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DAMAGE COMPUTATIONS IN SECURITIES LITIGATIONS

By Dan L. Goldwasser

Over the past 30 years, there have been thousands of class action lawsuits commenced alleging disclosure violations under the Securities Act of 1933 and the Securities Exchange Act of 1934 (the "Exchange Act"), and over the past ten years, there have been great advances made in techniques for valuing business enterprises and computing damages in securities cases. Indeed, there are now literally scores, if not hundreds, of firms that hold themselves out as experts in computing damages in business tort cases, including securities class actions. Thus, it is not surprising that damage issues are now becoming a focal point of this class of cases.

Loss Causation

In claims based upon alleged violations of Section 10(b) of the Exchange Act, plaintiffs are required to prove the amount of damages actually caused by the alleged misstatements in the issuer's public announcements. The plaintiffs' burden is not only to show that they relied upon the fairness of the market price at the time they purchased the issuer's securities[1], but also to show that the alleged misstatements actually caused the market price of those securities to be inflated. Thus, it is not sufficient for the plaintiffs simply to allege that they purchased the issuer's securities at one price and that the price subsequently fell to a lower level; they must also prove that the alleged misstatements or omissions constitute the very reason why they incurred their damages.[2]

Because of the generally large amounts at stake in securities class action cases, only a minute percentage of cases are actually tried. Most are settled, and both the

amount of the settlement and the courts' ultimate approval of those settlements are heavily influenced by computations of the damages incurred by the class as a result of the alleged disclosure violations. Thus, damage calculations have become one of the, if not the most, critical factors in determining the settlement value of a securities class action.

Attorneys representing plaintiffs in securities class actions have traditionally hired experts to establish the losses suffered by their clients. Discussed below are the methodologies used by those experts and an analysis of their theoretical underpinnings. Also discussed are the various ways their seemingly scientific approaches can be manipulated to serve the ends of the plaintiffs' bar. The article concludes with some thoughts as to how defendants can and should respond to such expert analyses.

Plaintiffs' Theories for Proving Damages

Typically, plaintiffs' counsel retains a damages expert to compute the aggregate damages suffered by the class of plaintiffs. In cases based upon alleged violations of Section 10(b), they do this in a four-step process. First, they seek to determine the extent to which the price of the issuer's securities was overstated at the conclusion of the class period, a process which is performed by analyzing the price movement of the issuer's shares immediately before and after the end of the class period. Second, they compute the amount of the overstatement in the price of the issuer's securities on each day during the class period by extrapolating the drop at the end of the period (as more fully discussed below). Third, they determine the number of shares which were traded on each day during the class period and held to the end of the class period, a computation based upon the daily trading volume in the issuer's shares. Finally, they multiply the number of shares that were purchased on each day and held to the end of the class period by the amount of inflation in the price of the issuer's securities on that day, and then total the results for all such days. The figure so derived is intended to approximate the total damages suffered by the class, assuming that the plaintiffs will be able to convince the jury that total responsibility for those damages should reside with the defendants.

Plaintiffs' experts have used two principal types of computations to prove the amount of the daily stock price

inflation resulting from the alleged misstatements. Both of these approaches begin by measuring the drop in the price of the issuer's securities following publication of information regarding the alleged misstatements. Thus, if the issuer were to restate its prior earnings, the plaintiffs' expert would measure the decline in the price of the issuer's shares immediately after the announcement of the revised earnings report. For example, if the price of the issuer's shares dropped $2.00 upon the announcement of the corrected earnings, that drop would be deemed to represent the amount of inflation in the price of the issuer's securities caused by the original misleading disclosure. This price drop thus becomes the basis for measuring the damages sustained by the plaintiffs from the date of the original erroneous or misleading announcement through the date of the announcement of the corrected earnings (herein referred to as the "class period"). The problem, of course, is that it is highly unlikely that the price of the issuer's shares remained constant throughout the class period and, therefore, plaintiffs' expert must devise some way of determining how much impact the alleged misstatements had over the class period. Here is where the methodologies diverge.

Under the "constant ribbon" theory, it is assumed that the drop in the price of the issuer's securities accompanying the announcement of the corrected information had an equal impact throughout the class period. That impact, in turn, is measured either by the percentage drop in the price of the issuer's securities following the announcement of the earnings overstatement or in terms of the absolute amount of the drop. Thus, if the price of the issuer's securities had dropped from $6.00 to $4.00 upon the publication of the revised earnings, the plaintiffs' expert might contend that the misstatement had caused the price of the issuer's securities to have been overstated by 50% (i.e., 6 - 4 = 2, ÷ 4 = .5 or 50%) at all times during the class period. Accordingly, if, on a given day during the class period, the issuer's securities were trading at $9.00 a share, the plaintiffs' expert would assert that the true value of the issuer's securities on that date was $6.00 per share; and if the price of the issuer's securities had traded on another day at $12.00 per share, the plaintiffs' expert would maintain that the true value on that day was $8.00 per share. This computation is illustrated in Figure No. 1, which assumes that the price of the issuer's securities was inflated by 31.3%.

On the other hand, if the plaintiffs' expert used the absolute amount of the drop as the basis of computing the constant ribbon, and if the price of the issuer's securities on a given day during the class period were $9.00 per share, the expert would conclude that the true value of the issuer's securities on that day was $7.00 per share (i.e., $9.00 - $2.00 = $7.00). Correspondingly, if the price of the issuer's securities on another day were $12.00 per share, the true value on that day would be regarded as $10.00 per share. This computation is illustrated in Figure No. 2. Needless to say, the decision as to whether the plaintiffs' expert uses a percentage drop or an absolute drop as the basis for computing the "true value" will make a substantial difference in the amount of damages ultimately computed.

The second principal method used by plaintiffs' experts in computing the amount of losses attributable to a disclosure violation is to utilize a stock market index to compute the "true value" of the issuer's securities over the class period. This approach is referred to in this article as the "comparable index" approach. Under this method, the expert also assumes that the price of the issuer's securities following the announcement of the alleged misstatement represents the true value of those securities on that date. The expert then computes the "true value" of the issuer's securities throughout the class period by extrapolating that value backward in time using a stock market index so as to eliminate any "inflation" in the price of the issuer's securities which might have resulted from general market factors affecting the stocks of similar companies.[3] See Figure No. 3 for a graphic illustration of this type of computation.

Some experts, however, simply eliminate this step and assume that the price of the issuer's securities following the announcement of the revised earnings represents the "true value" of the issuer's securities throughout the class period, essentially making the assumption that general market factors had no impact on the price of the issuer's securities throughout the class period, an assumption which seems unwarranted in almost every conceivable case. Such an assumption has no validity and simply serves to overstate the aggregate amount of damages suffered by the plaintiffs. See *In Re Executive Telecard, Ltd. Securities Litigation*, 979 F. Supp. 1021 (S.D.N.Y. 1997), in which the District Court rejected a damage analysis, stating, "A proper methodology for eliminating

that portion of the price decline that is the result of forces unrelated to the wrong, should include elimination for both general market factors and company specific factors."

Theoretical Fallacies

Both the constant ribbon and the comparable index approaches are highly suspect and, at the very best, only lead to a very rough approximation of the damages which were actually caused by the alleged disclosure violations. Moreover, the manner in which the experts determine the amount of the price decline upon the announcement of the revised earnings and other underlying assumptions will have a material impact on the overall damage computation.

The constant ribbon theory proceeds on the assumption that the impact of the alleged misstatement is equal throughout the class period. This assumption is highly dubious – indeed, so dubious as to wholly undermine the entire computation. For example, the revelation in 1995 of an overstatement of the issuer's 1992 earnings is likely to have little or no effect on the price of the issuer's securities even though it might have had a substantial impact on the price of the issuer's securities if the correct information had been published in 1993.[4] Similarly, a revelation in 1995 that the issuer's net assets were overstated in its 1992 annual report should have little impact on the price of the issuer's securities when revealed in 1995.

On the other hand, there could be situations in which the alleged error might have grown over the class period. For example, the issuer might have been carrying on its books in 1992 an intangible asset of $10,000,000 which arguably should have been written down to $9,000,000 in 1992, to $7,000,000 in 1993, and to $4,000,000 in 1994, and wholly written off in 1995 when the issuer did finally take that action. Thus, unless the class period is relatively short (i.e., only a few weeks) or in the unusual case where the impact of the alleged misstatement was constant throughout the class period, the constant ribbon theory has no validity and is simply an expedient for avoiding a reasoned analysis.[5]

Even assuming that the use of the constant ribbon hypothesis is supportable, there remains the question of whether the ribbon should be computed on the basis of the absolute amount of the price drop or on the basis of the

percentage drop. To be sure, if the price of the issuer's securities has been declining over the class period, the percentage drop approach will be more beneficial to the plaintiffs in that the absolute amount of the differential between the trading price and the computed true value on any given day during the class period will exceed the absolute drop in the price of the issuer's securities at the end of the class period. Conversely, if the price of the issuer's securities during the class period has been increasing, then a constant ribbon based upon the absolute price drop at the conclusion of a class period would yield a greater amount of aggregate damages than if the computation had been made on the basis of a percentage drop.

The choice of whether a percentage drop or an absolute drop computation is made is invariably left in the hands of the plaintiffs' expert, and the courts have shed little light on whether this determination should be made on a principled basis. For the most part, the courts have simply ignored the issue and have allowed the jury to determine the validity of the expert's computation after his or her views have been challenged on cross-examination.

As a theoretical matter, where the alleged misstatement simply has the effect of overstating the issuer's balance sheet, the absolute amount of the price drop, rather than a percentage drop, would appear to be the more appropriate basis for determining the amount of the drop (i.e., the width of the ribbon).[6] Conversely, if the alleged misstatement affected the issuer's income statement and did so by a constant percentage throughout the class period, the percentage drop in the price of the issuer's securities at the end of the class period would seem to be the more appropriate basis for computing the differential between the market price and the true value of the issuer's securities throughout the class period. All other situations would seemingly call for a more complex computation of the true value amounts, taking into consideration the changing amount of the balance sheet overstatements throughout the class period and the percentage of the overstatement in the issuer's earnings throughout the class period, if, indeed, the overstatements even had an impact throughout the class period.

The comparable index approach, while theoretically more sound, is also not without limitations. This approach also makes the assumption that the market impact of any

alleged misstatement becomes permanently imbedded in the value of the issuer's securities and that impact can be determined months or even years later. As more fully discussed below, however, a misstatement in prior earnings has about as much impact on investment decisions today as discovering that the issuer had been sanctioned ten years ago for unfair labor practices. In short, the impact on stock market valuation of past operating results tends to be minimal and is only relevant insofar as it affects the market's expectation of the issuer's future operating results.

A second underlying assumption of the comparable index approach is that the market factors eliminated through the index are the only factors other than the alleged misstatement which had an impact on the price of the issuer's securities throughout the class period. While this assumption might have validity for a very short period, it is clearly dubious over a period of several months, not to mention years.

Finally, the choice of the index utilized to extrapolate the true value of the issuer's securities is also critical and generally a great source of manipulation. For example, some plaintiffs' experts will simply extrapolate the price of the company's securities using a broad market index, such as the S&P 500 Index. Broad market indices will tend to eliminate price declines based upon general market factors (such as changes in interest rates and the general business outlook), but they do nothing to address factors which are peculiar to the industry in which the issuer operates. For example, a change in the tax law which peculiarly affects the real estate industry could have an enormous impact on the price of securities of real estate companies and virtually no impact on stock market prices as a whole. Thus, in order to properly extrapolate the true value of the issuer's securities back through the class period, the index chosen must reasonably emulate market forces on securities of companies whose businesses closely resemble that of the issuer.

While Standard & Poor's and other investment services do publish indices of various industries (such as the S & P index for retail stores), those indices are not necessarily representative of every company in the same general industry. They are also weighted on the basis of the market capitalization of the companies comprising the index and thus may bear little resemblance to the securities

of the issuer in the class action. For example, Vedder Price recently litigated a case involving a long-distance telecommunications company operating outside the United States. This was a relatively small company with annual sales of approximately $12 million. The plaintiffs' expert in this case utilized the Standard & Poor's Long-Distance Index, which index is weighted based upon the market capitalizations of the companies composing it. As a result, 74% of the market movement of this index was governed by price movement of AT&T's securities. One would have had to look long and hard in order to find much resemblance between the subject company and AT&T, and the use of this index was criticized by the court in excluding the report of the plaintiffs' expert.[7]

In rebutting this calculation, Vedder Price retained an expert who selected five public companies in the international telecommunications business whose operations closely resembled that of the issuer. [8] He then compiled a stock price index of those companies and compared the movement in the price of the issuer's securities with that of the index over the class period, finding that there was roughly a 98% correlation in their movements, an extremely high correlation by any standard. The moral of the story is that one need not, and should not, use off-the-shelf indices when doing this type of extrapolation. Figure No. 4 shows the differences in damages that would have been computed in this case using (a) the S & P 500 Index, (b) the S & P Long Distance Index and (c) the index of comparable companies prepared by Vedder Price's damage expert.

It should be appreciated that market movement correlation means that the price of the issuer's securities moves up when the index moves up and moves down when the index moves down. It does not necessarily mean that when the index moves up 10% the price of the issuer's securities moves up 10%. Indeed, virtually every security has its own volatility coefficient, generally referred to by stock market analysts as a "beta coefficient." Thus, not only is it important to ascertain the appropriate market index for determining market factors which might have affected the price of the issuer's securities, but it is also important to adjust the amplitude of that index based upon the relative beta coefficients of the index and the issuer's securities. If this is not done, price movements based upon reactions to general market conditions would likely be misinterpreted as price inflation resulting from the alleged misstatements.

Figure No. 5 illustrates the difference in damages between an index which has not been adjusted by the beta coefficient and one that has been so adjusted.

As a result of the foregoing factors, it is clear that the daily damage computations customarily generated by plaintiffs' experts often tend to be highly misleading, if not altogether fraudulent. In fact, these computations are largely expedients rather than scientific efforts to analyze the causal impact of a material misstatement on stock market movement.

Causes of Market Price Movements

To be sure, the stock market seems to move in mysterious ways. One company may announce an increase in earnings and its stock price moves up, while another announces an increase in earnings and its stock price moves down.[9] Similarly, one company may announce losses for a given period, sending its stock tumbling, while another announces massive write-offs wiping out several quarters of earnings and the price of its securities is propelled upward.[10] In reality, there is frequently little correlation between earnings announcements and movements in the price of a company's securities. This is particularly true for small high-tech companies whose stocks tend to be priced on the basis of their future prospects rather than on the basis of their past performance. In the *Executive Telecard* case, the correlation between earnings announcements and movement in the price of the issuer's securities was 0.167, which indicates no meaningful correlation.

Business valuation experts, including some stock market analysts, often value companies on the basis of their discounted future cash flows. Thus, they project future cash flows of the enterprise and determine the current value of those future cash flows by discounting them back to the present, using interest rates deemed to be comparable to the enterprise's cost of capital. For example, if the enterprise is expected to earn $1 million a year for the next 30 years and its cost of capital is 12%, its value would be approximately $7.2 million determined as follows:

Total (for 30 years)

Year	Earnings	Discount Factor	Value
1	$1,000,000	88.00%	$880,000

2	1,000,000	74.44%	744,472
3	1,000,000	68.81%	688,072
4	1,000,000	59.97%	599,700
5	1,000,000	52.77%	527,731
6	1,000,000	46.44%	464,404
7	1,000,000	40.87%	408,675
8	1,000,000	35.96%	359,634
9	1,000,000	31.65%	316,478
10	1,000,000	27.85%	278,501
11	1,000,000	24.51%	45,680
12	1,000,000	21.57%	215,671
13	1,000,000	18.98%	189,790
14	1,000,000	16.70%	167,015
15	1,000,000	14.70%	146,973
	7,174,924	[11]	

This computation reveals the relationship between a company's capital cost and its value, to wit: the lower the cost of capital, the greater the current value of the projected income stream. As can also be seen from this computation, the discounted cash flow (or "DCF") approach wholly ignores the company's historical earnings except to the extent that those earnings are deemed to be predictors of future performance.

Under the DCF approach, the analyst, after computing the current value of the enterprise's future cash flows, would increase the resulting amount by the value of those net assets of the enterprise which were not necessary to produce the projected future cash flows. For example, if the enterprise had additional assets not involved in producing income, such as an art collection valued at $500,000, that collection would increase the value of the enterprise by only 7% (from $6.3 million to $6.8 million) even though the collection would be worth 50% of the enterprise's annual earnings. Thus, only to a very minor degree does the net worth of the enterprise actually get computed into the value of the company under the DCF approach. This, of course, raises the question as to whether an overstatement in the net assets of an enterprise can even have a material effect on the market price of the enterprise's securities.[12]

A variation on the DCF method is the economic value added (or "EVA") approach pursuant to which analysts take into consideration not only the future cash flows of the enterprise but also increases and decreases in the enterprise's capital assets. This method assumes that the productive assets of the enterprise will not be fully consumed in generating future cash flows and therefore must be separately evaluated. No one has done any studies to test whether these well-accepted theories for valuing businesses accurately explain market movements in a company's securities. The only thing that can be said is that market analysts use these methodologies and that their reports do seem to have an effect on the movement of the price of corporate securities. To be sure, there seems to be a much greater correlation in perceived

valued based upon DCF and EVA analyses than based upon earnings announcements. This fact is frequently confirmed by stories in the financial press that seek to explain the downward movements in a company's securities following an announcement of increased profits. [13] These stories frequently cite that market analysts had expected even higher earnings and, therefore, had to adjust downward their expectations of future cash flows.

It should be noted that both DCF and EVA evaluations depend upon two key factors: projections of future cash flows and the cost of capital to the enterprise. This, in fact, explains why stock prices tend to move down upon increases in interest rates and move up following announcements of interest rate cuts. It should also be noted that neither of the two principal methods for measuring loss causation currently utilized by plaintiffs' experts in any way incorporates projections of future operating results or changes in the enterprise's cost of capital (a function of interest rates).[14] At best, the comparable index approach takes interest rates indirectly into account by factoring out general market movements. Even the comparable index approach can only take into account the actual cost of capital of the issuer by factoring the issuer's beta coefficient into the computation. The constant ribbon approach ignores both of these critical factors.

There can be no doubt that one of the principal factors underlying projections of future operating results is the quality of the issuer's management. Although it is very difficult to place any valuation on such a subjective factor, there can be no question that the quality of management does play a very substantial role in how the market values a company's likely future performance and the price of its securities. This can be seen in the movement in the price of AT&T's securities between November 1997 and February 1998, when the price of AT&T stock climbed from approximately $31.50 per share to approximately $63.00 per share. Although there was a general upward movement in the prices of most securities during this period, that general increase was approximately 15% and could not begin to explain the 100% increase in the market value of an enterprise as huge as AT&T. It should also be noted that during this period there was no appreciable change in the level of earnings being reported by AT&T, nor were there any major transactions or innovations made by AT&T which might otherwise explain the dramatic increase in the price of its securities. The only significant event which took place during this period was that John Walter and Robert Allen, AT&T's respective President and Chairman of the Board, stepped down in favor of Michael Armstrong, who became the new CEO of AT&T.

This example, while extreme, is not unique. Changes in management frequently are viewed favorably by stock analysts and often prompt significant movements in the price of a company's securities. Similar dramatic increases could be seen following Louis Gerstner's assumption of the presidency of IBM, when John Sculley became the President of Spectrum Information Technology and when Steve Jobs rejoined Apple Computer. Notwithstanding this very strong empirical evidence that the perceived quality of a company's management has a very real impact on the value of its securities, the methodologies utilized by plaintiffs' experts ignore this very critical factor, a factor which can come into play upon either an actual change in management or a threatened change in management, such as through the announcement of a CEO's being hospitalized or diagnosed with a serious illness. This was demonstrated in the drop in the price of the shares of Coca-Cola and Time Warner securities following announcements of the illnesses suffered by their respective CEOs (Roberto Goisueta and Steven Ross).

The methodologies used by plaintiffs' damage experts also do not address a number of other

factors unique to the issuer which may have a dramatic effect on the market price of its securities. Such factors might include changes in the market for the company's products, new product launches and developments in related industries which might impact the value of the issuer's operations. For example, the issuer may be engaged in developing real estate in a given geographic area at a time when the federal government announces that it will close a major defense installation, greatly decreasing real estate values in the vicinity of the facility.

Computational Manipulations

In addition to the inherent weaknesses of the two approaches commonly used by plaintiffs' damage experts, their computations can also be greatly influenced by certain assumptions which are made in utilizing those approaches. As discussed at the outset, the starting point for both the constant ribbon and the comparable index approaches is the amount of the drop in the price of the issuer's securities following the disclosure of the alleged material misstatements. Thus, the first issue becomes how that drop is measured. For example, is it appropriate to start with the price of the issuer's securities on the day that the announcement first appeared, or do you take an average price over a period of days preceding that announcement? Similarly, should the bottom of the drop be measured by the closing price on the succeeding day, or by the average (or even the lowest price) over a period of days thereafter? There is also the problem that information seeps into the marketplace at different rates depending upon the circumstances. For example, the news might be first published in a trade journal with limited circulation, then picked up by a local newspaper and later published in a financial press, and then subsequently analyzed and evaluated by a stock market analyst. This process may even take place over a period of weeks or even months. For example, Entremed's stock jumped from 12 to 82 on the day after *The New York Times* ran a story on a new cancer drug even though the news of that drug had been published in medical journals six months prior to this publication. In short, it is important to determine at what point in the disclosure process the impact of the announcement was fully assimilated into the price of the issuer's securities.[15]

A second problem that must be addressed in determining the amount of the drop is the possibility that the market may have overreacted to the announcement. For example, it is not unusual for an announcement of adverse news to precipitate a very large drop in the price of a company's securities only to have the price of the company's securities rebound in subsequent days as investors further analyze and evaluate the impact of the announcement.[16] It was this very factor that prompted Congress to provide in the Private Securities Litigation Reform Act of 1995 that, in actions brought pursuant to Section 10(b), the drop in the price of the issuer's stock must be measured based upon the average price over a 90-day period following the disclosure of the material misstatements. In this way, the so-called "bounce effect" can be taken into consideration.

While it may be appropriate to utilize an average price taken over a period of several days, if not weeks, to measure the effect of such an announcement, the longer that period is extended, the greater the likelihood that other factors will impact the price of the issuer's securities during the measuring period. For example, during that period the issuer might announce its normal quarterly earnings, changes in management and/or product developments. Such announcements could easily have an impact on the price of the issuer's securities and judgments have to be made as to what impact those announcements had on the market price of the issuer's securities. Thus, unless all factors are considered during the period when measuring the drop in the price of the issuer's securities, the very basis of the

computation is placed into doubt even assuming that the methodology is sound.

Where the comparable index approach is utilized to determine the true value of the issuer's securities over the class period, an assessment must be made as to the appropriateness of the index that is used. As discussed above, the selection of the index and the modification of that index to account for the beta coefficient of the issuer's securities are absolutely critical. Even so, the simple use of an index, even one that has been so modified, does not take into consideration the number of other issuer-specific factors which may have had an effect on the market price of the issuer's securities during the class period. For example, during the course of the class period, there may have been rumors of an impending takeover or new product developments which might have sent the price of the issuer's securities upward. Unless those aberrational price movements are eliminated, they will be computed as inflation caused by the alleged material misstatement. The plaintiffs' expert will not likely have engaged in any such exercise, leaving such matters to defense counsel and his or her damage expert to uncover and analyze. Such a failure, however, was deemed to be fatal in one case.[17]

The Impact of Misstatements of Earnings

As noted earlier in this article, the stock market sometimes reacts in strange ways to announcements by companies. For example, a major write-off to be incurred in restructuring the company's operations frequently has the effect of increasing, rather than decreasing, the price of the company's securities. While this may seem counterintuitive to most people who associate lower earnings with lower stock prices, it happens because the market value is largely based upon projections of future cash flows and the write-off itself generates cash flows by creating a current income tax deduction.[18] Moreover, the future earnings of the issuer will not be burdened by the additional costs that are likely to be saved as a result of a restructuring. [19] Thus, from a market price perspective, restructurings not only create cash by generating a tax deduction in the current period, which is valued on a dollar-for-dollar basis (as opposed to deduction in future periods for which the resulting cash flows would be discounted), but also by enhancing the future operations of the issuer as the restructured operations are likely to be far more efficient and, therefore, will generate greater cash flows.

A current write-off of inventory items could significantly decrease the company's net assets but would not have an impact on the issuer's future earnings if those items of inventory would never be sold. On the other hand, if inventory items were simply written down to reflect the fact that their costs were higher than the price the company would have received upon their eventual sale, this might be perceived as a positive event in that future earnings would likely be increased by the current deduction, which itself would give rise to a current tax benefit in contrast to a less valuable future tax benefit.

As noted above, and contrary to popular belief, earnings announcements do not have any necessary impact on the price of a company's securities. That is because, with respect to most companies, analysts have already projected future earnings of the company in reaching their determination as to the appropriate value of the company's securities. Thus, an earnings announcement that simply reaffirms analysts' estimates of current earnings (whether representing an increase or decrease over the prior year's earnings) will usually be greeted by no movement in the price of company's securities. On the other hand, current earnings, whether higher or lower than last year's earnings, which exceed analysts' expectations are likely to move the price of the company's securities upward; and, conversely, earnings

announcements which are lower than analysts' expectations will likely move the price of the company's securities downward. In short, what is important is not whether the earnings are above or below previously reported earnings, but whether they are above or below analysts' expectations.

What this really means is that announcements to the marketplace regarding those factors which either increase or decrease analysts' expectations of future cash flows probably have a greater impact on the price of a company's securities than the actual revelation of historical earnings. It is for this reason that no analysis of the drop in the price of an issuer's securities can be done in the absence of an analysis of announcements that have been published regarding the issuer's operations, such as new products, strategic alliances, cost-cutting initiatives and the like.

This, of course, does not mean that historical financial statements are altogether irrelevant. While they are relevant in determining the price of the company's securities, they are only relevant to the extent that they can help an analyst predict the results of the company's future operations. Obviously, one of the most important factors affecting future performance is the increase in sales which the company is likely to experience. Historical operating results only provide minimal insight into this most important of figures. Historical financial statements can show trends of increases in sales. The fact that a company's sales have grown by 70% per year for the last three years, however, does not mean that they will continue to grow at that rate. Nor does the fact that the company's sales have been flat or even nonexistent in recent years mean that they will continue to follow that same trend. Sales projections, by and large, are made on the basis of the company's products, the size of the market for those products and the company's likely ability to increase its share of the market for its products or services, taking into consideration the relative economic strength and technological competitiveness of the company and its competitors. Thus, perhaps the single most important indicator of value of a company (namely, its future sales) cannot even be predicted on the basis of past historical financial results.

The second most important factor in predicting future financial results is the company's gross profit margin. Profit margins can generally be gleaned from historical operating results as long as it is safe to assume that the company will continue to manufacture the same products in the same manner and in the same facilities. To be sure, this is likely to be true for the short term, but not necessarily so over the long term. Moreover, in industries in which there is little or no capital investment, those profit margins can change greatly in a very short period of time. For example, in a service industry, a company can develop a new service literally overnight and the profit margins for those services may greatly differ from those of services historically offered by the company. Correspondingly, where little capital investment is required, there is a strong likelihood that competition could increase dramatically in a very short period. Thus, the smaller the enterprise and the less capital investment that is required to conduct the company's business, the less reliable historical gross profit percentages will be as predictors of future profitability.

Moreover, a company's aggregate gross profit percentage is, in large measure, influenced by its product mix. For example, assume that a company has one line of business from which it enjoys a 45% gross profit margin and another line of business from which it derives a 30% gross profit margin. If sales of the former are increasing, while sales of the latter are decreasing, the company's overall gross profit margin is likely to increase at least in the short term until competitive forces tend to reduce the profitability of the former line of business.

Thus, one cannot simply utilize last year's aggregate gross profit margin to predict the future, but rather must predict gross profit margins based upon perceived changes in product mix as well as perceived changes in competitive conditions. Thus, while historical gross profit margins in the short term may be helpful in forecasting future cash flows, they are not, by any stretch of the imagination, determinative of future operating results. Nevertheless, a plaintiff who can show that the historical gross profit margin of an issuer's principal line of business was greatly overstated in its historical financial statements should be a long way toward proving that the an overstatement in the company's gross profit margin had a material impact on the market price of the issuer's securities.

Similarly, the level of the company's selling and general administrative ("S&GA") costs will also be utilized by stock market analysts in trying to predict the company's future cash flows. S&GA costs, however, tend to be substantially less than the cost of goods sold and, therefore, tend to have a lesser impact in determining the company's future profitability. For example, a manufacturer with a 40% gross profit margin would have a 60% cost of goods sold and its S&GA costs would probably be no more than roughly 20% or 25% of sales. Thus, S&GA costs in a manufacturing enterprise tend to run approximately 1/3 of the costs of goods sold except in certain industries (such as the cosmetics pharmaceutical, publishing and software industries) where the cost of goods sold tends to be relatively low and S&GA costs tend to be relatively high.

Secondly, S&GA costs do not tend to increase in proportion to increases in the company's sales. Whereas gross profit margins tend to remain relatively static when sales increase,[20] S&GA costs tend to drop as a percentage of increasing sales. Thus, increases in sales are usually not matched by increases in S&GA costs. As a result, a market analyst predicting that sales will triple over the next five years is likely to assume that S&GA costs may not even double during that period. Even though S&GA costs are probably computed initially based upon the historical financial statements of the enterprise, future estimates of S&GA costs may differ greatly as a percentage of sales. It is for this reason that analysts' estimates of how S&GA costs will change are probably more significant than the amount of those costs as shown on the most recent historical financial statements.

Daily Damage Computations

In order to compute the actual damages of a class of investors in a Section 10(b) claim, the plaintiffs' expert will have to make some determination regarding which purchasers of the issuer's securities during the class period sold their shares at a time when the price of the issuer's securities was still inflated (sometimes referred to as the "ins and outs") and which ones held their shares until the end of the class period when the alleged misleading disclosures were corrected and the drop in the price of the issuer's shares took place.[21] The only way to make this determination is to obtain a list of the issuer's shareholders on the last day of the class period, to contact each of them to ascertain when they actually acquired their shares and to compute their individual damages based upon the computed price inflation on the day of their purchase. This is a monumental task and generally only takes place following the conclusion of the litigation as a means for disbursing the settlement funds. This process, however, is often complicated by the fact that many investors, particularly institutional investors, may have bought and sold the issuer's securities on many occasions throughout the class period. Since institutional investors regularly receive more than 50% of the settlement funds obtained through class action litigation, this is a problem which cannot simply be ignored.

As a practical matter, however, plaintiffs' experts are almost never in a position to undertake this type of computation during the pendency of the litigation. Instead, they utilize a computer model to compute the number of shares that are purchased on each day during the class period for which damages should be assessed. That number is then multiplied by the difference between the trading price and the computed true value on that day, with the total damages on each day being added to obtain the total damages to the class.

The computer model used by plaintiffs' experts assumes that on any day the persons who purchased the issuer's securities are divided between those who held their shares to the end of the class period (the "Holders") and those who did not, with the percentage of Holders being roughly inversely proportional to the number of days to the end of the class period. Thus, all persons who purchased their shares of the issuer's securities on the last day of the class period are deemed to be highly likely to have held their shares at the end of the class period, while those who purchased their shares during the early days of the class period are deemed far less likely to have held their shares to the end of the class period.

Rather than arbitrarily assign a declining percentage of "Holders" going back in time from the end of the class period, plaintiffs' damage experts usually employ what has been referred to as the "proportionate decay" model. This model proceeds from the assumption that on any given day each share traded on that day has an equal chance of being held to the end of the class period. Therefore, the percentage of shares so held is determined by a fraction, the denominator of which is the total number of shares held by the members of the class and the numerator of which is the number of shares which have not already been deemed to have been so held.

This computation necessarily begins with the last day of the class period and works backward in time. For example, if there were 10 million shares in the class and 50,000 shares were purchased on the last day of the class period, all of those shares would be deemed to be held until the end of the class period because no shares would have been previously deemed to have been held to the end of the class period. On the preceding day, if 40,000 shares traded, 39,800 of those shares would be deemed to have been held to the end of the class period (i.e., 40,000 multiplied by 10 million minus 50,000 or 9.95 million, divided by 10 million). Similarly, if on the 16th day prior to the end of the class period, if 60,000 shares had traded and 480,000 shares had been previously deemed to have been held to the end of the class period, then 57,120 of those shares would be deemed to have been held to the end of the class period. Obviously, as you go farther back in time, the percentage of shares traded on any given day which are deemed to have been held to the end of the class period declines. To be sure, such a computation does not reflect reality, as some periods are clearly characterized by speculative activity and others seem to attract long-term investors. Nevertheless, the proportionate decay model is generally accepted by litigants as a means for estimating the damages suffered by a class of alleged defrauded investors. The primary virtue of this model is that it can never result in damages being computed with respect to more shares than are included in the entire class.

One of the difficulties faced in carrying out this computation is determining the number of shares that make up the class and the number of shares that traded on any given day. For the most part, all defendants and their affiliated entities are defined out of the class and, therefore, their shares are not treated as being a part of the class shares. Moreover, their trades in the issuer's securities must be eliminated from the daily trading volume recorded in the issuer's securities. While obtaining that trading volume is generally relatively

straightforward, it should be noted that securities traded on the NASDAQ market must have their trading volume cut in half, as the NASDAQ trading figures represent both the purchases and the sales of securities, with the result that each transaction is recorded twice. The volume trading statistics on the national stock exchanges, other than NASDAQ, do not suffer from this duplication as their trading volume figures are based upon transactions effected by the trading specialist in the stock.

The proportionate decay model, however, while based upon a seemingly logical assumption, does not take into consideration that a certain amount of trading in most securities represents trades by individuals and entities that constantly trade in the issuer's securities, trying to take advantage of momentary swings in the market price. The level of such speculative activity can have a major impact on the overall damage computation. This can be seen in the extreme case wherein the daily trading in an issuer's shares averages 2½% of the issuer's outstanding shares. Thus, during the course of a year, the trading volume would be over five times the number of outstanding shares, which means that under the proportionate decay computation, over 90% of the shares deemed to have been purchased during the class period and held to the end of the class period would have been purchased during the last 93 trading days of the class period. [22] Not only is this an unlikely premise, but it tends to skew the overwhelming majority of the damages toward the end of the class period. While this would not be a problem if the amount of the damages were constant throughout the class period (a result only achieved using a constant ribbon approach with the absolute amount of the drop at the end of the class period), that is rarely the case.

To avoid this problem (and occasionally to increase the amount of resulting damages), plaintiffs' experts will frequently discount the trading volume statistics "to eliminate speculative activity." This results in shifting a greater percentage of the class' aggregate damages to the earlier dates within the class period. Such adjustments are generally made only where the class period is relatively long and the trading volume over the class period is two or more times the number of shares in the class. Under this type of adjustment, a plaintiffs' expert might assume that 20% of all trades are made by speculators or "day traders" and, therefore, if 100,000 shares were traded on a given day, only 80,000 would be deemed to have been traded by the proportionate decay model.

The question then becomes how a plaintiffs' expert determines the amount of this discount factor. There have been no comprehensive studies on this issue and most plaintiffs' experts will cite their "prior experience" as a basis for their conclusion. Some will cite their actual experience gained through disbursements of class action settlement funds when defrauded investors are required to document when they purchased the issuer's securities. Such experience should be viewed with skepticism as trading patterns in securities will vary widely depending upon the beta coefficient of the shares, the industry in which the issuer operates, the market in which the issuer's shares trade, and the composition of the holders of the issuer's outstanding shares. Without knowing these factors, any "experience" claimed by a plaintiffs' expert is likely to be irrelevant, if not statistically insignificant.

At least some effort has been made to determine the accuracy of the proportionate decay model in determining the aggregate damages suffered by a class of securities investors. That study was performed by Kenneth R. Cone and James E. Laurence and was published in *The Business Lawyer*, 49 Bus. Law. 505 (Feb. 1994). The authors' conclusions, which were based upon the actual data amassed in two cases, were that the proportionate decay model tends to significantly overstate aggregate class damages unless a relatively high discount factor is

used. That discount factor should be higher for unseasoned stocks and relatively short class periods. For NASDAQ stocks, the authors suggest a 75% discount.

Because of this problem, Cornerstone Research, a firm of damage experts which generally works with the defense bar, has developed what it calls a "two-trader" model for computing the number of Holders. This model, which was developed based upon an analysis of data compiled in a class action case, divides stock purchasers into two groups, "traders" and "holders," with the former owning a minority percentage of the float and accounting for a majority of the shares traded. In its model, Cornerstone assumes that the traders own, both at the beginning and at the end of the class period, 20% of the float but are 20 times more likely than holders to trade their shares. Using this model, Cornerstone computed that the number of damaged shares was roughly 55% of the number of shares computed under the proportionate decay model. More importantly, the two-trader model came within one percent of predicting the number of outstanding shares that were traded during the class period of the actual case used as a test, in contrast to the proportionate decay model which overstated the number of shares traded by about 90%.[23]

It should be noted that members of the plaintiffs' bar, who regularly administer settlement funds and necessarily obtain actual trading data, have never published that data. This fact alone is also probably a good indicator that the proportionate decay model tends to greatly overstate actual trading and investor losses.

What Does It Mean?

As demonstrated above, the damage computations utilized by most plaintiffs' experts for computing the amount of damage suffered by security investors as a result of an overstatement of earnings have little to do with reality. Indeed, such computations, while produced by computer models and based upon reams of underlying data, do little to measure how misstatements and historical earnings actually impact the market price of an issuer's securities. Indeed, they are a very poor substitute for a thorough analysis.

Because of the inherent flaws in the methodology employed by plaintiffs' damage experts as well as the variety of factors which are typically overlooked in plaintiffs' damage analyses, there is a distinct possibility that the plaintiffs' damage experts can be disqualified based upon a *Daubert* motion attacking the reliability of the expert's opinion or the scientific validity of its methodology. While the courts are understandably reluctant to disqualify a party's expert, particularly when that expert uses a methodology which has been accepted by a number of other courts, it is not altogether impossible. Indeed, in the *Executive Telecard Securities Litigation*, the defendants were successful in striking the report of the plaintiffs' damage expert. Unfortunately, the court permitted the plaintiffs to obtain a new damage expert notwithstanding the fact that the time for designating experts and the close of discovery had long since passed. 979 F. Supp. 1021 (S.D.N.Y. Oct. 16, 1997). Moreover, the defendants' motion simply enabled the plaintiffs to obtain another expert whose opinion did not contain many of the flaws found in their original expert's report.

As noted above, one of the major areas of weakness in the computations made by plaintiffs' damage experts is the trading discount factor. It is therefore suggested that defendants subpoena plaintiffs' counsel and plaintiffs' damage expert for the historical damage data from their prior cases to determine whether there is any basis in fact for the expert's trading discount factor. By doing so, defendants are likely to be able to compel the use of a larger

discount factor, greatly reducing the amount of the expert's computation of aggregate damages.

To be sure, the weaknesses in plaintiffs' damage experts' analyses outlined herein do provide a strong basis for cross-examining the plaintiffs' expert at trial and substantially diminishing the impact of that expert's testimony. The problem is that not only are the issues difficult for a lay jury to understand, in many respects they are counterintuitive, with the result that the jury may simply conclude that the defense is trying to confuse the issues, rather than point out legitimate weaknesses in the analysis of the plaintiff's expert. Thus, it is absolutely critical for defense counsel to pose numerous hypothetical questions to the plaintiffs' expert and obtain the agreement of that expert on a number of the basic points that undermine his or her testimony. In all probability, most securities class actions will continue to be settled and the arguments discussed above will form a sound basis for negotiating down the settlement value of the action.

End Notes

1 In this connection, the courts have adopted the "efficient market" hypothesis under which all public announcements are deemed to be reflected in the trading price of the issuer's securities. This hypothesis (which is a corollary of the premise underlying the securities laws; namely, that disclosure will assure rational investment decisions) has never been proven by empirical testing; and its adoption by the courts, to some extent, is an expedient designed to enable civil damage claims based upon disclosure violations to proceed.

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2 In cases asserted under Section 11 of the Securities Act 1933, the plaintiffs need only show that the prospectus contained materially misleading statements and that the price of the issuer's securities subsequently declined from the original offering price. Thus, in Section 11 cases, plaintiffs are not required to prove loss causation, but only the decline in value of their securities. Nevertheless, the defendants may successfully defend the claim by proving that the drop in the price of the issuer's securities necessarily resulted from factors other than the alleged misstatements in the issuer's prospectus. Accordingly, in both Section 11 and Section 10(b) cases, the issue of loss causation is present.

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3 The mechanics of this computation are as follows: First, the expert determines the value of the index on each day during the class period. Second, he equates the price of the index to 100% on the day (following at the end of the class period) deemed to represent the "true value" of the issuer's securities. Third, he determines the percentage value of the index price on each day during the class period to the value of the index on the day the issuer's securities are deemed to have traded at their true value. Finally, he equates the true value of the issuer's securities as so determined to 100%, thereby converting the index into the price of the issuer's shares during the class period.

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4 Compare the market impact of the announcement in November 1994 that the earnings of

U.S.A. Classic Inc. for the fiscal year ended June 30, 1992 had been overstated by 90% with the announcement in April 1998 by Cendent Corp. that its 1997 earnings had been overstated by 15%. In the former case, the price of U.S.A. Classic's securities barely moved, while in the latter case Cendent's share price plunged by 45%.

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5 This is a potentially dangerous argument for defense counsel in cases in which there was a single misstatement at the outset of a relatively long class period, as the price drop in the issuer's shares at the end of the class period is likely to understate the plaintiffs' damages during the early part of the class period.

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6 This is because the company valuations are largely based upon projected future earnings and asset valuations have a relatively minor impact upon those valuations. This assumes that the overstatement did not mark a loan covenant default which could have additional ramifications.

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7 *In Re Executive Telecard Securities Litigation, supra.*

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8 The selection process began with all public companies having the same industry classification code (i.e., Communications – SIC Code 4800). That group (comprising 398 companies) was then paired down as follows: First, the list was screened to exclude companies that were not engaged in providing long-distance services in foreign countries. This eliminated 297 companies. Next, all companies with a market capitalization of less than $10 million were eliminated, reducing the list to 50. Finally, all companies that did not have overseas operations were eliminated, reducing the list to the following companies: Cable and Wireless, MCI Communications, LDDS Communication, Phoenix Network and Spring Corporation. Each of these companies had roughly the same proportion of their assets invested in plant and equipment as the company involved in the case.

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9 For example, in April 1998, Pfizer Inc. and Johnson & Johnson announced earnings increases for the first quarter of 1998 of 15% and 11%, respectively; however, their stock prices fell roughly 2% following these announcements. Similarly, on April 29, 1998 Pepsico announced an 18.5% increase in annual earnings and the price of its stock fell 8% following the announcement. On the same day, Bethlehem Steel announced a 79% increase in earnings, which announcement was followed by a modest drop in the price of its shares. By contrast Kodak's first quarter 1998 earnings dropped by 17% and the price of its shares increased by 15%.

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10 For example, in December 1997, Kodak announced that it would lay off an additional 6,600 workers and would take an additional $500 million charge against its fourth quarter 1997 earnings. Following this announcement, the price of its shares rose 2.5%. On the other hand, Ameritech announced that it was cutting 5,000 jobs and would take a $64 million charge against its first quarter 1998 earnings. This was followed by a 2% decrease in the price of Ameritech's shares.

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11 By the thirtieth year, the annual $1,000,000 increment would be worth only $21,601.

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12 Occasionally, the future prospects of a company are deemed so poor that the company is valued on a liquidation basis, in which event net asset values (measured by their current value as opposed to their historical cost which is used in financial statements) could be material to the overall value of the enterprise.

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13 See footnote 8 *supra*.

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14 Interest rate changes actually have a dual impact on the value of an enterprise. First, they affect the enterprise's operating results as increases in interest charges reduce earnings. In addition, they increase the enterprise's cost of capital and, therefore, the rate at which its future cash flows must be discounted. This explains why stock prices tend to be very sensitive to interest rate changes.

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15 An article entitled "Big News on Your Stock? Hold On To Your Hat" which appeared appeared in the April 27, 1988 issue of *The Wall Street Journal* shows that since the mid 1980s the market response to both good and bad news has greatly accelerated for S&P 500 companies. The distinction between publication and market assimilation was also recently noted in a decision of the U.S. District Court for the Southern District of New York in *Adair v. Kaye Kotts, Inc.*, 1988 WL 142353 (March 27, 1998), in which the court declined to grant the summary judgment motion of the defendants in a Section 11 case based upon the fact that the price of the issuer's securities remained above the initial offering price following the publication of the allegedly omitted information, stating that there was a factual issue as to whether the market assimilated the information upon this publication.

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16 This happened following the $19 drop in the price of Cendent's shares on April 15, 1998, following a disclosure of accounting errors overstating its prior earnings. The stock recovered $3 the following day.

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17 In the *Executive Telecard* litigation referred to above, the court excluded the report of plaintiffs' damage expert because it failed to include an "events analysis." See also *In Re Oracle Securities Litigation*, 829 F. Supp. 1176, 1181 (N.D. Cal. 1993).

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18 This assumes the company has earnings and can use the deductions in the current year.

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19 This assumes that management would not have embarked upon the restructuring if the costs of effecting the restructuring were likely to exceed the resulting savings.

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20 This assumes that the enterprise will not be required to expand its manufacturing facilities in order to achieve the production increases.

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21 Such a computation is not required in Section 11 claims as all shares sold in the public offering would have been held to the end of the class period by one or more class members.

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22 If the shares traded at a daily rate of 2% of the outstanding shares, 90% of the shares would be traded in the last 117 days of the class period. If the shares only traded at a daily rate of 1% of the outstanding shares, 90% of the shares would have been traded in the last 239 trading days of the class period, and if the shares traded at a daily rate of 0.5% of the outstanding shares, 90% of the outstanding shares would have taken the last 470 days of the class period.

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23 See "Stock Trading Behavior and Damage Estimation in Securities Cases" by William H. Beaver, James K. Malernee and Michael C. Keeley, published on Cornerstone's website (http:/ww.cornerstone.com/stock.btml).

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