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The Agency Costs of Overvalued Equity and the Current State of Corporate Finance

Michael C. Jensen

Jesse Isidor Straus Professor of Business Administration, Emeritus, Harvard Business School;
Managing Director, Organizational Strategy Practice, The Monitor Group
Mjensen@hbs.edu

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ABSTRACT

My intention today is to provide a way to understand some of what's currently happening in the world of finance and corporate governance at this time (June 2002). Few if any of us have discussed with our students the consequences of a company's stockprice becoming overvalued. Indeed I know of nowhere in the finance literature where the problems associated with overvaluation are discussed. We talked for a long time in the 1980s about the effects of under-valuation, and I will have a little to say about that below. But as things have progressed over the last half-dozen years overvaluation has come increasingly to occupy my thoughts.

Indeed, understanding the incentive and organisational effects of stock overvaluation will help us understand much about the current malaise in corporate finance and corporate governance that surrounds the events at Enron, WorldCom, Xerox, and many other companies. I will review this situation briefly, and then move on to consider the agency costs of undervalued and overvalued equity. For the most part I'm going to concentrate on the latter, and examine the necessity for managers to manage stockprices down in situations where they become substantially overvalued, and the requirement for us to have new language to enable managers and boards to deal with these issues. I will conclude by considering how we solve this, where we go from here, and what's likely to happen?

Keywords: Overvalued equity, Agency costs, budgeting, managing earnings, integrity, lying, scandals

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Michael C. Jensen
Jesse Isidor Professor of Business Administration, Emeritus, Harvard Business School and Managing Director, Organizational Strategy Practice, The Monitor Group.
e-mail: Mjensen@hbs.edu

1. The current malaise in corporate finance

My intention today is to provide a way to understand some of what's currently happening in the world of finance and corporate governance at this time (June 2002).

Few if any of us have discussed with our students the consequences of a company's stock price becoming overvalued. Indeed I know of nowhere in the finance literature where the problems associated with overvaluation are discussed. We talked for a long time in the 1980s about the effects of under-valuation, and I will have a little to say about that below. But as things have progressed over the last half-dozen years over-valuation has come increasingly to occupy my thoughts.

Indeed, understanding the incentive and organisational effects of stock overvaluation will help us understand much about the current malaise in corporate finance and corporate governance that surrounds the events at Enron, WorldCom, Xerox, and many other companies. I will review this situation briefly, and then move on to consider the agency costs of undervalued and overvalued equity. For the most part I'm going to concentrate on the latter, and examine the necessity for managers to manage stock prices down in situations where they become substantially overvalued, and the requirement for us to have new language to enable managers and boards to deal with these issues. I will conclude by considering how we solve this, where we go from here, and what's likely to happen?

In most crises like the current one what we usually get from governmental reaction is bad regulation and bad laws. However, in preparing this address I found myself fairly optimistic that things are more likely to move in the right direction. Yet, there is a danger that with the frenzy that is going on now as the result of WorldCom's announcement earlier this week of its $3.8 billion accounting blunder, Enron's cooking the books and today's announcement by Xerox of its $3 billion 'accounting error', we may be off and running again to generate damaging regulatory actions.

We are all aware of the trillions of dollars of losses that have occurred in the technology, telecom, and dot.com boom and busts, not to mention many bankruptcies,

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liquidations and other scandals – an incomplete list I compiled last week includes Enron, eToys, WorldCom, Global Crossing, Adelphia, Vodaphone, Lernout and Hauspie Speech Products, Xerox, Lucent, Tyco and Arthur Andersen. And more scandals and frauds are yet to be announced. Criminal charges against corporate officers have become more common in the USA and I expect many more to be charged in the future. Last year (2001) was an all-time record for sending CFO's to jail in the United States, and this year looks to beat it hands down (see D'Avolio *et al.*, 2002).

2. Paying people to lie: the dangers in ubiquitous budget systems and managing earnings

I gave a paper at the 2001 Athens EFMA meetings entitled *Paying People to Lie: the Truth about the Budgeting Process* (Jensen, 2003), which focused on the internal budget system and the way we compensate managers. I concluded that almost all organisations of any size punish their managers for telling the truth, and pay them for lying, in a very important and critical business process, namely the budgeting process. As Ichak Adizes (1989) said about these processes: 'The more people lie about how much they cannot do, . . . the more they are rewarded' (pp. 90–91). Of course, higher level managers know this is going on so they lie about what their subordinates can do. All this is considered proper behaviour and simply part of the negotiation process. But the result of this system is that no one has the incentive to provide unbiased data to the critical process by which firms coordinate disparate parts of complex organisations.

Even more importantly for our discussion today, these budgeting systems train managers to forsake integrity and honesty. And once so-trained, the lack of integrity and honesty inevitably gets extended beyond the budgeting process to many other areas of organisational life, up to and including top-level managers and the Board of Directors. I have served on a number of boards with highly intelligent and honourable people – men and women who live highly principled personal lives – who regularly issued board reports that were untruthful. In one instance when some academic said 'You know, we just fired the CEO and now we're lying to the public about what has happened; and do we really want to be doing this?' my fellow board members reacted in shock, horror and dismay to the naiveté of somebody who didn't understand what management was all about. One of those companies went into bankruptcy, and deservedly so.

I emphasise that this lack of integrity has come about as a result of the systems we were in, not because these people were crooks. They were not. This phenomenon has been going on in most major corporations in the United States, and it has become worse over time. The logic of the *Paying People to Lie* paper leads to the conclusion that we induce lying and gaming anytime we put kinks or other non-linearities into peoples' payoff structure in a way that depends on their targets or budgets. Applying this logic to the relationship between the firm and Wall Street we see that the CFO and the CEO are engaged in a version of just such a 'budgeting/target game' with financial analysts and the financial markets. If the company achieves the financial results expected by analysts, it is rewarded with increased stock prices and if it misses them by even small amounts the negative consequences for stock prices can be serious. Thus, in the same way that budgeting systems put kinks and non-linearities in the payoff structure for managers, the earnings game with Wall Street puts kinks in the reward function for top managers and the firm around the consensus earnings forecast.

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And since higher stock prices make the CFO's and CEO's jobs more lucrative and easier (since it gives them easier access to funds from the capital markets), managers are drawn into the game of 'managing earnings' with analysts. And the conclusions of the *Paying People to Lie* paper applies to the managing earnings game as well: top managers are thereby motivated to manipulate the reported numbers and even to lie. Indeed, it was not long ago that 'managing earnings' was considered an integral part of most managers' jobs. And that game while basically dishonest, is also a very dangerous one, because in the end, it is one that managers are not likely to win.

So, to list just a few examples of companies who have been caught in the act: Microsoft recently settled with the SEC for creating reserves that lowered current earnings and could be used to pump up future earnings. I am sure this behaviour is not news to many. I am not as familiar with European companies as most of you in the audience, but I understand that in Europe reserves are regularly used to smooth things out, save for the future, and present the story we would like the markets to see, rather than what is actually going on.

General Electric under Jack Welch is an interesting example. Out of 48 quarters from 12/31/89 to 9/30/01, GE met analysts' forecasts exactly in all but 7 quarters. In those 7 quarters it beat the estimates by 1 cent four times, by 2 cents once, and missed the estimates twice (once by 1 cent and once by 2 cents). What is the chance that could happen if earnings were not being 'managed'? These are not the numbers that would come from pure value maximising behaviour. Enron, Lucent, Xerox, Rite-Aid, Waste Management and Sunbeam all were similarly involved in lying about earnings.

Under US GAAP accounting rules, managers have room to make various legitimate policy choices that will affect reported financial results. Those choices can be made so as to aid in smoothing reported earnings or to better reflect the underlying economics of the organisation. But as we now see, it is easy to go beyond legitimate choices regarding accounting accruals. The pressure to do so can be great because choices to move revenue from the future to the present or expenses from the present to the future cumulate over time and make it tougher to meet goals in future periods. Little by little managers are led to make ever more aggressive choices to keep up with the game and eventually what started out with legitimate choices can turn into fraud. In the case of WorldCom, this process led to its announcement the day before yesterday of its $3.8 billion overstatement of earnings (due to misstating $3.8 billion of operating expenditures as capital expenditures), therefore enabling it to report large positive earnings instead of losses. And, as we know, WorldCom was not alone. The news coverage this morning is of Xerox's $3 billion overstatement of earnings.

How does this happen? Many have concluded that CEOs and CFOs are crooks and that the problem is to get honest people in these positions. While I do believe there are some crooks out there, that is not the problem we are seeing now. The problems we are now seeing are attributable to strong forces in the system that have put honest people into situations in which they are led to take dishonest actions. They must, of course, be held accountable for their actions, but if we are to get to the bottom of the problems we must understand the forces in the system that have led to this. Let us start by considering how it is that honest people can, little by little, be led to make decisions that at some point cross the border between legitimate management decisions in the grey areas of accounting and outright fraud. Let me use an example to illustrate.

Kurzweil Applied Intelligence, Inc., a small speech recognition software company was struggling in the early 1990s to go public to acquire capital to fulfil its business

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plan. *Business Week* (Maremont, 1996) published a detailed article documenting how an apparently honest CEO and virtually his entire accounting and sales staff defrauded investors through false revenue recognition practices. It is an excellent example of how pressures to perform can lead people who are not crooks step-by-step to committing fraud.

The CEO of Kurzweil – a Harvard MBA, a Marine pilot, a highly moral man according to history and acquaintances – plans to take the company public. He believes it is very important that the company show consistently improving growth for six consecutive quarters prior to its IPO. Big orders are coming in; they are not quite completed before the books are to be closed. To show steady quarterly growth he relaxes revenue recognition constraints in violation of GAAP so that the orders do not actually have to be signed and the goods delivered to the customer to be recognised as revenue. In the first instance the orders did get completed and delivered in the two weeks after the books are closed. But once this is done to improve the current quarter the following quarter starts out with a deficit. And now to show steady quarterly growth actual sales have to increase by enough to make up for that which has already been booked early plus enough to show the desired growth.

This doubling up begins to be a bigger problem and with it the pressures grow to abandon revenue recognition policies entirely. Within $2\frac{1}{2}$ years the company is close to being destroyed, and millions of dollars worth of orders had been outright faked and secretly stored in an off-premise warehouse. And the CEO is sent to jail.

I believe something like the Kurzweil events occurred at Enron (see Swartz and Watkins, 2003). They were the fair-haired boys and girls, with some amazing innovations in energy markets. But expectations and stock prices got out of hand, and there was no way Enron could realistically repeat on an ongoing basis the once in a lifetime innovation they experienced in energy. Thus, honest men and women were led by the pressures to perform and to preserve the unrealistic value that had been put on Enron (albeit with their active cooperation and encouragement) to take dishonest actions. Robert Jaedicke, an accountant and former Dean at Stanford Business School, was the head of the Enron Audit Committee. You could not ask for a better man; but he did not know what was going on. One man cannot read through mountains of legal documents. You rely on lawyers, you rely on auditors. They all said the i's were dotted and the t's were crossed. From now on it is going to be much harder to get people to be chairmen of audit committees.

3. Managerial heroin and the agency costs of overvalued equity

I label this phenomenon the agency costs of overvalued equity because when a firm's equity becomes substantially overvalued it sets up organisational forces and incentives that are highly likely to harm the firm – including in some cases the complete destruction of the firm. To see why, let us assume for the moment that a firm's equity becomes substantially overvalued, and by substantially I mean 100% or 1000% overvalued. I liken overvalued equity to Managerial Heroin because like heroin to a drug user, it feels really good in the beginning, but in the not-too-long run substantial pain materialises. To see why, we must first recognise that *by definition* if our equity is overvalued we will not, except by pure luck, be able to deliver the financial performance the market requires to justify that valuation.

But in the short run managers and boards find lots of good things in an overvalued stock. It gives the firm access to below cost-of-capital funds (in both the equity and

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debt markets), and this can lead to lavish and wasteful internal spending. It increases the wealth of managers and board members who have equity-based compensation (such as options). And depending on the size of the run up in its stock prices it may generate lots of favourable media attention for managers and board members. And if options are widely used it can make hiring new managers and employees much easier. It also gives managers cheap equity currency to use in acquisitions of firms whose equity is not as highly overvalued.

The downside, however, is serious because sooner or later it will begin to occur to managers that they are going to have a tough time delivering the performance necessary to justify the high market valuation.

I have advised clients that they are highly unlikely to win this game. They did not believe me. Once one gets drawn into the overvaluation game, it is a matter of pure luck if one ever gets back in balance. In the end, it is not *whether* you are going to lose the game, but *when* you are going to lose it, and then the costs are enormous. Reputations will be lost and people will begin receiving serious prison sentences.

This overvaluation phenomenon that I have been focusing on has been exacerbated by the breakdown in the control of agency problems within the gatekeepers, most notably investment banks and auditing firms.

Investment banks exploited the trust of their brokerage clients by using their analysts to tout the stocks of their investment banking clients (or firms they would like to have as banking clients). Investment bankers commonly used the threat of unfavourable reviews or denial of coverage by their analysts, to browbeat firms into becoming (or remaining) clients. During the boom years much of this activity got covered up. It appears that all major US investment banks were involved in these activities. The very analysts who were touting the stocks to naïve public investors were highly critical of these same stocks in private communications among themselves: an absolute loss of integrity in the system. Why? There were big fees involved. For example, Enron alone, in the years between 1998 and 2000, handed out over $125 million in investment banking fees to various Wall Street firms. That is a lot of money sloshing around, and it turns out to have been more than enough to corrupt the system.

Law firms, commercial banks, and auditors all fell prey to the temptations to bet their reputations by engaging in practices aimed at capitalising on the short-term profits that could be earned by helping overvalued firms prolong and capitalise (in the short run) on their overvaluation.

4. The agency costs of undervalued equity

Before looking in detail at the agency costs of overvalued equity lets look at the agency costs of *under*valued equity. In the 1970s and 80s there were many cases where, because of market mistakes in valuing firms or because the managers were wasting free cash flow (see Jensen, 1986), the equity values of many companies were far below their true intrinsic value. This situation led to the growth of the market for corporate control, which became effective in controlling the waste of such free cash flow. Hostile takeovers, proxy contests, conglomerate break-ups, LBOs and MBOs, all of which had begun in the 1970s, were market responses that emerged to reduce agency costs in high free-cash-flow organisations.

Where the undervaluation was an outright mistake by the market, managers figured out that they could buy the companies' publicly held stock, take them private, operate

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them and capture the undervalued cash flows themselves, then when things got sorted out they could bring the companies back public at huge premiums. In other cases where the market value was low because managers were wasting free cash flow, others could take the firms private, restructure incentives so as to reduce or eliminate the waste of free cash flow and then either continue to operate them or bring them back public at large premiums.

5. Sources of the agency costs of overvalued equity

Let us now examine the major underlying sources of the current scandals: the agency costs of overvalued equity. Suppose that for one reason or another a firm's stock becomes overpriced. This can actually be consistent with efficient markets, because such a market doesn't say that a stock's price is always right, just that on average the stock prices are right. At any given time, for any given company we know the price is wrong, but if the market is efficient we know that the price is as likely to be overvalued as undervalued. Indeed, market efficiency is also consistent with a situation in which many firms become overvalued at the same time. But in any event, my arguments here do not depend on whether markets during this time were efficient or not. That is a separate issue which I shall ignore here today.

Now let us think about the effects of valuation mistakes on the high side. If the difference between the market price of the stock and its true value becomes substantial, the incentive effects of that valuation differential on an organisation can be very costly. And these costs are particularly high when managers do not realise they are in a dangerous situation. Such managers can also end up being quite happy to collaborate with analysts to get the stock price even higher.

As I have said, a good way to think about the situation is that overvalued equity is managerial or organisational heroin. And the managers are a part of the problem; investment bankers and security analysts are a part of the problem, and so too are the auditors who have ended up collaborating. Arthur Andersen was the auditor in both the Xerox and WorldCom cases. But Andersen is not the only auditing firm that is involved in this destruction of value, and not the only one that is going to be in trouble before it is all over. Another contributor to the problem is the large number (at least in the United States) of individual, and rather naïve, investors coming back into the markets, partly as a result of electronic trading, to reverse the long-time general trend of individuals moving out of the equity markets and into investment funds, mutual funds, and pension funds. And the combination of all of these factors created a situation ripe for calamity.

When the equity value of an organisation becomes substantially overvalued, it creates incentives for a set of organisational behaviours, that are going to end up not only eliminating the overvaluation, but also destroying part or all of the real core value of the organisation. How does this come about?

Consider the fact that if a company's equity is substantially overvalued that means the managers, *by definition*, will not be able to deliver the performance required by the markets to justify the value. And because of their access to superior information the managers of the company will probably understand this before most others. At this point they are beginning to worry about whether they can really support this high price. And then they begin to think, maybe I am not good enough to do this, and they get desperate to do things that are going to justify this high price. And the analysts begin to pressure them to do something to justify this high price. 'You've got to have

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higher growth, you've got to have higher margins, you've got to have...' And if that were easy to do, it would have been done. Such pressures inevitably begin to push managers to take actions that will at least make it *appear* that they are delivering the performance to justify the price. And when they do this they are taking actions that actually destroy value in the long run but generate the appearance of improved performance in the short run. And the effects in the extreme can destroy the underlying core value of the firm.

Take Enron, for example. Enron basically had a good business. It was not worth $70 billion at its peak, but my guess is that there was a $30 billion business that was flushed down the drain when the manipulations and the fraud became exposed. And I believe the same thing is likely going to happen to other firms.

If Enron had mustered the courage and the ability to get that value down from $70 billion to $30 billion, that company would still be alive and viable, and people, good people, would still have reputations they could be proud of. One of my goals is to make it clear to managers, directors, and regulators that in the presence of what seems like good fortune (as reflected in high stock prices) there is in fact great danger, and that we must be more alert and cautious, not less in such times.

So what happens when our firm's equity is overvalued? We love it. Capital becomes cheap. We get excessive issues of both equity and debt, encouraged by fee-hungry investment bankers. And when that excessive valuation diminishes and we begin to see the result of this reflected in our debt structure, we find we are not able to manage the debt. That is what a lot of organisations are faced with now. At the same time, overvaluation creates incentives to sanction excessive internal spending on operating costs and high living. You do not have to look very far in the dot.com domain to see what happens when venture capitalists flood organisations with capital – small organisations end up with huge amounts of capital that they have no sensible way to use and little ability to control the waste or save for when they really need it. That same overvalued equity currency provides enormous incentives to make material acquisitions with the overvalued currency. And while such acquisitions with cheap currency can reallocate wealth they also can end up destroying value. In addition, when such organisations are flooded with excess capital they often end up destroying value through uneconomic greenfield investments.

For example, when AOL bought Time/Warner it ended up with a lot of real assets acquired on the cheap with AOL's overvalued currency. But putting AOL and Time/Warner together destroyed real value. They would have both been worth more if they had been left doing what they were good at. And the value from coordinating the AOL online services with Time/Warner's cable system could have been realised by writing the appropriate contracts between the AOL operations and the cable systems. Then the cable systems could have been spun off or sold to realise their underlying value. As for the rest of Time/Warner it can be argued that much value could have been realised by breaking it up a long time ago.

But one thing is certain: unlike the 1980s, takeovers are not going to be part of the cure, because no one can figure out how to take over an overvalued company and reduce its value, and make any money in that process. So the 1980s solutions are not going to work here.

In addition, equity based compensation cannot solve the agency costs of overvalued equity. Adding equity based pay in the context of overvalued equity is like throwing

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gasoline on a fire. Thus, the substantial increase in option holdings by managers in the decade of the 1990s exacerbated the problems of overvalued equity.

6. Analysts, managers and the earnings management game

Analysts want high growth, they want predictable growth, and they want consistent growth, ideally constant year-to-year growth. If you look at the data, you can see that they penalise companies that do not show consistent, predictable growth. And yet, when managers are changing not just the accruals but their firm's real operating decisions, to achieve that predictable, consistent growth, they are destroying value, by definition. And the analysts end up rewarding managers for doing just that, pretending that somehow we can create certainty in a world where there is no certainty. Simply put, uncertainty in a firm is like a balloon, push it down here and it will pop up somewhere else. It cannot be easily eliminated.

Analysts became media stars in the USA, with CNN and the Financial News Network hanging on their words. Good analysts used to make $400,000 or $500,000 a year, maybe more; suddenly, when they got to be part of the investment banking bonus pool in their firms, they were making $15 or $20 million a year. In addition analysts came under the control of investment bankers who then prevented unbiased analysis from being issued to avoid antagonising current or potential clients. Integrity was driven out of the system as the investment banks internal control systems failed to control their own agency problems. The reputations of many analysts are now destroyed. Grubman, for example, is now being called before Congress. This is not a happy day for analysts and one can predict that the destroyed reputations will bring some desirable changes to this part of the financial world. What is surprising to me so far is how little damage the banks themselves seem to have incurred. This is a topic worthy of research.

Researchers in accounting, have been going through analysts' forecasts in great detail. I summarise just a couple of these papers and their results here. Growing evidence indicates that analysts accept bias for accuracy in forecasts. Hutton (2003) addresses this bias issue. She has survey data on over 500 firms, showing which firms reviewed and audited their analysts' models and spreadsheets and worked with them to ensure greater accuracy in their earnings forecasts, and which ones did not. Hutton finds that where the company said it was working with analysts to guide them on their earnings models, the one-quarter-ahead earnings forecasts were more accurate, but biased. This bias is very interesting. If you look at one-quarter-ahead forecasts and longer term than that, the forecasts are biased systematically high. But of course, the analysts revise their forecasts as the quarter draws to an end. And what happens is – and this explains the GE and the Microsoft phenomena – they allow the managers to guide them down during the quarter. So they start out with forecasts for one or more quarters in the future that are biased systematically high. These forecasts are then walked down as the quarter-end approaches.

But then a very interesting phenomenon shows up in the data: the forecasts in the days just before the end of quarter end up being biased low. It appears that analysts were colluding with managers to lower their positively biased forecasts sufficiently so that by quarter end the forecasts were low, but not by much. In this situation managers get the best of both worlds: the longer-term projections (which have more impact on stock prices, see Copeland *et al.*, 2002) are biased high (thus causing market prices to be potentially biased high) but then walking those forecasts down so that

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the end-of-quarter earnings surprises are positive, not negative, thus giving another positive boost to the stock price. This equilibrium, if it persists, is puzzling to me. Why do investors apparently allow themselves to be taken in by such manipulation? Why do market prices fail to adjust to what is going on? This also helps explain how we arrive at a situation in which the vast number of quarter-end earnings surprises are zero or plus 1 or 2 cents. See Degeorge *et al.*, (1999) for an exhaustive study of the non-randomness of end-of-quarter earnings surprises.

As Bartov *et al.*, (2002) conclude, 'One of the interesting questions that still remains unanswered by the findings is why analysts do not correct their forecasts for what appears to be a systematic downward bias in their late-in-the period forecasts. Or, to put it in more concrete terms, how could analysts underestimate Microsoft's quarterly earnings 47 times in a row?'

It appears that this phenomenon is due to outright lying on the part of both managers and analysts. The evidence indicates that if you meet or beat the analysts' consensus forecast you get a 3% premium in return for the quarter. That is a big number, and it is highly significant. But why this reward persists for actions that in the end destroy value leaves me puzzled. This is clearly an area ripe for further research.

What I believe has been overlooked in this system is that we can manipulate the numbers, and we can also manipulate the business and the real operating decisions. Let me offer an example of the manipulation of real operating decisions? I sat on a Fortune 500 board where the managers announced to the board that they were struggling to meet the lower bound hurdle bonus target (a 4% return on book value of assets). But they told us in that same board meeting that they had just made an announcement that they were increasing the prices of their products by 10% on 2 January. Because this price increase was announced in October and because the products were durable goods, one can confidently forecast that customers would accelerate their orders by bringing those orders that would normally occur after the first of the new year to the current quarter to avoid the price increase. This front-loading of the channel thereby changes the real operating decisions of the firm. This announcement was particularly problematical because this firm was in an industry with excess capacity and falling prices. The price increase was a serious mistake for the firm, and destroyed value.

Interestingly it turned out that although the managers had been close to meeting the hurdle they did not make it. And, not surprisingly, when they discovered that they were not going to make it, we went from almost meeting the 4% return on assets to reporting the largest quarterly loss in the history of the company. And we know why. In a situation like this once you discover you are not going to meet the lower bound bonus hurdle, it pays you to drag expenses from the future into the present and to postpone whatever revenues you can to the future so that you are in great shape to meet the target next year. But, as this example shows, it is not just accruals that are being manipulated: it is the real operating decisions of the firm. And when those decisions are being changed for these reasons we can be relatively certain that they are destroying value.

In their important paper Bartov *et al.*, (2002) find that something important shifted in the relation between analysts and firms in the middle of the 1990s. They find that the proportion of end-of-quarter earnings 'surprises' (comparing the earnings estimates just before the end of the quarter with what's actually reported) shifted dramatically in the middle of the 1990s. In the periods they look at, 1983–93 and 1994–97, there was a major decline in the negative end of quarter earnings surprises.

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Forty-eight to 31% was the drop in negative earnings surprises (measured as a percentage of total observations) between the two periods. In the early period, firms beat the consensus estimates (positive surprises) 40% of the time, and it went to 50% in the later period. Moreover, zero surprises (cases in which the firms just met the consensus forecasts just prior to the end of quarter report) increased from 12 to 19%. These large shifts suggest that major changes occurred in the mid 1990s in the way the game between the analysts and firms was playing out, and it shifted in a way that both analysts and managers preferred.

It would be interesting to know just what changed in the mid-1990s. At the same time that there was a decline in integrity in the analyst community associated with a surge in the 'pump-it-up, tout-the-stock' analyst behaviour, the positive bias in the one-quarter-or-more-ahead forecasts increased substantially. And as Copeland *et al.*, (2002) show, changes in long-term earnings forecasts have more impact on stock prices than changes in short-term forecasts. Add to that this twisting of the near-term consensus forecast to a downward bias thereby satisfying managers' desire to meet or beat the consensus estimates. What seems to have been happening is that analysts were biasing their long-run forecasts on the high side to support the excessively high stock values. Then they revised these erroneously high forecasts down (the 'walk down' phenomenon) as the day of reckoning approaches so that at the forecast realisation date there is a systematically negative bias in the forecasts such that firms meet or beat the consensus forecasts 69% of the time. While this is consistent with the fact that the analysts underestimated Microsoft's earnings for 47 quarters, it raises some serious questions as to how what looks like a collusive equilibrium between managers and analysts could survive in a competitive market.

Let us look at a couple of cases. Nortel is a firm I began to examine in detail a couple of years ago. Nortel, a leading Canadian telecommunications equipment maker, launched a strategy of rapid fire acquisitions after John Roth took over as CEO in 1997. Between 1997 and 2001 it acquired 19 companies at a total price of over $33 billion, mostly with Nortel stock. John Roth got himself into a cycle of using the acquisitions to meet analysts' expectations. In the end Nortel was forced to write off (and liquidate) most of those acquisitions: $33 billion down the drain.

Nortel is one of those firms currently in substantial difficulty. There is vast excess capacity in the telecommunications field now, partly as a result of the agency costs of overvalued equity. This can of course happen as the result of perfectly honest mistakes, but I believe we have seen such mistakes get magnified beyond what would have occurred if we hadn't been subject to the phenomenon of overvalued-equity. Figure 1 and Figure 2 give a time plot of Nortel's stock price and its acquisitions, and a schematic description of Nortel's acquisition strategy and some illustrative analyst reactions. As of the end of 2001 Nortel's (adjusted) stock price was 44% lower than its level of $13.16 on 1 October 1997 when Roth took over as CEO.

Thus the decline Nortel experienced was far more than the elimination of its overvaluation, and it is this damage that can be stopped if manager's can just say no to the pressure to fulfil unrealistic market expectations. (The breakeven share price for Nortel investors as of 12/31/2001 is $21.33 assuming a 12% cost of equity capital net of dividends. This implies the breakeven total value of Nortel at the end of 2001 was $68.5 billion. Thus investors lost a total of $44.5 billion as a result of the failed strategy.)

Some firms have been accused of manipulating the accounting data surrounding acquisitions to give the appearance of growth and profitability. Tyco, for example has

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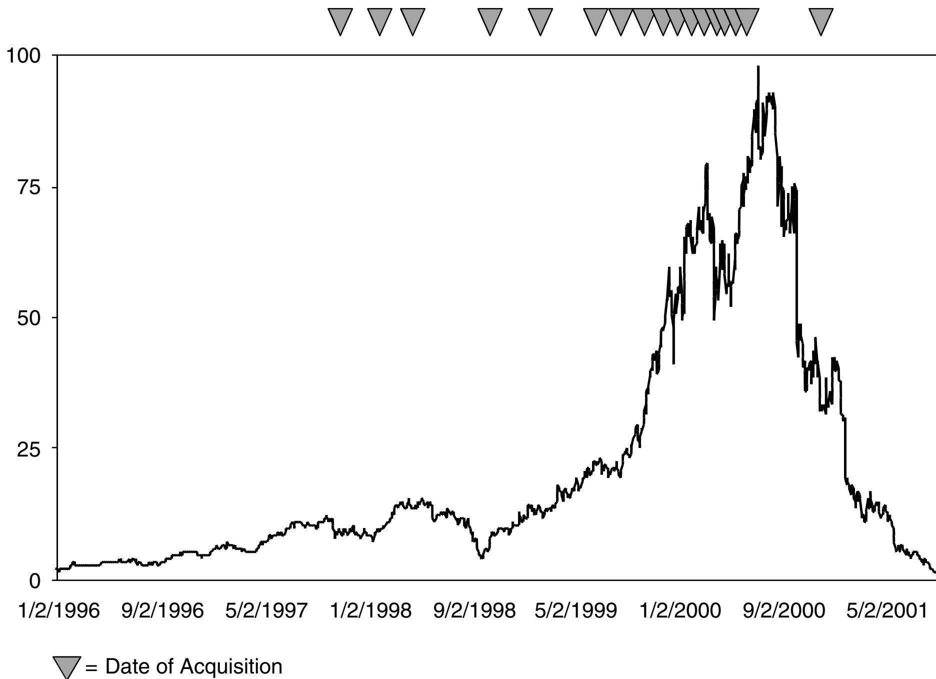

Fig. 1. Nortel stock valuation, 1996–2002 and it's acquisitions.

been a voracious acquirer. It is alleged that as (an informal) part of the acquisition agreement they often require selling firms to take large write-offs that would create reserves and thus show big losses for the pre-merger period. Because the terms of the merger had already been agreed upon, the shareholders of the acquired firms would not care about the large losses in the stub year prior to the acquisition. But since the write-offs created reserves for future expenses, these reserves could then be drawn down after the merger by charging expenses to them that would normally go through Tyco's post merger income statement. This allowed Tyco to show greater earnings and thereby contribute to the impression that it was profitable and growing. That may

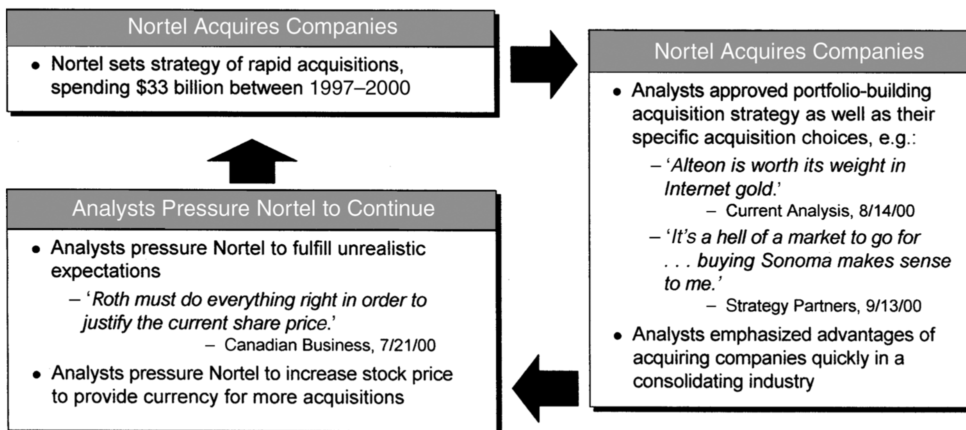

Fig. 2. Nortel's acquisition strategy.

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work for awhile, but eventually it catches up with you. And that is happening to Tyco, where another CEO and CFO are in disrepute.

eToys is one of my favourite examples of the agency cost of overvalued equity. It is a good example because the CEO, Toby Lenk, intuitively understood that it was a bad thing to have an excessively high stock price. On the day they went public, the stock price almost quadrupled and his ten-plus million shares of eToys were worth over $850 million. Observing from the floor of the exchange he reportedly turned to his CFO and said: 'This is bad. We're going to live to regret this.' (Sokolove, 2002) Yet Lenk could not stop the forces of value destruction that were launched.

eToys 1999

- eToys was the largest Internet retailer of children's toys and products in 1999
- When the company went public in May 1999, its stock price shot up from an offer price of $20 to a closing of $76.56 on its first day of trading. CEO Lenk says: *'This is bad. We're going to live to regret this.'*
- *'Launched in the afterglow of Amazon.com, the company went public last year in May, and within five months, had reached a peak market cap of $10.3Bn – 2 1/2 times that of Toys 'R' Us, its counterpart in the brick-and-mortar universe. So what if Toys 'R' Us had 40 years more experience and $1.6Bn more in sales? eToys was the future'*

  – E. Kelly, 'The Last E-Store on the Block,' Sept. 18, 2000

eToys 2001

- eToys built capacity to handle '$500 million in revenue, but came to a stop at $200 million.'
- For year end 2000, eToys announced expected operating losses of 55% – 65% of revenues (versus the 22% – 28% it had projected)
- Revenues for holiday 2000 also fell short of eToys' forecast

  –131MM in Q4 sales versus forecasted $210MM – $240MM)
- In February 2001, eToys announced that it was filing for Chapter 11 bankruptcy protection. It was later liquidated and its name and web site survives as part of K.B. Toys, which has 1,300 stores

Fig. 3. eToys history.

Source: 'eToys to close up shop this spring,' *DSN Retailing Today*, 19 February 2000, 40, (6); E. Kelly, 'The last E-store on the block,' *Fortune*, 18 September 2000, 142, (214); C. Johnson, 'eToys fires its remaining 293 employees', *Washington Post*, 6 February 2001, E01; 'Analysts confidence in eToys slips', *mmWire*, 20 December 2000; M. Sokolove, 'How to lose $850 million and not really care,' *NY Times Magazine*, 9 June 2002.

The firm ended up being valued at two-and-a-half times (over $10 billion) the value of Toys 'R' Us. And as one commentator said, 'So what if Toys 'R' Us had 40 years more experience and $1.6 billion more in sales?' This was the dot.com era. Even though Lenk understood that his high stock price was a bad thing he could not stop the value destruction. He had investors, including some on his board, who were locked into the stock. One can guess that he was under enormous pressure to satisfy the market that eToys was building and to build an infrastructure to generate the revenues and profits that would justify and preserve its sky high valuation until they could get out. This included building capacity for a $500-million-a-year business, and massive advertising to generate those revenues (in spite of the fact that it was becoming clear that advertising for dot.com businesses didn't have a very high pay-off).

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1. Over investment in fulfillment and infrastructure, which required significant capital
2. Excessive advertising expenditures despite early warnings from other dot-coms that advertising payback was low
3. Failure to read and respond to the need for aligning itself with a large, bricks and mortar company

Fig. 4. eToys three critical decisions that led to its downfall.

Toby Lenk and his CFO believed in the company and thought it was very important that they let the world know that they weren't in this for a fast buck. He sold none of his stock (although he gave a small amount of it away to charity) and $850 million went down the drain. E-Toys over-invested in infrastructure and advertising. When the sales did not materialise, they leveled out at $200 million.

The stock hit almost $80 a share in the first quarter of 1999, and by March 2000 when this all became public, eToys was in liquidation. These days it seems that the long run can turn out to be measured in months.

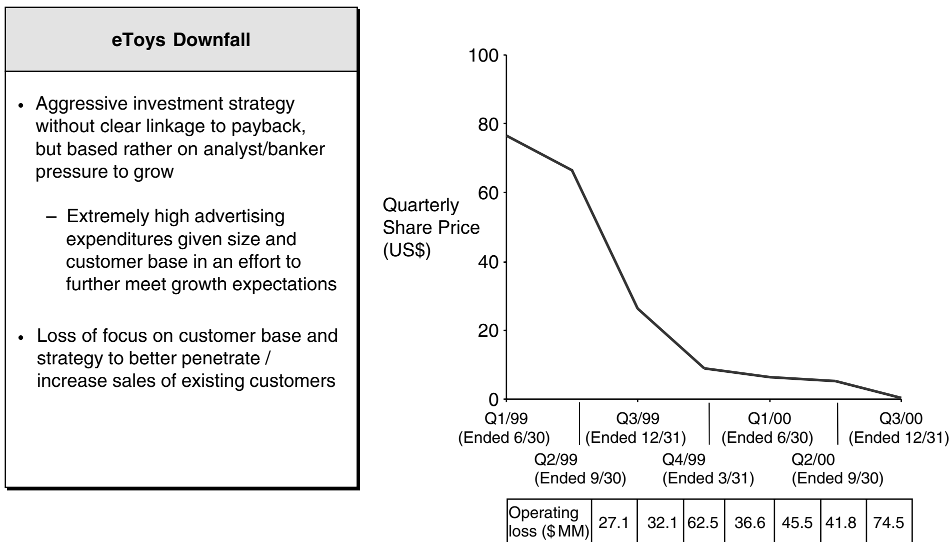

Fig. 5. eToys results.
Heavy investment in capacity and advertising without the required revenues led eToys to bankruptcy and failure.

Source: M. McNeil Hamilton, "Industry's Small Fry Will Miss eToys," *The Washington Post*, March 9, 2001, (E03); J. Goff, "The Dotcom Before the Storm," *CFO*, Fall 2000, v16, (56); M. Barnett, "Surviving the Shakeout," *The Industry Standard*, March 5, 2001, v4, (43).

The choice that managers now face is this: if your company is currently valued at $10 billion and you believe it is worth $1 billion, as the CEO and the CFO you better get busy figuring out how to get the market down to something close to $1 billion as

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quickly as possible. If you do not you are likely to be unable to stop the damage that is going to happen as a result of the organisational forces caused by the overvaluation.

But, we can imagine the reaction of CEO's and CFO's when we try to tell them they must manage the price of their stock down. 'Is he crazy? My board is going to fire me. My stockholders are going to be furious because they do not know about the dangers of overvaluation, and I do not know how to explain it to them.' And my response is, 'Well, if you do not do it, and if you try to defend that $9 billion overvaluation, you are going to destroy a non-trivial amount of the real value of your organisation.' So if you could get it to $1 billion then you have a chance to continue to create value in the future. Get this: the market *will* find out that you are overvalued. That is predetermined. It is not a matter of whether: it is a matter of when, because by definition if your stock is overvalued you will not be able to generate the financial performance the market requires to justify that value. So continuing down this road means you had better hope that the realisation is not on your watch. Jeff Skilling got out of Enron just before Enron's crash, but the long arm of the law is likely to reach back anyway. But even if that does not happen the reputational effects of events like this are likely to mean that living the life that Skilling is going to live is not likely to be a happy experience.

Yet asking managers and boards to voluntarily make such decisions to incur costs now to avoid larger costs in the future, flies in the face of everything we now know about human beings. We know that they systematically refuse to bear pain in the short term in order to derive (even sizeable) benefits in the long term. And this will not change until we begin to understand the phenomenon much better than we do at present. Furthermore, we have got to have a different language in order to talk about the agency costs of overvalued equity.

7. Value resetting vs. value destruction

For now I want to at least distinguish value destruction from 'value resetting'. If Enron had been able to eliminate its overvaluation and reduce its value from its peak of $70 billion in 1999 to (my guess of) its true value of about $30 billion it could have preserved the $30 billion. I call the decline of $40 billion in this scenario 'value-resetting', not value destruction, because the $40 billion was going to go away anyway. But the obvious problem is that shareholders and others who are not privy to the non-public information that management possesses are going to see this as value destruction, not value resetting, and top management is likely to bear considerable cost if not outright removed.

So how do a CEO and a CFO convince their board and equity-holders that a $40 billion fall is really value-resetting, and not value destruction? That is the $64 thousand question. It requires us to understand this phenomenon better so we can aid in the management of the issues, and I think it is going to take us five years or so to accomplish this. But if our students come to understand the long-term dangers and costs associated with allowing this kind of overvaluation, if board members understand it, if the analysts and the equity-holders understand it, then that is a foundation on which a new set of practices can take place.

Warren Buffet is one of the rare CEOs to regularly tell his shareholders when he thinks the shares of his firm, Berkshire Hathaway, are overvalued. He explains in his 1988 letter to shareholders: 'We do not want to maximise the price at which Berkshire

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shares trade. We wish instead for them to trade in a narrow range centered at intrinsic business value ... Charlie Munger [Buffett's long-time partner] and I are bothered as much by significant overvaluation as significant undervaluation.' It is interesting that while Buffett is widely respected, his views are often viewed as too quirky to be followed by mainstream managers. I wish Buffett had gone on at greater length to explain the details of his concerns about overvaluation.

8. Where do we go from here

As I said at the beginning, I came here feeling optimistic that desirable changes are likely to result from this crisis as people wake up to these difficulties. But I must say that in the past this has not happened. Bad regulation passed in the United States at the end of the 1980s – restrictions on high leverage, and on company liquidations – virtually forced US companies into bankruptcy in the early 1990s. Moreover, these penalties made it more difficult to transfer resources to more highly valued uses and thereby harmed the economy and reduced wealth.

Henry Paulson, Chairman and CEO of Goldman-Sachs, said about a month ago in his speech to the National Press Club: 'In my lifetime American business has never been under such scrutiny. To be blunt, much of it is deserved.' Paulson (2002) This must have taken a lot of courage and a willingness to be accountable for these views. And it comes from someone who sees it all up close. Paulson makes a number of recommendations, including legislation requiring managers to hold stocks longer and to give back any profits made from sales in the year prior to filing for bankruptcy, and legislation to reform accounting and to have CEO's certify the company's financial reports. I am virtually certain that much of this will happen. The world in which CEO's could say 'I didn't know what was in the numbers' has gone by the wayside.

The New York Stock Exchange, which is also in the position of catering to corporate America, has offered a major set of recommended changes. One that is not on their list is separating the job of CEO and chairman – a change I believe is important. Several of the important roles of the chairman of the Board is to run the process that hires the CEO, evaluates the CEO, compensates the CEO and fires the CEO – and to ratify the strategy of the organisation and to hire the auditor to make sure that nobody's stealing the shop. The CEO cannot run the process that evaluates, compensates and fires himself, so it is a non-starter to have the CEO and the chairman be one and the same.

Is that going to solve all the problems? No. And, given what is likely to happen as a result of the WorldCom and Xerox events, it is going to be more difficult and therefore more expensive to get people to chair these boards. I do have faith that there is a solution here, simply because this behaviour is not value maximising. It is not value maximising to the auditors, it is not value maximising to the firms themselves, it is not value maximising to the analysts. Yes, there are short-term gains to be made, and there might be some very large short-term payoffs, with very damaged personal reputations.

Because it is in people's own self-interest to figure out how to solve these problems I believe solutions will be found. But the major impediment to any solution is the fact that it is very difficult to get us to bear costs in the short run for benefits in the future.

One provision that the New York Stock Exchange has recommended is rather strange: it has suggested that the only type of compensation to be derived by the

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chairman of the audit committee – and it may apply to the members of the committee, as well – should be in the form of director's fees. I do not think this is a very good rule, because given the work and the risks of this position the compensation would not be sufficient to attract the calibre of person necessary for such a position. There will probably have to be other fees added on to get the right people to take these positions which will bear larger risk in the future than they have in the past.

We are going to see a great deal of strengthening of the SEC. And there will be competition from international accounting standards. Certainly there is enormous opportunity here for value creation in the system as well as by each company – that is for getting a set of standards that make sense to people, deliver transparency, and can be implemented and enforced.

I think the FASB is finished. It has shown itself to be powerless, easily lobbied, whipped around, seldom accomplishing anything important. The fact that American companies are not required to recognise the costs of stock options in their statements when they hand them out is ludicrous. It is indefensible. And if FASB cannot win that one, what are they going to do with some really hard issues? Jail for executives that violate the rules is going to help. That will get a lot of people's attention. And being forced to affirm, as the CEO, that 'These financial statements being issued by my company accurately reflect its state of affairs' is likely going to change the dynamics of control in organisations.

The move to reduce the equity held by CEOs has some logic to it, but if it goes too far we will have difficulty attracting the best qualified people to these critically important jobs, and their incentives will not be as effective. So we must be careful lest we go too far in this dimension.

In conclusion, we have a long way to go to understand the agency costs of overvalued equity – and to understand not only the theory but the evidence. Today I have given you a broad overview of the issues. It is up to every one of us to recognise these dangers, and to change the way we teach our students the meaning of value maximisation. It does not mean maximising the price of the stock. Value creation, and the way we teach it in the future, is going to become much more subtle and sophisticated than it has been in the past.

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