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Agency Costs of Overvalued Equity

Finance Working Paper N° 039/2004
May 2004

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Harvard Business School, Monitor Group, Cambridge, Massachusetts and ECGI

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Abstract

I define and analyze the agency costs of overvalued equity. They explain the dramatic increase in corporate scandals and value destruction in the last five years; costs that have totaled hundreds of billions of dollars. When a firm's equity becomes substantially overvalued it sets in motion a set of organizational forces that are extremely difficult to manage - forces that almost inevitably lead to destruction of part or all of the core value of the firm. WorldCom, Enron, Nortel, and eToys are only a few examples of what can happen when these forces go unmanaged. Because we currently have no simple solutions to the agency costs of overvalued equity this is a promising area for future research. The first step in managing these forces lies in understanding the incongruous proposition that managers should not let their stock price get too high. By too high I mean a level at which management will be unable to deliver the performance required to support the market's valuation. Once a firm's stock price becomes substantially overvalued managers who wish to eliminate it are faced with disappointing the capital markets. This value resetting (what I call the elimination of overvaluation) is not value destruction because the overvaluation would disappear anyway. The resulting stock price decline will generate substantial pain for shareholders, board members, managers and employees, and this makes it difficult for managers and boards to short circuit the forces leading to value destruction. And when boards and managers choose to defend the overvaluation they end up destroying part or all of the core value of the firm. WorldCom, Enron, Nortel, and eToys are only a few examples of what can happen if these forces go unmanaged. Control markets cannot solve the problem because you cannot buy up an overvalued firm, eliminate the overvaluation and make money. Equity-based compensation cannot solve the problem because it makes the problem worse, not better. While it is puzzling that short selling was unable to resolve the problem the evidence seems to be consistent with the Shleifer and Vishny (1997) arguments for the limits of arbitrage. It appears the solution to these problems lies in the board of directors and the governance system. But that is a problem because there is substantial evidence that weak governance systems have failed widely. It also appears that boards and audit committees would be well served by communicating with and carefully evaluating the information that could be provided by short sellers of the firm's securities.

Keywords: Overpriced Equity, Market Mistakes, Misvaluation, Failure of Corporate Governance, Control, Incentives

JEL Classification: D21, D23, D84, G31, G34

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The Agency Costs of Overvalued Equity

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ABSTRACT

I define and analyze the agency costs of overvalued equity. They explain the dramatic increase in corporate scandals and value destruction in the last five years; costs that have totaled hundreds of billions of dollars. When a firm's equity becomes substantially overvalued it sets in motion a set of organizational forces that are extremely difficult to manage - forces that almost inevitably lead to destruction of part or all of the core value of the firm. WorldCom, Enron, Nortel, and eToys are only a few examples of what can happen when these forces go unmanaged. Because we currently have no simple solutions to the agency costs of overvalued equity this is a promising area for future research.

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Agency Costs of Overvalued Equity[1]

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In the past few years, we have seen many fine companies end up in ruins and watched record numbers of senior executives go to jail. And we will surely hear of more investigations, more prison terms, and more damaged reputations. Shareholders and society have borne value destruction in the hundreds of billions of dollars.

What went wrong? Were managers overtaken by a fit of greed? Did they wake up one morning and decide to be crooks? No. Although there were some crooks in the system, the root cause of the problem was not the people but the system in which they were operating—a system in which equity became so dangerously overvalued that many CEOs and CFOs found themselves caught in a vicious bind where excessively high stock valuations led to massive destruction of corporate and social value. And the problem was made far worse than it had to be because few managers or boards had any idea of the destructive forces involved.

What is Overvalued Equity?

Equity is overvalued when a firm's stock price is higher than its underlying value. By definition, this means the company will not be able to deliver—except by pure luck—the performance to justify its value.

To my knowledge, with the exception of Warren Buffett (who hints at these forces in his 1988 letter to Berkshire shareholders) no leaders in the business and financial community have recognized that overvalued equity triggers organizational forces that destroy value. Nor have they publicly acknowledged their role in creating this trap.

We can take a brief look at agency theory—an idea William Meckling and I wrote about in 1976[2] — as a way to think about the consequences of overvalued equity. An agency relationship

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[1] This paper is drawn from "The Agency Cost of Overvalued Equity and the Current State of Corporate Finance" (Keynote Lecture, European Financial Management Association), London, June 2002. I am indebted to Joe Fuller, Kevin Murphy, Harry and Linda DeAngelo, Jeff Skelton and Eric Wruck for conversations on these issues.

exists whenever one or more people (principals, such as a corporation's shareholders) engage one or more other people (agents, such as a corporation's managers) to perform a service. Of course, agents will not always act in the best interests of the principals, and vice versa, and efforts to manage the conflicting interests of both parties in an agency relationship generate costs. The effect of both of these forces is to destroy value, and good incentive and governance systems are required to limit this value destruction.

In part, the massive overvaluation of equity that occurred in the late 1990s and early 2000s was an understandable market mistake. Society often overvalues what is new[3]—in this case, high-tech, telecommunications, and internet ventures. But that catastrophic overvaluation was also the result of misleading data from managers, large numbers of naïve investors,[4] and breakdowns in the agency relationships within companies and within gatekeepers including investment and commercial banks, and audit and law firms (many of whom knowingly contributed to the misinformation and manipulation that fed the overvaluation).

Under- or overvaluation of a firm can be due to market inefficiency, or it can occur in a market that is semi-strong form efficient (when the market does not have the information available to managers). It does not matter for my analysis here whether markets are efficient or not. Moreover, there is a simple rule for managers to tell whether their stock price is overvalued: When managers perceive it is impossible for them to meet the performance requirements to justify the current price of their equity, the firm is overvalued. And when managers cook the books or engage in other fraud and lying to support their firm's stock price we know that they knew with a great deal of certainty that their firm was overvalued.

It is time for managers and boards to recognize that overvaluation triggers organizational forces that destroy value. Managers must avoid contributing to the trap, and boards of directors must take accountability for preventing the value destruction that overvaluation causes.

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2 Jensen and Meckling, 1976, "Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure", *Journal of Financial Economics*, V. 3, No. 4, October: pp. 305-360 (available from the Social Science Research Network eLibrary at: http://papers.ssrn.com/Abstract=94043)

3 Railroads, canals, and telephone companies are but a few historical examples.

4 See D'Avolio, Gildor and Shleifer, 2002, "Technology, Information Production, and Market Efficiency", *Economic Policy for the Information Economy*, August, 2001, Jackson Hole, Wyo. (available from the Social Science Research Network eLibrary at:http://papers.ssrn.com/abstract=286597 http://www.kc.frb.org/PUBLICAT/SYMPOS/2001/papers/S02shle.pdf)

Gaming the System

I've written in recent years about the fundamental problems of our corporate budgeting systems.[5] Because compensation is tied to budgets and targets, people are paid not for what they do but for what they do relative to some target, which leads people to game the system by manipulating both the setting of the targets and how they meet their targets. These counterproductive target-based budget and compensation systems provide the fertile foundation for the damaging effects of the earnings management game with the capital markets.

Corporate managers and the financial markets have been playing a game similar to the budgeting game. Just as managers' compensation suffer if they miss their internal targets, CEOs and CFOs know that the capital markets will punish the entire firm if they miss analysts' forecasts by as much as a penny. And just as managers who meet or exceed their internal targets receive a bonus, the capital markets reward a firm with a premium for meeting or beating the analysts' expectations at quarter end. When a firm produces earnings that beat the consensus analyst forecast the stock price rises on average by 5.5%. For negative earnings surprises the stock price falls on average by –5.05%.[6] Generally, the only way for managers to meet those expectations year in and year out is to cook their numbers, to mask the inherent uncertainty in their businesses.

Indeed, "earnings management" has been considered an integral part of every top manager's job. But when managers smooth earnings to meet market projections, they're not creating value for the firm; they're both lying and making poor decisions that destroy value. I realize it is not fashionable to use such harsh language to describe what are almost universal practices. But when numbers are manipulated to tell the markets what they want to hear rather than what the true status of the firm is—it is lying, and when real decisions, that would maximize value, are compromised to meet market expectations real long-term value is being destroyed.

Once we as managers start lying, it's nearly impossible for us to stop. If we're having trouble meeting the estimates for this year, we push expenses forward. And we pull some revenues from next period into this period. Revenues borrowed from the future and today's expenses pushed to tomorrow require even more manipulation in the future to forestall the day of reckoning.

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5 See Jensen, 2001, "Corporate Budgeting Is Broken: Let's Fix It", *Harvard Business Review*, November (available from the Social Science Research Network eLibrary at: http://papers.ssrn.com/Abstract=321520); Jensen, 2003, "Paying People to Lie: The Truth About the Budgeting Process", *European Financial Management,* V. 9, No. 3, 2003: pp. 379-406 (available from the Social Science Research Network eLibrary at: http://papers.ssrn.com/Abstract=267651)

6 See Skinner and Sloan, 2002, "Earnings Surprises, Growth Expectations, and Stock Returns or Don't Let an Earnings Torpedo Sink Your Portfolio", *Review of Accounting Studies,* V. 7, No. 2-3: pp. 289-312.

Managerial Heroin

Like taking heroin, manning the helm of an overvalued company feels great at first. If you're the CEO or CFO, you're on TV, investors love you, your options are going through the roof, and the capital markets are wide open. But as heroin users learn, massive pain lies ahead.

You realize the markets will hammer you unless your company's performance justifies the stock price. So you start to take actions that you hope will at least appear to generate the expected performance and thereby postpone the day of reckoning until you are gone or you figure out how to resolve the issue.

But, by definition we know that you cannot, except by pure luck, produce the performance required to justify your overvalued stock price. To appear to be satisfying growth expectations you use your overvalued equity to make acquisitions, you use your access to cheap debt and equity capital to engage in excessive internal spending and risky negative net present value investments that the market thinks will generate value, and eventually you turn to further manipulation and even fraudulent practices to continue the appearance of growth and value creation.

None of these actions truly improve performance. In fact, they destroy part or all of the firm's core value. But what's your alternative? How could you argue to your board that a major effort must be made to *reduce* the price of the stock? In the last 10 years there has simply been no listening in boards for this problem. The likely result for any CEO in this situation is that the board would respond by saying "If you can't do it we will get someone who can". And the reality of this overvaluation problem will be even more difficult to detect when there are many firms (say in telecommunications or technology) that are simultaneously overvalued as they were in the recent bubble.

Examples and Evidence

Look at Enron. My guess is that at the time of Enron's peak market value of $70 billion, the company was actually worth about $30 billion. It was a good, viable business; the company was a major innovator. But senior managers' efforts to defend the $40 billion of excess valuation (which was nothing but a mistake that was going to go away anyway) effectively destroyed the $30 billion core value. Enron's managers had a choice: they could have helped the market reduce its expectations. They could have found the courage to reset the company's value. Instead, they destroyed it by trying to fool the markets through accounting manipulations, hiding of debt through off-balance sheet partnerships, and over hyped new ventures such as their broadband futures effort.

In doing this Enron's managers gambled with their critical asset, Enron's reputation for integrity. One cannot make markets if the parties to the contracts do not believe that the market maker will in fact live up to the contracts they are entering into.

In their important recent study "Wealth Destruction on A Massive Scale? A Study of Acquiring-Firm Returns in the Recent Merger Wave" Moeller, Schlingemann, and Stulz (2003) provide dramatic evidence of the magnitude of the agency costs of overvalued equity in the recent period. They document that in the three-day period surrounding the announcement of acquisitions in the period 1998-2001 acquiring firms lost a total of $240 billion as compared to a total loss of $4.2 billion in all of the 1980s. In addition, unlike the 1980s where the losses to bidders were offset by the gains to sellers (for a net synergy gain of $11.5 billion), in the 1998-2001 period the losses to acquirers were not offset by the gains to the target firms. Indeed, the losses to bidders *exceeded* the gains to targets by for a net synergy loss of $134 billion. The losses were concentrated in 87 large loss transactions (where the loss to the bidder was greater than $1 billion)[7]. Because the losses to acquiring firm shareholders in these deals was on average $2.31 per dollar spent on the acquisition, the authors argue (and I agree) "that an important component of the market's reaction to the announcement is a reassessment of the standalone value of the acquirer".

Consistent with the theory I offer here the bidders appeared to be substantially overvalued. The bidders in large loss deals had statistically significantly higher Tobin's q[8] and market to book ratios (at the 1% level) than the bidders in other deals in the same time period and all bidders in the 1980-1997 period. In addition, as predicted by my theory here, the large loss bidders financed their deals with dramatically and statistically significant (at the 1% level) higher equity (71.6% for the bidders in large loss deals as opposed to 35.2% for the other bidders in the same time period and 30.3% for all bidders in the 1980-1997 period).

The authors find that the "firms that make large loss deals are successful with acquisitions until they make their large loss deal". They conclude that "the magnitude of the losses in comparison to the consideration paid is large enough and the performance of the firms after the announcement poor enough that in most cases the acquisitions lead investors to reconsider the extremely high stand-along valuations of the announcing firms". The evidence is consistent with the argument I offered above where management makes acquisitions to con the market into

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7 The total loss for the shareholders of these 87 large loss announcements in the 3 days around the announcement was $397 billion.

8 Even when adjusted for the industry q of the bidder. Tobin's q is defined as the book value of assets minus the book value of equity plus the market value of equity, divided by the book value of assets. The market to book ratio is the reciprocal of the book-to-market ration as defined byFama and French, 1992, "The Cross Section of Expected Stock Returns", *Journal of Finance,* V. 47: pp. 427-465.

believing that management is going to create the value that the market expects, and is able to continue to fool it for some period of time by providing the illusion of growth. When the market finds out that the high value and growth was was an illusion the firm's value will fall precipitously because all the overvaluation will disappear as well as the value of the core business that has been compromised by the attempts to avoid discovery. But it is also consistent with the hypothesis that the earlier acquisitions truly created value. Additional work must be done to sort this issue out. The case of Nortel provides evidence in favor of the hypothesis that management was destroying value in most, if not all, of its earlier acquisitions as well.

Between 1997 and 2001, Nortel acquired 19 companies at a price of more than $33 billion and paid for many of these acquisitions with Nortel stock, which had increased dramatically during that period. When the company's stock price fell 95 percent, most of the acquisitions were written off. More importantly for the issue of value destruction, Nortel not only wrote off the value but also closed down the activities of most of these acquisitions. Nortel destroyed those companies and in doing so destroyed not only the corporate value that the acquired companies—on their own—could have generated but also the social value those companies represented in the form of jobs and products and services.

But the study of agency costs of overvalued equity in the mergers and acquisition market is only a part of the total costs this phenomenon has imposed on firms and society. It extends also to greenfield investments and other major business decisions. Lucent, Xerox, Worldcom, and Quest are several other prominent examples among many, but many high tech and highly promising startups have fallen prey to the phenomenon as well. Even venture capitalists fell prey to the phenomenon.

Because neither top managers nor board members have had the language to talk about the dangers of overvalued equity, few have fully understood it. And even those who have sensed the problem have been unable to stop the game.

Consider the failure of eToys, a famous internet startup. eToys' CEO Toby Lenk (who watched his stockholdings rise to $850 million on its first day of trading on the NYSE in May 1999) was quoted as saying to his CFO, "This is bad. We're going to live to regret this."[9] Lenk knew something was wrong, but he and his management team went ahead and built the capacity for $500 million in sales, and advertised similarly. Sales peaked at $200 million, and in February 2001, just 21 months after that first heady day, the company filed for bankruptcy protection and was eventually liquidated. Another victim of the agency costs of overvaluation and failed governance.

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9 Sokolove, 2002, "How to Lose $850 Million -- And Not Really Care", *New York Times Magazine*, June 9

eToys did not have to fail. The story of TheStreet.com is similar and told in detail in a recent book.[10]

Failed Governance

The market for corporate control solved many of the problems of undervalued equity in the 1970s and 1980s through hostile takeovers, leveraged buyouts, and management buyouts. It could not, however solve the agency problems of overvalued equity. It is difficult, to say the least, to buy up an overvalued company, eliminate its overvaluation and make a profit.

In addition, equity-based compensation through options, restricted, unrestricted or phantom stock holdings by executives could not solve the problem either. In fact, in the context of overvalued equity such equity-based incentives are like throwing gasoline on a fire — they make the problem worse, not better. Moreover, Efendi, Srivastava, and Swanson (2004) in their recent study of 100 firms who restated their earnings in 2000 and 2001 document that firms with CEO's who have large amounts of "in-the-money" options are much more likely to be involved in restatements. Indeed, as compared to their control sample of 100 matched firms with no restatements the average value of in-the-money options for CEOs of restating firms is $30.1 million vs $2.3 million for the no-restatement firms. They also find in their logistic regressions that the likelihood of an earnings restatement is "significantly higher for firms that make one or more sizable acquisitions, or are constrained by a debt covenant" and are more likely to have weaker corporate governance systems as measured by whether the CEO is also the Chairman of the Board and whether the board is "more likely to give the CEO a salary increase that is not warranted by the firm's performance".

Overvalued equity is but one example of problems that cannot be solved by compensation/incentive systems alone. Good control systems and monitoring by intelligent people of integrity in a well-designed governance system are always necessary.

It is also puzzling to me that short selling could not solve the problem. And there were those who refused to buy into the overvaluation as sensible. Interestingly, two of the more successful hedge funds (run by Soros and Robinson respectively) were forced to close shortly before the bubble began to burst. In their paper "The Limits of Arbitrage" Shleifer and Vishny (1997) argue that it is possible "that arbitrage becomes ineffective in extreme circumstances, when prices diverge far from fundamental values". The experience in the recent bubble is consistent with their

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[10] See Cramer, 2002, *Confessions of a Street Addict*, New York: Simon & Schuster

arguments. Understanding why short selling and those who refused to buy into the overvaluations were not sufficient to limit the phenomenon is an interesting area for additional research.

Obviously regulation was not sufficient to prevent the damage from the overvaluation. It is hard to create laws that prevent people from spending their money foolishly without damaging the productivity of the market system. We have yet to see whether the legal system will be able to punish those who engaged in fraud enough to provide preventative incentives in the future.

Thus, it appears that the major, and perhaps the only private, solution to the agency problem of overvalued equity was the corporate governance system. And what we witnessed was massive failure in which the boards of directors of company after company failed to stop the corruption and the associated destruction of organizational value. Many have warned for decades that corporate governance systems were woefully inadequate. The results of the last few years have substantially buttressed this position and led to widespread re-examination and calls for reform of the governance systems that basically leave top management effectively unmonitored.

One change that could help boards protect themselves and the firms they serve from the counterproductive effects of overvalued equity would be to establish a regular practice of communicating with short sellers of the firms securities. This would obviously require a major shift in the belief systems and culture of most boards and management teams. One of the most difficult tasks in dealing with the organizational costs of overvalued equity is getting data and analysis that indicates the market price is substantially out of line with the fundamental value of the firm. Short sellers are an obvious source of potentially valuable information for the governance system. Indeed, it should probably be standard practice for the audit committee of every major corporation to talk to major short sellers of their stock to hear their story and their reasoning. Such information would have to be carefully evaluated, but my guess is that it would often prove to be of great value to the audit committee in performing their task. Establishing such practices would require abandoning the generally held belief that short sellers are evil and damaging to the firm. The opposite could be true if the information were used properly by the board to eliminate the overvaluation before the damage to the true value of the organization became too great.[11]

Some might be tempted to conclude that the problems associated with overvalued equity are likely to be an occasional episodic phenomenon that may not recur for many years. I doubt this. Although it is probably true that an event like the recent simultaneous overvaluation of so many firms will occur only occasionally we can expect there to be problems with a few substantially overvalued firms on a continuing basis. Consider the cases of Planet Hollywood and Boston

[11] I'm indebted to Jeff Skelton for helping me to see this.

Chicken which were founded in 1991 and 1985 respectively went public in the early 1990s and have both been bankrupt (twice in the case of Planet Hollywood, once in 1998 and again in 2001).

What Can We Do About It?

I believe the solution to the problem of massive overvaluation is to stop it from happening in the first place. This means going against our very human reluctance to endure short-term pain for long-term benefits. We must refuse to play the earnings management game. Joe Fuller and I have written more extensively about how to accomplish this in "Just Say No To Wall Street: Putting A Stop To the Earnings Game".[12] We must stop creating and consuming the heroin. If our company's stock price begins to get too high, we must talk it down. Warren Buffett has been one of the few CEOs who has regularly and beneficially warned his shareholders and markets when he has believed Berkshire Hathaway has been overvalued by the markets.

We must help others in the business and financial communities recognize that growth is not a synonym for good or for value. Senior managers must understand what drives value in their organization and align internal goals with those drivers, not with analysts' expectations. Senior managers must promise only results they believe they can deliver. Business educators teaching students the desirability of maximizing value must distinguish that from maximizing current stock price and also teach about the dangers of overvaluation.

Resetting corporate value and resetting the conversation between corporate management and Wall Street won't be easy, but I see a window of opportunity. Executives and boards of directors are asking how to invest in their integrity. One of the major ways boards can do this is by taking responsibility for eliminating the target-based budget and compensation systems that create a climate of low integrity by punishing truth telling and rewarding gaming, lying, and value destruction in their organizations. Researchers are starting to examine the issues. This window won't remain open forever. We must seize the moment to identify the problem, and learn from it, so we do not find ourselves trapped once again in a vicious, destructive cycle.

It is time now for boards of directors and senior managers to recognize that it is their responsibility to ensure that new cases are not added to the current load of damaged companies.

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[12] Fuller and Jensen, 2002, "Just Say No To Wall Street: Putting A Stop To the Earnings Game", *Journal of Applied Corporate Finance,* V. 14, No. 4, Winter 2002: pp. 41-46 (available from the Social Science Research Network eLibrary at: http://papers.ssrn.com/Abstract=297156)

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