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LABORING IN THE PIN FACTORY: MORE ON TAXING CONVERTIBLE DEBT

*Jeff Strnad**

AT the outset of Ed Kleinbard's commentary ("the Commentary") on my article, *Taxing Convertible Debt*, he characterizes himself as a "layman."[1] Anyone who knows Ed or has encountered his work knows that this characterization is entirely erroneous. I was very pleased to learn that he would be the commentator for the article since he is one of a very small group of top, policy-savvy practitioners in the area of the taxation of financial instruments.

The "principal conclusion" of the Commentary is the "general" and "depressing" inference from my article that the "gap between tax policy academics and tax practice" has become "too large."[2] In its concluding section, the Commentary calls upon tax academics "to descend into the hurlyburly of the marketplace."[3]

My immediate reaction to this negative diagnosis was the thought that my personal failings should not be attributed to the tax academic profes-

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1. Edward D. Kleinbard, *Taxing Convertible Debt: A Layman's Perspective*, 56 SMU L. REV. 453, 453 (2003).

2. *Id.* at 453-54.

3. *Id.* at 469.

sion as a whole.[4] At the same time, the discussion reminded me of Adam Smith's classic discourse about the pin factory.[5] Smith uses the pin factory as an example to make the point that specialization increases productivity. Dividing the pin-manufacturing task among many individuals allows each one to become extremely proficient at one aspect of making pins. Thus, the pin factory can produce many more pins per worker than a cottage industry where each worker manufacturers pins without the aid of others. It strikes me that the tax policy enterprise has become an increasingly complex "pin factory." Lawyers, economists, and others engaged in the process have become increasingly specialized. As specialization increases, a significant danger is the one that Ed points out: We will miss valuable opportunities for coordination that increases productivity. I certainly would agree that it is valuable for everyone involved in the tax policy enterprise, including academics and practitioners, to engage deeply in dialog. The ongoing commitment of the *SMU Law Review* to host a biennial tax symposium of very high quality is serving exactly that function.

The observations in the Commentary divide into two distinct groups. First, the Commentary questions some of the finance and market assumptions that underlie the article. The article discusses the finance literature that addresses the particular role that convertible debt plays as a market instrument. This literature is relevant for tax policy because it allows one to assess whether or not various tax revisions will have an adverse impact on the social benefits of financial markets. Second, the Commentary discusses tax policy with respect to convertible debt, evaluating the article's results and conclusions using an alternative framework that the Commentary argues is appropriate.

In the spirit of discussing what we are doing before reaching the level of operational details, this response to the Commentary addresses the tax policy issues in Part I and the finance issues in Part II, respectively, below. Part I also includes a discussion of the potential impact in the signaling setting developed in my article of applying the contingent payment debt instrument ("CPDI") rules to convertible debt.[6] Part III concludes

4. As mentioned in the edited version of the article, I wrote most of it in the summer of 1997, right after the promulgation of the second of four Clinton Administration budgets that included the proposal to deny OID deductions for bonds that ultimately are converted. It would have been valuable to publish it quickly (while the proposal was on the table) and perhaps in a form more amenable to readers who might not be comfortable with some of the economic analysis in the article. The delay is partially attributable to the nature of the academic publication cycle, and the exposition style is consistent with trying to appeal to an academic audience. Nonetheless, there is an irreducible quantum of mea culpa: It would have been possible to quickly publish a summary of the research in *Tax Notes* or some similar venue. Despite the delay, I believe that the article should be of interest to practitioners as well as to academics. In this response to the Commentary, I attempt to speak to the relevance of the article in the present day environment as well as to respond to the many interesting observations in the Commentary.

5. *See* ADAM SMITH, THE WEALTH OF NATIONS 2-3 (Clarendon Press 1976) (1776).

6. The CPDI rules are set forth in Treas. Reg. § 1.1275-4 (as amended in 1999).

by summarizing what I believe are the major "take away" implications of the original article.

I. TAX POLICY TOWARD CONVERTIBLE DEBT: WHAT IS THE GOAL?

A. CUBBYHOLE THEORY AND ECONOMIC EFFICIENCY

The article considers both the Clinton Administration proposal to deny OID deductions for convertible debt until and unless the OID is actually paid, as well as alternative proposals that would deny deductions for OID or even coupon interest on convertible debt regardless of whether these items are currently or ultimately paid. Using a state-of-the-art signaling model,[7] it appears that proposals of this sort may have a significant impact on the utility of convertible debt in financial markets. As a result, my counsel was one of caution: "Policymakers should avoid tax provisions that have substantial effects on convertible debt or that turn on the conversion feature unless there are very important reasons for these provisions."[8] Although it seemed that there were tax law justifications for the Clinton Administration proposal, the budgetary context of the proposal also suggested a revenue goal. From the mid-1980s until the late 1990s, concern about deficits led to a penchant (and sometimes to a requirement) to match any additional spending with additional revenue. The near-term goal of my article was to provide a "shot across the bow": Although proposals such as the Clinton Administration's might seem to be minor and technical revenue-raising provisions, they might have substantial adverse consequences for the efficacy of the convertible debt market.[9] Possible adverse effects on that market might outweigh whatever small amount of revenue that might be gained.[10]

The article avoids going further than a cautionary shot across the bow. Not only is the direction of the impact of various tax proposals on the signaling function of convertible debt unclear, it is not even clear that such signaling is desirable. The desirability of signaling would come from its role in ensuring that private information held by managers would be incorporated more quickly in market prices. More timely and "correct" market prices would promote the allocation of investment dollars, potentially enhancing economic efficiency. However, as noted in the article, most signaling schemes (including the conversion game and issuance game studied in the article) involve costs. These costs may exceed the

7. Jeff Strnad, *Taxing Convertible Debt*, 56 SMU L. REV. 399, 412-18 (2003).

8. *Id.* at 447.

9. The article also notes that the interaction of tax policy and socially useful signaling may involve a wide range of financial instruments, including large asset categories such as common stock and conventional debt. I discuss these possibilities further in Part III of this response.

10. In the darkest scenario, the provisions would interfere with the signaling function of convertible debt to such an extent that its use would fall off significantly. In that case, much of the projected revenue gain would be illusory since there would be far fewer convertible bonds around to tax.

social gains in the form of more accurate prices.[11]

The Commentary makes a different argument, suggesting that the potential economic efficiency benefits arising from signaling via convertible debt instruments might best be seen as serving only as "a second or third order sort of objective."[12] The Commentary gives three reasons for taking this view.

The first two are that the tax law already permeates corporate financial decision-making[13] and that existing tax biases (such as the differential treatment of debt and equity) are likely to be much more significant than any efficiency gains associated with the signaling effects of corporate debt.[14] It is not clear why these two considerations are relevant. If there is some value in preserving the signaling function of convertible debt, we should be concerned about the impact of tax rules on that function. The fact that there are other major biases in the system should not matter.

The third reason is much more salient. The Commentary states that rather than being concerned with economic efficiency, "our tax system [with respect to different financial instruments] is best understood as a sort of neo-platonic model of economic reality, with a relatively limited number of idealized tax 'cubbyholes' into which we force new financial products."[15] It is not clear whether the Commentary posits this cubbyhole system as normatively desirable or merely as the way the world is. The Commentary envisions a cubbyhole system built upon three principles: (1) each new financial product should fit into one and only one cubbyhole ("anti-bifurcation"); (2) we add new cubbyholes rarely; (3) the dimensions of cubbyholes are defined by formal characteristics, not by "economic efficiencies or corporate finance substitutability."[16]

The Commentary then describes why convertible debt is treated as it is. It is "debt" in a formal sense because it affords creditor remedies, has a fixed maturity date, and has a fixed minimum return. The OID regime requires taxation for discount bonds based on accrual of income under the constant yield method to ensure (in Treasury's words) "timely recognition of economic income."[17] However, the anti-bifurcation principle does not permit one to separate the "warrant" aspect of the convertible bond from the "debt" aspect. The initial value of the warrant aspect is added to the initial value of the debt aspect, thereby lowering OID. The "economic" method of computing the OID would be to subtract only the initial value of the debt aspect from the maturity price. Using the terms employed in my article, subtracting the initial warrant value as well as the initial value of the debt aspect results in "hidden OID," which the company will not be able to deduct and on which the holder will not be taxed.

11. *See* Strnad, *supra* note 7, at 445-46.
12. Kleinbard, *supra* note 1, at 466.
13. *Id.*
14. *Id.* at 467.
15. *Id.*
16. *Id.*
17. Rev. Rul. 2000-12, 2000-1 C.B. 744.

After completing this analysis from the viewpoint of the three principles—what we might call "classic cubbyhole theory"—all of the sudden economic considerations and corporate finance substitutability enter through the back door in the form of what the Commentary calls "the rule of tax correspondences," the idea that instruments that are economically similar should be treated similarly by the tax system. This leads to an "apparently irreconcilable difference" when one compares the tax treatment of convertible debt with the tax treatment of the corresponding bond-warrant unit.[18] The bond part of the unit will be taxed separately as debt and there will be no hidden OID. However, the "anti-bifurcation" principle requires that the warrant portion of a convertible debt be included in the issuance price used to compute OID.

The Commentary then states that the "fundamental issue . . . is whether Strnad . . . reconciles the apparently irreconcilable differences that dominate the current tax scholastic wrangling on convertible debt with his alternative decision-making tools."[19]

I disagree. The policy suggestion in my article was very simple: Assuming that convertible debt serves a valuable signaling function that may depend on its current tax treatment, we should approach any change in that treatment with caution and should only engage in reform if there are obvious benefits from doing so. The Commentary demotes preserving the signaling function of convertible debt (assuming it exists) to, at best, a second- or third-order objective. The only higher-order objective that the Commentary brings forth is the classic cubbyhole theory plus the rule of tax correspondences—we might call this combination the "enhanced cubbyhole theory." But under this approach, the Commentary concludes that the proper tax treatment of convertible debt is indeterminate.

This logical flow leads to two questions. First, if our main normative weapon is enhanced cubbyhole theory and it provides no clear answer, it would seem appropriate to advance the "second- or third-order" objective of the efficiency of financial markets up to first order. Second, there is the question of why the enhanced cubbyhole theory is of first-order importance. Is there some social goal that the theory serves that is so worthwhile that financial market efficiency must be sacrificed to serve the theory?

In the next section, I argue that many marginal choices under enhanced cubbyhole theory do not involve the second question. Although a cubbyhole approach to taxing financial instruments could work in a coherent way, our tax system fails to define cubbyholes in a way that would make coherence possible. In effect, within the current system, "apparently irreconcilable differences" will continue to arise, and no one will be able to eliminate them. As a result, enhanced cubbyhole theory often provides no clear answer to tax policy questions. It is convenient to make this argument in conjunction with considering Ed's views on the Clinton Ad-

18. Kleinbard, *supra* note 1, at 469.
19. *Id.*

ministration proposal and on whether the tax treatment of convertible debt should be conformed to the treatment mandated by the CPDI rules. Those rules essentially would result in convertible debt being bifurcated into bond and warrant components, allowing the OID that is "hidden" under current law to be treated as actual OID.

B. The Clinton Administration Proposal and the CPDI Approach: Applied Cubbyhole Analysis

Cubbyhole analysis is motivated by the desire to tax certain financial instruments differently. If all instruments were subject to the same treatment (e.g., a comprehensive cash flow income tax or a comprehensive accretion tax), there would be no reason to draw distinctions. Having differing treatments leads to two potential problems that I have discussed in detail elsewhere.[20] First, there is the possibility of "inconsistency." If the same cash flows can be packaged in two different ways that result in different tax treatments, then there will be serious tax administration costs for taxpayers and the government. At the taxpayer level, there will be a premium on planning in order to attain desirable tax results from a given set of cash flows. There also is the possibility of tax arbitrage. The taxpayer may take a short and long position in two securities or portfolios with identical cash flows that result in different tax consequences. There will be no financial risk, but the taxpayer will reap tax benefits. For instance, if security *A* and security *B* have identical positive cash flows, but *A* results in capital gain treatment while *B* results in ordinary income treatment, then shorting *B* and holding an equal amount of *A* long results in a conversion machine—capital gains paired with equal amounts of ordinary deductions.

Second, there is the problem of "discontinuities." This problem arises when the tax treatment abruptly jumps due to an arbitrarily small change in a financial instrument. In this case, tax administration problems arise that are similar to the problems generated by inconsistencies. The taxpayer can engage in "approximate" tax arbitrage. By taking short and long positions on cash flows that are nearly but not exactly identical, the taxpayer can shift tax attributes (e.g., convert ordinary income to capital gains) at the cost of only a very small financial exposure.

A good illustration of a continuity problem is Treasury's concern with the convertible debt exception to the CPDI rules in light of Revenue Ruling 2002-31.[21] As discussed above, computing OID on conventional convertible debt issued at a discount to the payment at maturity involves the "hidden OID" principle: The issuance price includes the value of the conversion feature, thereby reducing the amount of OID. This result does

20. Jeff Strnad, *Taxing New Financial Products: A Conceptual Framework*, 46 Stan. L. Rev. 569 (1994).

21. Rev. Rul. 2002-31, 2002-22 I.R.B. 1023. For a cogent description, see Ed's co-authored *Tax Notes* article. Edward D. Kleinbard et al., *Contingent Interest Convertible Bonds and the Economic Accrual Regime*, 95 Tax Notes 1949 (2002).

not occur under the CPDI rules. Those rules essentially require that the value of the contingent interests be taken out of the OID computation.[22] The rules also provide an exception for conventional convertible bonds that involve no other contingency except for the holder's right to convert the bonds.[23] As Ed notes elsewhere, conventional convertible bonds "are plainly CPDIs in the economic sense" and would be treated under the CPDI rules but for the exception.[24] The existence of the exception raises the issue of how to treat debt contracts that include both a conversion feature and also one or more non-conversion kinds of contingencies. Treasury resolved this issue in Revenue Ruling 2002-31 by applying the CPDI rules to such contracts.[25] The problem that this Revenue Ruling creates is one of "continuity." Starting with conventional convertible debt, the issuer might add a small non-conversion contingency and thus uncover the "hidden OID," since the contract will then be subject to the CPDI rules instead of the conventional convertible debt rules. A very small change in the financial characteristics of the contract results in a large change in its tax characteristics. Strictly speaking, a discontinuity would exist for conventional convertible debt only if the taxpayer could take this move to the limit and include a truly de minimis contingency (e.g., one penny per $1 million of face value). The Regulations include a "remote and incidental" test that precludes a completely de minimis contingency from being effective in shifting the tax treatment.[26] The effect of this test is to shift the discontinuity away from pure conventional convertible debt to the point where added non-conversion contingencies first become large enough that they are not "remote and incidental." At that point the tax treatment will jump abruptly.

Despite the "remote and incidental" test, Treasury was concerned with the possibility that relatively small contingencies added to conventional convertible debt might be effective in bringing about the shift. As a result, Treasury issued Notice 2002-36 requesting comment on three solutions that might resolve the discontinuity: (1) subject conventional

22. The Regulations provide some good examples. For instance, Treasury Regulation § 1.1275-4(b)(4)(vi), Example (1) consists of debt that embeds the obligation to acquire stock of a publicly traded company at a fixed price at the time when the debt matures in the future. That obligation comprises the contingent part of the debt contract. If the stock price ends up being higher (lower) than expected, the holder will profit (lose). If the fixed price is equal to the forward price of the stock, then the contingent feature has no value. The holder could commit to the same obligation by entering into a forward contract to buy the stock. If the fixed price is less than the forward price by $X, then the holder is getting a benefit of $X in the form of a price reduction for the stock at the time the debt matures. The Regulations require that in determining the taxable interest for each year (through a comparable yield procedure similar to the operation of the OID rules), $X will be added to the cash amount that the debt pays at maturity. In effect, the holder receives the cash amount and the price reduction at that time. By including $X as part of the payment at maturity for computing the debt implications of the contract, the result is that the contingent portion of the contract is separated from the pure debt portion.

23. Treas. Reg. § 1.1275-4(a)(4) (as amended in 1999).

24. Kleinbard et al., *supra* note 21, at 1952.

25. *See* Rev. Rul. 2002-31, 2002-22 I.R.B. 1023.

26. Kleinbard et al., *supra* note 21, at 1961-62.

convertible bonds to the CPDI rules; (2) modify the CPDI rules so that they remove only the non-conversion type of contingencies in determining the treatment of the pure debt aspect of debt contracts; or (3) modify the remote and incidental standards so that a larger non-conversion contingency must be added to shift a conventional convertible bond to CPDI treatment.[27]

In a *Tax Notes* piece published in July 2002, Ed and his co-authors argue that the best solution is the first one—overturn the existing treatment of conventional convertible debt and apply the CPDI rules. The main reason that the authors give for taking this view is that such an approach "would be in keeping with the spirit of taxing debt instruments in accordance with their economic yields."[28] Neither this "economic" reasoning nor Treasury's concern about the difference in treatment between conventional convertible debt and convertible debt that is subject to the CPDI rules make much sense in terms of the classic cubbyhole theory set forth in the Commentary. The argument is being cast in terms of economic comparability, not formal comparability, and the CPDI rules themselves violate the anti-bifurcation principle since the point of the rules is to separate out the "pure debt" component of contingent debt contracts.[29] At best, Treasury's concern and the argument in the *Tax Notes* piece fit into the enhanced cubbyhole theory because they invoke the "rule of tax correspondences," a rule that implicitly embodies the concerns set forth above about "consistency" and "continuity."

Considering the consistency and continuity aspects reveals a deep problem with using the enhanced cubbyhole theory. In our system, the cubbyholes are defined in such a way that inconsistency and discontinuity problems are inevitable. Moves such as making convertible debt subject to the CPDI rules do not eliminate the inconsistencies and discontinuities, but merely shift the location in "financial instrument space" where the inconsistencies and discontinuities occur. Furthermore, in the face of the inevitability of inconsistencies and discontinuities there appears to be no theory or thought as to where it would be best to locate them. Reasoning by analogy does not help since when one is at the edge between two tax treatments, analogy supports going either way. An instrument at the borderline will have characteristics that partially match other instruments on either side of the tax divide.

Two important points are worth developing. First is the more theoretical argument that inconsistencies and discontinuities are inevitable. Sec-

27. I.R.S. Notice 2002-36, 2002-22 I.R.B. 1029; *see also* Kleinbard et al., *supra* note 21, at 1961-62.

28. Kleinbard et al., *supra* note 21, at 1962.

29. One aspect that is not clear from the Commentary's description of classic cubbyhole theory is how one is to know when a cubbyhole exists that has a presumption of permanence. For instance, one might argue that conventional convertible debt occupies its own cubbyhole, established by historical practice and preserved repeatedly from being overturned by new rules (such as the CPDI rules) that might apply absent an explicit exception. *See id.* at 1952-53 (discussing the "long-established history" of the tax treatment of conventional convertible bonds).

ond, it is worth showing the failure of analogical reasoning in the context of convertible bonds. I take up the second point first.

The Commentary finds that "Strnad's uncritical adoption of the Clinton Administration's . . . proposal is perhaps the most puzzling aspect of the paper."[30] In fact, I do not anywhere in the article "adopt" or otherwise advocate the proposal at all. In fact, the article concludes that the proposal may have bad consequences for the signaling function of convertible debt and that, absent other strong reasons, the proposal should be rejected. Part of the problem lies in the Commentary's presumption that I "effectively assume [ ] that the bifurcation of a convertible bond into a straight bond and an option should be the tax 'desideratum.'"[31] This presumption is based on a single sentence in the article stating that "*if* bifurcation into a straight bond and an option is the desideratum, current law computes deductions from premiums and income from OID correctly only for convertible bonds issued at a premium whose straight bond portion also includes an issuance premium."[32] The point was simply to contrast the treatment of a unit (straight bond plus option) with the current treatment of convertible debt. Nowhere do I argue that the tax treatment of units is a desideratum.

Early in the article, I do present (without advocacy) the clear, cubbyhole-based argument in favor of the Clinton Administration proposal. The argument is that, to the degree convertible bonds are issued at a discount, they are effectively equity and, consequently, they fit in the equity cubbyhole. After observing that the vast majority of convertible bonds end up being converted and that, as a result, one view is that they are a "backdoor" source of equity financing, the article goes on to say:

> If the company anticipates that its stock price will increase, a convertible bond issuance will end up being converted into stock and the company effectively will have issued equity on a delayed basis. If the company issues convertible bonds at a discount as a form of delayed equity and deducts the OID, the company is securing the advantages of debt-like treatment for an instrument that ultimately is intended to function as equity. Furthermore, assuming that the company's expectation of future stock price increases is correct, the holders of the bonds will convert the bonds to stock with certainty and the company *never* will make any payments that correspond to OID deductions.[33]

The Commentary has an answer to this argument. It states that a "fundamental fallacy" in the Clinton Administration proposal is that "it treated the delivery of stock in satisfaction of a claim for accrued original issue discount as a sort of 'non-payment' of that discount."[34] This take on the situation becomes especially clear if we imagine an equivalent trans-

30. Kleinbard, *supra* note 1, at 463.
31. *Id.* at 462.
32. Strnad, *supra* note 7, at 425 (emphasis added).
33. *Id.* at 402.
34. Kleinbard, *supra* note 1, at 464.

action where the holder of the convertible debt lent the corporation money on a zero-coupon basis, collected the amount due (including accrued interest) at some later point, and used that amount to purchase stock in the issuer. Using this analogy, it may seem obvious that the corporation should be able to deduct the accrued interest, and the holder should take it into income.

The analogy fails, however, if we take the whole package to be equity. Payments (whether accrued or actually received) to the holder from the issuer would be equivalent to dividends, and the "normal" treatment of dividends would apply: The holder is taxed, but the issuer receives no deduction.

In their *Tax Notes* piece, Ed and his co-authors mention that the Clinton Administration proposal for OID on convertible bonds was accompanied by other proposals that were enacted as section 163(*l*).[35] That section denies an interest deduction (whether for interest that is paid or that is accrued as OID) for issuers of certain "disqualified debt instruments." These instruments include instruments for which "a substantial part of the principal or interest is payable in equity either mandatorily or at the issuer's election, or at the holder's option, but only if the holder's option is substantially certain to be exercised."[36] The Commentary describes and distinguishes section 163(*l*) as being "fundamentally a punitive tool for distinguishing debt from equity," the purpose being "to disallow interest expense on instruments that are excessively equity flavored, while still preserving all the negative consequences of debt characterization for investors."[37] Of course, this treatment is not "punitive" but simply "normal" if the instrument falls in the equity cubbyhole—dividends on equity are not deductible to the issuer but are taxed to the holder. In that spirit, both the *Tax Notes* article and the Commentary treat section 163(*l*) as a section that simply involves debt/equity characterization.

With this history in mind, one can view the Clinton Administration proposal with respect to OID on convertible bonds simply as an attempt to treat convertible bonds as equity to the extent they are issued at a discount and are actually converted. Given the very high rate at which such bonds were converted (rather than held to maturity) in the past, it would not be unreasonable to view them as just one step away from instruments that mandatorily convert into equity or will be so converted with substantial certainty by the holder or issuer. Essentially, we are deciding how to classify an instrument that is at the borderline between debt and equity. The current treatment of convertible debt, the treatment that would have resulted from the Clinton Administration proposal, and the CPDI rule treatment advocated by Ed and his *Tax Notes* co-au-

35. *See* Kleinbard et al., *supra* note 21, at 1959.

36. *Id.* at 1958.

37. Kleinbard, *supra* note 1, at 465.

thors all would treat convertible debt as partially equity and partially debt, but in different proportions.

Which of these treatments, if any, is "right" and why? First, it is clear that reasoning by analogy will not work. We are at the borderline, and we can analogize convertible debt issued at a discount with instruments on either side. This point is particularly salient with respect to the LYONs, which the Commentary sees as the target of the Clinton Administration proposal. Since LYONs are typically zero-coupon instruments, default cannot occur prior to maturity with the result (as the Commentary notes) that traditional creditor, bankruptcy-type remedies are not available.[38] Under the classic cubbyhole theory that looks to formal characteristics, this feature would result in a strong push in the direction of the "equity" cubbyhole.

Both the Commentary and Ed's co-authored piece emphasize the precept (stated by the Internal Revenue Service in Revenue Ruling 2000-12 as "a principal purpose" of the original issue discount regime) that the rules should "tax holders of debt instruments as determined by the constant-yield method,"[39] ensuring that "the holders . . . cannot artificially avoid, defer or offset timely recognition of the economic income from a debt instrument."[40] This precept suggests that hidden OID is inappropriate: The rules should tax holders on the full amount of accruing discount from convertible bonds and give issuers a corresponding deduction instead of allowing the portion of the discount corresponding to option premium to escape. Applying this principle makes some sense if one is concerned about taxing debt instruments consistently.[41] However, it is not helpful if the question is whether the tax system should treat a particular instrument under a debt approach or an equity approach.

It also is worth noting that despite the limitation of the precept in the Revenue Ruling to "debt instruments," the idea inherent in the precept could be applied to "equity," too. For example, Reed Shuldiner's "expected value taxation" approach would divide all financial instruments into a noncontingent portion representing the expected return of the instrument, and a contingent portion representing deviations from that ex-

38. *Id.* at 458-59.

39. Kleinbard et al., *supra* note 21, at 1961-62 (quoting Rev. Rul. 2000-12, 2000-1 C.B. 744).

40. Kleinbard, *supra* note 1, at 468.

41. A first cut view of the OID rules is that they put discount debt and par debt on the same footing. The OID that is accrued and taxed for the discount debt when added to whatever coupons the discount debt might pay roughly equals the coupon for corresponding par debt. One cannot delay taxation of the economic income for a debt instrument by replacing coupon interest with accruing discount.

Although the OID rules may appear to be at least approximately successful at their mission, for publicly traded debt the taxpayer may negate a substantial portion of the impact of the rules by trading bonds using appropriate strategies that exploit the rules themselves. *See* Jeff Strnad, *The Taxation of Bonds: the Tax Trading Dimension*, 81 VA. L. REV. 47, 90-100 (1995).

pected return.[42] The noncontingent portion would accrue income under a constant yield approach similar to the current treatment of original issue discount bonds. The tax system could tax the contingent portion under a different regime such as a realization-based capital gains tax.

The expected value taxation idea provides a nice illustration of a more general point. It is possible to have a system that is consistent and "universal" (applicable to all assets) despite the fact that certain securities or aspects of securities are taxed under radically different regimes. Expected value taxation is one such system. For any group of cash flows, regardless of how the cash flows are packaged as a set of securities, expected value taxation will identify the same noncontingent and contingent components and tax them appropriately. In effect, one has a system that operates consistently through bifurcation.

Elsewhere, I generalize the result implicit in this example. A "linear" tax system is one where tax treatment will be invariant to the way that assets are packaged. Any universal and linear tax system is equivalent to what I call "the spanning method." That method identifies a minimal "spanning set" of independent building blocks that may be combined to create any asset in the system and then assigns a fixed tax treatment to each building block. To determine the tax treatment of any asset, one simply decomposes it into its unique component representation of minimal spanning set elements and then adds up the tax treatments of the components.[43] Shuldiner's expected value taxation fits in this paradigm because the noncontingent returns and the contingent returns essentially are a spanning set.

The current U.S. system cannot operate in this way without radical reform. One sticking point is the debt-versus-equity distinction. Debt and equity are subject to very different tax treatments, but they neither operate as independent spanning set elements nor are they decomposable into such elements. Corporate management has considerable latitude to pay out net corporate cash flows as returns to debt or equity by choosing an appropriate capital structure.[44] The system, therefore, permits direct inconsistencies since taxpayers may choose different tax treatments for the same cash flows. Absent fundamental reform, such a system is not capable of achieving consistency for instruments—such as convertible debt is-

42. *See* Jeff Strnad, *Taxing New Financial Products: A Conceptual Framework*, 46 STAN. L. REV. 569, 591 (1994) (explaining and illustrating Shuldiner's expected value taxation approach).

43. *See id.* at 576-91, 595-97.

A spanning set is "minimal" if it cannot be reduced without losing the ability to replicate one or more assets in the economy. If the spanning set is not minimal, there will be more than one way to represent various assets as combinations of spanning set elements. In that case, consistency is not guaranteed for any arbitrary assignment of tax characteristics to spanning set elements.

44. One way of visualizing the situation is to observe that "[i]mplicit in each common stock that has positive value is an embedded bond." Jeff Strnad, *Taxing New Financial Products in a Second-Best World: Bifurcation and Integration*, 50 TAX L. REV. 545, 568 (1995).

sued at a discount—that are at the "border" of debt and equity. Debt and equity themselves are not consistent categories that generate a unique tax treatment for any set of cash flows.

Recall that the Commentary characterizes "[t]he fundamental issue for readers of Strnad's paper is whether Strnad . . . reconciles the apparently irreconcilable differences [including those arising from inconsistencies] that dominate the current tax scholastic wrangling on convertible debt with his alternative decisionmaking tools."[45] It is clear, however, that, absent fundamental reform, neither Strnad nor anyone else can accomplish that task either for "old financial instruments" such as conventional convertible debt or for new financial instruments such as new varieties of contingent payment bonds. In earlier work, after mentioning the direct inconsistencies that follow from the tax treatment of debt and equity, I characterize the difficult situation faced by Treasury, the courts, and practitioners:

> Since [absent fundamental reform] no set of Treasury Regulations or cases can guarantee universality and consistency or continuity in the face of major inconsistencies and discontinuities, these authorities are necessarily limited to prescribing second best solutions. Perhaps the only viable alternative for dealing with new financial instruments is the traditional one of analyzing the normative stakes for each type of transaction and then creating a detailed response. Since the stakes differ by type of transaction, comprehensive rules are not always desirable. Loose ends in the form of inconsistencies, discontinuities, or lack of universality will be inevitable.[46]

What are the normative stakes concerning the tax treatment of convertible debt, and especially convertible debt issued at a discount? Arguments from analogy, that such instruments "ought" to be treated under a debt paradigm or an equity paradigm, lead nowhere on their own. We need to know why one paradigm should apply rather than the other one. In an environment where no clear normative guidelines dictate the choice of paradigm for convertible debt, it makes sense to worry about matters such as the impact of tax reforms on the signaling or other corporate finance roles of such debt.[47]

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45. Kleinbard, *supra* note 1, at 469.

46. Strnad, *supra* note 42, at 605.

47. One argument is that the current array of tax rules improperly allows issuers an "election" with respect to tax treatment. (This argument echoes Treasury's concern expressed in Revenue Ruling 2002-31 that the convertible debt exception to the CPDI rules results in similar instruments being treated very differently.) Convertible debt results in hidden OID, lowering income accruals to holders and accrued deductions for issuers by the same amount during each tax period. By using bond-warrant units or adding a small (but not "remote and incidental") non-conversion contingency, the issuer can "uncover" the hidden OID, reversing this effect. This "convertible debt election," however, is embedded in a system that already gives many issuers a great deal of flexibility to choose between debt or equity financing for a given set of corporate cash flows. It is not clear whether or in what sense the "convertible debt election" improves or worsens the current situation.

C. The Impact of Applying the CPDI Approach to Convertible Debt

This section examines the impact of applying the CPDI approach to convertible debt. In the framework of the article, this impact could come either from altering the conversion game or from altering the issuance game.

As discussed in the previous section, applying the CPDI approach to convertible debt would "uncover" the OID that is currently hidden behind the call option premium inherent in that debt. Hiding OID reduces income periodically accrued and taxed to the holder and reduces the corresponding deductions for the issuer. If the holder converts the bond, the holder will end up with a lower basis for the stock since there will be a lower level of total accruals that increase basis. The amount of OID that was hidden will reemerge as extra capital gain or as a reduction in capital loss. On the issuer side, the OID hidden until conversion will have no further implications after conversion.

As described in the article, the impact of these changes depends on the relative tax rates of the issuer and the "marginal investor," the holder whose tax characteristics determine the pricing of the debt.[48] If the issuer and the marginal investor face the same rate on ordinary income and if we assume that holders may avoid any tax on capital gain, then loss of the issuer's deduction combined with an equal reduction in the marginal holder's interest income will have no net tax effect considering the two parties as a whole. The terms of the debt might change to balance the tax gains and losses between holders and the issuer, but there would be no change in the relative attractiveness of convertible debt versus other methods of financing and no change in the incentives for holders to convert or issuers to force conversion. As a result, there would be no impact on either the conversion game or the issuance game.

Suppose, on the other hand, that there is a net tax effect on the issuer and marginal investor considered jointly. In this case, convertible debt will become more or less favorable compared to both straight debt and equity depending on whether the net tax effect is positive or negative, respectively. The impact would be qualitatively similar to the impact of the "general tax penalty" considered in the article although the direction would be reversed if the net tax effect on convertible debt of applying the CPDI regime is positive rather than negative.

To understand the intuition behind the impact, consider the effect of the provision on the issuance game separately. Recall that the separating equilibrium requires managers to issue convertible debt if they have "bad" information at time 0, straight debt if they have "good" information, and equity if they have "awful" information.[49] Without loss of gen-

48. *See* Strnad, *supra* note 7, at 425-27.

49. *See id.* at 415-16 (discussing manager actions conditional on information received in a separating equilibrium and summarizing these actions in a table).

erality, suppose that the net tax effect on convertible debt of uncovering the hidden OID by applying CPDI treatment is negative. This effect would make it more costly for managers to issue convertible debt instead of straight debt or equity in the face of "bad" information, less costly to issue equity instead of convertible debt in the face of "awful" information, and less costly to issue straight debt instead of convertible debt in the face of "good" information. Overall, there is the same ambiguous outcome as in the analysis of the "conversion tax penalty" and "general tax penalty" in the article. Applying CPDI treatment to convertible bonds would shift some constraints in a direction that would make a separating equilibrium easier to achieve and others in a direction that would make it harder.

This ambiguity is not resolved when one also considers the impact on the conversion game. As in the case of the "conversion tax penalty" and the "general tax penalty" in the article, it also is possible (but by no means certain or even more likely than not) that the overall outcome (considering the impact both on the conversion game and on the issuance game) would be to significantly shrink the set of projects for which there is a separating equilibrium.[50] Thus, the same policy risks described in the article for the case of the "conversion tax penalty" or the "general tax penalty" emerge: Applying the CPDI policy may have a big impact on the signaling value of convertible debt, but the direction of the impact is not clear.

II. THE FINANCE ISSUES: HOW STRONG IS THE SIGNALING STORY?

A. THE ROLE OF THE SIGNALING STORY

It is worth recounting how the article came to focus so heavily on signaling. In examining the Clinton Administration proposal or other potential reforms of the taxation of convertible debt, one question is how a given reform might impact the socially valuable functions, if any, that convertible debt serves in corporate finance. A natural strategy is to examine the finance literature that attempts to explain the role of convertible debt. From this literature the use of convertible debt to signal a firm's prospects emerges as a strong candidate explanation since it accounts for the "issuance hierarchy," the call feature that accompanies almost all issues of convertible debt, and the way that firms exercise their right to call the debt. The issuance hierarchy arises from empirical observation that funding via equity, convertible debt, and straight debt have very different market impacts as measured by the reaction of stock prices. Straight debt funding appears to have little impact, equity funding has a strong nega-

50. *See id.* at 441-45. The example in the article involves a situation where a more restrictive issuance game inequality replaces one of the two conversion game inequalities, resulting in significant shrinkage of the range of projects for which signaling is possible. The same type of result would follow for the case of applying CPDI treatment to convertible debt if that treatment has a net negative joint impact on holders and the issuer.

tive impact, and convertible debt lies in between. The call feature—the right of the issuer to call the debt at a given price after some period of call protection—is a ubiquitous feature of convertible debt but is often absent from straight debt contracts. Issuers typically use the call right to force conversion and tend to delay calling convertible debt until the warrant feature of convertible debt is much deeper in the money than appears optimal. There are no cogent explanations of these phenomena in the literature or that I was able to find elsewhere other than explanations based on signaling firm prospects.[51]

The article mentions three other theories that explain why convertible debt may play a socially valuable role. First, convertible debt is a potential cure for the problem of risk shifting: Management acting on behalf of the shareholders may engage in inefficiently risky projects since debt holders would suffer much of the downside. Second is the Brennan/Schwartz idea: Convertible bonds are attractive in the situation where both investors and the company are uncertain about the degree of risk. Combining bonds and warrants makes the value of convertible debt packages insensitive to risk since risk increases the value of the warrant portion and decreases the value of the debt portion. Third, there is the Brennan/Kraus story: In the situation where managers know the riskiness of the firm but investors do not, managers can signal the riskiness by altering the balance between the debt and warrant components in a convertible bond issuance. Although each of these phenomena may be present and salient in the issuance of convertible debt, none of them explains the ubiquitous call feature or the position of convertible debt in the issuance hierarchy. At best, then, they are only part of the story.

An attack on the signaling story set forth in the finance literature might take two general forms, positive and normative. First, one might find alternative explanations for the issuance hierarchy, the call feature, or the way in which firms exercise the right to call. These alternative explanations would weaken the case for signaling being present as a positive matter. A second type of attack would be normative. Signaling is socially useful if the benefits from market prices reflecting available information about firm prospects more promptly and more accurately outweigh any costs from signaling. As mentioned in the article, it is theoretically possible that the costs outweigh the benefits.[52]

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51. Although the Commentary attributes the signaling explanation to me, and I would be happy to claim ownership, it is not original to me. I have no vested or creator's interest, intellectual or otherwise, in it. It is simply an explanation that others have developed and that seems particularly salient.

52. *See* Strnad, *supra* note 7, at 445-46.

Normative considerations are particularly important. If convertible debt plays a role in corporate finance but this role is not *socially* valuable, then burdening convertible debt with a tax penalty should not be a concern and may even be desirable. More generally, unless the various hybrid instruments and new financial products that have absorbed so much Treasury and practitioner time have some potential social value, the best approach might be to impose tax penalties that makes their use infeasible. In effect, firms would face the constraint of having to issue plain vanilla instruments that fit in some existing tax "cub-

Although the Commentary contains an interesting discussion of some features of and recent developments in convertible debt markets, very little of the discussion directly addresses the salience of the finance literature results that suggest that convertible debt plays an important role in signaling firm prospects. The Commentary's finance-related points fall into three categories. First, the Commentary makes several points ostensibly aimed at the positive side of the case for signaling. Second, the Commentary cites recent market developments that it argues may affect the viability of the signaling explanation. Third, the Commentary suggests that I should have taken steps such as interviewing market participants before plunging ahead with the signaling analysis. I address these three categories of points sequentially in the next three sections.

B. Signaling and Characteristics of Convertible Debt

This section examines various points that the Commentary makes concerning the characteristics of convertible debt. Some of these characteristics are interesting, but none of them derail the signaling story.

The Commentary claims that the convertible debt market is "mostly a low-end investment grade market" and suggests that the reason for this phenomenon is that "convertible debt was the only form of debt that public investors were willing to buy, at least at remotely affordable rates."[53] The Commentary also suggests that this result may be due to "risk-sharing" motivations, alluding to the discussion in the article of the three alternative theories summarized in the previous section.[54] As I argue both in that section and in the article, "risk-sharing" motivations very well may be present or even dominant in some cases. However, these motivations do not explain the issuance hierarchy or the ubiquity of the call feature. As a result, it is not hard to give credence to the hypothesis that a great deal of signaling is going on even if convertible debt sometimes serves other purposes as well. Furthermore, the fact that convertible debt is low investment grade is entirely consistent with the hypothesis in the signaling model that convertibles are used when the outlook is neither very rosy nor totally grim. In those other cases, one would issue straight debt and equity respectively. If the market is reading the signals in the way the model suggests, it would not be surprising that the straight debt is generally higher grade than the convertibles.

Putting aside the low-end investment grade phenomenon, the idea that convertible debt is a vehicle of "last resort" raises some interesting issues. Craig Lewis, Richard Rogalski, and James Seward ("the Lewis group") have advanced the idea that convertible debt issuance occurs when firms

byhole." We could redeploy the Treasury personnel, investment bankers, tax academics, and tax practitioners elsewhere and lose nothing.

53. *See* Kleinbard, *supra* note 1, at 457.

54. *Id.*

are "rationed out of the equity markets by investors."[55] In response, some firms will delay issuing equity while others will issue convertible debt presently. The latter "are offered contingent access to the equity market, but only if post-issue performance is sufficiently high."[56] The Lewis group reaches their position based on empirical work that suggests that firms do poorly following issuance of convertible securities and that the poor performance surprises both investors and analysts. This empirical result, assuming it holds up, speaks against the three alternative theories that involve risk since resolving distortions in firm investment incentives should lead to improved performance. The Lewis group notes, however, that the results are "close in spirit" to the signaling viewpoint "that adverse selection problems cause firms to substitute convertible debt for common equity when adverse selection costs are high and management is optimistic about the firm's future performance."[57] The problem is that the subsequent poor performance suggests that "on average, managers are either wrong, or there is another explanation."[58] At that point the Lewis group puts forward its rationing story. It is worth noting, however, that this story inherently involves management optimism also. Failure will result in the firm ending up with unconverted debt at a time when the firm has poor operating performance. Even if one takes the view that convertible debt is issued as a "last resort," a signaling effect may very well be present. Optimistic managers choose to issue convertible debt presently instead of waiting to issue equity when the markets are more amenable. This scenario would be consistent with the observed stronger negative market response to equity issuance versus issuance of convertible debt.

The Commentary argues that the bond-warrant unit alternative to convertible bonds is a chimera because "there is no real market in long-term issuer warrants" and then concludes that "more attention needs to be brought to the question of why we do not have a marketplace in corporate warrants before we can conclude that signaling alone explains the utility of convertible debt."[59] There are two separate points here. The first involves the existence of a market for long-term warrants. The second involves the role that the bond-warrant unit plays in the signaling argument.

On the first point, it seems quite clear that there *is* a market in long-term issuer warrants. It is quite similar to the market for convertible debt. It is easy to glean this fact from a perusal of any weekly issue of The Value Line Convertibles Survey. This Survey includes convertible securities and warrants that Value Line believes will be of most interest to

55. Craig M. Lewis et al., *The Long-Run Performance of Firms that Issue Convertible Debt: An Empirical Analysis of Operating Characteristics and Analyst Forecasts*, 7 J. CORP. FIN. 447, 471 (2001).

56. *Id.*

57. *Id.*

58. *Id.*

59. *See* Kleinbard, *supra* note 1, at 457.

investors (including retail investors). Typically, there are around 450-500 convertible bonds, 100-150 convertible preferred stocks and 70-130 warrants covered in the survey.[60] Some of the warrants trade in thin markets and over-the-counter rather than on an exchange. But the same is true (in fairly similar proportions) for the convertible bonds in the Survey.

On the second point, the bond-warrant unit serves as a conceptual touch point with respect to convertible debt. It raises the issue of why the bond and warrant components are tied together in convertible bonds. The answer emerges from the fact that almost all convertible bonds have the issuer call feature (as opposed to straight debt, which frequently does not). Bundling the bond and warrant components together and throwing in the call allows issuers to force retirement of the bond component without having to commit new funds by calling the bonds. Even if there were some reason why bond-warrant units could not or did not exist, it would be necessary to explain the ubiquity of this call feature. The viability of the signaling explanation for convertible debt does *not* turn on whether the bond-warrant unit is an available alternative. It *does* rest in part on the ubiquity of the call feature and the way the feature is used in practice.

The Commentary also criticizes the signaling explanation because it ignores the fact that convertible bonds are typically issued at a premium. The underlying stock price must increase before the value (if converted) begins to surpass the value of the pure debt portion of the bond. After noting that some recent convertibles have been issued at premia in the 40 to 50 percent range, the Commentary states that "one wonders . . . just how negative the message really is if management signals its willingness to sell equity at 50 percent above current levels."[61] Issuance at a premium, however, is not inconsistent with the signaling story. That story suggests that issuance of convertible debt implies at least mild optimism: Managers must be optimistic enough to believe that the stock will go up enough to enable them to force conversion by calling the debt even if things do not turn out as well as they may have wished.

The Commentary notes that the fact that convertible debt is typically subordinated and (in the case of LYONs and LYON-like issues) zero coupon suggests another reason for issuing convertible debt. These features make it easier to issue straight debt in the future. This debt would have priority over the convertibles, and zero-coupon issues cannot trigger default until maturity. These points are interesting but do not affect the signaling story very much. First, issuing equity would be an even better way to accommodate future debt issuance, especially if the alternative is convertible debt that involves coupon payments. In addition, if the concern is to be able to add straight debt to the capital structure, why not add it presently and then add the convertible debt later? The signaling theory

60. The February 10, 2003 issue, for instance, lists and analyzes 500 convertible bonds, 107 convertible preferred stocks, and 91 warrants. *See* The Value Line Convertibles Survey, Value Line, Feb. 10, 2003, *available at* http://www.valueline.com.

61. Kleinbard, *supra* note 1, at 458.

explains situations where convertible debt is preferable to either straight debt or equity. Finally, if convertible issuance increases firm value by accommodating potential future debt financing, why does the market react negatively to convertible debt issuance? The signaling theory explains that reaction.

The Commentary also stresses the real-world importance of financial accounting, showing how financial accounting motivations can explain phenomena such as the contingent conversion ("CoCo") feature. This feature requires the warrant portion of the bond to be in-the-money by a specified percentage before the holder may convert the bond. Including the feature allows the issuer to exclude the stock underlying the convertible bond from earnings-per-share figures until after the stock increases beyond the CoCo barrier. Although the Commentary urges that it is important to "filter" all the relevant factors "through the refractors of financial accounting norms" to develop a "more nuanced" signaling game,[62] it is not clear whether or how these norms would affect the signaling story in the finance literature. For example, the signaling story explains why firms typically delay conversion until the warrant feature of the bond is quite deep in the money. As a result, having a CoCo feature usually would not have much effect on the situation.

C. New Developments: LYONs and Hedge Funds

The Commentary contains some interesting thoughts about the significance of convertible bonds that are subordinated, zero-coupon, callable by the issuer, and puttable by holders. I follow the Commentary's lead by referring to these convertibles as "LYONs," the first trade name applied to such bonds. As noted in the Commentary, LYONs have been issued for about twenty years, with relatively more issuance activity in recent years. At the same time, there is plenty of conventional convertible debt being issued, and the prevalence of such debt in the market has not diminished. The ratio of bonds outstanding and the ratio of issuance are about four conventional issues per LYON, and the number of conventional issues appears to have remained stable over the past decade or so.[63] In terms of issuance frequency, conventional convertible debt seems

62. *Id.* at 460.

63. For instance, The Value Line Convertibles Survey, which includes issues of most interest to investors, lists 113 LYON-type convertible bonds and 387 conventional convertible bonds in its February 10, 2003 issue. The number of conventional convertible bonds listed has been quite stable although the number of LYON-type convertibles has increased. For example, The Value Line Convertibles Survey for the April 7, 1997 issue (the earliest one in the author's possession) lists 35 LYON-type convertibles and 394 conventional convertible bonds. Value Line claims that its Convertibles Survey covers about 90% of all actively traded convertible issues.

Current issuance data for convertible debt indicates a ratio of about four conventional convertible issuances per LYON. The 53 registered issues from May 1, 2002 through January 16, 2003 include 43 conventional convertible bonds and 10 LYON-type convertibles. New Registrations, Value Line, Feb. 6, 2003, *available at* http://www.valueline.com/secure/conv/index/cfm. As of February 6, 2003, two conventional convertible bonds had been issued during calendar year 2003 and seven were filed but not yet issued. No LYON-type

to be as important a security in the beginning of the twenty-first century as in the latter part of the twentieth century.

Although one could argue, based on issuance and market prevalence data, that the Commentary may be mistaken in characterizing LYONs as "today's most prevalent form of convertible debt,"[64] resolving that question is not critical for evaluating the strength of the signaling story developed in the finance literature. That story in its current form only applies to conventional convertible debt because it neither explains the put feature that accompanies LYONs nor explains how that feature interacts with the issuer's right to call. As a result, in empirical tests of various aspects of the signaling story, researchers sometimes exclude LYONs from the data or consider them as a separate category.[65] The holder's right to put a LYON clashes with the signaling story because that story centers on the ability of management to replace debt with equity through a call that forces conversion. Management would take that step when performance ends up being on the low end of expectations to avoid the low stock prices that would ensue due to the need to pay off debt holders in cash. The holder of a LYON is likely to exercise the put right for cash precisely when the firm is not doing very well. In that situation, the warrant part of the LYON will not be very valuable, and the holder may wish to put for the agreed upon price rather than to continue holding the LYON. Under the signaling story, this outcome is exactly what management would want to avoid.

The Commentary calls for "a subsequent article to develop a formal analysis of the finance and information theory" relevant to LYONs.[66] I strongly agree that much more theoretical and empirical scrutiny of the LYONs market by the finance profession is warranted. Considerable development along these lines would be necessary before it will be possible to write an article similar to mine analyzing the impact of tax proposals on LYONs. Adding taxes to the mix only makes sense after there is a sound theoretical and empirical base.

There is a more fundamental point. The conventional convertible bond market is as important today as it has been in the past. The number of conventional issues is not declining. What is happening is that there are more LYONs issues in recent years than a decade ago. It would be nice to have an analysis of the impact of various tax proposals on the LYONs market. But the existence and recent vitality of the LYONs market does not diminish the need to understand the impact of tax proposals on conventional convertible bonds.

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convertibles were issued and one was filed but not issued. New Convertibles, Value Line, Feb. 6, 2003; Filed/Not Registered Securities, Value Line, Feb. 6, 2003, *available at* http://www.valueline.com/secure/conv/index/cfm.

64. Kleinbard, *supra* note 1, at 462.

65. *See, e.g.*, Louis H. Ederington & Jeremy C. Goh, *Is a Convertible Bond Call Really Bad News?*, 74 J. BUS. 459, 462-63 (2001); Strnad, *supra* note 7, at 62-63.

66. Kleinbard, *supra* note 1, at 462.

The Commentary raises a distinct set of issues with respect to changes in the nature of the convertible debt market. In particular, the Commentary suggests that this market may have changed in the last two or three years in ways that may affect the signaling story: Hedge funds with arbitrage motivations have replaced retail and institutional investors as the key players on the demand side.[67] Unfortunately, there are (to my knowledge) no studies of convertible debt that test the hypothesis that the market has changed or even that test the signaling story using data that includes the years 2000 and 2001, the years the Commentary highlights as comprising a period when the change was fully operational. The fact that there are no such studies is understandable since research necessarily lags behind developing events. The lag problems are particularly serious with respect to analyzing the signaling story since part of that story involves events (such as the stock market reaction to conversion-forcing calls) that occur long after the initial issuance of convertible debt. It may be many years before meaningful research on the signaling properties of the bonds issued during 2000 and 2001 will be possible. As a result, it is necessary to consider the points in the Commentary from a somewhat speculative conceptual viewpoint.

The Commentary claims that "it might be said that the issuers and investors alike now understand that issuing convertible debt is not a 'bad news' signal, but a 'moderation of volatility' signal," the reason being that "convertible bond offerings are not so much about signaling management views on absolute stock *prices* as they are about issuers selling, and hedge funds buying, *volatility*."[68] There are some immediate problems with this story. First, as the Commentary notes, hedge funds are buying the volatility, not in order to own it, but for use in arbitrage operations. They "synthetically strip off the straight debt component in the credit derivatives market" and "earn . . . arbitrage profits . . . by going long the convertibles, and short the underlying."[69] This transaction involves getting rid of the debt component of the convertible debt and then arbitraging the warrant portion using a short position common stock as an offsetting holding. Shorting the stock while holding the warrant portion results in passing the "volatility" back into the marketplace where, presumably, institutional or retail investors will buy it—the same parties who might otherwise buy the convertible debt directly. The only impact on

67. The Commentary also notes that the convertibles market boomed during this period. Market cycle related booms in convertible debt issuance are not a new phenomenon. In particular, some scholars have found that convertible debt issuance as a proportion of total debt issued increases significantly during bull markets. *See* Steven V. Mann et al., *Timing of Convertible Debt Issues*, 45 J. BUS. RES. 101, 104 (1999). However, the issuance pattern from the last few years only partially fits the bull market story. The annual number of new convertible issues moved up during the period, reaching a record of 206 in 2001 and then fell back to 121 in 2002. The Value Line Convertibles Survey, Value Line, Dec. 23, 2002, at 1. As of February 10, 2003, issuance in 2003 has been sparse. However, during the last three-quarters of 2000 and most of 2001 markets were retreating sharply—the bull market of the late 1990s and early 2000 was already over.

68. Kleinbard, *supra* note 1, at 461.

69. *Id.*

the signaling story that might follow from this arbitrage is if the arbitrage affects the issuance price of the bonds. I discuss that possibility later.

Second, if a firm wished to "sell volatility," issuing convertible bonds would be an inefficient way to go about it. The firm would be better off selling common stock or warrants since these dispense with the (non-volatile) debt component of the bonds. At a minimum, this approach would obviate the costly step that the hedge funds go through to strip off the debt component. One must explain why convertible debt is the volatility vehicle, and this need leads back to the traditional list of candidates, including signaling. Taking the "selling volatility" perspective does not eviscerate, and may even enhance, the signaling story.

Arbitrage activity by hedge funds could affect the signaling story if it has an impact on the issuance price of convertible debt. An increased issuance price would make convertible debt more attractive, and the impact would be similar to bestowing some type of tax advantage on that debt. As described in Part I.C. above, both the "signaling game" and the "conversion game" would be affected in ways that might be hard to predict.

Whether arbitrage activity would affect the issuance price is a difficult question. Taken to its conclusion, arbitrage activity will change prices until that activity is no longer profitable. The Commentary, in fact, cites one market participant who believes that (during 2000 and 2001) convertible arbitrage funds determined the pricing of convertibles, based, in part, on the fact that these funds owned as much as fifty percent of the convertible bonds outstanding.[70] The Commentary itself suggests that hedge funds are "the marginal buyers of convertible debt, particularly LYONS-style zero-coupon convertibles."[71] Whether or not hedge funds were the "marginal investor" for convertible debt during 2000 and 2001 would not be an easy issue to resolve. The marginal investor determines prices because issuers face that investor's demand in selling additional bonds. Quantities held do not determine the marginal investor. Firms seeking financing may have issued lots of bonds to hedge funds, but also may have exhausted that source. Additional sales might have to be made to other investors who do not presently hold a large amount. In addition, a change in prices is not the only factor that can limit arbitrage. Financial frictions, legal rules, and other factors may create inherent limits.[72]

In sum, the market conditions during 2000 and 2001 may have impacted the signaling properties of conventional convertible debt. Further study would be required to determine if there was an impact and, if so, what it was. Since the full set of signaling properties of convertible bonds take time to play out, it may be several years before we will be able to study the 2000 and 2001 issuances effectively.

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70. *Id.* at 460 n.24.

71. *Id.* at 461.

72. For a good discussion, see Alan J. Auerbach, *Should Interest Deductions be Limited?*, *in* UNEASY COMPROMISE: PROBLEMS OF A HYBRID INCOME-CONSUMPTION TAX 195 (Henry J. Aaron & Joseph A. Pechman eds., 1988).

D. SURVEY APPROACHES

The Commentary laments that the article did not include interviews of market participants.[73] The signaling story hinges on management motivations and behavior. Thus, the most logical place to gather information would be a survey of management with respect to issuance and call policy. Recently, John Graham and Campbell Harvey conducted a corporate finance survey of 392 CFOs that included many questions that are relevant to the signaling story.[74]

Many elements of the story receive strong support. Management is very concerned with "financial flexibility"—not getting into a bind due to heavy interest obligations if performance falls off. In the survey, this appears to be "the most important item affecting corporate debt decisions."[75] This result matches the signaling story idea that firms only will use straight debt finance when they believe that it is unlikely or not possible that the debt will lead to a financial pinch accompanied by low stock prices.

The survey finds that firms are reluctant to issue common stock when they perceive that it is undervalued, and the survey also cites evidence that many managers feel their stock is undervalued while very few feel it is overvalued.[76] When optimism is so pervasive, the negative signaling implications of equity issuances seem obvious. In particular, it is not surprising that equity issuances are accompanied by sharply negative market reactions.

Many of the survey responses to questions on convertible debt issuance strongly support the signaling story. The three most frequently mentioned reasons to issue convertible debt are that such issuances are an inexpensive way to issue delayed common stock, that the firm's common stock is undervalued, and that convertibles include the ability to force conversion if and when needed by using the call feature.[77] Graham and Harvey conclude that the survey provides "strong evidence consistent with Stein's argument that convertibles are 'back-door equity.'"[78] Stein's argument is the core of the signaling story: Firms have private information indicating that their equity is undervalued but do not want to issue straight debt because of the possible financial distress costs. As a result, they issue convertible debt.[79]

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73. Kleinbard, *supra* note 1, at 469.

74. John R. Graham & Campbell R. Harvey, *The Theory and Practice of Corporate Finance: Evidence From the Field*, 60 J. FIN. ECON. 187 (2001).

75. *Id.* at 218.

76. *Id.* at 219. This evidence supports the suppositions in the Commentary about widespread management optimism—suppositions based on the paucity of non-IPO primary public offerings of common stock for cash even during the height of the bull market. Kleinbard, *supra* note 1, at 4-5.

77. Graham & Harvey, *supra* note 74, at 221 (Table 10) and 222-23 (discussion).

78. *Id.* at 223.

79. The Brennan/Schwartz and Brennan/Kraus ideas also receive some support; a significant number of firms mention that convertible debt is useful in attracting investors who are unsure about the riskiness of the company. *Id.* at 221 (Table 10) and 222 (discussion).

There are some aspects of the survey results that are not as supportive of the signaling story as one might wish. Graham and Harvey tabulate responses by firm type. They postulate that small firms and firms that do not pay dividends should suffer more from informational asymmetry (private information held by management that is not apparent or easily communicated to the market) and therefore should be stronger candidates for the signaling story. But these firms do not display enhanced sensitivity to concerns such as financial flexibility or equity undervaluation compared to other types of firms.[80]

In sum, many but not all of the results in Graham and Harvey's survey support the signaling story. A caveat is in order concerning both the positive and negative evidence. Surveys have the advantage that they allow a researcher to collect and evaluate qualitative information. They also have weaknesses.[81] People's actions may not be in accord with their stated motivations. In addition, a mechanism such as the signaling story, if true, may operate indirectly as participants respond to market prices or institutional features that result from that story rather than from conscious signaling motivations. Graham and Harvey note possible instances of this phenomena. For example, with respect to debt financing, the investment-grade survey respondents tend to play down any consideration of financial distress, but they are "very concerned about their credit ratings . . . which can be viewed as an indication of concern about distress."[82]

III. CONCLUSIONS

The article studies the implications for tax policy of the signaling function envisioned in the finance literature for conventional convertible debt. The Commentary makes a variety of points. It questions whether the signaling story, even if true, should be a major concern of tax policy. It takes on the finance literature by questioning the signaling story itself as an explanation of the utility of convertible debt in corporate finance. It argues that LYONs, rather than conventional convertible debt, should be the object of study.

My response is easy to summarize. First, consider the normative issues about the proper objectives of tax policy. The article shows that apparently minor reform ideas, such as the Clinton Administration proposal to deny OID deductions for convertible debt until and unless the OID is actually paid, may impact the signaling function of convertible debt significantly, but that the direction of the impact is unclear. The article urges caution in the face of the possibility that socially valuable signaling may be destroyed, stating that "[p]olicymakers should avoid tax provisions that have substantial effects on convertible debt or that turn on the conversion feature, unless there are very important reasons for these pro-

80. *Id.* at 219-20.
81. *See id.* at 189-90.
82. *Id.* at 211. In contrast, speculative-grade respondents state that the potential costs of distress are relatively important in decisions about debt finance. *Id.*

visions."[83] The Commentary suggests some "cubbyhole"-oriented reasons for opposing the Clinton Administration proposals and for supporting the alternative reform of allowing full accrual of OID for conventional convertible debt.[84] These cubbyhole-oriented reasons boil down to an argument that convertible debt issued at a discount should be treated more like debt. The Clinton Administration proposal may be justified by a similar type of argument in the other direction: Convertible debt issued at a discount should be treated more like equity. Neither argument has much more going for it than pure analogy. Current law is filled with inconsistencies since it allows firms wide latitude to choose between debt and equity treatment for the same underlying cash flows. Convertible debt issued at a significant discount is close to the formal debt-equity borderline. Given that cubbyhole-based reasoning is not very helpful or normatively relevant at this borderline and given the absence of other strong normative arguments, it seems obvious that we should give high priority to the socially salient corporate finance implications of the proposals we are making.

Turning to the finance points, the signaling story enjoys considerable theoretical and empirical support. Although we will not be able to fully assess how the story will fare for the market period during 2000 and 2001, the features of that market period emphasized in the Commentary do not directly affect the salience of the story. The Commentary also discusses a series of other features, such as the prevalence of low-investment grade issuers, the possibility that convertible debt is the only kind of security issuance that the firm can issue on reasonable terms, the fact that convertible debt is typically subordinated debt, and the role of financial accounting. But these features are either consistent with the signaling story or have little significance for the salience of the story.

As for LYONs, I believe that the Commentary is correct in asserting that they deserve much more study than they have received to date. Nonetheless, the increased use of LYONs has not been accompanied by any corresponding diminution of the number of new and existing issues in the conventional convertible debt market. Issuance of conventional convertible debt is currently about four times as frequent as issuance of LYONs. More fundamentally, the fact that it would be valuable to study LYONs does not diminish the value of studying conventional convertible debt.

The responses to the Commentary in Part II should not be taken as an argument that the signaling story is impregnable. Convertible debt may play corporate finance roles other than being useful in signaling firm prospects. Part II and the article mention the risk-shifting and risk-sig-

83. Strnad, *supra* note 7, at 447.

84. That alternative reform would remove the feature of current law that "hides" some OID by failing to subtract the conversion value of the bond from the basis used to compute OID on the debt portion.

naling hypotheses. There are other hypotheses.[85] In addition, some work contests some of the empirical findings that support the signaling story.[86]

The signaling story may survive various theoretical and empirical challenges or it may not. The Clinton Administration proposal may be proposed anew and enacted in the future or it may not. What, then, is the lasting significance of the results in the article? I believe that there are two important lessons that follow from the article that do not depend on the particular reform proposals examined or on the continuing soundness of the results in the finance literature that served as a foundation for the analysis in the article.

First, the article illustrates that fairly minor tax proposals—with respect to instruments that play a signaling role—may have a very significant impact on that role. The Clinton Administration proposal was an ideal vehicle for making this point. The proposal addresses convertible debt, an instrument for which signaling appears to be particularly important. The proposal itself conditions tax outcomes (loss of OID deductions) on conversion. As a result, there is a direct impact on the signaling going on in

85. One argument is that convertible debt is useful when a project involves certain types of sequential financing. David Mayers, *Why Firms Issue Convertible Bonds: The Matching of Financial and Real Investment Options*, 47 J. PUB. ECON. 83 (1998). For instance, a project might involve an investment at a preliminary stage and a later follow-up investment (or continued use of the funds invested at the first stage) if (but only if) the preliminary stage indicates the later stage will be successful. Making both investments up front raises the danger of "overinvestment": Management will make the follow-up investment even if the preliminary stage indicates that such investment will fall short of returns available elsewhere. Convertible debt works well in such situations. If the preliminary stage suggests continuing the investment, conversion keeps the money in the firm and may obviate having to raise (costly) funds prior to the second stage. If the preliminary results suggest not continuing the investment, funds are returned to bondholders via redemption. The call provision "allows the firm to proceed with its financing plan by forcing conversion when the investment option is valuable." *Id.* at 84

The signaling story explains the stock price drop that accompanies convertible debt calls by showing that managers would call based on receiving negative information about performance. These calls flush out that private information, making market prices more accurate. It is possible, however, to construct a model where the callable convertible debt does not involve any signaling role but helps management entrench itself. Nobuyuki Isagawa, *Callable Convertible Debt Under Managerial Entrenchment*, 8 J. CORP. FIN. 255 (2002).

86. Louis Ederington and Jeremy Goh provide evidence that the abnormal negative returns that accompany convertible debt calls tend to be reversed in the weeks following announcement of the each call. They suggest that the drop consisting of abnormal negative returns in the days surrounding the announcement "is a liquidity-induced transitory decline that is quickly and totally reversed." *See* Ederington & Goh, *supra* note 65, at 474-75.

Katherine Spiess and John Affleck-Graves find evidence that smaller, younger, and NASDAQ-listed firms tend to suffer from poor performance following issuance of straight debt. They view this phenomenon as one of "underreaction." There are no immediate abnormal negative returns for these firms following announcement of straight debt funding, but abnormal negative returns occur over time. They find neither short-run nor long-run abnormal negative returns for larger issuers. D. Katherine Spiess & John Affleck-Graves, *The Long-run Performance of Stock Returns Following Debt Offerings*, 54 J. FIN. ECON. 45 (1999).

It is possible to be skeptical about both sets of results. For liquidity effects and underreaction to be consistent features surrounding security issuance would require that sophisticated market participants fail to learn about and arbitrage away these phenomena. Nonetheless, it is important to realize that the empirical case for the signaling story is not absolutely air tight.

the "conversion game" as well as the more general impact on the signaling associated with the "issuance game." The analysis that emerges is directly useful in other contexts. For example, Part I.C. extends the qualitative results of that analysis easily to the proposal to apply CPDI treatment to conventional convertible debt, and Part II.C. uses the analysis to examine the potential impact on signaling of issuance price changes for convertible debt due to hedge fund arbitrage during 2000 and 2001.

There is a second lesson that transcends the particular instruments and proposals that the article considered. Instruments such as straight debt and equity also appear to have signaling implications. Although increased price accuracy from signaling is almost certainly not the main social benefit of these instruments, the signaling "side effects" of tax policy toward these instruments may be significant. Even if we were able to reform the tax code to eliminate the inconsistencies and problems associated with the debt/equity distinction—e.g., by applying the same theoretically pure tax treatment to both instruments—it might still be desirable to depart from theoretical purity to preserve or enhance various signaling features of the instruments.[87] Signaling has been a prominent concern of the finance literature but has been almost totally absent from tax policy discussions. It is not clear that ignoring the interaction between signaling and taxation is a good idea.

In closing, it is worth reflecting again on the "pin factory." My own comparative advantage is to have one academic foot in the finance/economics arena and the other foot in law. This combination allows me to identify and study issues such as how tax policy choices affect the signaling properties of various instruments. Academic study is often most profitable when there is a previous theoretical knowledge base and enough time has passed so that there is an institutional understanding of the developments under study combined with available empirical evidence. This aspect is in tension with the needs of practitioners and judges who are faced with the task of making sense of the most recent developments. The fact that the required research takes time and sometimes will end up solving problems that are no longer current can only be frustrating to them.[88] Nonetheless, it is worth having someone in the pin factory considering issues such as signaling, even if that means studying securities or transactions that are not on the top of the current agenda. Otherwise, it will be difficult to develop a deep understanding of the issues. In the case

87. One might do so *outside* of the tax system through differential issuance surcharges or similar devices. Nonetheless, it is easy to imagine scenarios where these kinds of measures compensate for signaling capability lost due to particular tax reforms.

88. For instance, it will be some time before we will be able to fully discern the meaning of the market period during 2000 and 2001 for the signaling properties of convertible debt. Some of the relevant data will take years to generate. In the short term we are left with semi-informed speculation and, by the time we reach a deeper level of insight, the urgency for knowledge may have passed.

of signaling and conventional convertible debt, it seems to me that we have the best of both worlds. How to tax such debt is very much a current issue.