Overvalued Equity: Causes, Effects and Solutions

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Even in an efficient market, stock prices can reflect value other than the intrinsic value of the firm. This mispricing can be due to information factors (outsiders not having all the information to judge a firms true worth), factors brought on by market participants (crowd psychology) or a number of other factors. Although the problem of undervalued equity has been largely researched and solutions like buying back equity are now en vogue, there has been relatively little research on what to do when a company's equity is overvalued. Although this may initially seem to be a luxury of a problem, overvalued equity can have a range of negative consequences for a corporation. Poor decision making, dilutive acquisitions, negative NPV projects, aggressive accounting schemes and even outright fraud can result from overvalued equity and the need by managers to keep up with the market's inflated expectations.

In reviewing the other spectrum of undervalued stock, share buybacks are typically the rule of thumb used to signal to the market that the company feels the price is below intrinsic value. In his letter to shareholders in 1999, Warren Buffet noted that share repurchases were all the 'rage' and usually done to pump or support a stock that executives viewed over-optimistically[1]. However, Buffet advises executives to still keep out of the market, saying, "We will not repurchase shares unless we believe Berkshire stock is selling well below intrinsic value, conservatively calculated. Nor will we attempt to talk the stock up or down[2]." As one of the most revered executives in America, Buffet's advice to a company is to stay out of the market unless there are extreme circumstances and let the efficient market run its course. This method of handling undervalued stock may also prove valuable managing overvalued equity scenarios.

[1] Buffett, 1998.
[2] Buffett 1998, 17.

Historical Periods of Overvaluation

Overvalued equity is a problem that is studied far less than undervalued equity, yet, many periods in history can serve as case studies on events that occur in bubble eras. However overvalued a stock price is, be it from 1% to 1000%, executives still must realize that they have a choice on how to react to the market. Although "unsustainable prices may persist for years…eventually they reverse themselves[3]." When the bubble bursts, inevitably executives will pay for whatever poor decisions they made during the inflated period.

In his book A Random Walk Down Wall Street, Burton Malkeil discusses many such bubble periods ranging from Holland's tulip-bulb craze through the dot-com boom at the turn of the millennium. On discussing the 1970s period where a flight to quality led to extremely high blue chip prices, Malkeil comments, that "institutional managers blithely ignored the fact that no sizable company could ever grow fast enough to justify an earnings multiple of 80 or 90. They once again proved the maxim that stupidity well packaged can sound like wisdom[4]." Soon after, the oil crises prompted companies like Sony and McDonalds (which had been trading at 92x and 83x earnings, respectively in 1972) to plummet to 17x and 9x earnings, respectively by 1980.

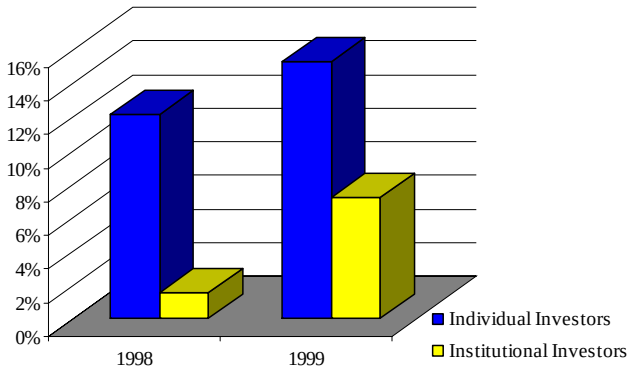
Yet again in the 1980s, the overvaluation of Japanese real estate led to a bubble that had far reaching global effects. In part due to brash salespeople who pitched Japanese investments as a no-loss proposition, the Japanese real estate market was soon "appraised to be worth five times as much as all American property. Just selling the Imperial Palace and its grounds at their appraised value would have raised the cash to by all of California.[5]" Telephone giant NTT

[3] Malkiel, 35.
[4] Malkiel, 68.
[5] Malkiel, 79.

Corporation's value exceeded that of AT&T, IBM, Exxon, General Electric, and General Motors put together[6].

The more recent internet bubble demonstrates that even recently, over-optimism can lead to irrational behavior and a temporary break down of an efficient market. A combination of conflicted stock analysts, popular media, and a new force of individuals that directly invested in equities added to the irrationality. This investor optimism was captured in a 1997 survey which calculated that the mean stock market return expected by individual investors was 12.1% in 1998 and 15.3% in 1999 (see comparison to institutional investors in the following graph), while the Business Week Survey of Institutional Investors showed that buy-side analysts had much lower expectations of 1.56% and 7.22%, respectively. Michael Brennan justifies the investor rationale when he comments, "while economists were becoming more skeptical, the essential message of the Efficient Markets Hypothesis, that stock prices reflect the available information, was becoming embedded in the popular consciousness; it came to be accepted that, in the common parlance, 'the price is always right.[7]'" Yet, looking back, an obvious breakdown of the efficient market hypothesis occurred, and those executives that made poor decisions during this period would soon suffer the consequences.

[6] Ibid.
[7] Brennan, 7.



Individual Investor Expectations vs. Institutional Investor

While American stock prices rose by 1239% between 1980 and 2000, "over the same period the dividends on the shares underlying the index rose by only 188%, while the earnings rose by 254%.[8]" These levels could not be sustained for long. When the market corrected itself, over eight trillion dollars of market value had evaporated[9].

The internet bubble period tested the integrity of the upper management of every American company. In this period, executives had to decide whether to stay the course and ignore the irrational prices, or whether to attempt to justify inflated prices by playing games to try to keep pace with the market's high expectations. Warren Buffet chose to stay the course, exposed the market for what it was, and suffered ridicule in the process. Although three years later he was ultimately proven right, he had the benefit of extreme job security and steadfast reputation that allowed him to be so frank. It is doubtful that other executives in his position would still be around to witness the benefits of choosing the right path.

There have been many recent instances of overvalued equity. As we will examine in the next three sections, we will see that other executives did not take the option of staying the course and ignoring irrational prices in reacting to overvalued equity. Due to their new found wealth

[8] Brennan, 4.
[9] Malkiel, 82.

from stock options, many executives instead chose to play accounting games to manipulate earnings to stay up with expectations or pursued ill-advised acquisition strategies with the paper wealth of their shares.

Causes of Overvalued Equity

As discussed previously, markets and individual stocks have at times become overvalued compared to their intrinsic value. While there may be numerous causes for this issue, we will focus on two critical factors: investor/analyst optimism and the meteoric rise of managerial compensation.

Investor and Analyst Optimism

One cause of overvalued equity is investor optimism. During the internet bubble period, many investors had unwavering optimism that the stock market would continue to grow, despite what fundamental valuation would imply. Malkeil suggests that these investors subscribe to the 'Castle in the Air' theory, in which "an investment is worth a certain price to a buyer because she expects to sell it to someone else at a higher price…In this kind of world, there is a sucker born every minute – and he exists to buy your investments at a higher price than you paid for them. Any price will do as long as others may be willing to pay more.[10]" Robert Schiller attributed this market behavior to a type of mass psychology that was driving the market, rather than the fundamentals.

This effect can be compounded when there is a "star" investment analyst that may be driving returns. The telecommunications industry, and particularly WorldCom, is a prime example. Jack Grubman, an analyst at Citigroup, was known for his enthusiasm of WorldCom.

[10] Malkiel, 32.

WorldCom's stock increased more than sevenfold from Mr. Grubman's initial "buy" rating in May 1995 to the stock's peak in 1999.[11] Consistently, Mr. Grubman's recommendations and enthusiasm generated astounding returns. On March 16, 1998, Mr. Grubman issued a "strong buy" recommendation and a $60 price target. The stock responded with a one-day, 6.9% increase to $41.88. On January 5, 1999, Mr. Grubman posted a $100 price target, leading to another one-day increase over 7%.[12] Given the accounting scandals that have besieged WorldCom, it is clear that WorldCom's management responded poorly to the hype generated by Mr. Grubman.

Research has shown that managers that are consumed with keeping up with this over-optimism will make poor decisions. Harvard Business School professor Michael Jensen looked at the agency costs to managers because of excess free cash flow. He concluded that there is an inherent conflict of interest between managers (who are acting out of their own self-interest) and shareholders in that "managers may invest in negative NPV projects because of their desire to grow, increase power or reputation."[13] James Heaton notes that "Managerial optimism also is resistant to takeovers/buyouts even if it truly adds value for shareholders."[14] He continues to state, "Two features emerge from finance with excessively optimistic managers and efficient capital markets: optimistic managers believe capital markets undervalue their firm's risky securities and may subsequently decline positive NPV projects that must be financed externally and the corollary, by overvaluing [their] own equity, [they] may invest in [their] own corporate projects that may be negative NPV."[15]

[11] WSJ, May 3, 2002.
[12] Ibid.
[13] Heaton, 34.
[14] Heaton, 43.
[15] Ibid.

In any case, managers need to be safeguarded from becoming entranced with over-optimistic external projections. The manager needs to concentrate on the core business and not make irrational decisions based on (or pandering to) the views of the market. Heaton and later Sarbanes-Oxley, recommend a greater role of outsiders in corporate governance. Heaton states that "organizational excessive optimism may best be alleviated by introducing an 'outside' view."[16] However, this outside view must ensure a rational and fundamental presence, rather than the irrational exuberance portrayed by the external market.

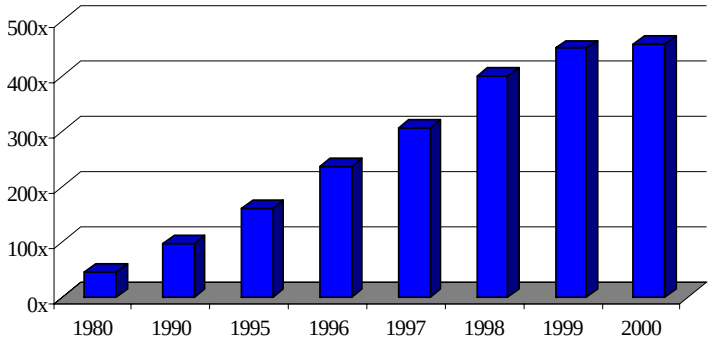
Managerial Compensation

An argument that clearly explains why managers are becoming more concerned with external market expectations is the explosive growth in stock options in the past twenty years. Volatility swings on a company's stock mean that the majority of a manager's wealth is also fluctuating.[17] It is no wonder that some managers get distracted by outside expectations, especially over-optimism. Michael Brennan summarizes the unforeseen agency cost of issuing stock options, saying, "while academics had generally favored the use of stock options to align more closely the interests of manager and stockholder, they had generally overlooked the fact that high powered incentives to create stockholder value are also high powered incentives to misrepresent the true state of the firm through the production of accounting statements that were at best misleading and at worst fraudulent."[18]

Many studies have shown these unforeseen agency costs embedded in compensation arrangements. CEO compensation has grown at high levels and subsequently have incentives to manipulate earnings to keep the equity overvalued. Data shows that "in 1980, the average CEO

[16] Ibid.
[17] Buffet, 1998, 3.
[18] Brennan, 8.

at a major corporation made as much as 97 minimum wage workers. In 2000, they made as much as 1,223 minimum wage workers."[19] Additionally, the CEO-Worker to pay ratio (as shown below) increased from 45x in 1980 to 458x by 2000.[20] The growth rate is estimated by Brian Hall to be 11.5% per year (inclusive of cash plus option grants plus stock-option appreciation). Only annual pay increases of professional baseball players (9.8% per year) and professional basketball players (13.9% per year) are comparable.[21]



CEO-Worker Pay Ratio

Most of the rapid compensation growth was due to stock options, which dramatically increase the sensitivity of executive wealth to equity performance.[22] Stock options themselves were a rarely used form of compensation until the tax law change in 1993. The new Section 162(m) of the Internal Revenue Code put a $1 million cap on deductibility of non-performance-related executive pay. Prior to this time, the average executive had no stock options in 1980 and only started to receive options in 1984.[23]

However, the tax law was not the real driver behind this explosive growth in stock options. Rather, it was a fundamental change in the boardroom. In his study on tax

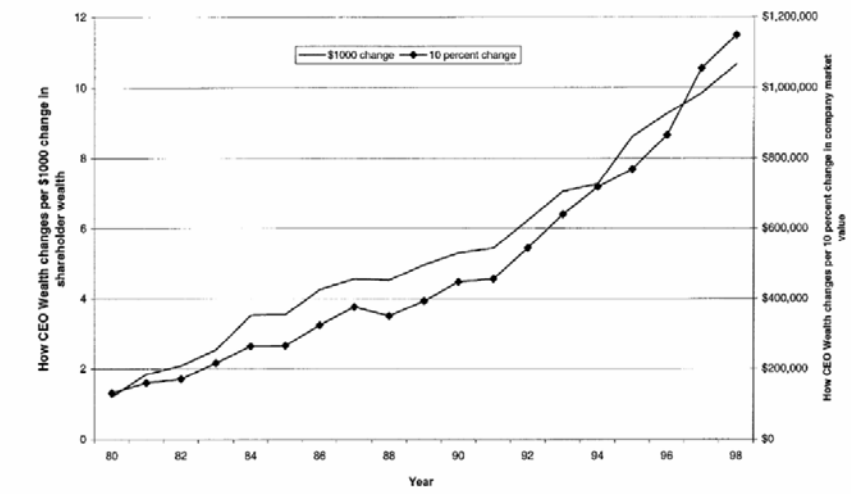
[19] Sklar, 1.
[20] Sklar, 1.
[21] Hall, 4.
[22] Ibid.
[23] Hall, 1.

consequences of compensation changes, Hall concluded that taxes were not the motivation behind the compensation growth; the 1993 tax rule simply had many unintended consequences. He states, "Although the tax advantage of options has approximately doubled since the early 1980s, options currently have only a slight tax advantage relative to cash—approximately $4 per $100 of pretax compensation to the executive. A more convincing story for the dramatic explosion in stock options involves changes in corporate governance and the market for corporate control."[24]

Research has also shown that when management has some control over their variable compensation, they have a tendency to manipulate figures to maximize their own benefits, rather than make decisions on what is best for the company. Flora Guidry found that "divisional managers for a large multinational firm are likely to defer income when the earnings target in their bonus plan will not be met and when they are entitled to the maximum bonuses permitted under the plan."[25] Similarly Healy and Holthausen show that "firms with caps on bonus awards are more likely to report accruals that defer income when that cap is reached than firms that have comparable performance but which have no bonus cap."[26]

This increase in equity based compensation has also increased the variability in CEO pay. As can be seen in the following graph, in 1980, a $1,000 change in shareholder wealth led to a 2% change in CEO wealth. That number increased substantially by 1998, with a $1,000 change in shareholder wealth representing almost a 12% change in CEO pay.

[24] Ibid.
[25] Healy, 376.
[26] Ibid.



The Link Between CEO Wealth Sensitivity and Shareholder Value

It has been widely shown that variability of compensation plan payoffs can have negative consequences for a firm but, Michael Jensen points out, "when equity is overvalued, equity-based incentives for management only compound the problem."[27] Manipulating results to make a bonus target and deferring earnings to the next period are somewhat simple games that divisional managers can play. However, manipulating a stock price to keep up with inflated expectations is much more complex because the market does not always react accordingly. Manipulations made in one period must also be made in the subsequent period. This snowballing can lead to earnings restatements or outright fraud. Again, much of these restatements are motivated by stock options. A study of restatements in 2000 and 2001 proved the clear link between stock options and restatements, showing that "firms with restatements had $30+ million of 'in the money' options as compared to $2.5 million for firms with no restatements."[28]

[27] Jensen, 14.
[28] Jensen, 14.

Clearly, these discussed factors are complementary in creating the problem of overvalued equity. As investors and analysts push the expectations of companies past their intrinsic and fundamental value, managers are faced with a problem of whether to maintain the expectations or reset the expectations to a more realistic level. However, with the increase in stock compensation over the last decade, the incentive to reset expectations has retreated while the incentive to maximize compensation via stock manipulation has increased. In the end, an evaluation must be made to determine if the tax advantages of stock options versus cash compensation are worth the company dis-incentives created by the issuance of these stock options. The results of these new incentives will be explored next.

Effects of Overvaluation

As we have shown, there have been periods of market irrationality in the past and there are clear factors that have led to the overvaluation of equity. The effects of overvalued equity are powerful and can be very detrimental to intrinsic value. Following, we will discuss three effects: the incentive for earnings management, excess earnings management (i.e. fraud) and poor management decision making.

Earnings Management: The Slippery Slope

Because of the strong motivation of compensation variability from stock options, earnings manipulations became rampant in the past ten years. SEC Chairman Arthur Levitt was one of the first to notice this trend. In his speech at New York University in 1998, Levitt stated, "increasingly, I have become concerned that the motivation to meet Wall Street earnings

expectations may be overriding common sense business practices…managing may be giving way to manipulation; integrity may be losing out to illusion."[29]

Earnings management can be defined as occurring "when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers."[30] Because much of accounting data depends on managerial estimates and operates under the matching principal of accruals and deferrals, there are many ways to manipulate earnings. Examples of these are on estimates of expected lives of assets, obligations from pension benefits, LIFO vs. FIFO depreciation decisions, R&D spending, unnecessarily capitalizing expenses and advertising deferrals. Ron Kasznik found that "firms in danger of falling short of a management earnings forecast [use] unexpected accruals to manage earnings upward."[31]

Earnings management is often used by executives to keep up with inflated optimism but is detrimental to the firm for a number of reasons. The manager is already in a difficult position in dealing with unrealistic expectations for future growth – creating shareholder value with an already inflated share price is especially tough for large companies with moderate growth rates. Michael Jensen states that earnings management is a way that managers cope with their inflated stock price and this practice has become much more significant over the past decade. However, "once a manager uses accounting gymnastics to meet investor expectations, these actions are difficult to reverse. As the game continues, executives become addicted to earnings management and the lofty stock price that can accompany it. The problem expands from quarter to quarter, year to year. Revenues are recognized earlier; costs are deferred for as long as possible. Potential

[29] Levitt, 1-2.
[30] Healy, 368.
[31] Healy, 371.

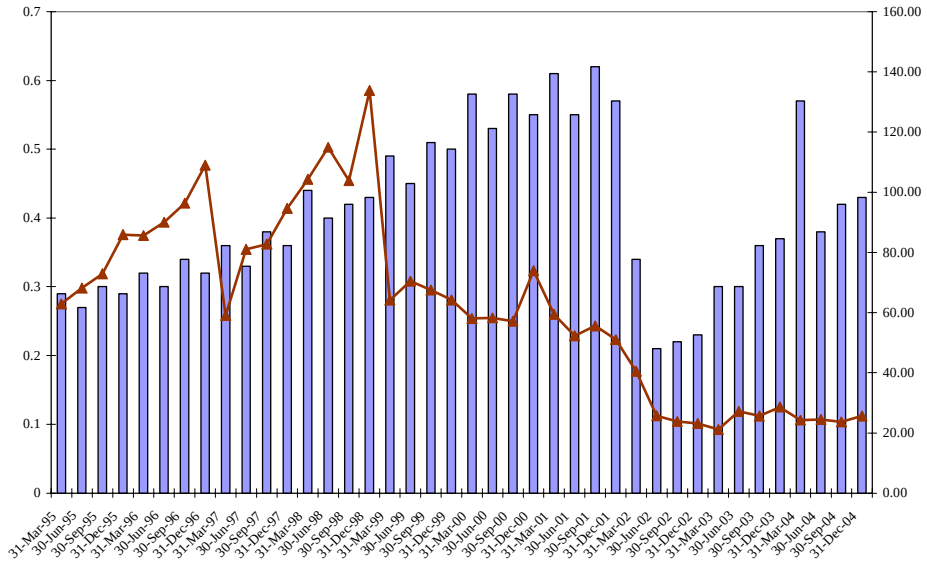
positive investments are avoided due to potential near-term losses."[32] Earnings manipulation starts a slippery slope that, over several periods, can snowball into misstatements and potentially fraud.

Earnings management also erodes the trust between shareholders and management because investors and analysts rely so heavily on the financial data.[33] Levitt pointed out "if a company fails to provide meaningful disclosure to investors about where it has been, where it is and where it is going, a damaging pattern ensues. The bond between shareholders and the company is shaken; investors grow anxious; prices fluctuate for no discernable reasons; and the trust that is the bedrock of our capital markets is severely tested."[34] Once this trust has been broken between shareholders and company management, it is very difficult to regain. A study by the US General Accounting Office found that after a firm restated earnings, future earnings announcements had no significant impact on share price as compared to firms without restatements indicating a lack of trust by the market. Further, these activities increase the volatility which is exactly what option holding managers do not want.

This loss of faith in management by the market is shown explicitly in the graph below. Bristol-Myers boosted revenue in 2001 via channel stuffing in order to meet estimates, and this was exposed early in 2002. The action damaged relations between the market and management. As can be seen, from June 2002 forward, earnings were expected to improve quarter over quarter, yet "…execution risk and lost confidence in management [were] the major issues keeping investors on the sidelines."[35]

[32] Jensen, 7.
[33] Healy, 367.
[34] Levitt, 2.
[35] Moskowitz, 1.

BMY: Share Price Versus Minimum Earnings Estimates



Importantly from an operating standpoint, earnings management distracts executives from making the best decisions for the firm. Several studies have shown that earnings management affects optimal resource allocation for some firms.[36] Additionally, "if the company cares about pleasing the market, the firm may be trapped into one strategy longer than it should be to optimize shareholder value" based on what the market is looking for rather than optimizing future cash flows.[37] Once a firm lets its share price dictate its strategy, it loses economic efficiency and introduces significant excess volatility.[38]

Unfortunately in the last ten years, external auditors, the supposedly independent watchdogs failed terribly in protecting shareholders from earnings management schemes. Auditors frequently looked the other direction in regards to misstatements that had material affects on earnings per share results. One study showed that "auditors judge overstatement

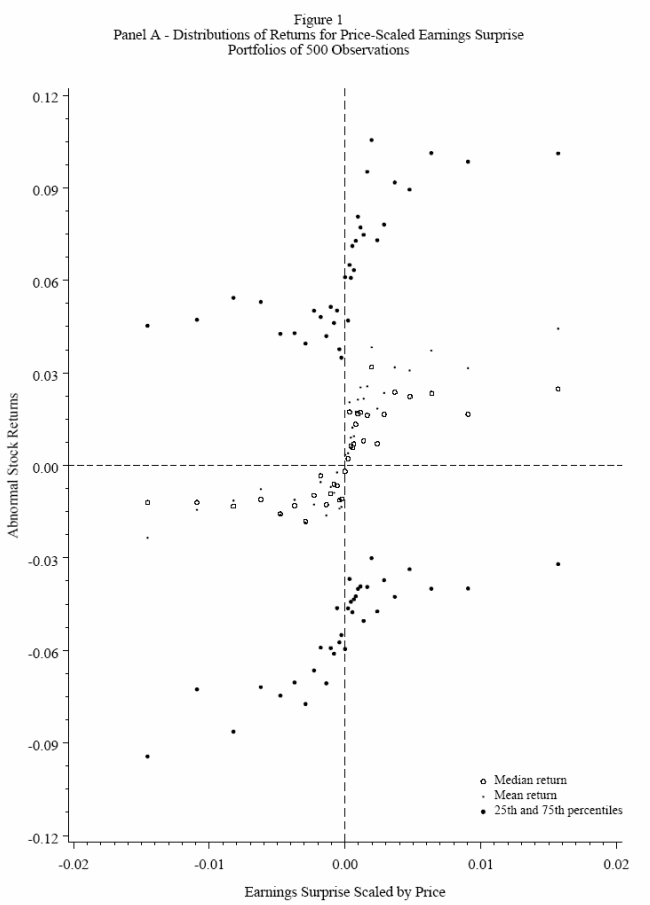
[36] Healy, 367.
[37] Aghion, 2.
[38] Aghion, 17, 24.

correction less likely if it would cause a missed forecast, even for objectively measured misstatements…auditors expect a majority of clients to make full correction only if the forecast will not be missed."[39] The results of this study led to tougher SEC rule SAS 99 which made any misstatements illegal if they are made for the purpose of altering share price, hitting analyst estimates, or hitting bonus targets. However, as is clear from the recent insurance company probes, earnings management has certainly not been eradicated.

Earnings management is particularly used to meet or beat analyst EPS forecasts. Levitt recounts, "while the problem of earnings management is not new, it has swelled in a market that is unforgiving of companies that miss their estimates. I recently read of one major U.S. company, that failed to meet its so-called 'numbers' by one penny, and lost more than six percent of its stock value in one day."[40] This six percent number is actually quite typical for companies that miss by one penny. Kinney et al found that about 25% of firms with earnings surprises of one penny lose more than 6% of their value, but these losses vary drastically.[41]

Earnings management research has shown a surprising S-shaped curve in price response/price relation that is "steeply sloped for small absolute surprises and has a progressively much flatter slope for larger absolute surprises…[thus] large absolute surprises are not proportionately more important or 'material' to stock prices than are small surprises, but instead larger surprises tend to be accompanied by proportionally smaller price revisions."[42] Although the S-shaped curve has been widely documented, there is no clear theory that explains why it occurs.[43] Below is a chart highlighting the price response/price relation discussion.

[39] Libby, 383-385.
[40] Levitt, 3.
[41] Kinney, 11.
[42] Kinney, 3.
[43] Kinney, 13.



For the manager in charge, the results of the S-shaped curve are a compelling reason to make or beat EPS estimates and studies have shown that managers do just that. David Burgstahler and Michael Eames "find that managers take actions to manage earnings upward to avoid reporting earnings lower than analysts' expectations."[44] Similarly, Jeffery Abarbanell and Reuven Lehavy "argue and find that firms receiving 'buy' recommendations are more likely to

[44] Healy, 371.

manage earnings to meet analysts' earnings expectations, whereas firms that receive 'sell' recommendations are more likely to show negative unexpected accruals."[45]

If management of earnings snowballs enough, it could lead to restatements. The General Accounting Office shows that restatements have a tremendously negative effect on stock prices. From 60 days before to 60 days after the restatement, the average stock fell by 18% (market adjusted) and have resulted in a short-term market cap loss of over $240 billion, based on a study firms which restated their financials between 1997 and 2002. These restatements are not small company phenomena. The average size of companies that restated earnings was between $500 million and $2 billion. Most alarming, however, is the fact that between from 1997 to 2001, restatements grew 145%, from 0.89% of public companies to 2.5%.[46] Below are some examples of earnings management that led to serious issues for some well-known and respected companies.

Case Studies: Coca-Cola, Inc. Earnings management is not a problem that only affects high-growth industries. Coca-Cola, one of the country's top brands that is a widely respected corporate citizen and supplier to McDonalds, was recently engaged by the SEC regarding its accounting practices. An SEC probe alleged that Coca-Cola engaged in "a legally murky practice known as channel stuffing by asking Japanese bottlers to make additional purchases of concentrate between 1997 and 1999."[47] These practices helped Coca-Cola boost revenues and meet profit targets in the short-term, but long-term, the actions of a few managers have left a stain on the otherwise pristine reputation of the company.

[45] Ibid.
[46] GAO, 4.
[47] Simao, 1.

Case Studies: Bristol-Myers Squibb Another well-known, stable brand that succumbed to the temptation of playing with the numbers was pharmaceutical giant, Bristol-Myers Squibb ("BMY"). In 2001, BMY was facing market expectations of 5.8% sales growth[48] and 11% earnings growth.[49] CSFB claimed that the implied EBITA growth expectation built into the stock price was 10.4%. 2001 was turning out to be a much more difficult year than the market expected. Two of BMY's drugs went off patent, leading to stiff generic competition. Additionally, its investment in Imclone, was expected to begin paying off in 2001 with Imclone's release of Erbitux. However, the FDA rejected the Erbitux application in 2001.

As a result of these difficulties, BMY engaged in a common pharmaceutical practice: channel stuffing. The Company may have coaxed wholesalers into buying $1 billion worth of extra drugs in order to prop up 2001's ailing figures.[50] This enabled BMY to show revenue growth of 6.6% and net income growth of 11.3%. As Table 1 shows, the removal of the $1 billion overstatement shows a much more anemic 2001.

Table 1

(in $billion)	Reported **2000**	Reported **2001**	Restated* **2001**
Sales	18.22	19.42	18.42
Sales Growth	N/A	6.60%	1.11%
Net Income	4.72	5.25	4.98
Margin	25.89%	27.03%	27.03%
Growth	N/A	11.30%	5.57%

* Restated figures assumed that 2001 sales were overstated by $1 billion and that the margin for the restated figures was the same as reported in 2001.

[48] Goldstein, June 2001.
[49] Kulju, May 2001.
[50] Med Ad News.

Typically, when drug companies engage in this practice, they have a strong pipeline for the next year that will enable them to hide the channel stuffing. Unfortunately for BMY, this was not the case and the results were loss of confidence in management and a depressed stock price. "We maintain our MARKET PERFORM rating. A poor and tenuous 2002 and 2003 outlook, and no management credibility, have tarnished Bristol-Myers Suibb's [sic] image and value indefinitely, in our view. Management still appears to have no clue about the size of wholesaler inventories after working steadfastly on the issue since December of last year. Valuation is cheap, but for a good reason: we don't know the numbers!"[51] Another analyst from Friedman Billings Ramsey stated it explicitly: "Valuation supports upside to current price; however, backlash from recent misadventures could hold down the shares. We believe that execution risk and lost confidence in management are the major issues keeping investors on the sidelines, as the Street waits for full disclosure of inventory in the channel, and the prospects for a complete work-down."[52] While BMY may have met its 2001 estimates, the results lead one to question the validity of earnings management and questions will inevitably arise concerning the reputation of future BMY numbers and communication.

Case Studies: Krispy Kreme Krispy Kreme ("KKD") was the darling of Wall Street when it first went public. Consumers loved the goods and there seemed to be no end to the possibilities for revenue and stock growth. In fact, as late June 25, 2002, CIBC was comfortable with KKD's 37x 2003 EPS multiple and proposed that the stock could reach a 50x 2003 earnings multiple.[53]

By late 2002, the signs were clear that KKD was experiencing difficulty in meeting analysts' expectations. For the quarter ended July 31, 2002, KKD beat estimates by $0.01,

[51] Ryan, July 2002.
[52] Moskowitz, July 2002.
[53] Glass, June 25, 2002.

mainly by managing G&A, including canceling all travel and consulting arrangements. As CIBC pointed out, this was "likely to attract investors' attention.[54]" By 2003, the revenue difficulties continued with year-over-year sales growth of 24% for the quarter ended April 30, 2003 failing to meet JPMorgan's expectations of 28%[55]. Evidently, since KKD management could not generate the sales growth it needed, it resorted to some accounting tricks to ensure it could meet earnings expectations.

In 2003, KKD acquired one of its underperforming franchises, Dough-re-mi. Dough-re-mi owned two underperforming stores and owed KKD for equipment, ingredients and franchise fees. Prior to closing the acquisition, KKD asked Dough-re-mi to close the two underperforming stores and to pay KKD the accrued interest it owed. In exchange, KKD would increase its purchase price for the franchise to cover the accrued interest and closing costs. Though this transaction seems to be robbing Peter to pay Paul, from an accounting standpoint it is significant. First, Krispy Kreme can book the receipt of the accrued interest as income. Secondly, KKD can avoid the closing costs for the two underperforming stores. Finally, the acquisition of a franchise gets booked as Reacquired Franchise Rights, an account that is carried at book value and is not amortized. Therefore, KKD gets the benefits of the interest income and cost avoidance, and never has to book it as an expense. KKD's third quarter ended one-week after the transaction closed and KKD met its earnings expectations.[56]

While earnings management is a short-term (yet now illegal) solution to keeping up with overvalued equity, the intermediate consequence of restating earnings should be enough to dissuade any executive from pursuing such a strategy. However, the slippery slope of fudging

[54] Glass, August 29, 2002.
[55] Ivankoe, May 28, 2003.
[56] Facts provide by Maremont, 5/25/04.

one number has snowballed into outright fraud time and time again. The company needs to ensure that it is taking proper corporate governance measures to check the power of executives and ensure numbers are reported properly. Audit committees with a larger proportion of outside members and independent directors have been shown to decrease earnings management ploys.[57]

Fraud

In extreme cases of earnings management, fraudulent acts can occur. As shown in the past ten years, management fraud is not limited to small unknown firms, but in fact is undertaken by some of the most respected firms in the country. Proper corporate governance should assume that no company or management is above fraudulent tactics.

Case Studies: WorldCom WorldCom ("WCOM") represents a fascinating case study on how to ensure that it will become absolutely critical for management to meet earnings expectations at any cost. Bernie Ebbers, WCOM's CEO, owned tremendous amounts of WorldCom stock that collateralized unbelievable loans and he also used his stock for margin loans to buy properties that interested him. In total, Mr. Ebbers received $253 million from Bank of America, $552 million from Citigroup and $415 million from WorldCom to cover his margin calls to the other banks, most of the $1.3 billion in personal loans he received.[58] Mr. Ebbers believed that WorldCom was going to be a $100 stock and used the stock as collateral and margin based on that belief.

Unfortunately for Mr. Ebbers, the telecom bubble burst. From early 1999 to mid-2000, WorldCom stock fell from over $90 to approximately $50. By September 2000, the banks got

[57] Marrakchi, 2.
[58] Pulliam, 12/31/02.

nervous as Mr. Ebbers loans represented 75% of the collateral and the banks prepared him for a margin call. Mr. Ebbers turned to his board for a loan from WorldCom. Without the loan, Mr. Ebbers would be forced to sell his stock, further destroying value. Therefore, the board conceded and provided Mr. Ebbers with a $50 million loan.

This was not the first loan from the board for Mr. Ebbers. In 1994, the compensation committee arranged for him to receive $10 million in connection with a margin call on a loan Mr. Ebbers had used to purchase WorldCom stock. In October 2000, the board refused to loan Mr. Ebbers any money for another margin call. He proceeded to sell 3 million shares, causing the market cap of WCOM to decline by $11 billion. By late October, Mr. Ebbers needed further loans, and in order to prevent him from selling any further shares, the board lent him $25 million and guaranteed $100 million on other loans. Ultimately, Mr. Ebbers needed further loans, refused to sell any personal assets, and thus the board refused the loans and fired Mr. Ebbers.[59]

It is important to ask what an individual who is caught in this situation will do to ensure that his stock, i.e. the collateral for enormous loans, maintains its value. In this case, it was not just that Mr. Ebbers personal wealth was tied into WorldCom, rather that he faced complete financial ruin should the value of WorldCom's stock fall. There appears to be a large set of risk factors in this situation pointing towards accounting mismanagement and outright fraud. In fact, this was absolutely the case. The fraud here was very simple: line costs, one of WorldCom's major costs, were increasing, and management was desperate to meet earnings expectations. Therefore, rather than expensing the line costs in accordance with GAAP, WorldCom capitalized the line costs, thus grossly understating expenses and grossly overstating profits.[60] In fact, it is

[59] Ibid.
[60] The Accountant, 15.

estimated that the accounting restatement for WorldCom ranged from $7.2 billion to over $9 billion.

This represents an excellent example of an out-of-control executive who is facing a board and auditors who are working in his interest, and not in interests of those they are hired to protect. Clearly, better corporate governance, more independence and tighter reins on Mr. Ebbers would have helped to prevent the situation from spiraling out of control. By giving Mr. Ebbers unlimited control, the board failed to prevent the accounting fraud and resulting destruction of value that was necessary to maintain Mr. Ebbers' lifestyle.

Case Studies: Enron, Inc. As the poster child for management fraud, Enron's earnings manipulation effectively snowballed into a house of cards that crumbled in 2002. An unwavering trust in management, lack of board accountability, and hubris in decision making were all notable causes of these events.

As Eichenwald notes in Conspiracy of Fools , there were a number of factors that lead to Enron's demise. As has been shown in other case studies, the corporate governance was weak at best within Enron. There was an unwavering trust in upper management and specifically with the CFO, Andy Fastow. The belief system within Enron was "someone else looked at it, so I know it should be fine." This lack of checks and balances weighed tremendously on the downfall of Enron. In addition, hubris also played a major factor in the culture. Deals were done just to raise the number of deals completed and adding to this problem was the incentive scheme set-up to reward deals being completed, not factoring in how successful they ultimately were to the bottom line. Enron is the classic example of overvaluation if left unchecked can

spiral out of control. The most important factors in this case were again loose corporate governance and internal culture that bred the mantra "meet the numbers at all cost."

Poor Decisions

As stated in the introduction, overvalued equity can lead to poor managerial decision making, aside from accounting management. Misallocation of resources, failure to take positive NPV projects, and poor cash flow management are common. Also common is an enthusiasm by executives to use their overvalued equity as currency in the acquisition market.

An event study has shown that between 1998 and 2001, acquiring firms lost $240 billion in market value and generated negative $134 billion worth of synergies in 87 acquisitions. "Further study shows that these 87 acquirors were significantly overvalued compared to other companies in their sectors. Evidence also indicates that these companies knew they were overvalued as their use of stock was significantly higher than other acquirors."[61]

Richard Roll attributes many of these acquisitions to management arrogance. In his paper, *The Hubris Hypothesis*, Roll asserts that because "the average individual bidder/manager has the opportunity for only a few takeovers during his tenure – [thus] hubris could take over…[the] central prediction of hubris hypothesis is that total combined takeover gain to target and bidding firm shareholders is non-positive and rather done for grandstanding and self-importance."[62] This hubris coupled with overvalued equity creates a combination that is detrimental to company shareholders but beneficial to an individual career.

These inefficient acquisitions can also ensure that a company continues to meet analyst expectations. As a former division head at WorldCom stated, "I remember Ebbers telling me once, 'We won't have to worry about earnings-per-share growth for years, with all our

[61] Jensen, 11.
[62] Roll, 199 – 202.

acquisitions.' He was right--and we all thought he was a genius at the time." Clearly this is another example of letting the stock market guide a company's strategy, coupled with cheap currency in the form of overvalued equity.

As we have shown, overvalued equity is a problem that has the potential to lead management down a difficult and often destructive path. The perverse incentives that it creates can lead to warped accounting information, inefficient and irrational behavior and potentially fraudulent activity. In the following section, we will discuss some of the steps that management and boards can take to help prevent the problem.

Potential Solutions

There is no panacea for overvalued equity. In fact, research and recent market experiences indicate that given the significant potential mental anguish associated with an overvalued share returning to its intrinsic value, the best solution for management and investors is to avoid the situation entirely. This section outlines several potential solutions that together can help balance the desire of investors to increase the value of their holdings against the long-term costs of an irrational valuation.

Improved Corporate Governance

The importance of corporate governance as a potential solution stems from its inherent influence over the management of the corporation. In general the board of directors has significant structural power as its primary purpose is to represent the interests of the firm's shareholders in working with company executives to shape the strategic direction and to oversee the management of the corporation. However the board's degree of influence can vary

significantly from corporation to corporation. Since the 1980s, shareholder activism and influence have increased and, as a result, boards have increased their ability to serve as a catalyst for change in an organization.

The potential for the impact of activism through a board of directors is best captured in the results of several studies related to companies on the annual Focus List produced by the California Public Employees' Retirement System (CalPERS). The CalPERS' Focus List began in 1992 and consists of ten companies that are publicly identified as long-term poor performers due to corporate controls and deserve additional public scrutiny as a result. Following publication of the list, CalPERS actively works with the corporations' management team, board of directors, and shareholders to improve its corporate governance and increase the value of the company.[63]

The results of these improvements in corporate governance are compelling. For example, a 1994 study found that companies contacted by CalPERS as a result of this corporate governance program experienced long-term, statistically significant, excess returns over the S&P500 index. Another study in 1996 found that the CalPERS program was successful in changing the corporate governance practices in over 75% of participants. A study conducted in 1999 found a strong positive correlation between CalPERS proposals and increased corporate governance activity as well as material changes in the company's operations, including asset sales and restructurings.[64] Though much of CalPERS work is focused on increasing shareholder value through improved governance, these efforts are still applicable to the issue of overvalued equity as they demonstrate that shareholder activism and improvements in corporate governance are effective.

[63] Anson, 10.
[64] Anson, 11.

Improvements in corporate governance become even more important to the solution when one considers its impact on the quality of a firm's financial reporting. In 2001, Sonda Marrakchi Chtourou and his colleagues investigated whether a firm's corporate governance practices have an effect on the quality of its publicly-available financial statements. Specifically, they examined the relationship between the characteristics of a firm's audit committee and board of directors and the extent of corporate earnings management as measured by the firm's level of discretionary accruals, both positive and negative. In summary, the group found a statistically significant association between a firm's earnings management and the governance practices of the firm's audit committee and board of directors.[65]

Regarding the audit committee, the study found that earnings management, which is designed to increase earnings, is negatively associated with a larger proportion of outside members who are not managers in other firms. The study's authors point to this as a clear mandate for establishing guidelines for oversight of both a firm's audit committee and the financial statements. Findings also included that the presence of non-executive committee members with short-term stock options are positively associated with income increasing earnings management. Moreover, income decreasing earnings management is negatively associated with the presence of at least one member with financial expertise and whose directive is to oversee both the financial statements and the external audit.[66]

Regarding the board of directors, the study found less income increasing earnings management in firms with outside board members that have experience serving on a board of directors. In addition, the study found that increasing the size of the board, the percentage of firm ownership by non-executive directors, and the experience as board members reduced

[65] Chtourou, 2.
[66] Chtourou, 2.

income decreasing earnings management. In general, the authors believe their results provide evidence that earnings management activities can be reduced through effective board and audit committees.[67]

In addition to understanding the potential power of a board of directors, companies must also organize their boards to maximize their effectiveness. Economists have offered several potential mechanisms to achieve this. One tool is performance-based board compensation. In 1999, Todd Perry analyzed whether such compensation structures affected board performance. Using CEO turnover in underperforming companies as the metric for board effectiveness, the study found that boards dominated by outside directors are more likely to respond to poor performance by replacing the CEO. Moreover, the propensity to remove the CEO increased when the outside directors were provided incentive compensation.[68]

Jensen has also recommended remedies to increase the effectiveness of internal controls. In examining the failure of internal corporate controls during the 1980s, he believes there are several key factors that could improve performance. The most critical factors relate simply to board structure and culture, including limiting boards to 7 or 8 individuals and the only inside member being the CEO, insuring that board members are equity holders, separating the CEO and Chairman of the Board functions, encouraging frank discussions/debates regarding company performance and strategic issues, and opening board discussions to "active investors". Many corporations have adopted some of these factors but few have adopted all.[69]

Although recognizing the potential of corporate controls and maximizing their effectiveness are important, it is equally important for boards to recognize that any system can fail and members must therefore remain vigilant once any new controls are installed. In 1998,

[67] Chtourou, 3
[70]Perry, 21
[69] Jensen, "Failure of Corporate Control Systems", 40.

Westphal examined the extent to which CEOs that are perceived to have an independent board of directors are able to influence policy through interpersonal relationships. In his study, he surveyed CEOs and found that many can override measures to ensure independence through interpersonal skills. His study provides strong evidence that structural independence of a board can be undermined when considering subsequent changes to an organization.[70]

Increased corporate governance is a key component to avoiding the situation of overvalued equity. Through consistent, effective oversight of corporate management and its communications to the public, the board of directors can help minimize the likelihood that investors assign an irrational value to the companies' shares. Additionally, tight corporate governance is a sign to the market that proper controls are in place, helping to establish a sound reputation regarding information reported.

Increased Disclosure Quality

Increasing the amount and quality of information available to investors serves as a potential solution by improving information available to investors when they attempt to estimate the company's value. In the U.S., the Securities and Exchange Commission has gone to great lengths to ensure that investors receive timely, accurate information and has established quarterly and annual minimum disclosure requirements. In addition to these minimum requirements, many companies have also provided investors and analysts with guidance or estimates of future operating results. However, over the past five years some companies have elected to increase the amount and frequency of the actual results instead of providing commentary regarding management's outlook for the company.

[70] Westphal, 15.

In the March 2003 edition of CFO magazine, an article highlighted several domestic companies that had elected to provide increased disclosure of actual results instead of continuing to provide earnings guidance. In the article, the author commented on the change in disclosure practices of Gillette, McDonalds, Coca-Cola, Progressive, and AT&T. Our team conducted a statistical study of whether the volatility of these shares had changed significantly since the change in disclosure practices. To do this, we calculated the weekly return volatility of each company's shares both before and after the change in disclosure practices and compared this volatility relative to the weekly return volatility of the S&P500, the Russell 1000, and the Russell 3000. Three of the five companies experienced a decrease in volatility relative to the market indices after changing their disclosure practices; however, the average change in the sample was not statistically significant at the 90% confidence level. Below is the comparison of company volatility and S&P500 volatility for the period preceding and following the change in disclosure practices. As is shown, Gillette's, Coca-Cola's and AT&T's volatility did decrease relative to the market, though the test is not statistically significant.

Company versus Market Volatility: T-Test

Company:	**G**	**KO**	**MCD**	**PRG**	**T**
Date of Change:	2-Apr-01	3-Mar-03	3-Mar-03	6-May-02	3-Mar-03
Volatility/SP500					
Post	1.22	1.55	1.95	1.32	2.52
Pre	1.79	1.24	1.38	2.21	3.17

	Sample		Error	Sample
	Avg	St Dev	of Mean	Size
Post	1.71	0.53	0.24	5.00
Pre	1.95	0.78	0.35	

HA	Post Avg >= Pre Avg
HA	Post Avg < Pre Avg
P-value:	28.3%

We also calculated an F-test statistic to examine whether the variances of weekly share returns were statistically different after the change in disclosure practices. These calculations indicate that the variances for each of the five companies decreased and the decrease is statistically significant at the 95% confidence level. However, with the exception of Progressive and Gillette, the other companies' volatility changes coincided with a change in market volatility. At a 90% level of confidence, we fail to reject the hypothesis that market volatility was different before and after Progressive and Gillette's disclosure change. Therefore, since Progressive and Gillette's volatility did decrease following the change in disclosure, and the results are statistically significant and did not coincide with a change in market volatility, we can conclude Progressive's and Gillette's volatility decreased after the change in disclosure. See below for a copy of the results.

Company versus Market Volatility: F-Test

Company:	**G**	**KO**	**MCD**	**PRG**	**T**
Date of Change:	2-Apr-01	3-Mar-03	3-Mar-03	6-May-02	3-Mar-03
Variance					
Post	0.14%	0.07%	0.11%	0.10%	0.18%
Pre	0.27%	0.13%	0.17%	0.36%	0.90%
Ftest	0.05%	0.07%	1.57%	0.00%	0.00%
Variance S&P500 Index					
Post	0.09%	0.03%	0.03%	0.06%	0.03%
Pre	0.08%	0.09%	0.09%	0.07%	0.09%
Ftest	72.46%	0.00%	0.00%	7.15%	0.00%
Variance Russell 1000 Index					
Post	0.09%	0.03%	0.03%	0.06%	0.03%
Pre	0.09%	0.09%	0.09%	0.08%	0.09%
Ftest	99.26%	0.00%	0.00%	8.87%	0.00%
Variance Russell 3000 Index					
Post	0.09%	0.03%	0.03%	0.06%	0.03%
Pre	0.09%	0.09%	0.09%	0.08%	0.09%
Ftest	99.09%	0.00%	0.00%	7.67%	0.00%

Variance measured using weekly price changes for 2 years before and after date of ending guidance.
Ftest calculates the probability that the variance before and after date of changing policy is not statistically significant.

Although the results of these studies are not conclusive given the small sample size, it is worth noting the material decrease in Progressive's volatility relative to the three indices as this

company is consistently recognized by analysts for the quality of its disclosure practices under its current format. While the company ceased providing earnings guidance in the late 1980s, in April 2001 the company began providing monthly data on a variety of its key earnings and revenue drivers. In addition to providing useful data to investors, management believes these timely, detailed disclosures serve as an advertisement for the capabilities of its management systems and corporate controls.

Other studies have also investigated the impact on share price volatility as a result of increased disclosures; however, these studies related to a shift from semiannual to quarterly earnings releases. In 1999, Brian Bushee and Christopher Noe found that long-term volatility did not change materially as a result of increasing the quality of its disclosures. The study also found that firms with high-quality disclosure practices tend to attract institutional investors. However, this increase in institutional clientele comes in two forms: the "quasi-indexer" and the "transient investor." The "quasi-indexer" tends to have long investment horizons and low portfolio turnover. As a result, attracting these investors tends to reduce the volatility of a firm's share price. Alternatively, the "transient investor" tends to have short investment horizons and aggressive trading strategies. These investors tend to increase the volatility of a company's shares. While the net effect of attracting these two forms of investors is approximately zero, it is important to note that changes in disclosure practices tend to increase volatility in the near term as transient investors quickly adapt to the new information while quasi-indexers do not. Thus one must consider both the potential benefits of a shift in disclosure policy and the potential problems caused by an increase in short-term volatility.[71]

Managers must also consider the potential benefits of improved disclosures as a signal to investors of a reduction in the opportunity for earnings management. Gerald Lobo and Jian Zhou

[71] Bushee, 26.

examined this relationship between disclosure quality and earnings management. In their study, they found a statistically significant negative relationship between the level of corporate disclosure and earnings management. This indicates firms that disclose less tend to engage in more earnings management and vice versa. These relationships remain statistically significant even when controlling for the effects of potentially confounding variables as well as all three forms of corporate disclosure: annual, quarterly, and investor relations disclosures.[72]

Opponents to increased disclosure quality often cite the potential of increased manager myopia when considering new projects as a deterrent. While having managers forego attractive long-term projects due to concerns regarding near-term disclosures is sub-optimal for shareholders, Sanjeev Bhojraj and Robert Libby show that this generalization does not always apply. By performing a theoretical study with actual experienced financial managers, they tested the willingness of managers to forego a variety of attractive projects under various disclosure scenarios. In general, their findings indicate that this myopic behavior is influenced by disclosure frequency. However, contrary to the hypothesis of disclosure opponents, the behavior may be increased or decreased by increasing disclosure frequency, depending upon the earnings pattern of the projects involved and whether the firm is likely to issue shares. The potential for reduced project myopia if the reporting practice discloses the benefits of high cash-flow projects is important to note.[73]

When considering a shift in disclosure practices, managers must also consider whether the change will impact the firm's cost of capital. Christine Botosan and Marlene Plumlee examined this issue relative to annual, quarterly, and investor relations disclosures made by large, heavily followed firms representing 43 different industries and spanning an eleven-year

[72] Lobo, 1.
[73] Bhojraj, 4.

period from 1986-1996. According to their study, a firm's cost of capital decreases as the level of annual report disclosure increases. The magnitude of the difference between the firms providing the most annual report disclosures relative to those firms with the least disclosures is approximately one-half to one percentage point, after controlling for firm size and market beta. Conversely, the study found a positive correlation between the cost of capital and the firm's quarterly disclosure level. The magnitude between the best and worst firms is approximately one to two percentage points. This increase in required returns may be explained by the increase in short-term volatility associated with increased disclosure quality as found in the Bushee and Noe study referenced earlier. Regarding investor relations disclosures, the study found no association between the cost of capital and level of disclosure quality.[74]

Increased disclosure quality ensures that investors receive the most accurate information regarding the company's recent financial performance and can assess its prospects for the future. Although there is little evidence to indicate that increased disclosure quality can reduce a company's cost of capital or the volatility of its share price, management can reduce the opportunity for earnings management and the likelihood that investors generate irrational expectations for the company's future performance through timely, accurate disclosures,.

Increased Credibility

Increased management credibility is another important component for avoiding the problems associated with overvalued equity. While credibility is subjective and difficult to measure across firms and through time, there are some examples that analysts and investors consistently use as benchmarks. One is Warren Buffett, the CEO of Berkshire Hathaway. Since the 1980s, he has served as a shining example of how managers should conduct credible investor

[74] Botosan, 2.

relations. Although some of his decisions and pronouncements have been unpopular at the time, he has consistently reinforced that his singular focus is creating long-term shareholder value regardless of the latest fads or gimmicks in the investment world and has generated significant respect as a result.

For example, in his 1983 letter to shareholders, Buffett outlined why he had chosen not to split Berkshire Hathaway shares despite analyst and investor attempts to persuade him that such a move would benefit his shareholders.[75] At the time of this letter, Berkshire Hathaway shares traded at $1,300 while today they trade at $84,000, representing a 21% compound annual return over 22 years. Although Buffett's decision not to split the shares of Berkshire Hathaway did not stem from a belief in a relationship between firm quality and share price, several studies indicate that a positive association does exist. In 2004, Chitru Fernando, et al investigated the correlation between share price and firm quality. In summary, their findings indicate that firms with higher (lower) prices attract more (less) institutional ownership and an increase (a decrease) in the share price level of stock results in a contemporaneous increase (decrease) in institutional ownership. Their findings indicate that higher-priced firms are of higher quality after controlling for past performance, momentum, size, and liquidity. In addition, their study finds that firms which split their shares at higher split-to prices earn higher excess returns after controlling for the Fama-French and momentum factors than those which chose lower prices when they split.[76] The recommendation is not necessarily to never split a company's shares, but generally be aware of the actual versus phantom effects of splits and understand the long term implications.

The importance of Buffett's singular focus and credibility was also evident during the technology bubble of the late 1990s. During this period, Buffett willfully explained that he had

[75] Buffett, 1983 Letter to Shareholders of Berkshire Hathaway.
[76] Fernando, 5-6.

underperformed in terms of both absolute and relative returns and indicated that he expected to the company to continue to underperform in the near future. He attributed much of this to the fact that he had chosen not to pursue technology related business but had instead elected to expand "in such cutting edge industries as brick, carpet, insulation, and paint."[77] Moreover, he publicly stated that he did not believe the latest fad of share buybacks was meant to increase long-term shareholder value. Instead, he indicated that he would only pursue a stock buyback plan if the company had available funds beyond its near-term needs and the company's shares were undervalued based on conservative assumptions. It is also important to note his clairvoyant warnings during this period regarding the potential slippery slope of CEO earnings guidance.

Increased credibility is likely the most difficult component to achieve as it is difficult to define and each investor likely views credibility differently. However, it is also likely the most important component to ensuring that a company's share values remain at rational levels as credibility is typically longstanding once it is achieved and therefore may be the only tool available at times when other components to the solution may be unavailable. Through his consistent signals that increasing long-term shareholder value is his primary focus regardless of the latest investment fashion, Buffett has built considerable credibility.

Conclusion

One central difficulty to solving the overvalued equity problem is convincing management and shareholders that the issue exists and that it is a problem. Throughout history, there have been periods of hysteria, whereby market efficiency is tossed aside in favor of chasing returns. Whether this is seen in the flight to quality in the 1970s, the Japanese real estate boom

[77] Buffett, 1999 Letter to Shareholders of Berkshire Hathaway

of the 1980s or the Internet craze of the 1990s, we can see that there have been periods when fundamental valuation is ignored.

Having recognized that there are times when efficient markets stray, it was upon us to look into the causes of these frenzies. We found at least two factors that led to the recent Internet boom and bust: overenthusiastic investors/analysts and the changing structure of managerial compensation. Overenthusiastic markets hold companies to unrealistic expectations. These expectations are shown in a stock price that far exceeds what rationale and fundamentals would lead one to expect. Coupled with this hyper-enthusiasm has been a changing compensation structure whereby managers and executives are far more likely to be rewarded with options than they have been historically. While academically this is a desired outcome, since it ties the interests of the shareholders and the managers together, this compensation structure leads to a perverse set of incentives in times of equity overvaluation. As a result of trying to keep up with the market's expectations, and thus ensure that the options and equity incentives will pay off, managers are forced into making poor decisions and/or playing accounting games rather than focusing on building the core strengths of the business.

We explored the results of these modified incentives further. Through academic and empirical research, we determined that this is not a technology company problem. The effects of these incentives face managers of all types of companies, from telecommunications to consumer goods. Additionally, as expected, we found that the outcome of trying to keep up with unrealistic market expectations does not justify the means. Ultimately, companies cannot continue playing the game. For the companies lucky enough to be caught in time, the effects tend to be loss of respect by the market, lack of control over stock price and increases in stock price volatility. For those that do not get caught in time, the results can lead to outright fraud and

the destruction of intrinsic value. Given the distorted incentives created by overvalued equity and variable compensation, and the disastrous results that can accompany trying to keep up with the valuation, it is crucial to try to prevent the problem before it gets out of control.

In the end, there is no cure all for handling overvalued equity. Ultimately, this problem returns to the internal culture of the company at the highest levels, including the board of directors, and the subsequent message they send to the rest of the company. There can be two executives with an inordinate amount of wealth tied to the company, yet their philosophy and instilled culture can result in drastically different outcomes (in reference to Bernie Ebbers and Warren Buffett). Strong corporate governance with adequate checks and balances is a recurring theme in dealing with overvalued equity, among other things, and ensuring additional problems do not arise. Open communication to the market additionally begins to build a trust and reputation that will serve a long term purpose for the company. Incentives must be aligned to not conflict with a message of "doing the right thing" and not just to meet numbers at all costs. We live in a world where meeting numbers has become the "be all end all" and there has to be commitment throughout to manage the company without guarding against what the market will say or what they expect from your company. Additionally, all decisions must take into account long term implications and provide less weight to the short term effects. This has proved tremendously successful for the Berkshire's of the world and provides a shining example of the benefits associated with consistently emphasizing growth in the long-term intrinsic value of the company above all else.

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Exhibit 1

Statistical Study of 2002 GAO Report on Accounting Restatements

First Study

Our first study investigates whether there is s statistically significant relationship between company valuations and accounting restatements. To examine this, we regressed one through five year returns for the S&P500 Index for one and two years prior to the year of restatement (the independent variables) against the proportion of public companies issuing accounting restatement in 1997 through 2002 (the dependent variables). The coefficients of the constant and independent variable, the p-values of the coefficients, and the r-squared for each regression is summarized in the following chart.

% Rstmts	constant	5YR-1	constant	5YR-2
coefficient	0.020	(0.001)	0.006	0.009
p-value	9.16%	83.91%	48.31%	20.27%
R-squared		1.16%		36.66%
% Rstmts	constant	4YR-1	constant	4YR-2
coefficient	0.024	(0.006)	0.010	0.008
p-value	3.33%	45.10%	30.93%	35.36%
R-squared		14.82%		21.56%
% Rstmts	constant	3YR-1	constant	3YR-2
coefficient	0.027	(0.012)	0.016	0.003
p-value	0.59%	12.61%	17.44%	80.32%
R-squared		48.17%		1.74%
% Rstmts	constant	2YR-1	constant	2YR-2
coefficient	0.026	(0.019)	0.025	(0.015)
p-value	0.08%	2.69%	3.82%	42.18%
R-squared		74.48%		16.66%
% Rstmts	constant	1YR-1	constant	1YR-2
coefficient	0.024	(0.054)	0.027	(0.056)
p-value	0.09%	3.55%	0.57%	10.93%
R-squared		70.89%		51.31%

For example the regression outputs in the first row indicate that the five year return of the S&P500 Index one year prior to the restatement has a coefficient of (0.001) and a p-value of

83.91% while the five year return of the S&P500 Index two years prior to the restatement has a coefficient of 0.009 and a p-value of 20.27%. To interpret the output of the second regression, a 100% five year return of the S&P500 Index for any period would predict that 1.5% of public companies would issue accounting restatements two years hence.

Of the ten regressions performed, only the regressions using the one year and two year returns one year prior to restatements produced statistically significant coefficients at the 95% confidence (ie, a p-value of 5% or less). Contrary to our expectations, these coefficients also indicate that restatements increase as returns decrease. Our expectation had been that the proportion of restatements would increase as returns increased. In fact, only three of the ten regressions produced positive coefficients for the independent variable.

Second Study

Our second study investigates whether there is s statistically significant relationship between industry valuations and accounting restatements. To examine this, we regressed one through five year returns for the 48 Fama and French industry segments for one and two years prior to the year of restatement (the independent variables) against the proportion of public companies within each segment issuing accounting restatement in 2000 through 2002 (the dependent variables). The coefficients of the constant and independent variable, the p-values of the coefficients, and the r-squared for each regression is summarized in the following chart.

00 % Restmts	constant	5 yr-99	constant	4 yr-99	constant	3 yr-99	constant	2 yr-99	constant	1 yr-99
coefficient	0.019	(0.002)	0.021	(0.003)	0.020	(0.005)	0.019	(0.005)	0.017	(0.005)
p-value	0.0%	48.4%	0.1%	41.1%	0.0%	38.6%	0.0%	47.5%	0.0%	64.8%
R-squared		1.1%		1.5%		1.6%		1.1%		0.5%
00 % Restmts	constant	5 yr-98	constant	4 yr-98	constant	3 yr-98	constant	2 yr-98	constant	1 yr-98
coefficient	0.025	(0.007)	0.021	(0.005)	0.024	(0.007)	0.024	(0.015)	0.022	(0.024)
p-value	0.1%	15.8%	0.2%	42.6%	0.2%	28.3%	0.1%	22.1%	0.0%	23.6%
R-squared		4.3%		1.4%		2.5%		3.2%		3.0%
01 % Restmts	constant	5 yr-00	constant	4 yr-00	constant	3 yr-00	constant	2 yr-00	constant	1 yr-00
coefficient	0.027	0.000	0.027	0.000	0.028	0.000	0.027	0.002	0.026	0.013
p-value	0.0%	92.3%	0.0%	90.9%	0.0%	91.7%	0.0%	67.1%	0.0%	17.7%
R-squared		0.0%		0.0%		0.0%		0.4%		3.9%
01 % Restmts	constant	5 yr-99	constant	4 yr-99	constant	3 yr-99	constant	2 yr-99	constant	1 yr-99
coefficient	0.031	(0.002)	0.034	(0.005)	0.032	(0.006)	0.031	(0.008)	0.029	(0.009)
p-value	0.0%	57.7%	0.0%	36.2%	0.0%	39.3%	0.0%	38.9%	0.0%	52.2%
R-squared		0.7%		1.8%		1.6%		1.6%		0.9%
02 % Restmts	constant	5 yr-01	constant	4 yr-01	constant	3 yr-01	constant	2 yr-01	constant	1 yr-01
coefficient	0.010	0.004	0.011	0.005	0.012	0.007	0.013	0.006	0.014	(0.001)
p-value	1.6%	28.8%	0.6%	23.0%	0.0%	22.0%	0.0%	50.2%	0.0%	95.8%
R-squared		2.4%		3.1%		3.3%		1.0%		0.0%
02 % Restmts	constant	5 yr-00	constant	4 yr-00	constant	3 yr-00	constant	2 yr-00	constant	1 yr-00
coefficient	0.012	0.001	0.012	0.002	0.012	0.002	0.013	0.003	0.013	0.003
p-value	0.4%	62.0%	0.2%	44.4%	0.1%	42.6%	0.0%	42.0%	0.0%	64.9%
R-squared		0.5%		1.3%		1.4%		1.4%		0.5%

For example, the regression outputs in the first row/first column indicate that the five year return of the Fama and French segments for the period ended 1999 has a coefficient of (0.002) and a p-value of 48.4%. To interpret the output of this regression, a 100% five year return of a segment for the period ended 1999 would predict that 1.7% of public companies in the segment would issue accounting restatements in 2000.

Of the 30 regressions performed, none produced statistically significant coefficients for the independent variable at the 95% confidence. It is also interesting to note the differences in negative and positive coefficients of the independent variable as negative coefficients make up 53% of the regressions. Given the lack of statistically significant coefficients for the independent variable coupled with the inconsistency in the sign of the coefficients, it is difficult is describe a meaningful association between restatements and segment returns.

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