.*, MODEL BUSINESS CORP. ACT ANN. § 6.40(e), (g) (1993) (stating that legality of distribution is measured at the time the debt is incurred, except when debt is issued under the special provision of subsection (g)); DEL. CODE ANN. tit. 8, § 160(a)(1) (requiring that capital not be impaired at the time the debt is delivered by the corporation nor become impaired as a result of such delivery).

no worse off if the firm postponed payment by issuing debt instead.[31] Once issued, the debt is treated like any other indebtedness of the corporation and payment of the debt by an insolvent corporate debtor may be subject to the normal bankruptcy preference rules.[32]

Thus, while the historical antipathy in corporate law toward upstream conversion has softened in many states, significant restrictions remain. Even in the most permissive statutes, the exercise of a right to put a stock to the issuer is impeded by corporate statutory rules when the firm is insolvent or on the verge of insolvency, either in the equity or balance sheet sense.[33] As we demonstrate in the next part, puttable stock can replicate the financial claims of convertible debt and might thereby serve the same purposes as convertible debt: namely, the resolution of information asymmetries and the mitigation of agency problems. Indeed, there have been cases in which puttable stock has been issued by public corporations apparently to signal favorable information to capital markets. However, while a convertible debtholder may choose not to convert and hold on to this claim during financial distress, the puttable stockholder may be precluded by law from exercising its contractual right to exchange its common equity interest for a fixed debt claim. We suggest in Part V that the legal constraints on the exercise of stockholder puts when the firm is in financial distress may undermine the signalling of favorable private information. The effect of puttable stock on the risk taking of the firm is

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31. The issuance of debt rather than cash to shareholders may, however, raise agency costs by allowing management to retain free cash with which they may misbehave. *See generally* Michael C. Jensen, *Agency Costs of Free Cash Flow, Corporate Finance and Takeovers*, 76 AM. ECON. REV. 323 (1986).

32. 11 U.S.C. § 547 (1988).

33. Fraudulent conveyance provisions add little, if anything, to the restrictions placed on the exercise of stock puts or redemptions by corporate statutes. In states where only solvency is required by corporate law, fraudulent conveyance rules may have some effect when the debtor business is left with unreasonably small capital after the transaction. *See* 11 U.S.C. § 548(a)(2)(B) (1988); UNIFORM FRAUDULENT TRANSFER ACT § 4(a)(2) (1985); UNIFORM FRAUDULENT CONVEYANCE ACT §§ 4-6 (1985). However, courts have tended to construe this condition narrowly. *See* Richard O. Kummert, *State Statutory Restrictions on Financial Distributions by Corporations to Shareholders* (pt.2), 59 WASH. L. REV. 185, 278 n.419 (1984). Moreover, a fraudulent transfer or conveyance requires that the debtor receive less than reasonably equivalent value or fair consideration. 11 U.S.C. § 548 (1988). The receipt of shares in a repurchase transaction is not a reasonably equivalent value for the issuance of a note. *See, e.g., In re* Roco Corp., 21 B.R. 429, 434 (Bankr. 1st Cir. 1982); *In re* Louisiana Coatings, Inc., 31 B.R. 688, 698 (Bankr. E.D. La. 1983); *In re* DeFeo Fruit Co., 24 B.R. 220, 225 (Bankr. W.D. Mo. 1982). However, value is defined in fraudulent conveyance statutes to include the satisfaction of a present or antecedent debt. *See* 11 U.S.C. § 548(d)(2) (1988) (defining value); UNIFORM FRAUDULENT TRANSFER ACT § 3(a) (defining value); UNIFORM FRAUDULENT CONVEYANCE ACT § 3(a) (defining fair consideration). A strong argument can be made that the purchase obligation of the debtor pursuant to a put written to a common shareholder is an antecedent contingent debt.

also complicated by these legal constraints and by the voting rights, if any, that accompany the stock.

## IV. COMPARING CONVERTIBLE DEBT AND PUTTABLE STOCK

We noted in Part III that the right of a common stockholder to put her stock back to the corporation is often used to compensate for the lack of liquidity in the stock of closely held corporations, particularly when the transfer of shares is restricted. The use of publicly issued puttable stock is illustrated in the following example.[34] In 1984, Arley Merchandise Corporation, a privately owned manufacturer of draperies and upholstery, had enjoyed continuous profitability and sharply increasing earnings over the previous two years. Arley wanted to raise $6 million through an initial public offering of shares to repay some of its debt and to finance future growth. However, there was a significant discrepancy between the price per share that Arley's owners thought was appropriate ($8 per share) and the price that the underwriter felt would be marketable ($6 per share). The gap was due partly to the expectation of Arley's owners that earnings would continue to rise at an annual rate exceeding 150% and partly to the underwriter's perception of a decline in investor enthusiasm for new issues of common stock of small firms. To bridge the gap, Arley's investment banker marketed units each consisting of one share of the common stock and one right to sell the common stock to the company for $8 in cash or notes during a fifteen-business-day period beginning two years from the date of issuance (essentially a European put option). The company agreed to announce, no later than 60 days prior to the commencement of this period, whether it chose to pay for the stock in cash or in ten-year senior subordinated notes bearing interest payable quarterly at 128% of the ten-year Treasury rate.[35]

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34. The example is from a Harvard Business School case study on Arley Merchandise Corporation, No. 9-287-063 (1987) and Andrew H. Chen & John W. Kensinger, *Uncommon Equity*, J. APPLIED CORP. FIN., Spring 1992, at 36, 37-38. Other instances of puttable stock issues may be motivated by different rationales. For example, in the mid-1980s, Smith International acquired shares of Gearhart Industries with the intent to attempt a hostile takeover. The parties subsequently negotiated a deal under which Gearhart agreed to buy back $80 million of stock from Smith at $15 per share (which was significantly higher than the market price). Gearhart was bound by contractual limitations on its ability to borrow new funds and did not have enough cash to perform its promise to purchase. Therefore, it financed the purchase by issuing puttable stock—packages of common shares with rights to sell the shares back to the company at a guaranteed price (which varied with the redemption date). Ann Monroe, *Gearhart Files $90 Million Offer of Stock, Rights*, WALL ST. J., Mar. 28, 1985, at A5. Contingent value rights serve a similar function in takeovers or mergers. *See infra* note 36.

35. In fact, the stock traded in the range of $9 to $10 at the time the puts matured and they expired without being exercised. Chen & Kensinger, *supra* note 34, at 37.

To keep the discussion simple, suppose that the Arley puttable stock could be exchanged for a ten-year senior subordinated discount note, rather than a note paying periodic interest. A senior subordinated convertible discount note with the same maturity could yield the same financial claim as this puttable stock.[36] The equivalence of a convertible note and puttable stock follows from put-call parity, a well known identity for European options.[37] Applying this parity relationship to Arley's securities, the combined value of the stock and the in-the-money European put (with a strike price of $8) must be equivalent to the value of a discount note together with an out-of-the-money European call option with the same strike price (i.e., an option to convert the note with principal value of $8 for one share of Arley). This relationship holds at all times regardless of the value of Arley's stock, provided that the stock does not pay dividends and the notes do not pay periodic interest.[38] If the value of the firm yields a market share price over $8 at the maturity date of the options, investors in either instrument will choose to hold stock: the puttable stockholder will not exercise her put and the convertible noteholder will convert. If the market value of the common stock is less than $8 per share, they will both hold debt in the firm: the puttable stockholder will exercise her put and the convertible noteholder will not convert.

In the absence of any restrictions on the exercise of the stock put, the two investors should be in the same financial position in the event of the firm's insolvency: they have equivalent senior subordinated claims to the

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36. Other mechanisms are used to achieve similar effects. Contingent value rights (CVRs) have evolved since the mid-1980s to provide a floor for the value of a shareholder's investment. The issuer of a CVR promises to pay the holder the difference between a stated target price and the market price at a specified exercise date (or the average price over a specified period). The amount of this obligation is usually capped by an upper limit. *See* MARION LABORATORIES, INC., PROXY STATEMENT, Filing Date 11/02/89, Document Date 10/30/89, SEC File No. 1-5829, at 4 (regarding the merger of Merrel Dow Pharmaceutical and Marion Laboratories, Inc.); RORER GROUP INC., PROXY STATEMENT, Filing Date 3/22/91, Document Date 6/29/90, SEC File No. 1-5851, at 2 (regarding the acquisition of Rorer Pharmaceutical by Rhone Poulenc); BROOKE GROUP LTD., FORM 10-Q, Filing Date 11/19/90, Document Date 9/30/1990, SEC File No. 1-5759, at 11 (regarding the acquisition of Brooke Partners, L.P. by Liggett & Myers Tobacco Company in a reverse subsidiary merger). The most recent and most publicized instance is the CVR component of Viacom's winning bid to buy Paramount Communications' shares. *See, e.g.*, Randall Smith & Laura Landro, *Viacom Raises Paramount Bid to $9.7 Billion*, WALL ST. J., Jan. 19, 1994, at A3; Randall Smith & Johnnie L. Roberts, *Traders Say Viacom's Bid Has an Edge over QVC's in Contest for Paramount*, WALL ST. J., Feb. 3, 1994, at A4.

37. *See* Hans R. Stoll, *The Relationship Between Put and Call Option Prices*, 24 J. FIN. 801 (1969) (discussing the general put-call parity relationship).

38. *See* Andrew H. Chen & John W. Kensinger, *Puttable Stock: A New Innovation in Equity Financing*, FIN. MGMT., Spring 1988, at 27, 29-32. The relationship discussed in the text assumes that the debt and stock do not pay interest or dividends and there is no call provision in the debt.

firm's assets. This result, however, may not hold in the face of the legal constraints described in Part III. Even under the most permissive state corporation statutes, the firm would not be able to issue debt in return for the investor's puttable shares if, after the transaction, the firm would be insolvent in either the equity or balance sheet sense.[39] As a result, the puttable stockholder's claim would not be recognized in bankruptcy. In contrast, there is no legal barrier to the assertion of the debt claim of the convertible noteholder against the insolvent firm. The source of the difference in legal treatment appears to be the direction of the conversion. The exercise of the common stockholder's put is viewed as bootstrapping to higher ground as the firm sinks into insolvency. However, looking at the *direction* of the conversion misses the point. In the cases of both puttable stock (free of legal restriction) and convertible debt, the investor pays for a *combination* of priority in bad times and a share of the residue in good times, and the combination signals the firm's favorable information about its future prospects. Therefore, the justification for restrictions on upstream conversions to protect creditors must be found elsewhere. Several features tend to accompany each type of security and may lead a firm to prefer one over the other. In the remainder of the paper, we briefly examine three factors that might affect a firm's choice between puttable stock and convertible debt: (1) the payment obligations under each instrument; (2) the characterization of puttable stock for accounting or regulatory purposes; and (3) governance features.

A firm with strong prospects may nevertheless lack the cash flow to service periodic interest payment obligations to its convertible debtholder. Dividends to common stockholders are discretionary and therefore offer more flexibility to the issuer. Therefore, an issuer might prefer puttable common stock to avoid the burden of periodic cash payments that are traditionally found in debt instruments. However, many new forms of debt issues, such as zero coupon convertible debt (like LYONs) or pay-in-kind debt, do not impose such obligations.[40] These innovations demonstrate that financial contracting flexibility blurs the conventional distinctions between common stock and debt. Given that the direction of conversion

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39. *See supra* notes 25-33 and accompanying text.

40. Pay-in-kind (or PIK) bonds do not have periodic cash interest payments, but instead increase the principal value on which interest will eventually be paid. *See, e.g.*, Robert M. Dammon et al., *The Relative Pricing of High-Yield Debt: The Case of RJR Nabisco Holdings Capital Corporation*, 83 AM. ECON. REV. 1090 (1993). Finnerty describes the design of adjustable rate convertible debt under which interest is linked to the common dividend rate. The IRS, however, subsequently disallowed deduction for those interest payments. Finnerty, *supra* note 2, at 33, 35.

is not particularly informative, the focus of attention should be on the components packages in each security rather than their characterization as debt or equity.[41]

If, despite its similarity with convertible debt, puttable stock is disclosed as equity in the issuer's financial statements, the firm's other present and future creditors might mistakenly understate the firm's liabilities.[42] Following the Arley Merchandise issue, the Securities and Exchange Commission (SEC) ruled that stock puttable for cash or debt must be treated as redeemable equity and represented as a liability. However, the SEC does allow an issue of puttable stock to be disclosed as equity financing if the issuer has the option to meet its obligation by issuing common stock sufficient to bring the market value of its stock up to the guaranteed value.[43] Loan covenants typically restrict the amount of debt a firm can issue, but not the issuance of puttable stock. Therefore, a firm may issue puttable stock rather than convertible debt to circumvent this type of prohibition.[44]

As puttable stock becomes more common, however, lenders are likely to amend their covenants to restrict its use. Moreover, a simple restriction on the amount of firm debt would probably constrain the firm's ability to meet its obligation if the put were exercised. At least one court has held that a stockholder cannot force the issuer to satisfy its obligation to redeem its stock when such redemption would violate the terms of a trust indenture

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41. Another apparent distinction between convertible debt and puttable stock is the call provision that is typically found in convertible bonds. This provision allows the firm to force conversion of the bond and thus remove the downside protection it provides to the investor. While puttable stock issues do not currently have such a feature, it would be possible to build this feature into the security. This could be achieved by allowing the firm the flexibility to decide the exercise date of the option rather than forcing the firm to create a strictly European option. Contingent value rights have incorporated this feature to a limited extent in that the firm may decide at a single point in time before the maturity date whether to force exercise of the put option. *See supra* note 36. Alternatively, the puttable stock could incorporate an "up-and-out" put option (a type of "barrier option") which is extinguished once the value of the underlying stock reaches a particular barrier (e.g., 20% above the exercise price of the option). *See, e.g.*, Mark Rubinstein & Eric Reiner, *Breaking Down the Barrier*, RISK, Sept. 1991, at 28.

42. A variety of stakeholders and regulatory agencies rely on financial statements. Chen and Kensinger argue that customers and suppliers, in particular, might regard puttable stock as equity and consequently ignore or downplay its liability feature. Chen & Kensinger, *supra* note 38, at 36. The accounting interpretation of hybrids has been the focus of increased scrutiny and discussion recently. *See, e.g.*, FINANCIAL ACCOUNTING STANDARDS BOARD, DISCUSSION MEMORANDUM NO. 94, DISTINGUISHING BETWEEN LIABILITY AND EQUITY INSTRUMENTS AND ACCOUNTING FOR INSTRUMENTS WITH CHARACTERISTICS OF BOTH (1990).

43. This was done in the Gearhart Industries issue. *See supra* note 34.

44. See Monroe, *supra* note 34, regarding the Gearhart puttable stock issue.

issued before the redeemable stock.[45] Therefore, while standard covenants currently do not prohibit the issuance of puttable stock, they may otherwise reduce its value to investors by limiting the circumstances in which the firm is able to meet its obligations when the put is exercised.[46]

## V. SIGNALLING AND INCENTIVE EFFECTS OF PUTTABLE STOCK UNDER LEGAL RESTRICTIONS

In Part II, we explained that convertible debt can provide a signal of favorable private information and can mitigate the incentives of shareholders to induce their managers to take excessive risks. In the discussion in this Part, we show that the legal restrictions on the use of puttable stock undermine the ability of that security to yield similar benefits. We consider the most permissive form of regulation that permits the issuance of puttable stock but prohibits the exercise of the stockholder's put when the exercise would cause the firm to be insolvent. Figures 1 and 2 illustrate the effect of this restriction on the payoffs to the holder of puttable stock and to other stockholders. In Figure 1, the firm has issued convertible debt, which is equivalent to puttable stock in the absence of legal restrictions. The Figure shows the payoffs to securityholders at the maturity date of the convertible debt. In Figure 2, the firm has issued puttable stock subject to the solvency requirement stated above. In both figures, we assume that the firm has other debt that ranks higher in priority than either the convertible debt or

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45. *See* Alco Prods., Inc. v. White Motor Int'l Corp., No. 76 Civ. 5090-CLB (S.D.N.Y. Nov. 8, 1978). However, if payment is made to the shareholder in violation of debt covenants, the amount paid may not be recovered from the shareholder unless it is a fraudulent conveyance or preference recoverable by a bankruptcy trustee. *See supra* note 33.

46. Another factor in the choice between convertible debt and puttable stock may be the tax treatment. Convertible debt has the advantage of the tax deductibility of interest payments. Miller, however, has argued that there may be an equilibrium amount of debt outstanding in the economy which is determined by relative corporate and personal tax rates, such that, on the margin, issuing debt does not necessarily confer a tax advantage on the firm. Merton H. Miller, *Debt and Taxes*, 32 J. FIN. 261, 266-72 (1977). The fact that most convertible debt is held by tax-exempt investors suggests, however, that these debt issues are not the "marginal" issues which are bought by taxable investors, and thus there may indeed be a tax advantage despite the differential taxation of stock and bond income at the personal level. Finnerty, *supra* note 2, at 33 (stating that 80-90% of convertible bond investors are tax-exempt). The dividends from puttable stock may yield a more favorable tax result than interest in cases in which the issuer is not taxable or has accumulated operating losses and the investor is a corporation which receives favorable tax treatment of dividend income. This suggests that puttable stock may lead to a lower cost of capital than convertible debt in some cases.

There may be other institutional factors that influence the choice between convertible debt and puttable stock. For example, some investors (e.g., financial institutions) are restricted as to the amount of common stock they may hold. However, Brennan and Schwartz argue that firms supply enough convertibles in aggregate to satisfy the demand of those investors, so that there are no scarcity rents. Brennan & Schwartz, *supra* note 18.

the notes for which the puttable stock may be exchanged (hereinafter the "notes"). We label the firm value at which the firm can pay all its debts other than the convertible debt or the notes, A, the firm value at which the firm can pay all its liabilities, B, and the value at which the conversion options are at the money, C.

Figure 1: Convertible Debt (or puttable stock without restrictions)

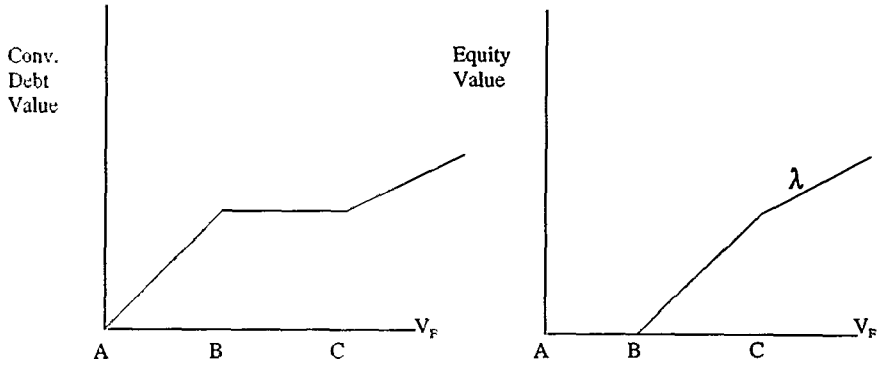
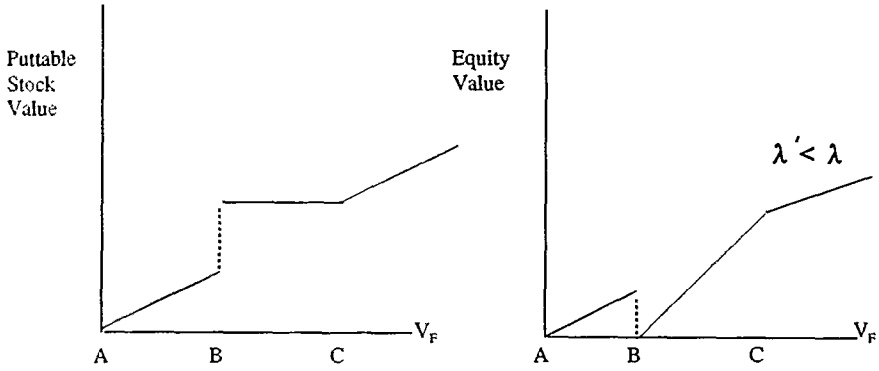



Figure 2: Puttable stock subject to legal restriction




Note: $V_F$ is firm value net of all other debt.

The payoffs in Figures 1 and 2 differ in two regions: (a) when firm value lies between A and B, and (b) when it exceeds C. When the firm has convertible debt outstanding (Figure 1), the firm is insolvent in the interval between A and B and the convertible debtholders capture marginal increases in the value of the firm. Where the firm has puttable stock outstanding (Figure 2), the puttable stockholders are prevented by law from converting their interests into debt claims in the interval between A and B. Therefore, they share any marginal gains with the other equityholders. Because the puttable shareholders are restricted from converting their shares to debt between A and B, investors would pay less for puttable shares subject to the restriction than without it. Thus, the firm must issue more puttable shares to raise a given amount of new capital. Therefore, the interest of the equityholders is diluted to a greater extent in Figure 2 than Figure 1 when firm value exceeds C. The dilution is indicated by a lower slope of nonputtable equity value as a function of firm value: $\lambda' < \lambda$.

As a result of the restrictions on puttable stock, equityholders share in the value of the firm between A and B in Figure 2. Their participation alters the signalling and incentive gains that would be available if puttable stock were free from restrictions and could replicate the payoffs yielded by convertible debt. In Part II, we explained that the issuance of convertible debt can serve as a signal of favorable private information because of the financial distress costs that would fall on the firm if it could not force the conversion to equity by calling the debt. If the law prevents puttable stockholders from converting into fixed claims when such a conversion would place the firm in financial distress, puttable stock cannot serve the same signalling function.

The effect on the risk-taking incentives of the firm's stockholders is less clear because it is contingent on the value of the firm. In the interval between A and B, stockholders have less of an incentive to induce the firm to take large risks if the firm has puttable stock rather than convertible stock outstanding because the equityholders have a stake in the firm in the former case (Figure 2). However, for firm values slightly higher than B, stockholders certainly have a greater incentive to take risks in Figure 2 because the value of their interest may increase even if firm value decreases below B. As firm value approaches C, however, the stockholders become risk averse. The rate at which they develop risk aversion is greater in Figure 2 than Figure 1 because the stockholders must give a larger share of the gains to the puttable stockholders. Therefore, the effect of the issuance of puttable stock under the solvency restrictions on the risk preferences of existing shareholders is contingent on firm value.

To observers of the debate over the merits of Chapter 11 of the U.S.

Bankruptcy Code, this tension should be familiar. Chapter 11 is often criticized because it allows managers to delay the reorganization and to retain some control over the firm's investment decisions. Although the firm is insolvent, its creditors may offer to give equityholders some value in the reorganized corporation in exchange for more efficient investment decisions during the reorganization and a speedier resolution of the case. The result is a deviation from absolute priority in the confirmed reorganization plan. By giving equity a stake in an insolvent firm, the bankruptcy process discourages excessive risk taking when the firm is insolvent.[47] On the other hand, the reallocation of value in bankruptcy increases the incentive to take risks when the firm is comfortably solvent because shareholders can recoup from debtholders some of the losses from risky investments if insolvency and bankruptcy result.[48] In addition, to raise any given amount of capital, the firm must sell debt of greater face value under a regime that deviates from the absolute priority rule. As a result, the firm is more highly levered and therefore has an even greater risk-taking incentive while solvent.

In sum, the solvency restriction on puttable stock yields a state-contingent structure of payoffs that undermines the signal of favorable private information through the issuance of puttable stock. The restriction does not seem to systematically improve the risk-taking incentives of the firm's common stockholders beyond the gains that would be achieved from issuing convertible debt or puttable stock without restrictions. Indeed, to see the full picture of the effect of the issuance of puttable stock on firm risk taking, we must also examine the incentives of the holders of either convertible debt or puttable stock in the exercise of their governance or control rights. This focus may provide a more plausible explanation for the reservations about upstream conversions. In the absence of legal restrictions, puttable common stock and convertible debt can be designed to have the same structure of financial payoffs. In that case, investors in either type of security have essentially the same preferences regarding the firm's investment strategy. At very low firm values, both sets of investors are likely to end up as debtholders when their respective options expire: the

47. Thomas H. Jackson & Robert E. Scott, *On the Nature of Bankruptcy: An Essay on Bankruptcy Sharing and the Creditors' Bargain*, 75 VA. L. REV. 155, 170 (1989); Allan C. Eberhart & Lemma W. Senbet, *Absolute Priority Rule Violations and Risk Incentives for Financially Distressed Firms*, FIN. MGMT., Autumn 1993, at 101; Katherine Daigle & Michael T. Maloney, *Residual Claims in Bankruptcy: An Agency Theory Explanation*, 37 J.L. & ECON. 157, 158 (1994).

48. Adler, *supra* note 20, at 473-75; Lucian A. Bebchuk, *The Effects of Chapter 11 and Debt Renegotiation on Ex Ante Corporate Decisions*, 50 J. FIN. (forthcoming 1995).

puttable stockholder will convert and the convertible debtholder will not. Therefore, the investors share the conservative preferences of debtholders. At very high firm values, they are both more likely to end up as shareholders and therefore have the risk-taking preferences of equityholders. When their options (put or call) are at or near the money, however, the holders of these hybrids are risk-preferring to a degree even greater than equityholders.

To illustrate these risk preferences, we can compare the perspective of a puttable stockholder with an option to put each share to the firm for $8 in debt with that of an ordinary common stockholder. Suppose the stock is currently valued at $9 per share. Both parties enjoy the same gain if the stock value rises. However, the ordinary shareholder is more vulnerable to declines in firm value. A risky venture that renders the firm insolvent costs the ordinary stockholder the entire $9 in value, while, in the absence of legal restrictions, the puttable stockholder can salvage a debt claim with face value of $8.

Within corporate governance structures, control rights are perhaps best thought of as contingent on verifiable indicia.[49] At the time debt is issued, equityholders usually hold decisionmaking authority and delegate such authority to the firm's management. The decision space is constrained by terms agreed to in the firm's contracts with its creditors and other stakeholders (e.g., covenants). Within that space, however, managers are subject to legal inducements to act as agents of their shareholders. At the same time, debt contracts provide for the transfer of control from shareholders to debtholders upon the occurrence of (more or less) verifiable events of default. The most common is the failure of the firm to meet its payment obligations to the debtholder. Upon such default, the debtholder typically has the right to accelerate the maturity of the debt and to enforce its claim against assets of the firm. If it exercises these rights, the debtholder can remove assets from the control of the firm's management and equityholders. If the firm is insolvent, the debtholders may have the right to take control of the entire firm as a going concern or to petition it into bankruptcy. Alternatively, the debtholders may choose not to displace the firm's management, but instead to assume control over the firm's decisions merely by threatening to exercise default rights.

Economists argue that shareholders have the best decisionmaking incentives in solvent firms because, as residual claimants, they bear the

49. *See* Aghion & Bolton, *supra* note 1; Jaime F. Zender, *Optimal Financial Instruments*, 46 J. FIN. 1645 (1991).

marginal gains and losses from the firm's decisions. The contingent allocation of control to debtholders in the event of nonpayment is then justified because nonpayment is a reasonably good indicator that the firm is insolvent or marginally solvent and, consequently, that equityholders no longer have the superior decisionmaking incentives. The contingent allocation of control to debtholders is thus determined by the repayment obligations that the firm agrees to undertake. Moreover, in many debt contracts, default is defined more broadly than the failure to make a debt payment when it is due. It may include, for example, the issuance of secured debt, the sale of assets, the failure to insure assets, or the failure to maintain a specified minimum asset to debt ratio. The violation of a covenant typically constitutes an event of default that transfers control to the debtholder. Covenants and events of default are contract terms. Thus, the conditions for transfer of control are negotiated ex ante between the debtholders and the firm.

Although convertible debtholders and puttable common shareholders might share the same structure of payoffs and risk preferences, they are typically assigned different levers over managerial decisions in the governance structure of the company. Puttable stockholders often enjoy the control rights of common stockholders: to vote and enforce fiduciary duties. Debtholders do not vote and are not owed fiduciary obligations, even if they have rights to convert to common stock.[50] Yet, they have the contingent control rights described above that are triggered by default terms negotiated ex ante with the issuer (e.g., a set of covenants, events of default, and acceleration rights). The packaging of these contingent control rights and financial claims of hybrid instruments may affect the incentives of investors in the exercise of their allocated governance levers. In this regard, we noted above that the holders of hybrid instruments that combine liquidation priorities and residual claims have a greater preference for risk than even equityholders when their options are at or near the money. Voting common stock typically affords control rights across most solvent states, which include these moments of extreme risk preference. Convertible debtholders, in contrast, are much less likely to have control rights at such time. Convertible debtholders gain control either when they convert into common stock or when their enforcement rights are triggered by an event of default. At the time of issuance, the option of the convertible debtholder is typically out of the money: the firm's financial condition must

50. For cases holding that no fiduciary duty is owed to convertible debtholders, see Kessler v. General Cable Corp., 155 Cal. Rptr. 94, 100 (Ct. App. 1979); Simons v. Cogan, 542 A.2d 785, 788-91 (Del. Ch. 1987); Katz v. Oak Indus., 508 A.2d 873, 879 (Del. Ch. 1986).

improve for the option to be at or in the money. It is therefore unlikely that events of default would be triggered to give the debtholder influence over firm investment decisions when its option is at or near the money. Indeed, covenants in convertible debt instruments tend to be much weaker than those in straight debt.

Convertible debt reduces the tendency of a firm to take excessive risks because it removes some of the upside risk from voting shareholders and gives it to nonvoting convertible debtholders. The stockholders have less of a reason to prefer risk and the convertible debtholders lack the levers with which to influence firm decisions at the times of their greatest risk preference. In contrast, the issuance of voting puttable stock divides the upside between two groups of voting stockholders. The existing stockholders may have less incentive to take risks but the puttable voting stockholders may have extreme risk preference when their put is at or near the money. The net effect on firm risk taking is far more difficult to predict and is beyond the scope of this paper. The restrictions on the exercise of a puttable stockholder's put simply divides the payoffs and risks differently between puttable stockholders and the other equityholders, with the result being no less equivocal.

## VI. CONCLUSION

The issuance of convertible debt by public corporations is widespread. Its motivation may be to signal favorable private information about the prospects of the firm or to reduce agency costs by mitigating the incentive of shareholders to increase the risks taken by the firm. Absent legal restrictions, puttable stock replicates the contingent cash claims that are produced by convertible debt. The use of puttable stock is subject to regulation under state corporate statutes. The mildest restriction prevents the exercise of the put when the firm would be insolvent thereafter. We show that this restriction impedes the ability of puttable stock issue to fulfill a signalling role like that of convertible debt. The most significant difference between convertible debt and puttable stock is the nature of their control or governance rights, rather than the fact that puttable stock involves upstream rather than downstream conversion. Convertible debtholders usually have control rights defined by contractually specified events of default; puttable stockholders may have voting rights across all solvent states of the world. We suggest that the issuance of puttable stock with voting rights cannot mitigate the risk-taking tendency of a leveraged firm in the way that convertible debt can. A financial claim, such as convertible debt and puttable stock, that combines participation in residue

in good times and liquidation priority in bad times is more appropriately packaged with the contingent control rights traditionally allocated to debtholders rather than voting rights. This, rather than the direction of conversion rights, may explain the relative frequency of the use of puttable stock and convertible debt. Still, mandatory restrictions on puttable stock, such as those that continue to appear in corporate statutes, remain to be justified.