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DIVIDENDS, NONCONTRACTIBILITY, AND CORPORATE LAW

*William W. Bratton**

INTRODUCTION

It is the custom to hold out Warren Buffett and Berkshire Hathaway as a real world reproach to the arrogance of advocates of financial economic theory. I am in sympathy with this custom. But this Article will make no such reproach, even though it considers a practice of Buffett and Berkshire in the context of a body of financial economics. The subject practice is Berkshire's anomalous policy of paying no dividends.¹ The subject economic models, which will be collectively referred to as the "first principles variant of incomplete contracts theory," apply the theory of incomplete contracts to the problem of optimal capital structure. In so doing, these models create no occasion for a real world reproach. They show that financial economics, like Berkshire Hathaway itself, has grown and become more complex as the years have passed. Gone are the first-best certainties and simplifications characteristic of first-generation blockbusters like the capital asset pricing model, the efficient capital market hypothesis, and the irrelevance theory of capital structure. These second-generation exercises remit us to a second-best world—a world that, although highly stylized, would at least be recognizable to Benjamin Graham and David Dodd.²

Some strong parallels to the first-generation economics of optimal capital structure nonetheless persist in this second-generation, second-best world. Here, as there, debt solves certain governance problems attending equity control, and the issuance of equity in turn solves certain problems attending the incurrence of debt. But here, unlike there, conditions of uncertainty render un-

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¹ Berkshire Hathaway has paid only one dividend since Warren Buffett gained control of it in 1965. That dividend was 10¢ a share distributed in 1967. Later Buffett said that "he must have been in the bathroom" when the Board made the declaration. See ROGER LOWENSTEIN, *BUFFETT: THE MAKING OF AN AMERICAN CAPITALIST* 130, 133 n.* (1995).

² Benjamin Graham was Warren Buffett's mentor. See *id.* at 36-59. Graham coauthored a famous text on security analysis with David Dodd. See generally BENJAMIN GRAHAM ET AL., *SECURITY ANALYSIS: PRINCIPLES AND TECHNIQUE* (4th ed. 1962).

known and unknowable the precise and practical measure of the optimal mix of the two. The models described here reach this common-sensical result because they follow an economic theory of the firm that alters a number of assumptions made in first-generation economic models of agency relationships. The first-generation models remitted governance problems to corporate actors for contractual solution, in many cases undaunted by the apparent absence of contractual technologies for dealing effectively with the problems they identified. They assumed, not unreasonably but perhaps not so safely, that suboptimal institutional conditions would create incentives to spur the development of new contractual solutions. And they deemed that the future would bring any necessary technical innovations, provided that no regulatory stumbling blocks cropped up to impede this progressive evolutionary process.

In contrast, the incomplete contracts models suggest that information asymmetries—in particular problems of ex post observation and verification—structurally delimit the class subject matter suited to travel on this track of evolutionary improvement. This body of theory remits us to a second-best world for the purpose of identifying and explaining barriers that prevent the evolution of first-best corporate governance institutions. This does not negative the proposition that state intervention can be one such barrier.³ But, at the same time, the state's removal of itself does not necessarily free transacting actors to cause institutions to evolve to the first-best ideal. It instead holds, first, that transacting actors can work such marketplace magic only to the extent that their subject matter is contractible. Second, it holds that contractibility cannot safely be assumed—the requisite transactional technologies may not yet exist; nor may they even be imaginable in the present state of things. And, third, it holds that corporate capital structure presents many such problems of noncontractibility. It accordingly predicts that the mandatory and contractual devices that vest and transfer corporate control will continue to constitute the central governance institution. By default, then, state intervention retains a place on this theory's list of possible means to the end of improving suboptimal governance conditions.⁴

³ For this view of history, see MARK J. ROE, *STRONG MANAGERS, WEAK OWNERS: THE POLITICAL ROOTS OF AMERICAN CORPORATE FINANCE* (1994).

⁴ See Philippe Aghion & Benjamin Hermalin, *Legal Restrictions on Private Contracts Can Enhance Efficiency*, 6 J.L. ECON. & ORG. 381 (1990).

Thus postured, these incomplete contracts models offer no present template for an optimal real world governance regime even though they direct themselves to the business of articulating formulae for optimal capital structures. To bring them to bear on dividend and reinvestment policy, then, promises no wealth maximizing quick fix—contractual, mandatory, or otherwise. A pair of more limited objectives must suffice for this Article. First, the models will be used here to explain why dividend and reinvestment policy has a history of chronic insusceptibility to easy regulatory improvement—contractual, mandatory, or otherwise. Second, the models will be used to appraise the three items on the standing menu of governance reform proposals respecting dividend and reinvestment policy—specifically, mandatory payout of earnings, institutional investor monitoring, and stepped-up disclosure requirements.

This Article has three parts. Part I examines the dividend policy both of Berkshire Hathaway and of the companies in which it presently holds substantial common stock investments. It there turns out that the apparent puzzle presented by Berkshire's practice of total earnings retention is quickly solved with a reference to Graham and Dodd's classic work on security analysis. But it also turns out that Berkshire holds significant blocks of stock in firms that follow a more conventional payout pattern. A puzzle is encountered at that point, but not a puzzle usually connected to Berkshire Hathaway. It is instead the famous dividend puzzle of financial economics, along with the agency explanation favored in legal theory.

Part II describes the approach to capital structure emerging in the incomplete contracts literature. The models teach, first, that intractable informational asymmetries prevent direct contractual solutions to the governance problem presented by dividend policy, and, second, that solutions can be structured only indirectly through the control transfer provisions built into corporate capital structures. This story echoes that of the standing agency explanation of dividend policy, remitting attention to the disciplinary properties of debt for a means to counter the empire-building tendencies of corporate managers. Unlike the agency explanation, this story does not purport to offer a complete solution to the problem of suboptimal earnings retention. It does, however, provide a powerful explanation for the continuing absence of a first-best solution. Given conditions of uncertainty, it follows from the nature

of debt and equity that the precise measure of an optimal mix of two will remain unknown.

Part III uses the incomplete contracts perspective to appraise three legal strategies for ameliorating the problem of suboptimal dividend and reinvestment policy. First, the recent proposal of a mandatory shareholder option to require payout of a pro rata share of earnings is examined.⁵ Incomplete contracts ideas explain this strategy's intuitive appeal while simultaneously warning of significant perverse effects. Second, the indirect solution to the problem promised by the proponents of institutional investor activism—high-intensity boardroom monitoring by genuinely independent directors, is considered.⁶ Although this strategy proves consonant with the incomplete contracts description of the firm, it remains hobbled by the problem of real world feasibility. The third strategy is stepped-up disclosure—a mandate to management to describe particulars respecting dividend and reinvestment decisions.⁷ Here, the incomplete contracts literature sends an equivocal signal. It supports no prediction that management would respond to such a mandate with credible reports. But it also implies that revised disclosure rules should not be dismissed out of hand. Although cheap talk has a low value, that value still may suffice to make a disclosure mandate cost beneficial.

I. BERKSHIRE HATHAWAY AND THE DIVIDEND PUZZLE

A. *The Berkshire Hathaway Anomaly*

Most large, mature American corporations maintain a low but steady dividend payout. Berkshire Hathaway's policy of paying no dividends thus sets it apart. But this anomaly readily can be explained. It results from the coincidence of Mr. Warren Buffett's personal preferences and his views on management policy. On the personal side, Buffett has derived life long satisfaction from wealth accumulation.⁸ On the policy side, Buffett respects the bottom line rule respecting the reinvestment of earnings enunciated in corporate finance textbooks. Buffett has enunciated it himself:

⁵ See Zohar Goshen, *Shareholder Dividend Options*, 104 YALE L.J. 881, 903-06 (1995).

⁶ See *infra* text accompanying notes 141-62.

⁷ See Victor A. Brudney, *Dividends, Discretion, and Disclosure*, 66 VA. L. REV. 85 (1980); Aaron S. Edlin & Joseph E. Stiglitz, *Discouraging Rivals: Managerial Rent-Seeking and Economic Inefficiencies*, 85 AM. ECON. REV. 1301 (1995). But see Daniel R. Fischel, *The Law and Economics of Dividend Policy*, 67 VA. L. REV. 699 (1981).

⁸ See LOWENSTEIN, *supra* note 1, at 10, 22, 87-88.

Unrestricted earnings should be retained only when there is a reasonable prospect—backed preferably by historical evidence or, when appropriate, by a thoughtful analysis of the future—that *for every dollar retained by the corporation, at least one dollar of market will be created for owners*. This will happen only if the capital retained produces incremental earnings equal to, or above, those generally available to investors.⁹

Restating the point, corporate cash flows should be reinvested only if management has a project that promises a rate of return r greater than the cost of its equity capital k .¹⁰

The interest of the present case lies in the fact that Berkshire pays no dividends even as Buffett intones the textbook truth with complete plausibility. Buffett legitimately can preach this sermon despite his payout record because he has been the corporate community's premier reinvestor of earnings during the thirty years since Berkshire last mailed its shareholders a check.¹¹ He also is one of the few prominent investment managers ever to liquidate an investment company in a bull market on the ground that advancing prices had eliminated the set of attractive opportunities.¹² So when Buffett talks reinvestment policy, the talk is not as cheap as usual.¹³ His track record amounts to a plausible reputational bond. Although an empire builder, he also cares about his record for making investments with outstanding yields, and, when given the choice, demonstrably prefers to enhance his reputation for yields.

⁹ Lawrence A. Cunningham, Compilation, *The Essays of Warren Buffett: Lessons for Corporate America*, 19 CARDOZO L. REV. 1, 124 (1997) [hereinafter *Buffett Essays*].

¹⁰ For a textbook rendition of this point, see VICTOR BRUDNEY & WILLIAM W. BRATTON, *CORPORATE FINANCE: CASES AND MATERIALS* 548-49 (4th ed. 1993). It is noted that both Buffett and Charles Munger object to the text's association of their opportunity cost rule of thumb for earnings retention with the financial economic concept of cost of capital. They object to the invocation of the latter concept on the ground that it is not subject to empirical verification. See Lawrence A. Cunningham, Editor, *Conversations from the Warren Buffett Symposium*, 19 CARDOZO L. REV. 719, 769-75 (1997) [hereinafter *Buffett Conversations*].

¹¹ See *supra* note 1.

¹² That was the original Buffett Partnership, a private investment company managed by Buffett and liquidated in 1969. See LOWENSTEIN, *supra* note 1, at 114-15. The recent dissolutions of some well-known hedge funds present a contemporary variation on the theme. See Laura Jereski, *Odyssey Dissolves \$3 Billion Firm: Big Hedge-Fund Era May Be over*, WALL ST. J., Jan. 13, 1997, at B4.

¹³ All the same, some of Buffett's less successful investments—USAir and Champion International, made in 1989 contemporaneously with a successful investment in Gillette—have been accounted for as resulting largely from the fact that Berkshire had cash to invest. See LOWENSTEIN, *supra* note 1, at 354-55.

Thus, his preferences largely coincide with those of his outside investors.¹⁴

So far, then, Berkshire presents an anomalous pattern of dividend and reinvestment, but no dividend "puzzle." Perhaps a puzzle will emerge upon the comparison of Berkshire's corporate level policy of total retention with its corporate level treatment of the payout patterns of subsidiary companies. With the subsidiaries, Buffett has been said to do a complete *volte face*. The story is that, as hard as nails, he resolves all doubts in favor of low levels of earnings retention, and insists that all available subsidiary cash flows be forwarded to the parent company's coffers. Following a practice that started when he took over Berkshire's textile mill, he keeps a sharp eye on every capital outlay in his empire, right down to the office pencil sharpener.¹⁵

But, assuming that there is an element of truth to this story, we once again need look no further than the Graham and Dodd textbook¹⁶ for an explanation. Graham and Dodd counseled that growth stocks should be valued based on earnings alone, but that with low-growth and declining companies, both dividends and earnings should be considered. More specifically, they recommended that below average shares in declining companies should be valued in accordance with a formula that accords four times the weight to a dollar paid out as a dividend than the weight accorded to a dollar retained in the business:

$$\text{Value} = \text{Multiplier} (\text{Expected Dividend} + 1/3 \text{ Expected Earnings})^{17}$$

Shares of the large group of low-growth companies falling in between growth companies and declining companies should be valued, said Graham and Dodd, on an intermediate basis, somewhere between the 1 to 1 ratio for growth companies and the 4 to 1 ratio

¹⁴ If the dividend payment pattern prevailing in other companies evolved into a standard practice as a check against management's tendency toward slack investment practice, then it is easy to assume that an exception would be carved out for Buffett. See *infra* text accompanying notes 37-41.

¹⁵ See LOWENSTEIN, *supra* note 1, at 136-37. Buffett takes issue with the extension of this description to today's Berkshire. He tells us that where Berkshire controls a subsidiary, but a minority block of stock remains outstanding, the dividend decision is left to those minority shareholders. See *Buffett Conversations*, *supra* note 10, at 769-75. However, an inference of an alignment of interests in a high payout rate still arises.

¹⁶ See GRAHAM ET AL., *supra* note 2.

¹⁷ *Id.* at 518. The formula makes it look as if a declining company can retain up to one-third of its earnings without impairing shareholder value, but the appearance is deceiving. All other things being equal, the higher the payout, the higher the value.

for decliners.¹⁸ Presumably, one would adjust the formula for such an intermediate company after an appraisal of the capital needed to keep its operation up, running, and competitive in its established market. Or, to draw again on Buffett:

In many businesses—particularly those that have high asset/profit ratios—inflation causes some or all of the reported earnings to become ersatz. The ersatz portion—let's call these earnings "restricted"—cannot, if the business is to retain its economic position, be distributed as dividends. Were these earnings to be paid out, the business would lose ground in one or more of the following areas: its ability to maintain its unit volume of sales, its long-term competitive position, its financial strength.¹⁹

If the variegated portfolio of going concerns accumulated within Berkshire Hathaway now is examined, any puzzle respecting Berkshire's policy of high internal dividends is quickly solved. Berkshire collects established, well-managed businesses with secure positions in stable markets—toll booths in the ordinary path of the average consumer, like local newspapers without competitors and local retailers with successful formulas and large market shares.²⁰ These revenue spinners need to be fed diets of "restricted" earnings so that they can maintain their franchises, but that is all. The remaining cash flows are released to the parent. There Buffett continues the hunt for new investments in like-positioned money spinners.

A meaningful survey of Berkshire's dividend and reinvestment policy must include a third class of dividend and reinvestment decisions. These decisions are made by the public companies in which Berkshire holds large equity blocks and often takes a seat on the board—the famous group of Amex, Cap Cities (now Disney), Coke, Gillette, Sally, and Wells Fargo. This Article's Appendix sets out data respecting the dividend payout ratio for each of these companies, comparing its recent practice to those of its industry group. In some cases the Berkshire-held company pays out slightly more than its industry average, in some cases slightly less, and in some cases about the same. The numbers show at a minimum that Buffett does not use his influence in these boardrooms to effect dividend policies replicating those he has been said to deem sound

¹⁸ See *id.* at 516-18.

¹⁹ *Buffett Essays*, *supra* note 9, at 123.

²⁰ See LOWENSTEIN, *supra* note 1, at 411-14.

in a wholly-owned subsidiary.²¹ But once again we find an easy explanation. Buffett, unlike Benjamin Graham,²² taught himself to invest in growth situations. The above stocks are Berkshire's long-term growth plays. Given a genuine growth situation, we have already seen that even Graham and Dodd recommend that the dividend payout be disregarded.

But here we finally do encounter a puzzle. Why do firms making up the charmed circle of Buffett's long-term holds pay any dividends at all, given that no less an authority than Benjamin Graham said they do not have to, and that even a corporate stockholder like Berkshire has to pay a little federal income tax on receipt of the payment?²³ Buffett himself seems untroubled by such a dividend payout practice, despite its apparent suboptimality. He even appears to endorse the conventional corporate payout pattern observed by Lintner²⁴ long ago. Says Buffett:

Shareholders of public corporations understandably prefer that dividends be consistent and predictable. Payments, therefore, should reflect long-term expectations for both earnings and returns on incremental capital. Since the long-term corporate outlook changes only infrequently, dividend patterns should change no more often.²⁵

Here then is a puzzle for solution: Why, assuming that $r > k$ for reinvested sums and an available amount of $r > k$ investments greater than the amount of earnings retained, should a firm's dividend payout policy accord with Buffett's description?

B. *The Dividend Puzzle and the Agency Solution*

Large American corporations shape their dividend policy to accord with a conventional wisdom. Under this, the payout level should be set as a fixed amount rather than as a fixed percentage of earnings yielding a fluctuating amount. Increases should be approved only once the new, higher payout level clearly can be sustained against negative shocks to corporate cash flow.²⁶ In the

²¹ Or, if he attempts to use his influence, he does not succeed in persuading these firms to change their policies.

²² See LOWENSTEIN, *supra* note 1, at 201.

²³ See I.R.C. § 243(a) (West 1997) (allowing corporations to deduct 70% or 100% of dividends received, depending on the extent of ownership interest in the payor firm).

²⁴ See John Lintner, *Distribution of Incomes of Corporations Among Dividends, Retained Earnings, and Taxes*, 46 AM. ECON. REV. 97 (1956).

²⁵ *Buffett Essays*, *supra* note 9, at 127.

²⁶ Empirical confirmation is set out in Lintner, *supra* note 24. For a recent reconfirmation of the value of Lintner's model in understanding stock price behavior, see Hyun Mo Sung & Jorge L. Urrutia, *Long-Term and Short-Term Causal Relations Between Dividends*

event of such a shock, the firm should (if possible) borrow to maintain the dividend until relief comes in the form of a cyclical recovery. A second conventional wisdom about dividends prevails in American textbooks on finance. As noted above, corporate cash flows should be reinvested only if management has a project that promises a rate of return r greater than the cost of its equity capital k . Absent such a project, management should pay out earnings as dividends, or, in the alternative, devote earnings to repurchases of the corporation's shares. These two conventional wisdoms have not synchronized well in practice. The first has synchronized even less well with the basic precepts of financial economics. The dividend puzzle arises from this dissonance.

Financial economics holds at its theoretical base point that dividend policy is irrelevant, at least in a taxless world. This is the famous Modigliani-Miller proposition: So long as $r > k$ respecting all corporate investments, capital is just as well held in the firm as paid out as a dividend; shareholders desiring periodic cash returns can make their own dividends by liquidating a portion of their stockholding.²⁷ However, relaxing the assumption of a taxless world causes the prediction to change. Given the Internal Revenue Code, we should see a pronounced bias against dividends because they are taxable at ordinary income rates, where retained earnings import a tax deferral and a downward shift to capital gains rates. Assuming $r > k$ investments, then, a dividend injures a tax-paying shareholder. The prescription changes slightly for firms with free cash flow—that is, internally generated cash in excess of the cost of the set of $r > k$ investments. These monies should be paid out of the firm, but the taxpaying shareholder with a long-term holding perspective will prefer a share repurchase program to a dividend. Combining these points yields a rule of thumb respecting sources of capital for new $r > k$ investments. The first choice is retained earnings, since they carry the lowest transaction costs, and retention avoids the taxable event of a dividend payment. The second choice is debt, since interest payments can be deducted as a business expense. New equity comes in last.²⁸

Despite this analysis, managers follow the convention of paying steady dividends. They perceive that any departure from this

and Stock Prices: A Test of Lintner's Dividend Model and the Present Value Model of Stock Prices, 18 J. FIN. RES. 171 (1995).

²⁷ See Merton H. Miller & Franco Modigliani, *Dividend Policy, Growth, and the Valuation of Shares*, 34 J. BUS. 411 (1961).

²⁸ For a theoretical model of this "pecking order" proposition, see Stewart C. Myers, *The Capital Structure Puzzle*, 39 J. FIN. 575 (1984).

practice would go against shareholder preferences with destabilizing results, even a departure occasioned by an especially good investment opportunity. And one of the better-established empirical propositions in financial economics offers them indirect support: Stock prices go up when firms announce dividend increases and decline when they announce reductions.²⁹ The dividend puzzle lies in the tension between the practice of steady payout and the theoretical instruction that payout policy should yield to good investment opportunities.³⁰

Financial economists have endeavored for three decades to provide rational explanations for the payout practice, thereby solving the puzzle. Two leading (and rival) schools of explanation have arisen, and, like conventional dividend policy itself, have persisted. According to one line of thinking, the "signalling" explanation, dividends ameliorate information asymmetries—firms pay them to signal private information about firm profitability.³¹ According to the other, "agency" explanation, stable dividend policy palliates management's tendency to reinvest free cash flows in suboptimal $r < k$ investments.³² Advocates of both explanations can point to supportive empirical studies.³³ Meanwhile, corporate law com-

²⁹ B. Douglas Bernheim & Adam Wantz, *A Tax-Based Test of the Dividend Signalling Hypothesis*, 85 AM. ECON. REV. 532, 532-33 (1990), collects the citations. For recent reconfirmation, see Sung & Urrutia, *supra* note 26, at 179-85.

³⁰ See Fischer Black, *The Dividend Puzzle*, J. PORTFOLIO MGMT., Winter 1976, at 5. Strange things happen in consequence. Firms routinely raise outside capital for $r > k$ investments in the same period in which they pay out cheaper investment capital to their shareholders. See Frank H. Easterbrook, *Two Agency-Cost Explanations of Dividends*, 74 AM. ECON. REV. 650, 650-51 (1984). For signalling models that encompass simultaneous dividend payment and outside financing, see, for example, Merton H. Miller & Kevin Rock, *Dividend Policy Under Asymmetric Information*, 40 J. FIN. 1031 (1985); Joseph Williams, *Efficient Signalling with Dividends, Investment, and Stock Repurchases*, 43 J. FIN. 737 (1988).

³¹ See, e.g., Kose John & Joseph Williams, *Dividends, Dilution, and Taxes: A Signalling Equilibrium*, 40 J. FIN. 1053 (1985); Miller & Rock, *supra* note 30, at 1031; Sudipto Bhattacharya, *Imperfect Information, Dividend Policy, and "The Bird in Hand" Fallacy*, 10 BELL J. ECON. 259 (1979).

³² The leading description of this problem is Michael C. Jensen, *Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers*, 76 AM. ECON. REV. 323 (1986) [hereinafter Jensen, *Agency Costs*]. The idea's origins can be traced to precedent legal literature, however. See Victor Brudney, *Dividends, Discretion, and Disclosure*, 66 VA. L. REV. 85, 95-97 (1980). The subsequent agency description does not improve on Brudney's diagnosis of the problem in any fundamental way.

³³ Many studies are inclusive because empirical demonstrations of stock price responses to dividend announcements admit to both interpretations. See Bernheim & Wantz, *supra* note 29, at 533. Bernheim and Wantz claim that their study breaks the logjam in favor of the signalling hypothesis. They assert that if the signalling hypothesis is correct, abnormal returns will be more sensitive to the magnitude of announced dividend changes when observable factors such as tax rates, bond ratings, and capacity utilization

mentators, steeped in the problem of the separation of ownership and control, have found the agency explanation more persuasive.³⁴ The signalling models tend to assume that dividends are chosen to maximize the total wealth of the firm's current shareholders,³⁵ a significant infirmity from a legal point of view.³⁶

In the agency cost picture, managers have incentives to make suboptimal investments. Such projects cause their empires to grow and may cause increases in their pecuniary compensation.³⁷ Internally generated cash flows present an easy source of financing for such projects. They are the cheapest funds available, and also suit

suggest that the marginal cost of dividends is high. If the agency hypothesis is correct, this will not be the case. Their study empirically proves the assertion, strengthening the case for the signalling hypothesis. *See id.* at 549.

For a study supporting the agency hypothesis, consider Mahmoud A. Moh'd et al., *An Investigation of the Dynamic Relationship Between Agency Theory and Dividend Policy*, 30 FIN. REV. 367 (1995). This is a time-series cross-sectional analysis of 341 firms for the period 1972-89. The analysis presents a series of interesting findings: (1) that firms experiencing or about to experience high rates of revenue growth tend to establish lower dividend payouts; (2) that dividend payout increases as a function of firm size (supporting the view that larger firms have higher agency costs and smaller firms have higher financing transaction costs); (3) that dividend payout is inversely related to intrinsic business risk; (4) that firms establish a lower dividend payout as their operating and financial leverage mix increases (*see infra* text accompanying notes 39-40 (supporting Rozeff's view of dividends as a quasi fixed charge)); (5) that higher dividend payouts are observed when management holds a low percentage of shares and as outside ownership becomes more dispersed; and (6) that firms tend to establish higher payouts as institutional ownership increases. *See Moh'd et al., supra*, at 379-80.

³⁴ This may also follow from the fact that the signalling models rely heavily on mathematical description. The agency literature tends to be more discursive.

An outside reader of literature on both sides of this debate wonders why the participants presuppose that one explanation must be adopted at the expense of the other. Significantly, the theories have been deployed along parallel lines. For example, they have been separately drawn on to explain that, despite the tax advantages of share repurchases, the repurchases are not necessarily superior from the point of view of an outside investor. Michael J. Brennan & Anjan V. Thakor, *Shareholder Preferences and Dividend Policy*, 45 J. FIN. 993 (1990), provides an asymmetric information model that points out that nonproportionate repurchases potentially transfer wealth from small shareholders, who have no incentive to become informed about market activity, to large shareholders, who do. Compare Michael J. Barclay & Clifford W. Smith, Jr., *Corporate Payout Policy: Cash Dividends Versus Open-Market Repurchases*, 22 J. FIN. ECON. 61, 65 (1988), stressing that management discretion to time repurchases dissipates any bonding effect.

These two treatments might well be compared with a third, which follows from the Graham and Dodd tradition. *See* LOUIS LOWENSTEIN, *SENSE AND NONSENSE IN CORPORATE FINANCE* 144-76 (1991).

³⁵ *See* Drew Fudenberg & Jean Tirole, *A Theory of Income and Dividend Smoothing Based on Incumbency Rents*, 103 J. POL. ECON. 75, 78 (1995).

³⁶ The exception in the legal literature is Fischel, *supra* note 7, at 700, 708-14, which unequivocally rejects the agency explanation, positing that control market discipline obviates any problem. Fischel also cites the signalling hypothesis with complete approval.

³⁷ *See* Michael C. Jensen, *Eclipse of the Public Corporation*, HARV. BUS. REV., Sept.-Oct. 1989, at 61, 66 [hereinafter Jensen, *Eclipse*].

the risk averse manager's wariness of a stepped-up ratio of debt to equity.³⁸ The convention of a steady dividend payout results in a check against this tendency toward suboptimal investment of internally generated capital. For every dollar pumped out as a dividend, the investing manager has to resort to outside capital markets for a new dollar. A convention of a steady payment stream thus forces ongoing reliance on outside financing.³⁹ The dividend thus bonds the managers to act in the shareholders' interest. Said Rozeff, the originator of this agency explanation, the resort to outside funding forces management to reduce agency costs and reveal information to actors in the capital markets.⁴⁰ Easterbrook, restating and extending the theory, stressed the latter point—dividends “start up” monitoring by capital market actors who, unlike shareholders, are unhobbled by collective action problems.⁴¹

The agency explanation solves the dividend puzzle, narrowly defined, by telling us why, despite a tax disadvantage, a shareholder rationally might prefer one dollar to be paid out as a dividend rather than reinvested in an $r > k$ project. But, in so doing, it gives rise to a new question: If conventional payout policy has evolved as a solution to the agency problem bound up in management discretion over investment and financing policy, why, despite widespread adherence to the steady payout convention, have dividend and reinvestment practices widely been perceived to be

³⁸ See Goshen, *supra* note 5, at 887-88.

³⁹ See Easterbrook, *supra* note 30; Michael S. Rozeff, *Growth, Beta and Agency Costs as Determinants of Dividend Payout Ratios*, 5 J. FIN. RES. 249 (1982).

⁴⁰ See Rozeff, *supra* note 39, at 250. The bond, although reputational only, does impact on management behavior. See Goshen, *supra* note 5, at 890-91. The empirical studies focus on firms in financial distress, and show that they tend to cut rather than eliminate their dividends. See Harry DeAngelo & Linda DeAngelo, *Dividend Policy and Financial Distress: An Empirical Investigation of Troubled NYSE Firms*, 45 J. FIN. 1415 (1990); Albert Eddy & Bruce Seifert, *Dividend Changes of Financially Weak Firms*, 21 FIN. REV. 419 (1986).

Rozeff, strictly following the original agency paradigm, also suggests that dividend policy and insider ownership are substitute tools to reduce agency costs, with firms with high percentages of insider ownership paying small dividends. See Rozeff, *supra* note 39, at 251. Subsequent empirical work negates this picture. Diane K. Schooley & L. Dwayne Barney, Jr., *Using Dividend Policy and Managerial Ownership to Reduce Agency Costs*, 17 J. FIN. RES. 363 (1994), show that the relation between the dividend payout ratio and management ownership is nonmonotonic. Beyond a certain point, greater management ownership causes the dividend payment to rise. Schooley and Barney conclude that their results accord with the management entrenchment hypothesis of Randall Morck et al., *Management Ownership and Market Valuation*, 20 J. FIN. ECON. 293 (1988). That is, at some point, increases in management stock ownership increase agency costs.

⁴¹ See Easterbrook, *supra* note 30, at 653, 655. He adds a point about management risk aversion—the need to replace internal flows may prompt leverage beneficial to shareholders that managers otherwise would avoid incurring. See *id.* at 653-54.

suboptimal?⁴² The remainder of this Article draws on incomplete contracts models of corporate capital structure in an attempt to answer this question.

II. AGENCY COSTS, CAPITAL STRUCTURE, AND NONCONTRACTIBILITY

The following sections set out basic components of the incomplete contracts model of capital structure and then extend the model to dividend policy. This presentation requires some antecedent contextual grounding, provided in the first two subparts below. The first shows how these models' assumptional framework differs from that of the earlier and better-known generation of incomplete contracts models. The second shows how this framework has been brought to bear on the matter of optimal capital structure. The discussion-in-chief begins with the third subpart.

A. *Alternative Approaches to Contractual Incompleteness— Transaction Costs and First Principles*

Incomplete contracts models deal with the problems that arise when contracting parties possess less information than is necessary to approximate their first-best expected utility. Most work on incomplete contracts falls into one of two basic paradigms: the original transaction costs approach, and a newer, and contrasting, approach which derives incompleteness from first principles. The transaction costs approach has been assimilated into the contractarian theory of the firm of law and economics. The component ideas of the first principles approach as of yet have shown up sporadically in legal commentaries.⁴³ First principles models will be applied here.

Under the transaction costs paradigm, costs prevent actors from writing complete ex ante contracts and contract-inhibiting costs continue to accumulate throughout a contract's life. Costs in-

⁴² Goshen, *supra* note 5, at 887-88 nn.34-35, renews the denunciation but cites studies dating from the 1980s and earlier. It is unclear whether the problem persists in the 1990s with its former intensity.

⁴³ See, e.g., William W. Bratton et al., *Repeated Games, Social Norms, and Incomplete Corporate Contracts*, in FAIRNESS AND CONTRACT 163, 166-71 (Christopher Willets ed., 1996); Oliver Hart, *An Economist's View of Fiduciary Duty*, 43 U. TORONTO L.J. 299 (1993); Oliver Hart, *An Economist's Perspective on the Theory of the Firm*, 89 COLUM. L. REV. 1757 (1989); Avery Katz, *When Should an Offer Stick? The Economics of Promissory Estoppel in Preliminary Negotiations*, 105 YALE L.J. 1249, 1278-79 (1996); Alan Schwartz, *Relational Contracts in the Courts: An Analysis of Incomplete Agreements and Judicial Strategies*, 21 J. LEGAL STUD. 271, 272-73 (1992).

curred by the time of execution and delivery amount to an initial investment. They result from the difficulty of anticipating and providing for all state contingencies respecting a transaction, whether because of their overwhelming number or because of the large investment required to underwrite the composition of, and to support the process of reaching agreement upon, specific regulations for each future state. After the contract's execution and delivery, each step in the enforcement process, from verifying counterparty performance (or nonperformance) to invoking third party enforcement mechanisms, entails additional costs. Ex ante projection of such enforcement costs shapes the choice of agreed upon terms, and, in an extreme case, causes an otherwise productive transaction to be foregone for lack of feasibility.⁴⁴

The transaction costs paradigm recognizes that contracting actors cannot be expected to negotiate complete ex ante solutions to all problems. It nevertheless advances the notion that the institution of ex ante contracting, broadly conceived, self-sufficiently supports efficient transactional relationships. It makes three assertions toward this end. First, actors who risk capital can be expected to design ex ante governance structures that minimize the costs of future uncertainty. Second, even though legal decision makers must assist the parties by filling in omitted terms ex post, those terms may be cast from an ex ante time perspective, and, indeed, should be so cast in order to guard against disruption of the parties' allocation of financial risk and to minimize future transaction costs.⁴⁵ Third, comes a prediction. Given proper containment of the agencies of state intervention, transacting actors can be expected to devise technologies that lower the transaction costs that cause incompleteness, thereby expanding the effective zone of contractual governance.

The first principles paradigm of incomplete contracts begins with the transaction costs paradigm's diagnosis of the causes of contractual incompleteness. But it then brings the notion of incompleteness to bear on a more precise conception of "contract." Unlike the transaction costs approach, which tends to include any voluntary economic relation within its notion of the ex ante contract, the first principles approach restricts the reach of the ex ante contract to cases where actors make explicit specifications about the future. That is, to have "contract" terms that govern future states, those contingent states must be specified and the future out-

⁴⁴ See Bratton et al., *supra* note 43, at 166-71.

⁴⁵ See *id.*

comes must be computable. Since some future states of nature clearly are not computable, transacting parties as a result will lack the technology necessary to enable the negotiation and composition of a contract term *ex ante*.⁴⁶

The first principles paradigm also places a greater stress on the *ex ante* impact of *ex post* problems of performance and enforcement than does the transaction costs approach. Thus, even where an *ex ante* computation is theoretically feasible, if a party's performance of that computed future state will not be both observable by the counterparty and verifiable by the enforcing authority, *ex ante* agreement on that contract term will not be feasible.⁴⁷ These three factors—computability, observability, and verifiability—intrinsically limit the operation of the institution of the *ex ante* contract.⁴⁸ Although each factor results in costs, to characterize the three as “transaction costs” and nothing more trivializes the seriousness of the productivity problems they cause.

As applied to capital structure, the first principles framework asserts, first, that corporate contracts can be expected to omit important future variables due to the difficulty or impossibility of *ex ante* description or *ex post* observation and verification, and, second, that given these points of noncontractibility, important out-

⁴⁶ See Luca Anderlini & Leonardo Felli, *Incomplete Written Contracts: Undescribable States of Nature*, 109 Q.J. ECON. 1085 (1994).

⁴⁷ For fundamental contributions to the literature making this point, see Sanford Grossman & Oliver Hart, *The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration*, 94 J. POL. ECON. 691 (1986) [hereinafter Grossman & Hart, *Vertical & Lateral Integration*]; Oliver Hart & John Moore, *Incomplete Contracts and Renegotiation*, 56 ECONOMETRICA 755 (1988).

⁴⁸ Process infirmities also limit the utility of contract. Even where parties could cost-beneficially specify a contract term, information asymmetries and strategic behavior may prevent them from doing so. The first principles perspective insists that bargaining processes often shape contractual results, and models the problems that come up when relational economic actors transact. This leads to the question of whether a viable set of governance provisions for a firm can be derived through any available model of contract. Some bargaining models show coordination failures. Rational actors can conceivably adopt any one of a number of mutually consistent arrangements and market forces may fail to assure that only efficient patterns emerge from the range of possibilities. Other models identify costs of bargaining that prevent efficient results. Consider a price negotiation over the sale of a nonfungible product. A buyer seeking a greater share of the gains of trade might invest in quality information to gain a bargaining advantage. Such an investment in a pure distributional advantage is inefficient, since only total benefits and costs matter from an efficiency standpoint. See Paul Milgrom & John Roberts, *Bargaining Costs, Influence Costs, and the Organization of Economic Activity*, in PERSPECTIVES ON POSITIVE POLITICAL ECONOMY 72-77 (James E. Alt & Kenneth A. Shepsle eds., 1990). In the alternative, each bargaining party stands to benefit from the communication of information about its own preferences. The resulting informational uncertainty can produce the loss of a beneficial transaction, and induces inefficient informational investment in any event.

comes of necessity will be determined by the firm's structure of ownership. The specification of the owner and any associated contingent control allocations built into the firm's contracts—in particular the contracts making up the capital structure—substitute for contract terms absent due to the condition of contractual incompleteness.⁴⁹ As the zone of noncontractible contingencies expands, the ownership specifications become more important because the firm's performance will depend on the incentives of its present and contingent future owners. Notably, "owner" is here specially defined as the party who has the right to control all aspects of the asset that have not been given over to contractual specification *ex ante*.⁵⁰ Under this definition, ownership and control cannot be separated, although they can be shared or transferred. Since asset control is ownership, residual claimants who do not manage are not owners, whatever the law's contemplation.⁵¹

B. *Debt and the Maximization of Value*

Since dividend policy is irretrievably tied to investment and financing policy, economic theories of the dividend tend to be corollaries to theories of optimal capital structure. The incomplete contracts models follow this pattern.

The economic theory of capital structure has evolved as an extended response to the famous irrelevance hypothesis of Modigliani and Miller. Under the Modigliani-Miller model, firm value stems entirely from the production function and is independent of capital structure. Furthermore, the cost of capital is constant across all debt-equity ratios. Subsequent models relax the Modigliani-Miller assumptions to show dependencies between capital structure and firm value. These variously emphasize debt's signaling role,⁵² its role in facilitating monitoring,⁵³ and its commitment

⁴⁹ See Philippe Aghion & Patrick Bolton, *An Incomplete Contracts Approach to Financial Contracting*, 59 REV. ECON. STUD. 473, 479 (1992).

⁵⁰ See Grossman & Hart, *Vertical & Lateral Integration*, *supra* note 47, at 695.

⁵¹ They may have contingent rights to take ownership, or to substitute one owner for another, but so long as they passively receive a payment stream, they are not owners.

⁵² See 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 (1984); Stephen A. Ross, *The Determination of Financial Structure: The Incentive-Signaling Approach*, 8 BELL J. ECON. 23 (1977).

⁵³ See, e.g., Douglas Gale & Martin Hellwig, *Incentive-Compatible Debt Contracts: The One-Period Problem*, 52 REV. ECON. STUD. 647 (1985); Robert M. Townsend, *Optimal Contracts and Competitive Markets with Costly State Verification*, 21 J. ECON. THEORY 265 (1979).

value,⁵⁴ in each case showing a connection between the firm's debt/equity mix and the value of its production function. With the interpolation of agency theory the models achieve a tie to management science. Not only is there a theoretical optimal level of debt, but that level will tend to lie higher than the level indicated by the conventional wisdom prevailing among managers due to their preference for debt at comfortably low levels.⁵⁵

This agency analysis extends to dividend policy, with suboptimal earnings retention and suboptimal borrowing turning out to be two manifestations of the same agency problem. At its first appearance, agency theory also proposed a real world solution—Michael Jensen's famous model of a high-leverage firm controlled by a leveraged buy out association.⁵⁶ This model asserted that the high level of debt attending an LBO bonds management to pay out free cash flow in the form of interest payments and makes it impossible to reinvest in suboptimal projects. Additionally, the immediate threat of bankruptcy in the post-LBO period causes management incentives to be better aligned with those of outside investors. Given a heavy debt load and an equity stake, managers will perform like sole owners. This model, however, lost credibility due to indiscriminate employment in practice during the latter part of the 1980s.

Incomplete contracts models of optimal capital structure in the first principles mode revive the point that debt enhances value by controlling agency costs. But in so doing they interpolate a more complex concept of optimality. In earlier models, debt reduced agency costs subject only to the caveat that problems of overinvestment and underinvestment become prohibitively costly when debt reaches extraordinarily high levels.⁵⁷ The incomplete contracts models look to debt's effects on management incentives across a wider range of decisionmaking scenarios and bring to bear a more extensive range of valuation variables. The problem for solution is not just "cost control" conceived in terms of a short list of types of costs attending states of high debt. Optimal capital structure here also concerns the degree of synchronization between the terms of the debt contract and both the character of the bor-

⁵⁴ See Jensen, *Agency Costs*, *supra* note 32; Sanford J. Grossman & Oliver D. Hart, *Corporate Financial Structure and Managerial Incentives*, in *THE ECONOMICS OF INFORMATION AND UNCERTAINTY* 108-10 (John J. McCall ed., 1982) [hereinafter Grossman & Hart, *Corporate Financial Structure*].

⁵⁵ See Jensen, *Agency Costs*, *supra* note 32, at 323-25.

⁵⁶ See Jensen, *Eclipse*, *supra* note 37, at 61.

⁵⁷ For an overview, see BRUDNEY & BRATTON, *supra* note 10, at 475-77.

rower's asset base and its future sequence of business decisions. We get a multifaceted notion of optimality that focuses as much on the dangers of excess debt as on the agency costs of insufficient debt.⁵⁸

A model of short-term debt devised by Oliver Hart provides a good introduction to the idea that a theory of optimal capital structure must take account of structural connections between the terms of the debt contract and particulars respecting the borrower's business.⁵⁹ This is a two period model that assumes complete information. More particularly, investment occurs at $t = 0$ in a project conceived and managed by an entrepreneur E . The project will throw off cash flows y_1 and y_2 at $t = 1$ and $t = 2$, where $t = 2$ is the project termination date. The model assumes that the ultimate agency problem occurs at $t = 2$: Specifically, E will be positioned to divert all of y_2 to her own pocket. As a result, if outside financing is to be feasible, provision must be made for complete payment to the outsider at $t = 1$. Short-term borrowing accordingly emerges as the only feasible vehicle.

The model makes a number of additional assumptions. E has all the bargaining power, and the outside investor I who lends the money can be held to a break-even return. In addition, E has a limited amount of wealth w , with $w < K$, the cost of the project. E must invest w in the project, borrowing at least the difference between K and w , with the debt due in its entirety at $t = 1$. E , having borrowed an amount B , can liquidate project assets in order to make the contractual payment P at $t = 1$; f is the value of project assets remaining after this liquidation. If E cannot make the payment, the firm is liquidated at $t = 1$ at value L , which goes to I . Thus, the amount I actually receives at $t = 1$ is equal to $\text{Min}\{P, L\}$.⁶⁰

⁵⁸ Compare also in this regard the significant differences between the treatment of bankruptcy in the literature of the 1980s with the treatment today. The agency cost models relied on the assertions that the threat of bankruptcy prompts better management performance and that bankruptcy process amounts to a low-cost exercise in contract renegotiation. See Jensen, *Eclipse*, *supra* note 37, at 72; Jerold B. Warner, *Bankruptcy Costs: Some Evidence*, 32 J. FIN. 337 (1977) (direct costs of bankruptcy around five percent). Today, the bankruptcy system is treated as a source of both significant transaction costs and perverse incentives. Significantly, the economists responsible for the incomplete contracting models of capital structure have taken a part in bankruptcy reform discussions. See Philippe Aghion et al., *Improving Bankruptcy Procedure*, 72 WASH. U. L.Q. 849 (1994). Their participation amounts to an implicit recognition that institutional imperfections prevent their models' direct application in practice.

⁵⁹ See OLIVER HART, FIRMS, CONTRACTS, AND FINANCIAL STRUCTURE 101-06 (1995).

⁶⁰ See *id.* at 103-05.



The model defines the parameters of both the class of feasible borrowing transactions and of the optimal debt contract. The leveraged project is feasible if: 1) $L \geq K - w$; and 2) E will receive by $t = 2$ an amount greater than her present wealth w . More particularly, assuming that E will have to liquidate some project assets to make P at $t = 1$, the net present value of the project, $y1 + fy2 + (1-f)L$ must be greater than K . Given these parameters, it turns out the project may not be feasible at $t = 0$ even though its present value of $y1 + fy2 > K - w$. Feasibility—borrowing capacity—depends also on the value of L . If $K = 90$, $B = 60$, $P = 60$, $y1 = 60$, $fy2 = 70$, and $L = 30$, the project is worth 130 (discounted) $- 90$, but will not be financed because its liquidation value at $t = 1$ is only 50 percent of the payment due, and E cannot make a credible commitment to pay any part of $fy2$ over to I . If we change the facts so that $y1 = 50$ and $L = 60$, borrowing becomes feasible but suboptimal. E is going to have to liquidate an amount 10 of the project's assets at $t = 1$ in order to make P , thereby reducing the base of assets in place necessary to produce the $fy2$ value of 70.⁶¹

The model allows for a range of optimal debt contracts. That is, so long as $L \geq B = P \geq K - w$, any amount borrowed is optimal. It thereby teaches relatively little about the properties of the optimal debt transaction. But some enhancement of the model's heuristic value results when it is extended to cover multiple periods. Here the model starts with K , w , and B at $t = 0$, and allows an indefinite number of periods to occur between $t = 0$ and project termination at date T . The project is assumed to yield an amount y in each one of these intermediate periods, and to possess a different liquidation value L on each intervening date on which an amount y is realized. The project depreciates, so the value of L decreases progressively during the life of the project and $L = 0$ on the termination date T . The debt contract specifies that payments are due at each date between $t = 0$ and $t = T$, with the last payment due on $t = T - 1$, the date immediately preceding T .

The formal model of debt capacity that emerges within these extended parameters echoes the conventional wisdom of a Graham

⁶¹ See *id.* at 105-06.

and Dodd bond analyst.⁶² Debt capacity is stated as a function of the amounts and times of receipt of the flows y and the rate of depreciation of the project's liquidation value. Optimality turns on the relationship between these factors, the amount borrowed B , and the contractual repayment path. Once again, the model allows for a continuum of optimal arrangements. Repayment may occur quickly over time, that is, E borrows as little as possible and repays as quickly as possible; repayment also may occur slowly over time, that is, E borrows as much as possible and pays back as slowly as possible.⁶³ But some parameters emerge to narrow the range of equilibria. First, fast repayment paths are facilitated by projects with front-loaded streams of y , and slow repayment paths are facilitated by longer lived, more durable assets.⁶⁴ Second, a larger amount w , or owner equity, can support a greater quantum of debt.⁶⁵ Third, determination of the optimality of a given debt arrangement depends not only on the amounts y and P but on opportunities for their reinvestment. If either E or I has reinvestment opportunities superior to the project during the life of the project, then wealth is enhanced to the extent that the project flows are directed to that party. For example, if the superior opportunities lie with E , while I reinvests at a market rate, then the optimal payment path is the slowest—the differential between y and P is capital for reinvestment by E .⁶⁶

⁶² First, total B outstanding at any time cannot exceed the liquidation value L . Second, total B , net of the sum invested in the project plus the present value of the cash flows produced by the project, must be at least as large as the present value of the debt repayments. Given the continued assumption that E has all the bargaining power and I must invest on a break-even basis, this implies the following expression, with P_t standing for the stream of debt payments and y_t standing for the stream of project cash flows:

$$\sum_{\tau=t}^T P_{\tau} \geq (K-w) - \sum_{\tau=0}^{t-1} y_{\tau} \text{ for all } t = 1, \dots, T.$$

For the first-best to be achieved:

$$K-w - \sum_{\tau=0}^{t-1} y_{\tau} \leq L_t \text{ for all } t = 1, \dots, T.$$

See *id.* at 108.

⁶³ See *id.* at 109-10. If the depreciation comes quickly during the life of the project and the cash flows are end loaded, E can borrow an additional amount to be put in a savings account to cover the differential between the two during the early life of the project. See *id.* at 109.

⁶⁴ See *id.* at 110-11.

⁶⁵ See *id.* at 111-12.

⁶⁶ See *id.* at 110. The introduction of uncertainty also reduces the number of equilibrium results. See *id.* at 112-15.

For a recent example of another line of finance literature that articulates models of optimal debt capital structures keyed to the timing of debt payments, see Hayne E. Leland

C. *The Contingent Control Model of Capital Structure*

Hart thus accesses the basic terms of the debt contract, but with a narrow model that assumes complete information and cabins all agency problems of debt and equity in a tightly-defined scenario of end-period opportunism.⁶⁷ Obviously, a model that successfully accesses the role of debt in controlling the agency costs of equity will have to relax these constraints. In the real world, information will not be complete ex ante, and opportunism will be a possibility during all periods and will extend to discretionary choices respecting investment and effort level. The parameters of a model of an optimal debt contract, thus expanded, will give rise to agency problems that are unobservable or unverifiable ex post. Accordingly, the modeling exercise will have to proceed in an incomplete contracts framework.

As noted above, the incomplete contract approach predicts that corporate contracts will omit important future variables that are difficult or impossible to describe initially,⁶⁸ and seeks to show that the control allocations bound up in the firm's capital structure substitute for this incompleteness.⁶⁹ Since these control arrangements also determine the identity of the actors who direct the firm's ongoing management and investment policies, or, in the alternative, determine whether to sell or liquidate the firm, they significantly impact on the value of the firm. In the incomplete contracts perspective, capital structure optimality depends on control arrangements.

1. *The Contingent Control Model.*

The base point for examinations of optimal capital structure in the incomplete contracts framework is Aghion and Bolton's model of contingent control allocation.⁷⁰ It bears close inspection.

& Klaus Bjerre Toft, *Optimal Capital Structure, Endogenous Bankruptcy, and the Term Structure of Credit Spreads*, 51 J. FIN. 987 (1996). They show that the optimal quantum of leverage is lower with short-term borrowing, and that short-term borrowing ameliorates asset substitution problems.

⁶⁷ He assumes that *E* will be able to get away with nonpayment in the last period and that the problem can be completely solved with a contract that provides for final repayment in the penultimate period; if the payment schedule does not solve the problem, then debt financing is not feasible.

⁶⁸ Grossman & Hart, *Vertical & Lateral Integration*, *supra* note 47, and Hart & Moore, *supra* note 47, set out a model of vertical integration and ownership based on this assumption of contractual incompleteness.

⁶⁹ See Aghion & Bolton, *supra* note 49, at 479.

⁷⁰ See *id.*

In Aghion and Bolton's model, once again we get a stylized, two-period picture of the relationship between an entrepreneur E and a venture capitalist I . In this model E has no wealth and needs to finance the entire start up cost K for her project. Once again, the world is full of venture capitalists, but contains only a few entrepreneurs with good projects. E as a result has all the bargaining power: E can make a take it or leave it offer which I will accept so long as the deal promises an expected return of at least K . But the payout will depend on an action a to be taken from amongst the set of feasible actions A by the actor in control after the future realization of a state of nature θ . At $t = 1$, prior to the time for the choice of a , the operation of the business will produce a signal s as to the state of nature θ . Returns are realized at $t = 2$.⁷¹



This scenario creates a problem. Returns to E and I both depend on action a , but are received in different forms. Both E and I are risk neutral as to income. Monetary returns of the project r are payable to I at $t = 2$, minus amounts of compensation payable to E pursuant to a compensation schedule in the contract concluded by E and I . The compensation arrangement provides a transfer $t \geq 0$, the precise amount of which is a function of s and r . Thus, I 's payment $y = r - t$. E also receives significant non-monetary private benefits b , such as reputation. These are neither observable nor verifiable by third parties. The model assumes that the quantum of b is a legitimate part of the overall yield of value from the project. Yields of both r and b will depend on the state of nature θ and the choice of a . E 's yield is a function of $r(a, \theta) + b(a, \theta)$, and I 's yield is solely a function of $r(a, \theta)$. Since the choice of a can differentially impact r and b , a potential conflict of interest as to the choice of a is wrought into the situation.⁷²

If the state of nature θ could be specified ex ante, it might be possible for the contract between E and I to direct the party in control, presumably E , to take the jointly maximizing action a . Unfortunately θ is impossible or very costly to describe ex ante,

⁷¹ See *id.* at 475-76.

⁷² See *id.* at 476.

although the parties will be able to identify θ ex post. The model does, however, assume that even though the E - I contract cannot be made directly contingent on θ , it can be made contingent on the signal s , which is publicly verifiable, although imperfectly correlated with θ .

The occurrence of s at $t = 1$ does not, however, enable the drafting of a complete contract. For even if s were perfectly correlated with θ , the project still would be too complex to permit an ex ante specification of the optimizing response a to be chosen from the set of possibilities A upon the realization of s . Action a is wholly within the realm of management business judgment and is neither susceptible to direct specification nor to indirect specification through a constellation of negative covenants. Direct specification might be possible in a different case where A entailed a selection between a limited set of identifiable choices such as merger, liquidation, sale of assets, or continuation. But, even given the feasibility of that sort of specification, ex post judicial enforcement of the contractual directive could still fall short of feasibility if information asymmetries led to problems of third-party verification.

The upshot is that the capital structure's allocation of control rights between E and I will determine the choice of a and the optimality (or suboptimality) of the value yielded by the firm.⁷³ The capital structure as set out in the E - I contract inevitably specifies an allocation of control, which in turn determines which actor has the privilege to choose action a . Control can lie in E or in I .⁷⁴

A number of additional assumptions are made. First, there are only two possible future states of nature, θ_g and θ_b . Second, there are only two possible outcomes for s , 0 or 1, with $s = 1$ meaning that it is more probable than not that $\theta = \theta_g$, and $s = 0$ meaning that it is more probable than not that $\theta = \theta_b$. Third, action set A contains only two possible actions, a_g and a_b , in each of the two states of nature θ_g and θ_b . In state θ_g the first-best choice of action is $a_g = a^*(\theta_g)$; and in state θ_b the first-best choice of action is $a_b = a^*(\theta_b)$. Fourth, there are only two possible returns r at $t = 2$, either 0 or 1. Fifth, the initial contract between E and I may be renegotiated.

⁷³ See *id.* at 476-77.

⁷⁴ The model also allows for the possibility that control can be exercised jointly. In that case the model assumes that either E and I must agree, or in the event of disagreement, E will make a one-time take it or leave it offer to I as to choice of a ; in the event that I refuses the offer deadlock results and both parties have 0 returns. Such a joint control setup means that hold ups are a possibility in every case. As a result, in this model, joint control always is dominated by unilateral or contingent control. See *id.* at 486.

ated after the realization of θ , with all the bargaining power lying with E . Sixth, given the specification of first best action a_g and a_b , the expected returns y and private benefits b realized by I and E in θ_g and θ_b will have the following properties:

$$y\theta_g a_g + b\theta_g a_g > y\theta_g a_b + b\theta_g a_b$$

$$y\theta_b a_b + b\theta_b a_b > y\theta_b a_g + b\theta_b a_g$$

And, finally, in order to make the initial investment of K plausible, the probability q of $y_g + (1 - q)y_b > K$.⁷⁵

If a^* were contractible, control could be accorded to the designee with the greatest expertise respecting the production function (here E) with the contract assuring the selection of the optimal course of action. In the alternative world of noncontractibility presented here, a^* in theory could be the result of a round of ex post renegotiation occurring after the realization of s . That is, there would occur a round of Coasean bargaining after $t = 1$ in which a noncontrolling party benefited by the choice of a^* purchases its choice by the controlling party with a side payment.⁷⁶

2. E Control

The model works through the scenarios of E control, I control, and joint control to ascertain the distance between the set of results built in by the incentive structure and first-best set of results. Where E controls, first-best choices of action follow in two classes of cases. The first is that in which the choice of a^* also happens to maximize y , b , and the transfer payment t . Here E 's incentives are perfectly aligned with the general maximizing result.⁷⁷ In the second class of cases, the first-best result does not follow from the incentive structure, but may be reachable through renegotiation. Assuming θ_b , this occurs where $b(\theta_b a_g) + t > b(\theta_b a_b) + t$, and $y(\theta_b a_b) > y(\theta_b a_g)$. Recalling that E has all the bargaining power, E will offer to choose a^* (here $\theta_b a_b$) if I pays E the sum $y(\theta_b a_b) - y(\theta_b a_g)$, provided of course that $b(\theta_b a_b) + t + y(\theta_b a_b) - y(\theta_b a_g) \geq b(\theta_b a_g) + t$. I can be expected to accept provided that the yield of $y(\theta_b a_g) \geq K$, or in other words, so long as he breaks even. Assuming θ_g , this occurs where $b(\theta_g a_b) + t > b(\theta_g a_g) + t$, and $y(\theta_g a_g) > y(\theta_g a_b)$. Since E has all the bargaining power, E will offer to choose a^* , (here $\theta_g a_g$) if I pays E the sum $y(\theta_g a_g) - y(\theta_g a_b)$, provided of course that

⁷⁵ See *id.* at 477-79.

⁷⁶ See HART, *supra* note 59, at 98 (discussing the Aghion-Bolton model).

⁷⁷ See Aghion & Bolton, *supra* note 49, at 480-81.

$b(\theta_g a_g) + t + y(\theta_g a_g) - y(\theta_g a_b) \geq b(\theta_g a_b) + t$. I can be expected to accept provided that the yield of $y(\theta_g a_b) \geq K$, the break even figure.

Such a renegotiation will not result in every case, however. The model assumes that the return of at least K constitutes a rationality constraint for I . Thus, the renegotiation will fail, and the first-best result will not be chosen if the value of K is so high that it exceeds the yield on offer in E 's renegotiation. Indeed, the very possibility of these situations means that I can be expected to refuse to invest at $t = 0$ unless some form of protection against E 's opportunism is included in the contract package.⁷⁸

3. *I Control*

Here, first-best choices of action will follow only where the choice of a that maximizes y happens to be a^* , meaning that I 's incentives are perfectly aligned with the general maximizing result. Where the choice of a that maximizes y is not first-best there can be room for Pareto improving renegotiation. But, as already seen, renegotiation amounts to the payment of a bribe to the actor in control from the actor disadvantaged by the suboptimal choice of a . The model's assumption of a wealth constraint on E 's part substantially limits the possibility of renegotiation where I controls. Simply, since b and t constitute E 's entire wealth, E lacks the resources to make the bribe. For I control to assure first-best results, then, the amount of t has to be set high enough to give E sufficient cash for the bribe. This adjustment creates the same situation as the search for the first-best under E control. As t increases, projected investment returns to I fall short of K at some point and I refuses to invest.⁷⁹

4. *Contingent Control—the Efficiency Function of Debt*

The Aghion-Bolton model interpolates the device of contingent control to solve the problem presented by the misalignment of the incentives of E and I . Two additional assumptions have to be made in order to make the model work, however—that $y\theta_g a_g < y\theta_g a_b$ and that $b\theta_b a_b < b\theta_b a_g$. These inequalities align the class of cases in which I can be expected to make a suboptimal choice of a to θ_g states and the class of cases in which E can be expected to make a suboptimal choice of a to θ_b states. With this alignment, I will make a first-best choice in θ_b and E will make a first-best

⁷⁸ See *id.* at 480-83.

⁷⁹ See *id.* at 483-84.

choice in θ_g , and a contract that accords control to I in θ_b and E in θ_g will be optimal.

Since θ is unverifiable, the feasibility of such an arrangement depends on the degree of correlation between s and θ .⁸⁰ Given the requisite correlation, an optimal arrangement can be made operational with relative ease given a world with a frictionless bankruptcy process. I 's participation simply takes the form of debt and the realization of s at $t = 1$ is made a default/no-default event, with default occurring in a θ_b state.⁸¹ In the event of default, E becomes bankrupt and I takes control and chooses the first-best a ; in θ_g states there is no default and E remains in charge.⁸²

D. *Implications for the Public Corporation*

1. *Debt, Executive Employment Contracts, and Dividends in a World Presenting Problems of Observability and Verifiability*

Although the contingent control model deals with a stylized close corporation, it has some important implications respecting agency problems in publicly traded firms. First, the model implies that a provision for the transfer of control to outside investors holding debt may build a governance disincentive into the firm's capital structure respecting management pursuit of private benefits. To see this, assume that the contract is drafted so that a payment is due on the debt at $t = 1$, and the amount of the payment to be based on a projection such that E should have the ability to meet the payment in a θ_g state, but will not meet the payment in a θ_b state. The provision for a payment accomplishes a transfer of control, with no attendant problems of observability and verifiability. Debt's role in agency cost reduction is thus recharacterized. In earlier agency cost literature, debt bonded E to pay money out to I . Here, it effects a transfer of control to a party better positioned to maximize the value of the assets based on transparent and verifiable events—payment and nonpayment. Note also that the critical event of default need not be a payment default. So long as s is verifiable, it can be employed as the default contingency with payment on the debt being delayed until $t = 2$.

A subsidiary implication becomes apparent if the contingent control model is considered together with a Hart observation re-

⁸⁰ See *id.* at 484-86.

⁸¹ The precedent model is found in Jamie F. Zender, *Optimal Financial Instruments*, 26 J. FIN. 1645 (1991).

⁸² See Aghion & Bolton, *supra* note 49, at 487.

specting the timing of debt payments: Short-term debt is the harder claim from a governance point of view. This point is formalized in subsequent work by Berglöf and von Thadden.⁸³ They model a firm which, unlike the firm in Aghion and Bolton's model, has unverifiable income streams in addition to firm specific assets. Such a firm has difficulty making a credible commitment to lenders ex ante because its position of informational superiority creates opportunities for strategic renegotiation of the debt contract in the event of distress. The model shows that a capital structure containing secured short-term and subordinated long-term debt held by separate actors will be superior to a structure where the same actors hold both short- and long-term claims. It is superior because the stand alone short-term creditor rationally takes a tough position in the event of distress. Since this actor is positioned to foreclose on assets and has no long-term interest in the firm, he remains relatively immune to the debtor's strategic renegotiation offer.⁸⁴ A typology showing variations in the enforcement postures of different securities by degrees of hardness is invited, with short-term debt being the toughest, long term debt taking an intermediate position, and equity emerging as the soft outside claim.⁸⁵

Third, the contingent claim model implies a question respecting the relative effectiveness of employment contracts and control transfer structures as a means to channel management incentives in productive directions. To the extent that crucial management choices—selections of a from sets A —are noncontractible due to problems of observability and verifiability, monetary incentive schemes based on firm profitability or stock market performance cannot be expected to import adequate discipline. Control structures allowing outsiders to take actions that managers dislike in the event of poor firm performance, although a second-best solution, can be expected to do a more effective job of manipulating management incentives in productive directions.⁸⁶

⁸³ See generally Erik Berglöf & Ernst-Ludwig von Thadden, *Short-Term Versus Long-Term Interests: Capital Structure with Multiple Investors*, 109 Q.J. ECON. 1055 (1994).

⁸⁴ Paul Asquith et al., *Anatomy of Financial Distress: An Examination of Junk-Bond Issuers*, 109 Q.J. ECON. 625 (1994), supplies some empirical confirmation for this point. This study illustrates the different behavior of bank creditors and junk bond holders of distressed borrowers. The banks, unlike the junk bond holders, do not forgive principal (although they do extend maturity). The banks also tend to refuse refinancing outside of bankruptcy.

⁸⁵ See Berglöf & von Thadden, *supra* note 83, at 1058-59.

⁸⁶ See Mathias Dewatripont & Jean Tirole, *A Theory of Debt and Equity: Diversity of Securities and Manager-Shareholder Congruence*, 109 Q.J. ECON. 1027, 1028 (1994).

Hart offers a more formal expression of this point. He notes that, given managers who derive no private benefits from control of assets, first-best results easily can be achieved (in a taxless world) with an all equity capital structure and a simple incentive compensation system. In a two-period situation he would simply make the managers' compensation depend entirely on the dividend. That is, incentive compensation I should = $\pi(d1 + d2)$, where π is a small positive number. If the payment also covers liquidation proceeds— $I = \pi[d1 + (d2, L)]$ —the manager can be expected to make an optimal decision respecting liquidation at $t = 1$. If $L > y2$, the firm is liquidated at $t = 1$ and no indebtedness is needed to align management incentives.⁸⁷ But managers do derive private benefits from asset management, and in Hart's conception, the bribe π required to align their incentives with those of the outside security holders is unfeasibly large. Accordingly, a complex capital structure that includes control mandates must be interpolated.

Now consider the steady payout convention respecting dividends in light of the three factors identified as determinant in these models—management's powerful incentive to pursue private benefits, the ongoing unobservability and unverifiability of management performance, and the remedial effect of a clear-cut, mandated payment to an outside investor. Add the fact that the accounting system allows managers at least some room to manipulate the amount of reported earnings. To the extent of that allowance, amounts of both earnings and reinvested earnings are unverifiable. This verifiability problem suggests an information function for the steady dividend. Although the amount of earnings may be subject to question, the amount of the dividend, once declared, is not. This very concreteness lends the dividend a governance function related

Similar observations have been made respecting the agency dynamics of investment within a firm. Arjit Mukherji & Nandu Nagarajan, *Moral Hazard and Contractibility in Investment Decisions*, 26 J. ECON. BEHAV. & ORG. 413 (1995), models the situation of a principal investing in research and development projects. The authors show that if the principal receives verifiable "hard" signals concerning the quality of the projects during the development period, the principal will be able to make a full ex ante commitment to a project but that problems of opportunism and monitoring costs still will make for a second best result—the principal rationally will overinvest relative to the first best. In contrast, in a world holding out only "soft" noncontractible information prior to the last period, they predict underinvestment.

⁸⁷ See HART, *supra* note 59, at 146-48. Note an interesting real world implication of these observations—incentive compensation should not come in the form of stock options but in the form of illiquid long-term positions in the stock.

to that of debt.⁸⁸ Although it triggers no control transfer,⁸⁹ if paid steadily it does perform an ongoing screening function.⁹⁰

2. *Contingent Control with Outside Debt and Outside Equity*

Two subsequent models, from Dewatripont and Tirole⁹¹ and from Hart,⁹² explore the interplay between two principal points emerging from the Aghion-Bolton contingent control model. First, the form and timing of rights attending the firm's payment stream determine incentives critical to the firm's value. Second, problems of noncontractibility limit the capacity of compensation schemes to move management incentives in productive directions. Both models include extensions to dividend policy.

Dewatripont and Tirole present another two-period contingent control model. Unlike the Aghion-Bolton model, this one includes outside debt and outside equity interests. Here, at $t = 0$, outside financing and incentive compensation arrangements are worked out and management chooses an effort level e . The level of

⁸⁸ This is Fudenberg and Tirole's suggestion. See Fudenberg & Tirole, *supra* note 35. Their model addresses information asymmetries within a multidivisional corporation and looks to the dividend payment stream as a means of alleviating the problem. Here, the value of the dividend does not lie in a tendency to force management to step up the level of borrowing, but because the dividend is, like debt, a verifiable amount. As in other incomplete contracts models, noncontractible aspects of management employment generate the problem.

Fudenberg and Tirole discuss the dividend as an incident to their study of the implications of the practice of income smoothing. Income smoothing is the manipulation of the timing of reports of revenues and expenses toward the end of making the earnings stream less variable over time. Since the practice can entail temporal manipulation of actual business operations, it can increase the costs of doing business. It either results from exploitation of flexibility built into the system of generally accepted accounting principles, or from direct manipulation of business operations. The latter case can include poor timing of sales, overtime paid to lead to acceleration of shipments, and disruption of the schedules of suppliers and customers. See *id.* at 76. In Fudenberg and Tirole's model, income smoothing follows from a combination of risk aversion and private benefits retention by divisional managers, encouraged by corporate headquarters' inability to commit itself credibly to long-term incentive contracts with them. The managers expect that poor performance will lead to central intervention that diminishes their private benefits. The managers have an incentive to boost earnings in bad times to forestall intervention, and to understate earnings in good times as a way of saving for later. The model assumes that the costs of income smoothing are less than those of intensive auditing and monitoring that would be required in order to eliminate the practice. See *id.* at 80.

⁸⁹ At least not directly.

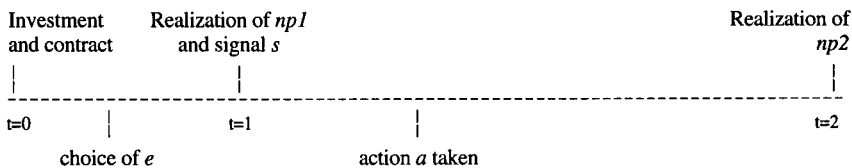
⁹⁰ See Fudenberg & Tirole, *supra* note 35, at 88-90. But, on the other hand, since the dividend carries no promise to pay a set amount, it also lends itself to smoothing over time. See *id.* at 78.

⁹¹ See generally Dewatripont & Tirole, *supra* note 86.

⁹² Here, Hart's book, HART, *supra* note 59, draws on Oliver Hart & John Moore, *A Theory of Debt Based on the Inalienability of Human Capital*, 109 Q.J. ECON. 841 (1994).

e will be either high or low, with high e producing higher returns in later periods, but resulting in the incurrence of a utility cost U to the managers. At $t = 1$ the firm reports its first period profit, $np1$, a verifiable amount that is determined by e , but which is not a sufficient statistic for e . In addition, a signal s is realized at this point. The distribution of signal s also is determined by e , and s is a sufficient statistic for the profit to be realized at $t = 2$, $np2$. But s is noncontractible and management compensation accordingly cannot be made directly contingent on it.

This model's distinguishing assumption is that the firm's capital structure accords decisionmaking power to either the outside debt holder or the outside equity holder at a critical moment. More specifically, immediately after $t = 1$, the outside holder accorded this control power takes action a , which can either be acquiescence and continuance C in present management operations or stoppage S of management's continued pursuit of its business plan. Stoppage S can entail any number of subsequent actions, including liquidation, sale of a division or other downsizing, or redirection of investment policy. Whatever the action taken, for any given signal s , S entails less risky subsequent management than C , the probability distribution of which has fatter upper and lower tails. At $t = 2$, $np2$ is realized and income is shared in accordance with the contracts in the capital structure.⁹³



The model examines two possible incentive compensation schemes for E , one constituted of private benefits only and the other including a salary. The purpose of any such scheme is of course to induce E to choose a high level e . But, given the model, and in particular the noncontractibility of s , the optimal arrangement must include a possibility of punishment in the form of a control transfer to outsiders who have the power to choose action S . Since management always prefers C to S (whether or not C is efficient), a structure that increases the possibility of such intervention as $np1$ and s decline lends management an incentive to choose a high level of e , maximizing the possibility of a choice of C despite

⁹³ See Dewatripont & Tirole, *supra* note 86, at 1031-34.

the cost of U thereby incurred. Given this, any bonus payments should be based on earnings results of both $np1$ and $np2$, with the $np2$ target level rising as the $np1$ amount declines.⁹⁴

The model depicts the control decisions of outside debt and equity investors in terms of incentives, with the nature of the payment stream being the behavioral determinant. Given the model's structure, an outside investor making a choice between S and C whose interest in the firm is an equity-like payment stream—that is, whose payment is convex in the final value of the firm at $t = 2$ —will prefer action C across a broader range signals s . Conversely, an investor making a choice between S and C whose interest in the firm is realized as a debt-like payment stream—that is, whose payment is concave in the final value of the firm at $t = 2$ —will prefer action S across a broader range signals s . The model formally shows that the outside investors' incentives, determined by their payment streams, will not necessarily be aligned so that the optimal action a is taken given particular combinations of $np1$ and s . A debt bias in the capital structure leads to excessive toughness in the form of choice of S in cases where C produces more value. Conversely, an equity bias leads to excessive passivity in form of choice of C in cases where S would be optimal.⁹⁵ Thus, an effective scheme of external interference requires a specific correlation between control rights and income streams of multiple securities.

3. *Debt and Management Empire Building: Applications of Contingent Control Models to Dividend Policy*

Hart explores the same set of questions against a sequence of simplified two-period scenarios.⁹⁶ For Hart, as for Berglöf and von Thadden,⁹⁷ short term debt imports the hardest discipline. To exemplify this, he adjusts his two-period model of debt payment tim-

⁹⁴ See *id.* at 1035-39. If there is a trading market in the firm's securities these results should not change, or so Dewatripont and Tirole argue. They note that if the market price perfectly reflects s , it can be argued that as of $t = 1$ a stand-alone compensation scheme could be based on the stock price with optimal results. But they counter that so long as the managers derive private benefits from C , control rights will matter at $t = 1$, and that since the moral hazard problem persists to $t = 2$, compensation ought to reflect $t = 2$ results also. In addition, the stock price might be distorted by noise trading or asset bubbles. See *id.* at 1039.

⁹⁵ See *id.* at 1046.

⁹⁶ As already noted, he joins Dewatripont and Tirole in asserting that management derives significant private benefits from controlling corporate assets and that this preference is so pronounced that it cannot be controlled through an incentive compensation scheme. See *supra* text accompanying note 87.

⁹⁷ And for that matter, Dewatripont and Tirole. See Dewatripont & Tirole, *supra* note 86, at 1043-46.

ing (presented above)⁹⁸ to remove the possibility of asset liquidation at $t = 1$. The result is that the faster payment schedule entailed in short term borrowing due at $t = 1$ becomes the ultimate showstopper against empire-building managers. Restating this point under conditions of certainty, so long as $y_2 > L$, long term debt is optimal—no payments p_1 should be due at $t = 1$, and payments p_2 should be due at $t = 2$. But if $y_2 < L$ then a large payment p_1 should be scheduled at $t = 1$. However, optimal results prove harder to obtain when uncertainty is interpolated. Hart models the situation where values will be either state a (y_{1a} , y_{2a} and L_a), or state b (y_{1b} , y_{2b} and L_b). He works through various possible interrelationships between levels of debt, states a and b , and first-best results. He finds that for at least one scenario no first-best level of debt can be set—where $y_{2a} > L_a$ and $y_{2b} < L_b$, and, further, $y_{1a} + y_{2a} \leq y_{1b} + y_{2b}$ but $y_{1a} \leq y_{1b}$. In state b liquidation should occur at $t = 1$, while in state a no payment p_1 should be due at $t = 1$. Setting the $t = 1$ payment p_1 at a level to trigger default in state b triggers a default and liquidation in state a where it is inefficient. Thus, in theory, high debt can trigger an inefficient liquidation just as low debt can prevent an efficient liquidation.⁹⁹

Hart also examines the possibility that the insight bound up in this model might imply a set of terms for an all-equity capital structure. Since y_1 , y_2 and L are observable but not verifiable, state contingent contracting is not feasible. Further, the manager's power-for-money tradeoff so favors power as to make it useless to offer it a direct payment to choose L at $t = 1$ in the appropriate case. But an appropriate constraint could follow from an all-equity capital structure that (a) forbade any additional equity financing after $t = 0$ and (b) provided for dismissal of the manager at $t = 1$ unless a large dividend payment d_1^* was paid. The provision for d_1^* substitutes for a high p_1 . Hart argues, however, that this equity substitution does not import the same flexibility as does the use of debt. With debt, payment mandates can be divided between $t = 1$ and $t = 2$, and thus the y_2 flow can be taken into account as well as the y_1 flow in the exercise of control.¹⁰⁰

Hart, having rejected the alternative of an all-equity capital structure, goes forward to consider the additional implications of his assertion that debt plays the critical role in solving the agency problems of equity. He adjusts his two-period model to consider

⁹⁸ See *supra* text accompanying notes 59-66.

⁹⁹ See HART, *supra* note 59, at 134-35.

¹⁰⁰ See *id.* at 135-36.

the situation of suboptimal earnings reinvestment by an established profitable company. In this version y_2 is always $> L$, so that liquidation at $t = 1$ is always suboptimal, short-term debt has no governance role to play, and the debt optimally is set up so that $p_1 = 0$ and $p_2 = 1$. A problem arises when management has a new project in which it can invest at $t = 1$. The project costs $k > y_1$, and, as a result, management must resort to outside financing for a portion I of the cost k . The investment returns r at $t = 2$. An empire-building manager will invest so long as $y_1 + y_2 + r - p_2 \geq I$. But this allows the possibility of a suboptimal result—an $r < k$ investment can be made if p_2 is small relative to $y_1 + y_2$. Conversely, if p_2 is large relative to $y_1 + y_2$, a good investment—where $r > k$ —might be passed up. Thus, a low level of indebtedness at $t = 0$, and a correspondingly low p_2 assures that all $r > k$ investments will be undertaken. Conversely, high long-term debt and a high p_2 assures that $r < k$ investments can never be undertaken. Restating this point, although a pattern of suboptimal earnings reinvestment may indicate an insufficient level of long-term debt, leverage to excess may create an underinvestment problem.¹⁰¹

Hart reaches a similarly equivocal result when he modifies the model to confront the free cash flow problem more directly. Here management has unlimited projects k and in all of them $r = 0$. Once again $y_2 > L$ in all cases, so that liquidation is not a desirable cure for the problem. Hart looks to short-term borrowing for a cure. Where long-term debt—that is, debt with a high p_2 —was drawn on to deter suboptimal investment in the previous model, here short-term borrowing is added to the mix and both p_1 and p_2 are set high. Given certainty, one merely needs to set $p_1 = y_1$ and $p_2 = y_2$ completely to solve the free cash flow problem. Unfortunately, the world of the 1980s leveraged buy out will then be revisited. Hart works this problem into his model when he interpolates uncertainty. A risk of suboptimal liquidation opens up accordingly—with a high p_1 and a high p_2 , an external shock to either y_1 or y_2 triggers liquidation. The higher the risk of such a shock, the lower p_1 and p_2 should be set.¹⁰²

Dewatripont and Tirole replicate the thrust of this result in the context of their model. They work in the reinvestment problem by proposing that management encounters a second, optional investment project after $t = 0$ and before $t = 1$. The second project may be good or bad, and, if undertaken, will effect the amount of np .

¹⁰¹ See *id.* at 136-38. This model also is opened up for uncertainty. See *id.* at 138-39.

¹⁰² See *id.* at 140-41, 152-55.

They observe that, given the parameters of their model, including its incentive payment component, there is no disincentive respecting selection of a bad project. So long as the project increases the upper tail of the $t = 2$ distribution it increases managerial rent, and, interestingly, is not necessarily undertaken to the detriment of the equity interest. There can be no guarantee of separation (a management preference for no project ahead of selection of a bad project) so long as the firm's financial structure is invariant upon project choice. The cure lies in assuring that capital structure does vary when new projects yielding higher rewards for management are undertaken.¹⁰³ Concurrent short-term borrowing is the suggested adjustment, bringing Dewatripont and Tirole into an exact alignment with Hart at the bottom line.¹⁰⁴

4. *Internal Finance Compared*

Another model, this one from Gertner, Scharfstein, and Stein,¹⁰⁵ complicates the foregoing analysis. Here, the incomplete contracts approach is applied to the incentives that prevail inside of firms with respect to projects financed with internally generated capital. Those incentives are then compared to those that follow upon short-term borrowing. More specifically, in this two-period model a stand alone single project firm financed by short-term bank borrowing (as in Hart and Moore) is played off against the same project undertaken as a division of a conglomerate corporation and financed through cash flows from corporate headquarters. The model shows that both internal and external finance have strengths and weaknesses.

One strength of internal finance is a higher incentive to monitor. Gertner, Scharfstein, and Stein define monitoring as observation of a project that generates economically valuable ideas. Such ideas require implementation, and the owner of the project has the right to decide whether to implement. The model shows that internal finance and ownership in corporate headquarters generates more valuable monitoring than does bank financing. The bank under-monitors because it does not control the assets. If bank monitoring does give rise to an idea, the bank can of course hold up the borrower for a portion of the returns of implementation in

¹⁰³ See Dewatripont & Tirole, *supra* note 86, at 1047-48.

¹⁰⁴ For a model that combines the thrust of this treatment with the insights of the signaling literature, see Thomas H. Noe & Michael J. Rebello, *Asymmetric Information, Managerial Opportunism, Financing, and Payout Policies*, 51 J. FIN. 637 (1996).

¹⁰⁵ See Robert H. Gertner et al., *Internal Versus External Capital Markets*, 109 Q.J. ECON. 1211 (1994).

exchange for the idea's disclosure. But the bank still has the lesser incentive because it does not receive all the gains.¹⁰⁶ A second strength of internal finance stems from possibilities for internal asset redeployment. Here, Gertner, Scharfstein, and Stein make reference to the literature confirming that distressed assets tend to sell for distressed prices,¹⁰⁷ thereby relaxing this literature's usual assumption that upon default, the outside lender will realize L . In their model, L proves to be fully or nearly fully realizable only where the firm's assets are nonspecific ones like land and buildings. As the assets become more firm specific, the bank's liquidation yield drops relative to the value of the asset. Internal finance emerges as superior to the extent that corporate headquarters can invest in multiple related projects, positioning itself to recoup more for redeployment upon failure.¹⁰⁸

Outside bank financing also has advantages. The first concerns manager incentives. Recall that the basic incomplete contracts model of debt financing leaves the manager of the successful project in complete control after $t = 1$, retaining all value over p . This produces a high-powered incentive that cannot be built into an intra-corporate financing arrangement. Even if corporate headquarters could contract not to fire the successful divisional managers, it still owns the assets and thereby retains some power to reduce the managers' private benefits. With internal financing, then, gains are shared, incentives are less powerful, and effort levels are lower.¹⁰⁹ In addition, corporate headquarters is presumed to be in closer contact with the project managers than is the outside bank, implying a higher level of influence costs. This counterbalances the greater likelihood of productive monitoring with internal finance—headquarters is “more likely to be wined and dined and ultimately won over” by the divisional manager than is the bank.¹¹⁰

E. *Incomplete Contracts and the Dividend Puzzle*

1. *From Intrinsic Optimality to Noncontractibility*

The incomplete contract models bear a familial resemblance to earlier agency models of dividend policy. Here again, conven-

¹⁰⁶ See *id.* at 1219-20.

¹⁰⁷ See Asquith et al., *supra* note 84; Andrei Shleifer & Robert W. Vishny, *Liquidation Values and Debt Capacity: A Market Equilibrium Approach*, 47 J. FIN. 1343 (1992).

¹⁰⁸ See Gertner et al., *supra* note 105, at 1223-27.

¹⁰⁹ See *id.* at 1220-23.

¹¹⁰ *Id.* at 1229.

tional dividend payout patterns are explained in terms of the practical likelihood that replacement investment dollars will be borrowed. Here again, the dividend forces self-serving managers to the capital markets, leverage enhances firm value, and management will resist an optimal leverage policy. And here again, the control threat embodied in the possibility of default has a positive incentive effect.

But there are also significant changes of emphasis. The original agency models completed the incomplete corporate contract with a reference to trading markets in corporate securities. Information was unproblematic because the stock price contained and communicated it. Multi-period models were unnecessary because the stock price was appropriately discounted for agency risks at the time of original issue. Thereafter, market forces kept agency problems in check on an ongoing concern basis. The Rozeff model and the Easterbrook model implied that the conventional dividend payout pattern is an optimal expression of market discipline. In a competitive equilibrium, after all, discretionary behavior cannot survive.¹¹¹

With the incomplete contracts models, market prices do not solve problems of information asymmetry. The solution to problems of observability and verifiability instead lies in the performance of the debt contract. Since the steady dividend prompts borrowings governed by the debt contract, it emerges as a lesser version of the same solution to the problem of noncontractibility. These models also work from an underlying concept of agency relationships quite distinct from that operative in the complete contracts model of Jensen and Meckling and its many progeny in legal theory. Consider the assertion in Dewatripont and Tirole and Hart that an incentive contract cannot feasibly protect against empire-building managers. Then compare the behavioral failings of Jensen and Meckling's managers—shirking and excessive consumption of perquisites. The latter conception of the agency problem invites easy disposition with cash payments and contractual prohibitions. Failing the appearance of such an effective contractual technology, the Jensen and Meckling model goes on to assume that capital and product market competition completes the incomplete contract, fully disciplining culpable managers within a reasonable time.¹¹²

¹¹¹ See Aaron S. Edlin & Joseph E. Stiglitz, *Discouraging Rivals: Management Rent-Seeking and Economic Inefficiencies*, 85 AM. ECON. REV. 1301, 1301 (1995).

¹¹² See S.A. Ravid & E.F. Sudit, *Power Seeking Managers, Profitable Dividends and Financing Decisions*, 25 J. ECON. BEHAV. & ORG. 241 (1994).

The empire builders in the incomplete contracts models make a different trade-off between money and the satisfaction of controlling assets, and are much less susceptible to market discipline.¹¹³

Reconsider the Rozeff dividend model in light of this point. Like the incomplete contracts models, Rozeff's model accords a prominent role to the borrowed replacement dollar. But Rozeff also conceives of dividends as a substitute for incentive-aligning management stock ownership. The incomplete contracts models, although certainly assuming that some contracts align incentives better than others, perceive no chance for dividend payouts to figure into such an easily optimal alignment of incentives. The managers, quite simply, draw too much satisfaction from the private benefits yielded by control of corporate assets. Removal from control is the only palliative.

Reconsider also the Easterbrook dividend model. Easterbrook located the benefit of the dividend in the monitoring that results when the firm has to go outside for new capital. The incomplete contracts models, although quite sensitive to the importance of information and monitoring, shift emphasis to the form of the resultant financing. They relocate the point of agency cost reduction to the structural result that follows the reference to outside financing rather than in an investigatory process carried out by capital market actors. The shift makes sense. If management goes to the capital markets to sell additional equity rather than to borrow, resultant monitoring may be even more intense, but no governance benefits will redound in future periods. However intense such capital market scrutiny, it can neither access the unobservable nor confirm (or falsify) the unverifiable.

When monitoring does become the center of attention in incomplete contracts models, particular incentive questions are asked about the design of the monitoring contract.¹¹⁴ These questions ask us to compare the different monitoring incentives following from the different available modes of outside finance, toward the end of assuring not only that outsiders have information about

¹¹³ See *id.* at 244.

¹¹⁴ See Ernst-Ludwig von Thadden, *Long-Term Contracts, Short-Term Investment and Monitoring*, 62 *REV. ECON. STUD.* 557 (1995). Von Thadden takes up the problem created by management aversion to first period inspection of a project by long-term outside financiers with a power to terminate. Management may prefer a series of suboptimal short-term investment projects. His model takes up the alternative of a short-term credit facility with an attached long-term commitment from a financier who performs a "delegated monitoring" function. See *id.* at 558-59; see also Douglas W. Diamond, *Financial Intermediation and Delegate Monitoring*, 51 *REV. ECON. STUD.* 393 (1984).

goings on inside the firm, but that the firm selects the best available investment projects. This literature requires that such questions be asked because it no longer assumes that a reified "market" sees through the veil that obscures outsiders' access to corporate information, thereby automatically encouraging a choice of efficient projects. No such assumption is safe given asymmetric information and strategic behavior.

2. *Noncontractibility and Capital Structure Optimality*

The incomplete contracts models join the wider literature of information economics in abandoning the early agency models' complete reliance on market price and market discipline. As such, they leave the legal observer in an uncomfortable position of uncertainty. This literature does not promise immediate evolution to a first-best competitive equilibrium in the absence of sovereign intervention. It instead poses complex informational problems that are susceptible to solution only in stylized models. The models teach that debt solves problems of information asymmetry and suboptimal incentives by vesting a clear cut control transfer contingency. Yet this yields no policy prescription because the vesting of the contingency turns out to implicate complex variables.

In the incomplete contracts picture, debt makes production more efficient in those states of the world in which actions that enhance the value of the debt payment stream are also the actions that maximize the value of the firm. The holders of debt should step into control, and debt should be incurred in amounts and under terms so as to trigger control transfers on those states of the world.¹¹⁵ Contrariwise, incorrectly set triggers reduce firm value. The models assert emphatically that there is such a thing as too much debt, and thereby identify it as a source of governance problems as well as governance solutions. This diagnosis is variously articulated. In the Dewatripont and Tirole model, too much debt means that conservative, variance-reducing business plans are chosen across too wide a class of situations. In the Hart and Moore model, excess debt means that liquidation occurs when continuation realizes more value. In addition, Gertner, Scharfstein, and Stein show us that internal finance possesses certain incentive and cost advantages relative to debt. In sum, leverage entails a trade-off between a harder incentive structure that deters private benefit

¹¹⁵ Restating the point to reflect the fact that the fulcrum provision goes to the size of the payments due at $t = 1$ and $t = 2$, the firm should borrow an amount such that the lenders should assume control when it is optimal that they do so.

seeking and the risk that the control transfer that imports hardness will occasion suboptimal business decision making. Because these models work against a dynamic background that builds in uncertainty about future events, they offer no calculus for the amount and terms of the debt contract that optimally balances the trade.

The trade-off is further complicated by an additional factor. Our experience with the high leverage models of the 1980s has trained us to think in terms of a zone of alignment between high leverage capital structures and the interests of outside equity holders. The Dewatripont and Tirole analysis inserts a cautionary note respecting this assumption when it suggests that there may be an expansive zone of alignment of the incentives of management and outside equity respecting levels of debt and internal financing. The reason is simple: Management and equity stand together in preferring that control not be transferred to the debt, and accordingly both react in a risk averse way respecting the level of debt incurred. It follows that if real world firms maintain suboptimally low levels of debt, then they do so because of an alignment between the incentives of management and equity.¹¹⁶

¹¹⁶ A question arises at this point in the analysis. In the 1980s models, the operative picture of the preferences of equity was derived by analogy from the Black-Scholes option pricing model. See Fisher Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. POL. ECON. 637 (1973). Under the derivation, equity was not risk averse and increased asset volatility enhanced equity values. How can that point be preserved in a description that simultaneously holds out a common element of risk aversion on the part of management and equity? The answer lies in the timing of the description. The element of risk aversion concerns the choice of the level of debt—the decision as to whether to borrow at all. In Black-Scholes terms, this becomes a choice among a menu of option contracts with different striking prices and durations. The behavioral effects discovered by Black and Scholes follow only once one of the options on the menu is chosen. The intensity of any resulting propensity toward risk-taking will depend on that option's terms. That selection will in turn depend on an ex ante appraisal. Given that this option hedges nothing and stakes the entire equity investment, risk aversion can be expected to come into the selection process. Meanwhile, at the bottom line, the Black-Scholes view of equity and the incomplete contracts literature make the common point that the maximization of the value of the equity payment stream and the maximization of the value of the firm proceed under materially different calculations. Finally, it should be noted that the identification of a common element of risk aversion common to management and equity respecting levels of indebtedness does not imply an assertion of a complete identity of interest between the two. Hart strikingly restates the core management-shareholder agency problem when he notes that, but for management's pursuit of the private benefits of asset control, an all-equity capital structure compensating management with a small pro rata share of the dividend payout pool would be optimal.

The incomplete contracts models are only just beginning to articulate a description of management-shareholder relationships. At this stage, their descriptive contribution lies primarily in the negative point that optimal management incentives are noncontractible and control transfer devices must be resorted to on a second-best basis. Presumably, other

3. *Noncontractibility and the Dividend*

The dividend reemerges under incomplete contracts as a device with two functions. First, it ameliorates problems of observation and verification by transforming an unreliable book entry into a tangible payment. Second, it adjusts capital structures in the direction of an optimal control transfer provision by prompting borrowing. The dividend thus reemerges in a second-best world. Since the optimal level of debt is uncertain, the optimal level of retained earnings and dividends is also uncertain. The combination of that uncertainty, managements' pursuit of private benefits, and the shareholders' lack of control provides a working explanation of the dividend's real world tendency to fall short of an optimal amount.

As a check, let us apply this working picture to Berkshire Hathaway. Can we use it to explain Warren Buffett's situation of low debt,¹¹⁷ no dividends at the parent level, substantial dividends from wholly-owned subsidiaries, and satisfied shareholders? We can. We see at once that the real anomaly here is that, empire building and high returns, for once, work in tandem. Given that, a low level of debt is rational—why take the risk if no additional performance incentive is necessary? For the same reason, steady dividends have no governance function to serve at Berkshire. They might serve an informational function, for Berkshire certainly presents a situation of information asymmetry. Special factors ameliorate the information problem in this case—first, Buffett's unusual reputation as an investor, and, second, his practice of written reports to shareholders on the discretionary subject matter as to which managers and corporate reports usually are silent.

4. *Noncontractibility and Legal Mandates*

The incomplete contracts models' distinction between noncontractible and contractible corporate events and their identification of control transfer as the central mode of agent control also advance our understanding of an essential aspect of the structure of corporate law. Corporate law usually is enabling, but sometimes is mandatory, and contractibility appears to be implicated in the placement of the line between the two. Default rules that look toward contractual solutions tend to apply to contractible subject matter. The legal institutions of control transfer—the federal

control transfer devices will be formulated, and the takeover and proxy contest will be brought into the incomplete contracts description in the future.

¹¹⁷ See LOWENSTEIN, *supra* note 1, at 272-73.

bankruptcy regime and the federal-state regimes for proxy contests, mergers, and takeovers—present a contrast. They are thick with mandates, many of them contract invalidating.

The dividend occupies an awkward place in this scheme. Since dividend and reinvestment policy determines the payment stream on common, it plays a significant role in shaping incentives that determine the operation of the corporation's mandatory control transfer institutions. Yet its unregulated status is fully consonant with a larger pattern, for debt incurrence is a business judgment matter also. Assuming that past institutional evolution assures the appearance of all feasible regulatory solutions to basic governance problems, it would seem to follow that no additional regulation of dividends feasibly can be interpolated because this subject matter is noncontractible. The robustness of this proposition is considered in this Article's third and final part.

III. LEGAL STRATEGIES FOR PRODUCTIVE DIVIDEND AND REINVESTMENT DECISIONS: AN INCOMPLETE CONTRACTS EVALUATION

Do the incomplete contracts models, having offered a plausible description of familiar institutions, provide any insights as to how to improve them? At first inspection, they appear strongly to ratify present institutional arrangements. In corporate law, the dividend is the ultimate redoubt of management discretion, so long as management observes the formality of never publicly stating that the pursuit of private benefits really motivates its policy.¹¹⁸ The standard explanation for this rule of discretion follows from the core insight of the incomplete contracts approach—that dividend and reinvestment decisions depend on decisions that follow from unobservable and unverifiable variables. Further inspection complicates the analysis, however. These models supply a productivity explanation for observed dividend practice without taking the additional step of asserting that the practice should be presumed to be optimal. They thereby implicate a theoretical possibility that an institutional reform, whether the result of contractual evolution or state intervention, could improve matters. They even signal a strategy for the design of such a reform when they use the debt contract's payment mandate to cure the problem of noncontractibility. As Hart points out, a mandatory dividend could have a similar ef-

¹¹⁸ The classic case is *Dodge v. Ford Motor Co.*, 170 N.W. 668 (Mich. 1919).

fect.¹¹⁹ More generally, the institution of the dividend might be more productive if it took on some of the characteristics of debt.

Three strategies directed to the improvement of dividend and reinvestment policy appear in the legal literature: first, mandatory payout of earnings at the shareholders' option; second, dialogic intervention by activist institutional investors or their agents; and third, stepped up disclosure mandates. The discussion that follows evaluates each of the three in light of learning from the incomplete contracts models.¹²⁰

A. *Mandatory Payout of Earnings at the Shareholders' Option*

Zohar Goshen,¹²¹ expanding on an earlier suggestion made by Merritt Fox,¹²² recommends that public corporation shareholders be accorded a right to receive a pro rata share of each year's earnings in cash, or, in the alternative, to receive a pro rata stock dividend that in effect reinvests a pro rata share of earnings.¹²³

Goshen offers a multi-step argument in support of this mandatory dividend option. Shareholders, he says, are unlikely to make suboptimal dividend and reinvestment decisions; therefore, a dividend option will cause capital to move in the direction of its best use.¹²⁴ The option would not cause material disruption to existing corporate financing practices, provided of course that management has been doing a good job of reinvesting earnings. Since the stock price already reflects the expected return on such a company's stock, each investor in the shareholder group presumably is satisfied with the rate of return; holders dissatisfied with the return already will have sold. So where legitimate growth prospects are on offer (or where no growth is on offer but a level of internally generated working capital is necessary to maintain cash flows), the shareholders can be expected to grasp the maximizing course and

¹¹⁹ See *supra* text accompanying note 87.

¹²⁰ There is, of course, a fourth strategy—the takeover. This strategy is inevitably accompanied by a supplemental strategy for increasing the incidence of its employment in practice—the removal of state anti-takeover legislation. Since its advantages and disadvantages are exhaustively discussed elsewhere, it is omitted from the present discussion.

¹²¹ See Goshen, *supra* note 5, at 903-06.

¹²² See MERRITT B. FOX, *FINANCE AND INDUSTRIAL PERFORMANCE IN A DYNAMIC ECONOMY* 383-400 (1987).

¹²³ See Goshen, *supra* note 5, at 906-09.

¹²⁴ See *id.* at 905-06. Goshen points out that implementation of the option presupposes an overhaul of the tax system. Under present law, the retaining shareholder pays ordinary income tax on the stock dividend. See *id.* at 906-17.

permit earnings retention.¹²⁵ Of course, some firms reinvest suboptimally; as to these an increase in the amount of firm borrowing can be expected. But, as Goshen points out, the bonding effect of a dividend option is less than that entailed in any such consequent borrowing. This is because the payout mandate bound up in the dividend option is contingent on the existence of earnings, unlike the absolute minimum performance bound up in the promise to pay.¹²⁶

Goshen sees only one serious problem with a shareholder dividend option. Coordination problems could cause shareholders to force a payout above the minimal reinvestment amount necessary to preserve the business.¹²⁷ He makes a technical adjustment in order to solve this problem. Each shareholder who opts for retention does so conditioned on a minimum percentage of other shareholders deciding to do the same thing; failure to meet the shareholder's stated threshold cancels the retention decision. Each shareholder thus will "reveal her true retention preference and avoid reinvesting in a firm with insufficient working capital."¹²⁸

1. *Advantages*

Goshen makes no reference to incomplete contracts models of capital structure.¹²⁹ Indeed, his operative assumptions approach those of a complete information model. Everyone grasps the crucial information respecting value because the stock price accurately impounds all information. Furthermore, he recommends the dividend option because it releases cash flows for reallocation by actors in secondary trading markets, not because it directs particular corporations toward an optimal incentive structure. Despite this, the dividend option has some appeal from an incomplete contracts perspective.

¹²⁵ Some difference of opinion as to the prospects for the rate of return on reinvested sums will be inevitable, and not unhealthy. *See id.* 920-21.

¹²⁶ *See id.* at 904.

¹²⁷ *See id.* at 921-25.

¹²⁸ *Id.* at 924-25.

¹²⁹ But he does of necessity reject the Modigliani-Miller hypothesis. If dividend levels, investment policies, and firm value were independent of one another, then dividend options presumably would make no difference. A management required to pay out all earnings but which wanted to make a given investment would simply borrow the money and the end result would be the same as that following reinvestment.

Recent empirical studies of dividend policy support the idea that dividends and investment policy are indeed dependent on one another. *See* David A. Louton & Dale L. Domian, *Dividends and Investment: Further Empirical Evidence*, Q.J. BUS. & ECON., Spring 1995, at 53.

The advantage lies in the debt-like aspect that the option brings to the dividend payment stream. The step in the direction of debt lies in the creation of a constant possibility of a mandated payout: Depending on the shareholders' preferences respecting a payment stream, common stock has the potential to be an income bond without a maturity date. Although the option does not accord shareholders contingent control of the business (in a sense they already have it by virtue of their voting power), it does provide them contingent control of the portion of cash flows determined to be net earnings under Generally Accepted Accounting Principles ("GAAP"). Problems of noncontractibility are avoided through the combination of the reference over to GAAP and the vesting of absolute discretion in the shareholders.¹³⁰

The dividend option also has advantages when compared to high leverage as a solution to the problem suboptimal investment of free cash flows. As shown above, high leverage solves the problem absolutely subject to a long list of problems and costs. The dividend option builds in more flexibility, since it leaves the disciplinary decision to ongoing shareholder evaluation. Recall that Hart argues to the contrary, making a case for the superiority of debt over dividends. He bases that case, however, entirely in the context of a two period model. Debt, he says, imports discipline across the model's entire time frame, where a mandatory and large dividend only can operate at $t = 1$.¹³¹ The dividend option reveals that Hart misses a point. The corporate dividend and reinvestment problem arises on an open-ended time frame, and a dividend option, unlike a short- or long-term debt contract, spurs productivity across that indefinite succession of time periods.¹³² It also heeds the warning that borrowing carries intrinsic risks. Unlike a fixed payment, the dividend option can be relaxed during cyclical or other downturns. And in situations where discipline is needed, the option forces managers who wish to expand their empires to incur more debt.

A dividend option also would materially alter management's incentives respecting disclosure of information about investment

¹³⁰ Management, of course, thereby acquires a costly incentive to manipulate GAAP to minimize reported earnings and thereby protect cash flows from shareholder access. See *supra* note 88. But these costs arguably would be modest. The existing accounting system delimits them, and the benefit of more productive investment practices would counterbalance them.

¹³¹ See *supra* note 100 and accompanying text.

¹³² Of course a consol bond, like a dividend option, could extend across an indefinite succession of periods.

policy. In the incomplete contracts framework, stock prices do not unilaterally (and heroically) solve problems of information asymmetry, and management lacks incentives to disclose its knowledge about its investment policy. Given a dividend option, the zone of discretion to withhold information would shrink. Hypothesize a firm falling into Graham and Dodd's middle or low level growth category.¹³³ Its shareholders would treat a management earnings retention request with some skepticism. If its managers wished to maintain or increase their stocks of retained equity capital, they presumably would be forced to mount a road show—taking their case out of the boardroom—and make credible presentations respecting anticipated project returns and costs of capital to the shareholders. Enduring information asymmetries thus would be ameliorated, if not cured. The talk would be cheap, but at least there would be talk.

2. Shortcomings

Incomplete contracts theory lends the foregoing support to the dividend option with only one hand, however. It uses its other to withdraw the support. The withdrawal stems from informational problems.

a. Information Asymmetries

If this subject matter were contractible, the problem of suboptimal reinvestment could be solved with a charter provision stating that the corporation's agents shall approve no investments as to which $r < k$. But, because the subject matter is noncontractible, such a provision would be unenforceable for all intents and purposes. How would a shareholder plaintiff prove an alleged breach? Investment is a matter of valuation, and valuation is an intrinsically speculative exercise. The appraiser projects a stream of future cash flows, and then discounts them to present value by ascertaining and applying a required rate of return. Contemporary business practice makes available a range of methodologies for ordering such an inquiry, facilitating a degree of objectification of the framework for analysis. The required rate of return, for example, can be hardened by reference to numbers generated by comparable firms. But such hard numbers never come with a guarantee of accuracy—they are by definition generated in the past by different actors, and can only be applied based on the assumption that the future being pro-

¹³³ See *supra* notes 17-18 and accompanying text.

jected will repeat that past experience. Some such assumptions are safer than others. And even in the safest case a relatively hard number is in the end only applied to a soft projection. In the real world of capital and investment, valuation ultimately depends on the judgment of the actor in control of the asset.

When tested *ex post* by a legal decision maker, such a valuation judgment at best can only be measured against a range of plausible results, and then only at considerable cost. There is no litmus test. This means that even if particulars respecting management investment decisions were observable—and they are not under prevailing disclosure practices—it would not follow that suboptimal choices could be proved reliably. The bad faith actor is difficult to detect; even a long sequence of suboptimal returns could be put down to overly optimistic projections or subsequent bad luck, rather than to consciously suboptimal reinvestment policies. Corporate law thus has good reasons for remitting these decisions to the realm of discretion. Where judicial scrutiny of financial policy does occur, as with certain mergers,¹³⁴ the impossibility of verification causes review to be process-based. That is, the reviewing authority does a circumstantial check only, looking to see whether the deciding corporate agent appeared to be doing a conscientious, disinterested job.

As noted, the dividend option obviates the verification problem by giving each shareholder absolute decisional power. The problem is that shareholders thus empowered still cannot observe the firm's set of new investment opportunities. A management group, once pressed, can attempt to ameliorate this asymmetry through disclosure. But, as also noted, that talk still would be cheap. The disclosing managers would be interested in the outcome, and verification would be expensive and unreliable. Shareholder choices respecting dividend options would not differ structurally from the choices shareholders already face when they buy and sell stocks. How then can these outside investors be expected to do the best possible job of ascertaining the quantum of $r > k$ investments available to the firm?

Goshen asserts that they can, assuming that the shareholders' attention will be focused by their staked capital and the possibility of gain and loss. The managers, in contrast, suffer the disadvantage

¹³⁴ See, e.g., *Cinerama, Inc. v. Technicolor, Inc.*, 663 A.2d 1156 (Del. 1995) (discussing the duty of care of directors of a firm acquired in friendly merger); *Weinberger v. UOP, Inc.*, 457 A.2d 701 (Del. 1983) (discussing the duty of loyalty of directors of subsidiary merging into parent).

of playing for private benefit. Against this assertion we can bring to bear every factor pointed to in the literature of stock market pricing imperfections. In the noise-trading counter story,¹³⁵ many stockholders can be expected to look backwards to the immediate past and chase trends. Perverse projections follow immediately. Given widespread trend chasing and a dividend option, the high growth firm of the recent past would retain all earnings, while the middle or low level firm would pay everything out. A group of decisionmakers thus biased could not possibly make first-best decisions.¹³⁶

But might such shareholders still do a better job than managers biased by pursuit of private benefits? Perhaps, if the only private benefit pursued by the managers was the empire builder's satisfaction of asset control. But today's management incentive picture appears to be somewhat more complex. Managers also derive private benefits from reputations for effective performance. Where twenty years ago such a reputation depended on company growth, evaluations today are keyed to shareholder value. Reputational incentives accordingly tend to encourage more care in the choice of new investment opportunities. The problem of suboptimal reinvestment has not gone away, but it is hard to predict that an under-informed shareholder with a pure financial incentive will make reinvestment decisions superior to those of a better-informed manager with a complex of motives. One suspects that results would vary from company to company—some deadwood management teams would get a dose of needed discipline, and other conscientious and talented teams would be forced to borrow more than an optimal amount or simply to pass on good opportunities, the value of which proved difficult to communicate credibly.¹³⁷

¹³⁵ See Andrei Shleifer & Lawrence H. Summers, *The Noise Trader Approach to Finance*, J. ECON. PERSP., Spring 1990, at 19, 19-22.

¹³⁶ For a recent empirical study supporting this point, see Josef Lakonishok et al., *Contrarian Investment, Extrapolation, and Risk*, 49 J. FIN. 1541 (1994) (arguing that statistical analysis of stock prices and returns over time suggesting that investors in "glamour" stocks suffer from a cognitive limitation).

¹³⁷ We could make Goshen's mandate more situation-sensitive by making its presence contingent on a statistical signal that distinguishes firms with extraordinary investment opportunity sets from firms with suboptimal sets. That is, all public firms would start life without the dividend option, which would be triggered by the occurrence of the signal—in effect at $t = 1$. Any number of concrete events suggest themselves as appropriate identifiers of this sort of corporate maturity—two or three years of earnings growth below a level fixed by reference to current market conditions, or perhaps a stock price stalled or falling in relation to some larger index. Any signal chosen would carry some imperfections, and also be in danger of obsolescence given changing conditions. But a rough separation of sheep and goats presumably could be engineered. In the end, however, this modification

b. Perverse Incentives

The dividend option promises to take us closer to a first-best corporate investment practice by removing the dividend and reinvestment decision from the influence of private benefit pursuit by transferring it to a set of decision makers possessing purely financial incentives.¹³⁸ In making this promise, Goshen follows contractarian theory to assume the aggregate of shareholders provides a perfect proxy for the maximizing firm. The incomplete contracts approach, in contrast, depicts each class of outside interest holder in a distinct governance incentive posture that follows from the terms of the holders' payment stream. Given such a picture, questions arise respecting the incentives of under-informed, option-holding shareholders.

To access these questions, let us look once again at Warren Buffett. He stands out among American investment managers not just as a bargain-hunter, but as a bargain-hunter patient enough to wait for the business cycle to turn before buying. The herd, in contrast, is famous for pulling up stakes when the equity averages go south and reinvesting in debt securities to weather the cyclical shock. How, given such a behavior pattern, would a dividend option work? One possibility is that investors who chose reinvestment in good times would change their options in bad times, taking advantage of the debt-like characteristic of their holdings. Although they would not bootstrap themselves into bankruptcy priority in extremely bad times, they still would see an increase in periodic income that partially would cover cyclical stock price reverses. An institutional holder, such as a bank or insurance company, experiencing a cyclical round of defaults on debt investments, would have a similar incentive. The managers of the company thus optioned would be grappling with a recession and the consequent tightening of lenders' credit standards. They might be squeezed indeed. Such a squeeze, taking a toll on the stock price, would not make a switch from earnings retention to a cash option irrational from the point of view of an individual shareholder. Unlike a manager, this actor has an ever-present exit option. Playing chicken and testing the patience of the rest of the shareholder group might very well make sense; if the game fails on the first round, the stock can be sold.

reduces the problem of uninformed shareholder choice only by reducing the number and type of firms subject to the option. The substance of the problem remains.

¹³⁸ Given perfect information, only managers with perfect incentive compensation contracts could do as good a job.

Product market competition also could give rise to unexpected problems. Bolton and Scharfstein have a model showing that an endogenous financial constraint imposed to assure that a firm does not divert resources to itself, in their case short-term borrowing, can be costly in a competitive environment. The financial constraint gives the firm's rivals a predatory incentive. They step up the price competition, and thereby increase the chance that the firm's lenders cut off funding, inducing its premature exit.¹³⁹ Payout of all or most corporate earnings, taken alone, would be unlikely to lead to this dire consequence. But it could make a significant causal contribution. For example, if the shareholders opted to take an amount greater than that needed to sustain the business, the firm's debt level would become suboptimally high with resulting vulnerability in the product market. Even if the debt was not excessive in theory, predatory conduct by other firms could make it excessive in fact. Alternatively, management groups facing a world in which equity financing implies an unstable claim on firm cash flows might resolve doubts in favor of higher proportions of debt financing, thereby suboptimally exposing themselves to distress in the event of product market reverses.

Finally, a dividend option could be a vehicle for shareholder self-dealing in some situations. Large block shareholders particularly might have incentives to opt for cash, thereby sending a signal to other shareholders to do the same thing. They might, in so doing, soften up the firm and its stock price for a later takeover or partial combination.¹⁴⁰

B. *Noncontractibility and Intervention by Institutional Investors*

The mandatory shareholder vote for the board of directors is corporate law's primary response to the problem of noncontractibility. The vote is a contingent control transfer device. Since incumbents may be terminated for any or no reason, no problems of observability or verifiability are implicated. Of course, control is transferred to a group of replacement agents rather than to another class of security holder, as occurs upon default on borrowing. But, presumably, the replacement agents get control on an undertaking to step up the payment stream on the equity. The real prob-

¹³⁹ See Patrick Bolton & David S. Scharfstein, *A Theory of Predation Based on Agency Problems in Financial Contracting*, 80 AM. ECON. REV. 93 (1990).

¹⁴⁰ See Jeffrey N. Gordon, *Shareholder Initiative and Delegation: A Social Choice and Game Theoretic Approach to Corporate Law*, 60 U. CIN. L. REV. 347, 376-81 (1991).

lem with the vote lies in the inhibiting effect of economic and legal barriers to collective action by shareholders.¹⁴¹

Imagine a world in which shareholders used their votes to elect activist board representatives, and in which managers as a result lived in constant fear of replacement. Dividend and reinvestment policy presumably would be a primary focus for such directors. Problems of observability would still surface. Boardroom presence, taken alone, does not give an outside director facts with which to expose a suboptimal investment project, for example. But, armed with even a modicum of technical expertise, such directors could be expected to subject the credibility of management's investment program to plausible inspection. Such intense monitoring, together with a politics of corporate tenure, could materially lessen the intensity of the dividend and reinvestment problem, avoiding some of the perverse effects of the blunt-edged control transfer devices modeled in the incomplete contracts literature.

1. *The Institutional Shareholder Movement*

The initiation of such a monitoring regime is the core objective of the institutional shareholder movement. Its strategists have offered plans for cost effective shareholder-initiated monitoring of noncontractible corporate affairs and negotiation (contractual and otherwise) of reductions of the costs of management influence¹⁴² within the firm. Given certain legal adjustments, the strategists have said, prospects for financial gain by themselves will induce governance initiatives by institutional investors.¹⁴³ In the alterna-

¹⁴¹ Historically, shareholders of public companies are an Olsonian latent group. See Edward B. Rock, *The Logic and (Uncertain) Significance of Institutional Shareholder Activism*, 79 GEO. L.J. 445, 455-59 (1991). In other words, a collective good—active monitoring of management—would make them better off given proportionate distribution of its costs, but the law provides no cost sharing mechanism, and the free rider problem prevents the emergence of a volunteer or group of volunteers with an incentive to provide the good. Given dispersed shareholdings, the nontrivial costs of active monitoring, and the alternative of exit through sale, the benefits obtainable without investment in monitoring exceed the benefits obtainable from investment. See *id.* at 455-56. In addition, rational apathy can prevail when the system mandates that matters be presented for shareholder approval. The rational small shareholder does not invest in information respecting governance matters, given the likelihood that the collective action problem prevents an effective group response. See Joseph A. Grundfest, *Just Vote No: A Minimalist Strategy for Dealing with Barbarians Inside the Gates*, 45 STAN. L. REV. 857, 910 (1993). As Edlin & Stiglitz, *supra* note 111, at 1301, comment, the puzzle for solution here is the existence of any management disciplinary effect at all.

¹⁴² See Paul Milgrom & John Roberts, *An Economic Approach to Influence Activities in Organizations*, 94 AM. J. SOC. S154, S156 (Supp. 1988).

¹⁴³ Collective action theory allows for the possibility that a subgroup of a latent group will organize and provide for the public good if the benefits from action to each member of

tive, institutional votes could be used to nominate and elect expert outside monitors,¹⁴⁴ and the increased incidence of the placement of substantial blocks of shares with Buffett-like institutional owners.¹⁴⁵

Unfortunately, no volunteers have appeared to make the financial investments necessary for real world testing of these ambitious proposals.¹⁴⁶ Instead, institutional initiatives against badly-managed firms have taken the form of discrete, issue-based voting contests that focus on short term results.¹⁴⁷ Such exercises have low out-of-pocket costs and appear to be driven by the selective incentive of reputation rather than by a pure financial incentive. The leadership role has been taken by a narrow segment of institutional agents—public pension fund managers whose indexed portfolios reduce their share of immediate financial returns, but whose independence from management influence creates a possibility for reputational enhancement through constructive anti-managerial

the subgroup exceed the costs incurred. See RUSSELL HARDIN, *COLLECTIVE ACTION* 41 (1982). Increased concentration of shareholdings in institutional hands makes it conceivable that investment in monitoring might be cost beneficial for institutional subgroups. See Bernard S. Black, *Shareholder Passivity Reexamined*, 89 MICH. L. REV. 520, 525 (1990). Concentration also promises to mitigate the rational apathy problem. The decision whether to become informed about the governance issue depends on the costs and expected benefits of the effort and the initiative's probabilities of success. The cost is independent of the number of shares held. With individual shareholders holding larger proportionate stakes, the expected returns from a given information investment go up, as does the proponent's probability of success. See *id.* at 585-89.

Subgroup formation depends on the size of the group, the cost of action, and the magnitude of the benefit to be obtained. Proponents of law reform to facilitate shareholder participation direct most of their attention to the first two factors. Since the number of members needed to form a subgroup declines as ownership concentration goes up, the proponents argue for relaxation of regulatory barriers that impede the accumulation of large holdings in given firms by single investors or organized groups of investors. See *id.* at 579-80. The proponents also circulate blueprints for cheap strategies, since, as the costs of a given initiative go down, subgroup formation can go forward with a lower level of concentration and a lower projected probability of success. See Grundfest, *supra* note 141, at 927 (explaining minimum cost strategy of "just vote no" campaigns).

¹⁴⁴ See Ronald J. Gilson & Reinier Kraakman, *Reinventing the Outside Director: An Agenda for Institutional Investors*, 43 STAN. L. REV. 863 (1991) [hereinafter Gilson & Kraakman, *The Outside Director*]; Jeffrey N. Gordon, *Institutions as Relational Investors: A New Look at Cumulative Voting*, 94 COLUM. L. REV. 124, 133-42 (1994).

¹⁴⁵ See Ian Ayres & Peter Cramton, *Relational Investing and Agency Theory*, 15 CARDOZO L. REV. 1033 (1994); Ronald J. Gilson & Reinier Kraakman, *Investment Companies As Guardian Shareholders: The Place of the MSIC in the Corporate Governance Debate*, 45 STAN. L. REV. 985 (1993).

¹⁴⁶ See William W. Bratton & Joseph A. McCahery, *Regulatory Competition, Regulatory Capture, and Corporate Self-Regulation*, 73 N.C. L. REV. 1861, 1904-06 (1995).

¹⁴⁷ See Robert C. Pozen, *Institutional Investors: The Reluctant Activists*, HARV. BUS. REV., Jan.-Feb. 1994, at 141, 145-46.

political activity.¹⁴⁸ They have had some successes. Their communicative courses of action have prompted preemptive negotiations and concessions by managers, and, in some cases the termination of the chief executive by the outside directors.¹⁴⁹

These shareholder threats are credible because they impact on the reputational interests of chief executives and independent board members. A campaign, by its very existence, declares that the target executives possess undesirable characteristics,¹⁵⁰ detracting from their standing in the business community,¹⁵¹ and in some cases, their marketability. Extraordinary risk aversion to such reputational impairment can be expected on the managers'

¹⁴⁸ These events confirm the predictions made by the theoretical counter story. Even given legal adjustments, governance initiatives realizing the full promise of cooperative gain through enforced self-regulation cannot be expected. Two points are emphasized. First, agency relationships within investment institutions create disincentives that prevent subgroup formation, even assuming a projection of a positive return to the subgroup from an investment in governance. Since the individual manager's performance is measured against the performance of the market as a whole and subgroup investment benefits the market as a whole, successful governance investments do not necessarily improve the individual manager's performance profile. See Rock, *supra* note 141, at 473-74. Second, the benefits of cost-intensive relational investment remain underspecified. In theory, these lie in informational access and ongoing constructive criticism by the institutional monitor. In practice, underperforming companies are publicly identified in the ordinary course, and standard remedies respecting investment policies, incentive schemes, and governance structures are part of the conventional wisdom. To the extent that institutions cheaply can tie the communication of these points to credible threats against target managers, the available set of governance benefits can be secured through discrete engagement. Incentives for more substantial investments in ongoing relationships remain speculative, absent a special technical capability on the part of the particular monitor. As a result, risks of perverse incentives and commitment problems come to the fore of the relational picture. A strategically placed institutional holder could opt for side payments from management in preference to public-regarding informational development, or, given a hostile tender offer, the institutions in the subgroup could defect from an implicit undertaking to management to be patient. See generally Ayres & Cramton, *supra* note 145; Edward B. Rock, *Controlling the Dark Side of Relational Investing*, 15 CARDOZO L. REV. 987 (1994).

¹⁴⁹ The means of access is the precatory shareholder proposal, a medium for nonbinding, shareholder-initiated voting proposals made available by preemptive mandate under federal proxy rule 14a-8. Institutions began making these proposals in the late 1980s in reaction to expanding legal constraints on takeovers. The first generation of proposals concerned poison pills, but in subsequent years the subject broadened to cover the shareholder voting process, and process and structure rules designed to make boards more effective in monitoring and designing incentive arrangements. See Gilson & Kraakman, *The Outside Director*, *supra* note 144, at 868; see also Grundfest, *supra* note 141, at 931. In the alternative, the proponent announces performance dissatisfaction directly and invites others to concur by voting no on management proposals. See Grundfest, *supra* note 141, at 931.

¹⁵⁰ See Grundfest, *supra* note 141, at 927-28.

¹⁵¹ Cf. James G. March & Zur Shapira, *Managerial Perspectives on Risk and Risk Taking*, 33 MGMT. SCI. 1404, 1413 (1987) (stating that managers are concerned about their reputations for risk-taking).

part, if, as seems reasonable, we can assume that their employment contracts, like investment contracts, are incomplete. With executives, incompleteness means that the contract does not fully compensate for tenure insecurity and the costs of changing jobs.¹⁵²

More broadly, the appearance of a vocal shareholder interest group changes the manager's institutional environment. The institutions articulate a normative challenge to the manager's conduct of the business. Their challenge has a more destabilizing effect than ordinary external criticism, due to their equity investments, long-term presence, and ability to marshal votes respecting both present and future matters for shareholder action. They represent an unstable sector in the larger domain of institutional relationships with which the manager deals. By negotiating, the risk averse manager seeks to stabilize, and, hopefully, influence the relationship.¹⁵³

2. *Dividends and Institutional Investors*

Two well-publicized exceptions to the general rule that the investor activists fight their battles in the form of discrete issue-based voting contests should be noted here. These are the Carl Icahn-Bennett LeBow proxy fight at RJR Nabisco and Kirk Kerkorian's campaign to gain representation on the Chrysler board. Each battle concerned dividend policy, and each was led by a large block holder pursuing an extraordinary short-term return on a common stock investment. More particularly, the Icahn-LeBow proxy contest was a step in a larger campaign to pressure RJR to separate its food and tobacco businesses by means of a spin-off. Kerkorian, in contrast, sought an extraordinary cash dividend, targeting a huge pot of cash—amounting to \$7.5 billion—accumulated by Chrysler as a reserve to finance the retooling of its production platform during the automobile industry's next cyclical downturn. Icahn and LeBow lost their proxy contest;¹⁵⁴ Kerkorian and Chrysler settled,

¹⁵² See Milgrom & Roberts, *supra* note 142, at S158-59.

¹⁵³ See March & Shapira, *supra* note 151, at 1414.

¹⁵⁴ The sequence of events was as follows. LeBow received FTC approval to purchase up to 15% of RJR's stock on the open market in August 1995. In early October 1995, LeBow announced a partnership with Carl Icahn to purchase a 4.8% stake in RJR. LeBow then waged and won a nonbinding consent solicitation of RJR shareholders to compel RJR to spin off the Nabisco food unit in February 1996. RJR countered to appease restless institutional investors by increasing its dividend 23% and setting a stock buy back objective. LeBow then made what is taken to be a tactical error. He announced a proposed settlement of several tobacco liability suits pending against his own tobacco company, Liggett. That settlement caused tobacco stocks to decline across-the-board. LeBow conceded

with Kerkorian getting a representative on the board and a dividend increase, but with management retaining its war chest.¹⁵⁵

The present interest of these cases lies in the absence in each of serious problems of observation and verification, despite a focus on a dividend proposal. Each case was easily stated, without a need to review a complex valuation process. In addition, each of RJR's food and tobacco combination and Chrysler's war chest was in plain sight. RJR presents the more typical case of the two. Spin-offs and other forms of corporate unbundling are, along with CEO termination, primary items on the institutional investor agenda.¹⁵⁶ Indeed, the frequent occurrence of corporate unbundling through spin-offs in recent years¹⁵⁷ demonstrates both the rise in shareholder influence and the concomitant shift in the reputational influences on managers.

Contrariwise, the spin-off's very prominence on observed institutional investor agendas demonstrates the restrictive effect of information asymmetries. Direct assaults on periodic retention de-

defeat in the RJR proxy contest one month later. See Suein L. Hwang & Steven Lipin, *LeBow Quits Fight to Win RJR Control*, WALL ST. J., Apr. 17, 1996, at A3.

The fight is not yet over. As of this writing, Icahn, having dissolved his partnership with LeBow, has renewed the fight for a spin-off of the Nabisco food group, conducting meetings with RJR management and threatening to call a special shareholders' meeting. See *Icahn Is Trying Again to Force RJR to Split Food, Tobacco Units*, WALL ST. J., Aug. 23, 1996, at B3.

¹⁵⁵ Kerkorian tried several tactics to accomplish his goal of a payout of the war chest over a two year period. First, he launched and aborted a \$20 billion hostile takeover bid. See Robert L. Simison et al., *Putting Chrysler in Play*, WALL ST. J., Apr. 14, 1995, at A4. Next, he raised his stake in Chrysler from a 9.2% stockholding to a 13.6% holding through a \$700 million tender offer and threatened a proxy fight. See Gabriella Stern et al., *Chrysler Faces New Pressure from Kerkorian*, WALL ST. J., June 27, 1995, at A3. In the end he settled for a five-year standstill agreement with the board. See Angelo B. Henderson & Gabriella Stern, *Chrysler Corp., Kerkorian Reach a Five-Year Truce Agreement*, WALL ST. J., Feb. 9, 1996, at A3. Chrysler, attempting to mollify Kerkorian, raised dividends five times over the two year period. It also announced a \$2 billion stock buy-back and a two-for-one stock split.

The standstill agreement requires Kerkorian to keep his stockholdings below 13.7% and prohibits him from launching any proxy fights or takeover attempts. In exchange, Chrysler agreed to the placement of a nominee on Chrysler's board, the announcement of an additional share repurchase program, and a change in some corporate governance policies.

¹⁵⁶ Sometimes the two are combined: a CEO target with a weakening internal political base resecures his position by announcing a spin-off of a substantial segment of the corporate group. See, for example, Richard Gibson, *Quaker Oats Feeling Pressure for Big Changes in the Wake of the Fizzled Snapple Acquisition*, WALL ST. J., July 25, 1996, at C2, recommending a spin off of Quaker Oats beverage business: "Some investors are betting that Quaker Oats Chairman Bill Smithburg must act soon to bolster Quaker's stock price if he doesn't want to become Cap'n Crunch."

¹⁵⁷ See Steven Lipin & Randall Smith, *Spinoffs Flourish, Fueled By Tax Status, Investor Pressure, and Stock Performance*, WALL ST. J., June 15, 1995, at C1.

cisions are uncommon—Kerkorian's attack on Chrysler's war chest is the only well-publicized case. A spin-off provides an indirect route to a similar end, one that surmounts the information problem. To see this point, we can turn once again to the writings of Warren Buffett. Suboptimal dividend and earnings retention decisions, he says, are particularly likely where the managers of an outstanding business add other businesses to the corporate entity:

Many corporations that consistently show good returns both on equity and on overall incremental capital have . . . employed a large portion of their retained earnings on an economically unattractive, even disastrous, basis. Their marvelous core businesses . . . camouflage repeated failures in capital allocation elsewhere The managers at fault periodically report on the lesson they have learned from the latest disappointment. They then usually seek out future lessons.¹⁵⁸

To push for a spin-off, then, is to push for a corporate structure that presents a lesser likelihood of suboptimal earnings retention. An immediate payoff in the form of an increased stock price also can be expected.

3. *Law Reform*

If it became the practice for institutions to nominate and elect their own board representatives, direct challenges to questionable dividend and reinvestment policies presumably would occur more often. Once on the board, the representative at least would have a chance to access the relevant information. Any law reform instituted as a means to promote institutional board representation¹⁵⁹ thus also promotes more productive dividend and retention decisions.

Pending realization of the full program of relational engagement between institutions and managers, we can expect the institutions to continue the practice of discrete, issue-based engagement of managers of poorly performing companies. Two alterations in the regulatory landscape—one at the federal level and the other at the state level—could facilitate increases in the scope and intensity of these piecemeal engagements. At the federal level, dividend policy could be admitted to the list of subject matter suitable for shareholder proposals.¹⁶⁰ At the state level, standing barriers to

¹⁵⁸ *Buffett Essays*, *supra* note 9, at 126; see also LOWENSTEIN, *supra* note 34, at 124-25.

¹⁵⁹ For a list of regulations singled out for amendment or removal, see Mark J. Roe, *A Political Theory of American Corporate Finance*, 91 COLUM. L. REV. 10, 26-27 (1991).

¹⁶⁰ Under Rule 14(a)-8(c)(13), specific amounts of cash or stock dividends are inappropriate subject matter for shareholder proposals. The SEC, pursuant to this rule, has con-

shareholder access to the corporate charter could be removed.¹⁶¹ Both reforms would increase chances for access to the corporate contract for the inclusion of shareholder-initiated terms. Of course, in so doing, neither could bring about a quick solution to the dividend and reinvestment problem. Since each would be directed to the corporate contract, each would suffer the limitations of the existing menu of contracting techniques. The menu contains a list of second-best solutions and partial palliatives—most prominently, shareholder payout options,¹⁶² set payout percentages, and disclosure rules. Despite these limitations, it would be instructive to see whether any of these provisions garnered investor support or otherwise proved useful to proponents in company-specific contexts. And it always remains possible that someone might invent an effective regulatory technology in the future. Were that to happen, corporate law's process rules should provide a ready basis for its imposition at the shareholders' behest. Even given a first-best contractual technology, voluntary management adoption cannot safely be predicted.

C. *Mandatory Disclosure*

Warren Buffett comments as follows on management communications respecting dividend and reinvestment decisions:

Dividend policy is often reported to shareholders, but seldom explained. A company will say something like, "Our goal is to pay out 40% to 50% of earnings and to increase dividends at a rate at least equal to the rise in the CPI." And that's it—no analysis will be supplied as to why that particular policy is best for the owners of the business. Yet allocation of capital is crucial to business and investment management.¹⁶³

Indeed it is. Even now, after six decades of experience with a mandatory disclosure system and a decade of experience with shareholder activism, meaningful disclosure practices respecting dividend and reinvestment decisions have yet to evolve.¹⁶⁴

tinually issued no-action letters to registrants seeking to exclude shareholder proposals regarding the declaration of dividends. *See, e.g.,* Shop Television Network, Inc., SEC No-Action Letter, 1991 WL 176906 (S.E.C.) (May 20, 1991).

¹⁶¹ Or, to the extent state level reform is impossible because of management capture of the state corporate lawmaking institutions, the federal government should intervene to mandate such access. *See* Bratton et al., *supra* note 43, at 1936-47.

¹⁶² *See supra* text accompanying notes 121-28.

¹⁶³ *Buffett Essays, supra* note 9, at 123.

¹⁶⁴ SEC disclosure requirements pertaining to the payment and declaration of dividends are very general. Regulation S-X requires the registrant to disclose the amount of the dividends for each class of share. *See* 17 C.F.R. § 210.3-04 (1994). The Regulation further

The noncontractibility of the subject matter explains this in part. In the rare case where a manager makes a disclosure about a dividend or reinvestment decision, the statement amounts to cheap talk because the decisions' bases are unobservable.¹⁶⁵ Smart money looks for signals with more credibility. The absence of investor pressure for a more forthcoming practice accordingly makes sense. For the rest of the explanation we can look to the SEC's early tradition of limiting the disclosure mandate to hard, verifiable information,¹⁶⁶ and its more recent problems in constructing a viable safe harbor for projections disclosure.¹⁶⁷ Reinvestment decisions are made to finance investments, and investments follow from projections. Mandated disclosure of particulars respecting reinvestment decisions thus sounds suspiciously like a mandate to disclose internal projections.

The effect of this rule of nondisclosure—once coupled with the state law allocation of utmost business judgment protection—is to embed dividend and reinvestment decisions in the deepest and darkest corner of the corporate black box. We lack any sense of the quality of boardroom practice respecting dividend and reinvestment decisions, in contrast to our extensive, litigation-generated knowledge of practice respecting mergers and takeovers.¹⁶⁸ A long list of questions can be asked. Do boards in fact receive peri-

requires that any restrictions on dividend payments be noted in the notes accompanying financial statements. See 17 C.F.R. § 210.4-08(e)(1) (1996). No other significant information respecting dividends needs to be reported in periodic financials filed with the SEC. See generally Regulation S-X, 17 C.F.R. § 210.1-01 to 210.6-07. Regulation S-K requires the registrant to disclose cash dividends declared per common share in its selected financial data, and permits the disclosure of any other additional items that the registrant believes would enhance an understanding of other trends in its financial condition. See 17 C.F.R. § 229.301 instr. 2.

¹⁶⁵ Those skeptical about signalling explanations of dividend payout patterns dismiss dividend increases themselves as cheap talk. See Harry DeAngelo et al., *Reversal of Fortune: Dividend Signaling and the Disappearance of Sustained Earnings Growth*, 40 J. FIN. ECON. 341 (1996) (supporting the conclusion that dividend increases are not systematically reliable as signals).

¹⁶⁶ For a description of the SEC's historical policy, see George J. Benston, *The Effectiveness and Effects of the SEC's Accounting Disclosure Requirements*, in *ECONOMIC POLICY AND THE REGULATION OF CORPORATE SECURITIES* 26-30 (Henry G. Manne ed., 1969).

¹⁶⁷ Necessitating congressional intervention. See Private Securities Litigation Reform Act of 1995, Pub. L. No. 104-67, § 102, 109 Stat. 737, 749 (codified as amended at 15 U.S.C. § 77z-2 (Supp. I 1996), inserting new section 27A into the Securities Act of 1933 with safe harbor for forward-looking statements).

¹⁶⁸ There, the application of fiduciary rules of care and loyalty has resulted in the evolution of a process standard. Boards are not required to bring back some minimum price for the company for the shareholders' benefit. But they are told to adhere to a process standard, in turn, designed to provide a circumstantial guarantee that they keep their eyes fixed on the objective of shareholder value enhancement.

odic, documented confirmation that reinvested funds are devoted only to $r > k$ projects? To what extent do management-instituted decision systems respect the integrity of capital budgeting methodologies? Are the results of such analyses included in board presentations of business plans? Do boards make dividend and reinvestment decisions independently of one another? Presumably, answers to these questions could be obtained through the mandatory disclosure system.

Stepped up disclosure rules have been suggested in legal literature as a device for delimiting management discretion over the dividend. But, in making this argument, Victor Brudney rejected a requirement of detailed disclosure of the components underlying each dividend decision—"a dubious benefit, and at a likely intolerable cost."¹⁶⁹ He instead recommended that alterations in a longer term payout pattern be announced and explained. He sought, by reference to the signalling literature, to deploy the disclosure mandate to clear up the ambiguities that attend departure from (or adherence to) the conventional payout pattern.¹⁷⁰ He acknowledged that his proposed disclosure rule might also constrain management's self-interested tendencies respecting reinvestment, but only as an incidental benefit.¹⁷¹

Subsequent economic literature, particularly the agency explanation of the dividend payout pattern, suggests that the gravamen of any disclosure problem lies on the reinvestment side of the coin. Indeed, Joseph Stiglitz recently suggested just such an extension of the mandate.¹⁷² And, certainly, if a disclosure mandate could be shaped that would discourage $r < k$ investing without imposing an undue cost or litigation exposure burden on reporting firms, then such a mandate should be implemented. The question, then, is technical.

Let us consider a few types of disclosure rules that could address the problem, none of which would entail direct disclosure of investment projections. One type would require firms to report on their general policy respecting reinvestment decisions. They could state, for example, whether $r < k$ investing is a conscious practice; they could state whether a cost-benefit analysis keyed to projected return and the cost of capital is an invariant requirement respecting

¹⁶⁹ Brudney, *supra* note 32, at 116-17.

¹⁷⁰ He placed primary emphasis on the dividend decision's apparent capacity to influence the stock price, independent of the reinvestment decision. *See id.* at 117-22.

¹⁷¹ *See id.* at 122.

¹⁷² *See* Edlin & Stiglitz, *supra* note 111, at 1309.

capital investment decisions, and could state also whether particulars respecting such analyses are reported and discussed at the board level; and they could report on their capital budgeting methodologies and prevailing assumptions respecting the cost of equity capital. The problem is that any such talk still is cheap. Even with state of the art capital budgeting methodology and board level reporting, $r < k$ investment can remain a habit so long as the system provides an input of inflated projected returns.

In the alternative (or in addition), a second strategy could be employed. Firms could be required, in accordance with Stiglitz's suggestion, to identify the different investment projects adopted and funded in a given period and state the amount invested. Stiglitz argues that this requirement would ameliorate a problem of perverse incentives—rational managers will invest in suboptimal projects where their success or failure is likely to be obscured by the property of unobservability.¹⁷³ The problem with his suggestion lies in the cost of creation and implementation. After all, it contemplates a whole new reporting system.

If suboptimal investment practice really is a serious problem, then the cost-benefit question respecting these suggestions (or other disclosure strategies that might be brought forward) remains open. One anticipates the objection that additional disclosure requirements amount to a deadweight cost. But that shopworn point dates from the era when managers were subject to an active control market deterrent. It lost vitality when the disciplinary equilibrium of the securities and control markets shifted radically in the late 1980s. The better *contra* argument today is that disclosure problems should be treated with contractual solutions rather than with government mandates. Disclosure rules are, after all, contractible to some extent, and contractual commitments in theory present a superior alternative to state mandates. Unfortunately, however, practices of institutional investor intervention have not yet evolved to the point of active exploration of the corporate charter's potential to contain more productive terms for contractible subject matter. As noted above,¹⁷⁴ state law erects a barrier to any such development. Accordingly, a regulatory inquiry into the feasibility of disclosure conventions that import greater transparency respecting dividend and investment policy would by itself be welcome, if only because it could prompt private sector movement in this direction.

¹⁷³ See *id.* at 1301-02, 1307, 1309.

¹⁷⁴ See *supra* text accompanying note 161.

CONCLUSION

If dividends are a puzzle because good firms pay them despite the availability of exceptional investment opportunities, then Warren Buffett is our only rational corporate manager because his pursuit of exceptionally good investments leads him to withhold dividends entirely. But, without any diminution in our recognition of his achievements, we can go some distance in solving the dividend puzzle by reference to the economics of noncontractibility. The solution of course is that there is no neat solution, due to a confluence of present information asymmetries, imperfect incentives, and future uncertainties that surround every dividend decision. We accordingly should reconceive dividend policy to be less a puzzle than a complex phenomenon observed among actors dealing with one another in a second-best world. Thus reconceived, dividend policy admits of a complex explanation, each component of which is unsatisfactory but the entirety of which provides a satisfactory working picture. The models applied in this Article add much detail to that working picture without suggesting any radical revision of its basic outlines. As such, they reconfirm the standing view that the dividend is a territory unsuited to the imposition of new legal mandates, even a mandate transferring declaration authority over to the shareholders. Only as to disclosure policy might we plausibly explore productive law reform initiatives. Meanwhile, shareholders themselves, led by activist investment institutions, have found ways to make suboptimal earnings retention a less likely event, if not to guarantee against it. An empirical question arises respecting the extent of their success. Has the management climate of the 1990s so changed as to make suboptimal earnings retention a secondary problem on the corporate landscape? One suspects that once data are on the table for inspection, the answer still will lie in the judgment of the observer.

APPENDIX

In the first quarter of 1996, Berkshire Hathaway held significant stakes in the following publicly-traded companies: American Express, Walt Disney, Coca-Cola, Federal Home Loan Mortgage Corp., GEICO, Gillette, Wells Fargo & Co., and Salomon Brothers.¹⁷⁵ The chart¹⁷⁶ that follows shows the dividends per share and earnings per share for each of these holdings along with those of companies in the Fortune 500 that fall into the same industry group for each of 1994 and 1995. For each company, a “payout ratio” is calculated in terms of dividends as a percentage of earnings. In addition the mean “payout ratio” is calculated for each industry group.

The payout ratios of the Berkshire-held companies and the industry groups compare as follows:

	1995	1994
Coca-Cola	37.29%	39.39%
Beverages	53.62%	51.93%
Salomon Bros	18.29%	-14.85% (loss; dividend paid)
Brokerage	34.79%	38.26%
Gillette	32.43%	31.85%
Metals	10.55%	26.01%
Wells Fargo	23.12%	27.74%
Banks	45.79%	41.45%
Amex	28.94%	31.64%
FHLM	21.09%	17.93%
Div. Fin.	26.24%	28.61%
Disney	13.46%	14.22%
Ent.	-7.56%	-6.98% (due to Time Warner losses)
GEICO	36.36%	26.11%
Insurance	17.85%	14.8

¹⁷⁵ See BERKSHIRE HATHAWAY INC., 1995 ANNUAL REPORT 15-16 (1996). As of December 31, 1995, the Walt Disney holding was in the form of a long-term stake in Capital Cities/ABC. Effective as of January 1996, Capital Cities merged with Walt Disney. Pursuant to the merger, Capital Cities shares were converted into Walt Disney shares. Also, in 1996 Berkshire purchased the remaining 49% of GEICO to make it a 100% owned subsidiary.

¹⁷⁶ The chart was compiled from the following sources: *The Fortune 1000 Ranked Within Industry*, FORTUNE, Apr. 29, 1996, at F-43-F-64; Company Ticker Symbol and All Share Information, Bloomberg On-Line Financial Services, Sept. 20, 1996.

COMPANY NAME	TICKER SYMBOL	1995		1994		PAYOUT RATIO
		DPS	EPS	DPS	EPS	
BEVERAGES (7)						
Coca-Cola	KO	\$0.44	\$1.18	\$0.39	\$0.99	39.39%
Anheuser-Busch	BUD	\$0.84	\$1.25	\$0.74	\$1.94	38.14%
Coca-Cola Enterprises	CCE	\$0.50	\$0.62	\$0.50	\$0.52	96.15%
Whitman	WH	\$0.37	\$1.26	\$0.33	\$0.97	34.02%
AVERAGE		\$0.54	\$1.08	\$0.49	\$1.11	51.93%
BROKERAGE (7)						
Merrill Lynch	MER	\$1.01	\$5.42	\$0.89	\$4.74	18.78%
Lehman Bros	LEH	\$0.20	\$1.76	\$0.18	\$0.69	26.09%
Salomon Bros	SB	\$0.64	\$3.50	\$0.64	(\$4.31)	-14.85%
Paine Webber	PWJ	\$0.48	\$0.52	\$0.58	\$0.41	141.46%
Bear Stearns	BSC	\$0.54	\$1.62	\$0.52	\$2.62	19.85%
AVERAGE		\$0.57	\$2.56	\$0.56	\$0.83	38.26%
METAL PRODUCTS (16)						
Gillette	G	\$0.60	\$1.85	\$0.50	\$1.57	31.85%
Crown Cork & Seal	CCK	\$0.00	\$0.83	\$0.00	\$1.47	0.00%
MASCO	MAS	\$0.73	(\$2.77)	\$0.69	\$1.22	56.56%
Tyco International	TYC	**\$0.20	\$1.41	\$0.20	\$1.28	15.63%
Illinois Tool Works	ITW	\$0.64	\$3.29	\$0.54	\$2.45	22.04%
U.S. Industries	USN	N/A*	N/A	N/A*	N/A	N/A
Stanley Works	SWK	\$0.71	\$0.67	\$0.69	\$1.40	49.29%

Ball	BLL	\$0.60	(\$0.72)	-83.33%	\$0.60	\$2.20	27.27%
Newell	NWL	\$0.46	\$1.41	32.62%	\$0.39	\$1.24	31.45%
TOTAL AVERAGE		\$0.44	\$0.66	10.55%	\$0.40	\$1.43	26.01%
AVERAGE W/OUT UNAVAILABLES (*)		\$0.49	\$0.75	11.87%	\$0.45	\$1.60	29.26%

** JUNE FISCAL YEAR ENDS

COMMERCIAL BANKS (55)

Citicorp	CCI	\$1.20	\$6.48	18.52%	\$0.45	\$6.29	7.15%
Bankamerica	BAC	\$1.84	\$6.45	28.53%	\$1.60	\$5.33	30.02%
NationsBank	NB	\$2.08	\$7.04	29.55%	\$1.88	\$6.06	31.02%
Chemical	CHL	\$1.88	\$6.47	29.06%	\$1.58	\$4.54	34.80%
J.P. Morgan	JPM	\$3.00	\$6.36	47.17%	\$2.72	\$6.02	45.18%
Chase Manhattan	CMB	\$1.88	\$6.04	31.13%	\$1.58	\$4.97	31.79%
First Chicago NBD	FCN	\$1.32	\$3.41	38.71%	\$1.17	\$3.58	32.68%
First Union Corp.	FTU	\$1.96	\$5.04	38.89%	\$1.72	\$4.58	37.55%
Banc One	ONE	\$1.21	\$2.91	41.58%	\$1.09	\$2.20	49.55%
Bankers Trust	BT	\$4.00	\$2.03	197.04%	\$3.60	\$7.17	50.21%
Fleet Financial	FLT	\$1.60	\$1.57	101.91%	\$1.30	\$3.09	42.07%
Norwest	NOB	\$0.90	\$2.73	32.97%	\$0.77	\$2.41	31.95%
PNC Bank	PNC	\$1.40	\$1.19	117.65%	\$1.31	\$2.52	51.98%
Keycorp	KEY	\$1.44	\$3.45	41.74%	\$1.28	\$3.45	37.10%
Bank of Boston	BKB	\$1.29	\$4.43	29.12%	\$0.93	\$3.61	25.76%
Wells Fargo	WFC	\$4.60	\$19.90	23.12%	\$4.00	\$14.42	27.74%
Bank of New York	BK	\$0.68	\$2.15	31.63%	\$0.53	\$1.85	28.65%
First Interstate Bancorp	I	\$3.10	\$11.02	28.13%	\$2.75	\$2.31	119.05%
Mellon Bank	MEL	\$2.00	\$4.46	44.84%	\$1.56	\$2.42	64.46%
Wachovia	WB	\$1.38	\$3.49	39.54%	\$1.23	\$3.12	39.42%
Suntrust Banks	STI	\$0.74	\$2.47	29.96%	\$0.66	\$2.18	30.28%
Barnett Banks	BBI	\$0.88	\$2.57	34.24%	\$0.77	\$2.33	33.05%
National City	NCC	\$1.30	\$2.95	44.07%	\$1.18	\$2.70	43.70%

First Bank System	FBS	\$1.45	\$4.11	35.28%	\$1.16	\$2.14	54.21%
Comerica	CMA	\$1.34	\$3.52	38.07%	\$1.20	\$3.28	36.59%
Boatmen's Bancshares	BOAT	\$1.39	\$3.25	42.77%	\$1.25	\$3.17	39.43%
U.S. Bancorp	USBC	\$1.03	\$2.09	49.28%	\$0.91	\$1.60	56.88%
Corestates	CFL	\$1.36	\$3.18	42.77%	\$1.20	\$1.72	69.77%
Republic New York	RNB	\$1.44	\$4.59	31.37%	\$1.26	\$5.61	22.46%
MBNA	KRB	\$0.54	\$1.54	35.06%	\$0.46	\$1.18	38.98%
TOTAL AVERAGE							
		\$1.67	\$4.56	45.79%	\$1.44	\$3.86	41.45%
DIVERSIFIED FINANCIAL (15)							
Fed. Nat'l Mortgage Assoc.	FNM	\$0.68	\$1.95	34.87%	\$0.60	\$1.94	30.93%
American Express	AXP	\$0.90	\$3.11	28.94%	\$0.87	\$2.75	31.64%
Morgan Stanley Group	MGMS	\$0.48	\$3.33	14.41%	\$0.60	\$2.09	28.71%
Fed. Home Loan Mortgage	FRE	\$1.20	\$5.69	21.09%	\$1.04	\$5.80	17.93%
Dean Witter	DWD	\$0.61	\$4.88	12.50%	\$0.48	\$4.27	11.24%
American General	AGC	\$1.24	\$2.64	46.97%	\$1.16	\$2.45	47.35%
Household International	HI	\$1.29	\$4.30	30.00%	\$1.21	\$3.50	34.57%
Berkshire Hathaway	BRK	\$0.00	\$610.90	0.00%	\$0.00	\$420.12	0.00%
Student Loan Mktg. Assoc.	SLM	\$1.51	\$7.20	20.97%	\$1.40	\$4.91	28.51%
March & McLennan	MMC	\$2.91	\$5.53	52.62%	\$2.79	\$5.05	55.25%
TOTAL AVERAGE							
		\$1.08	\$64.95	26.24%	\$1.02	\$45.29	28.61%
ENTERTAINMENT (4)							
Walt Disney	DIS	\$0.35	\$2.60	13.46%	\$0.29	\$2.04	14.22%
Viacom	VIA	\$0.00	\$0.43	0.00%	\$0.00	\$0.07	0.00%
Time-Warner	TWX	\$0.36	(\$0.57)	-63.16%	\$0.35	(\$0.27)	-129.63%
Turner Broadcasting	TBS	\$0.07	\$0.36	19.44%	\$0.07	\$0.08	87.50%
AVERAGE							
		\$0.20	\$0.71	-7.56%	\$0.18	\$0.48	-6.98%

INSURANCE, P&C, STOCK (27)

American Int'l Group	AIG	\$0.32	\$5.30	6.04%	\$0.28	\$4.58	6.11%
Allstate	ALL	\$0.78	\$4.22	18.48%	\$0.72	\$1.08	66.67%
Loews	LTR	\$0.62	\$14.98	4.14%	\$0.50	\$2.22	22.52%
Travelers Group	TRV	\$0.54	\$3.67	14.71%	\$0.43	\$2.57	16.73%
IIT Hartford Group	HIG	\$0.00	\$4.77	0.00%	\$0.00	\$5.50	0.00%
General RE	GRN	\$1.96	\$9.92	19.76%	\$1.92	\$7.97	24.09%
Chubb	CB	\$0.98	\$3.92	25.00%	\$0.90	\$2.97	30.30%
St. Paul Cos.	SPC	\$1.58	\$5.68	27.82%	\$1.49	\$4.93	30.22%
Sareco	SAFC	\$1.02	\$3.15	32.38%	\$0.95	\$2.48	38.31%
American Fin. Group	AFG	\$0.75	\$3.88	19.33%	\$1.16	(\$0.83)	-139.76%
USF&G	FG	\$0.20	\$1.53	13.07%	\$0.20	\$1.77	11.30%
Allmerica Financial	AFC	\$0.00	\$2.61	0.00%	\$0.00	\$0.76	0.00%
GEICO	GEC	\$1.08	\$2.97	36.36%	\$1.00	\$3.83	26.11%
Progressive	PGR	\$0.22	\$3.24	6.79%	\$0.21	\$3.59	5.85%
Reliance Group Holdings	REL	\$0.32	\$0.73	43.84%	\$0.32	\$0.38	84.21%
AVERAGE		\$0.69	\$4.70	17.85%	\$0.67	\$2.92	14.84%

