27 April 2007

Liability for Misstatements to the Market and the Role of Expert Economic Testimony
Response to the Davies Review

NERA
Economic Consulting
Project Team

David M. Ellis, Ph.D.
Chudozie Okongwu, Ph.D.
Susanne Toft
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Introduction</td>
<td>1</td>
</tr>
<tr>
<td>II. A Legal Standard for Expert Testimony</td>
<td>2</td>
</tr>
<tr>
<td>III. The Role of the Economic Expert</td>
<td>3</td>
</tr>
<tr>
<td>A. ‘Fraud on the Market’ and Efficient Markets</td>
<td>3</td>
</tr>
<tr>
<td>B. Determining Whether Information is “Material”</td>
<td>3</td>
</tr>
<tr>
<td>C. Loss Causation</td>
<td>4</td>
</tr>
<tr>
<td>D. Determining Which Shares Were “Damaged”</td>
<td>4</td>
</tr>
<tr>
<td>IV. Will There Be “Super-Optimal” Levels of Litigation?</td>
<td>6</td>
</tr>
<tr>
<td>V. Conclusion</td>
<td>8</td>
</tr>
<tr>
<td>VI. About NERA</td>
<td>9</td>
</tr>
</tbody>
</table>
I. Introduction

Professor Davies has raised a number of important questions in his Review concerning how to arrive at a “sensible liability regime” that will “balance the interests of issuers and investors”. NERA is pleased to respond to Prof. Davies requests for comments, and we would like to address specifically questions (viii) and (ix), and the first of his “overarching issues”:

Question viii. Should statutory protection as in section 90A also be extended to sellers and holders of shares?

Question ix. What should be the measure of damages? Should this be left to the courts? Should the deceit or negligence measure of damages be adopted?

Overarching issue 1 Can super-optimal levels of fraud-based litigation be avoided?

Finally, we discuss the recent US experience in similar cases.

We recognise that the US legal system is somewhat different from that of the UK, and that the US experience will not necessarily be duplicated should liability for misstatements be introduced in the UK. However, we feel that much can be learned from how such cases are handled in the US, particularly the role of economic theory and statistical analysis in assisting the trier of fact to arrive at a determination of the merits of a claim. We stress, however, that we do not address any of the legal aspects of Prof. Davies’ review.

The role of an economic expert in a case involving allegations of misleading or omitted information that adversely affects the price of a company’s shares is to analyze the facts in the dispute and to present an objective analysis of the damages, or lack thereof, which is premised on accepted tenets of economics and related sciences. This involves analyzing the claims of both parties to the dispute, evaluating each on the basis of the available data and economic theory, and presenting evidence that will allow the trier of fact to arrive at a decision as to the merits of the various arguments.

In order to best respond to Prof. Davies’ questions, we first consider the standard for expert testimony. Then, we discuss the economic question that is the heart of these cases: namely the extent to which information is reflected in the price of securities. We then show how to determine whether the information was ‘material’ and whether it ‘caused’ the economic losses; how to measure the extent of damages; and how to identify which shares were damaged.

1 “Davies Review of Issuer Liability: Liability for misstatements to the market”, p. 3.
2 Davies, p. 7.
3 Davies, p. 7.
4 Davies, p. 44.
II. A Legal Standard for Expert Testimony

In the United States, there is a legal standard on the admissibility of expert testimony. Known
as the Daubert standard, after the case which was reviewed by the Supreme Court, it limits
expert testimony to analysis based on the scientific method. The Court cautioned against
testimony that was based on “unsupported assertion” or “subjective belief”, and provided
guidance by noting four factors that should be considered in determining whether evidence
meets the legal standard:

1. whether the theory or technique can be tested;
2. whether the theory or technique has been subject to peer review and publication;
3. the known or potential rate of error and standards controlling the technique’s operations;
   and
4. whether the theory or technique has been generally accepted by the scientific
   community.

The concept/standard of an expert witness is different in the UK than the US. While in both
countries experts have primary responsibility to the court, in the UK there is no equivalent of
a Daubert standard, and so no explicit requirement for scientific proof, etc. An expert in UK
courts can have his testimony excluded if he is too much an advocate for his client; however,
to our knowledge there is no equivalent legal standard that requires expert testimony to be
based on accepted and proven scientific methods.

The methods and techniques described below have all met the Daubert legal standard, and
have been used in hundreds of cases. While they are now widely accepted and used, they
evolved over a period of many years, and continue to be refined. Given the concerns that
have been expressed over the possible implications of making fraud-based liability available,
we would recommend that thought be given to requiring a standard for expert testimony
similar to the Daubert standard. This will help discourage frivolous suits (since expert
testimony of this kind will entail extensive analysis), and will ensure that claims are decided
on the merits.

---

5 Daubert v. Merrill Dow Pharmaceuticals, 113 S. Ct.
6 Daubert, at 2975.
III. The Role of the Economic Expert

A. ‘Fraud on the Market’ and Efficient Markets

As Professor Davies notes in ¶27, presently in the UK any person who acquires securities may sue if there is a false or misleading statement in a prospectus, or if there is an omission “of a matter which ought to have been included”. There are at least two interesting facets to this right. The first is that, as Professors Davies states in the same paragraph, the acquirer of the securities does not have to show that he relied on a particular misstatement or omission in making his purchase. The absence of such a requirement is based on the same premise as in the US - the “fraud on the market” theory which Professor Davies discusses in ¶116. This in turn is based on the semi-strong form of the efficient markets hypothesis, which holds that all relevant publicly available data are impounded in securities prices. If this holds, the market price of the security that the claimant acquires reflects the misstatements or omissions present in the marketplace at that time. This is implicit in Professor Davies’s observation that “if the misstatement [or omission] affects the market price of the security, it does not matter that the claimant was unaware of it”.

The second interesting question raised by this right is how one identifies “a matter which ought to have been included”. More specifically, it is how one identifies information that would have been material to an investor in the security. In the U.S., courts and regulators have defined information to be material if it would be viewed by a “reasonable investor as having significantly altered the ‘total mix’ of information available.” In making such a determination, the U.S. Supreme Court has pointed to the importance of “both the indicated probability that the event will occur and the anticipated magnitude of the event in light of the totality of the company activity.”

B. Determining Whether Information is “Material”

Courts in the U.S. have come to rely on tools from financial economics in assessing the materiality of an alleged misstatement or omission. In particular, they have accepted the use of the event study method to examine the security price when a curative disclosure occurs. This is logical because if investors would not have cared about the omission or misinformation, by definition it would not have affected their judgement of the value of the company, and hence of the security’s price. If, on the other hand, they do change their judgement of a company’s value, this should be evident in changes to the security’s value. An event study allows an economic expert to state with a pre-determined amount of certainty whether or not a change in a security’s price could be caused by chance alone. In other

---


8 TSC Industries Inc. v. Northway, Inc., 426 U.S. 438, 449 (1976). Also, material information has been deemed to be that which “which may affect the desire of investors to buy, sell, or hold the company’s securities,” Basic Inc. v. Levinson, 485 U.S. 224, 239 (1988).

words, it allows the expert to distinguish between the normal variability of a security’s price and an extraordinary movement in response to a curative disclosure of material information.

C. Loss Causation

It is not enough to show that information was “material”; plaintiffs should also demonstrate that the misleading or omitted information caused investors to suffer losses. This is known as “loss causation”.

Until recently, many US courts held that it was sufficient to demonstrate the share price was inflated due to the misleading information to establish loss causation. In a recent ruling, the Supreme Court held that an inflated purchase price is necessary but not sufficient to establish loss causation. Plaintiffs must demonstrate not merely that the misstatement caused the price to be inflated, but that the decline in price was due to the “relevant truth” being revealed, and not to other factors such as general market movements.

D. Determining Which Shares Were “Damaged”

Generically, there are two components to calculating alleged damages. The first is measuring alleged security price inflation; the second is estimating the number of affected securities during what is known as “the class period” – the period between the misstatement and the revelation of the “relevant truth.” Each investor’s alleged damages equal his or her purchase costs attributable to the material misstatement or omission (the product of the number of securities purchased during the class period and alleged inflation per security) reduced by inflated sale proceeds (the product of the number of securities sold during the class period and the alleged inflation per security).

Since details of individual purchases and sales of shares during the class period are typically not available, this means that the economic expert must strive to identify from the aggregate trading data an estimate of the trades that represent purchases and/or sales of “damaged” shares. In security class action suits in the United States, trading models are frequently used to identify the affected shares of stock.

Affected shares are the class period purchases that were damaged as a result of the material misstatement or omission. For purposes of identification, they are divided into retained shares and in-out shares. Retained shares are those bought in the class period and retained until the end of the period. In-and-out shares are those that were both purchased and sold during the class period. Using a combination of observed data on trading during the class period and empirically based parameter estimates that describe relative activity by different types of traders, trading models are able to arrive at estimates of both retained and in-and-out shares during the class period.

10 Dura Pharmaceuticals, Inc., et al. v. Michael Brudo et al., 125 S. Ct. 1627 (2005)
This issue goes to the heart of Prof. Davies question number (viii): should the statutory provisions of Section 90A be extended to holders and sellers of shares. It is useful to consider the US experience in this area, since it demonstrates that the law does not always follow economics. For the purpose of calculating damages in securities class actions, the U.S. courts ascribe differing treatment to different types of market participants.

**Holders.** While as an economic matter it is possible to imagine how the holder of a security may be indirectly harmed by a material misstatement or omission, because they are not directly harmed (as they do not transact at the inflated security price) investors who merely hold a position in a security during the class period are not eligible to be compensated as class members for damages.

**Short Sellers.** Though they may be directly harmed by a material misstatement or omission, short sellers who transacted at the inflated security price are generally not eligible to be compensated as class members in securities class actions.\(^{11}\)

**Dura.** As mentioned above, under loss causation, the decision in *Dura* limits damages to economic harm caused directly by a curative disclosure. Investors’ losses during the class period due to other reasons are not eligible for compensatory damages. This is true regardless of whether or not they transacted at an inflated price. As damages are capped by the loss caused directly by the disclosure, that loss represents a ceiling on the inflation for which investors can be compensated.

**In-and-out.** A consequence of Dura, in–and-out investors are not eligible to be compensated for economic loss during the class period unless they hold over a corrective disclosure.\(^{12}\)

---

\(^{11}\) *lotnick v. TIE Communications*, 836 F.2d 818, 823 (3d Cir.1988).

\(^{12}\) “But if, say, the purchaser sells the shares quickly before the relevant truth begins to leak out, the misrepresentation will not have led to any loss.” *Dura Pharmaceuticals, Inc., et al. v. Michael Brudo et al.*, 125 S. Ct. 1627 (2005)
IV. Will There Be “Super-Optimal” Levels of Litigation?

Professor Davies asks whether adoption of a legal liability for misstatements and omissions will lead to “super-optimal” levels of litigation. Here, the experience of the US can yield important insights. While hundreds of securities class-action cases have been filed in the United States, remarkably few have come to trial. This is for two reasons: first, cases can be dismissed; second, of those cases that survive a motion to dismiss the majority settle before coming to trial.

As Prof. Davies indicates in ¶113, it is important that there be a procedure allowing defendants to have claims dismissed. The Private Securities Litigation Reform Act of 1995 introduced changes to the dismissal procedure in US Federal cases. Since the passage of PSLRA, the fraction of cases that have been dismissed has more than doubled. In fact, for cases filed in the period 2000 – 2004 dismissals have accounted for 38% of dispositions.\(^\text{13}\)

As shown in Figure 1, settlements in US class action lawsuits have been increasing in size in the past few years. While this may at first glance seem to be evidence of excessive litigation it is in fact due to another phenomenon. Investor losses have increased steeply since 1996.

**Figure 1**

Median Settlement Values


<table>
<thead>
<tr>
<th>Year</th>
<th>Median Settlement Value ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>$3.3</td>
</tr>
<tr>
<td>1997</td>
<td>$4.4</td>
</tr>
<tr>
<td>1998</td>
<td>$4.4</td>
</tr>
<tr>
<td>1999</td>
<td>$5.0</td>
</tr>
<tr>
<td>2000</td>
<td>$5.0</td>
</tr>
<tr>
<td>2001</td>
<td>$6.0</td>
</tr>
<tr>
<td>2002</td>
<td>$5.6</td>
</tr>
<tr>
<td>2003</td>
<td>$5.2</td>
</tr>
<tr>
<td>2004</td>
<td>$5.0</td>
</tr>
<tr>
<td>2005</td>
<td>$7.0</td>
</tr>
<tr>
<td>2006</td>
<td>$7.2</td>
</tr>
</tbody>
</table>

*Source: NERA Economic Consulting, Recent Trends in Shareholder Class Action Litigation, January 2007*

NERA has estimated a settlement prediction model that explains over 60% of the variation in settlements, using data on more than 600 settled cases filed after January 1, 1996. Our statistical analysis shows that investor losses constitute the single most powerful publicly available determinant of settlements. Interestingly, settlements do not increase one-for-one with investor losses. A 1.0% increase in investor losses results in a 0.4% increase in the size of the expected settlement, all else being equal. As follows from this fact, settlements in the US have actually decreased as a proportion of investor losses. This is shown in Figure 2.

**Figure 2**
Settlements Have Been a Decreasing Fraction of Investor Losses
(January 1991 - December 2006)

Changes in investor losses over time are sufficient to explain both the large headline settlements of recent years and the trends in median settlements. That is, while average settlements have been rising, there is no statistical evidence that this is the result of a more difficult litigation environment for defendants. Median investor losses in 2006 were more than six times the 1996 median of $66 million. However, the median 2006 settlement is only 1.9 times the 1996 median. Both across cases settled in a given year, and across years, settlements rise much less than proportionately with investor losses.

---

14 Technically, the model explains over 60% of the variation of the logarithm of settlement values. The current version of the predicted settlement model contains cases settled through June 15, 2006.
V. Conclusion

We acknowledge that the UK is quite different from the US, in terms of financial markets, regulatory environment, and legal systems. However, we feel that an understanding of how economic theory has been applied to US cases involving alleged liability for misstatements to the market will yield important insights and guidance that can be applied in the UK or elsewhere.

Experience in the US has shown that careful application of economic theory and statistical analysis of market data can assist the trier of fact with reaching a determination regarding whether omitted or misstated information was material, and if so, the extent to which purchasers of shares during the class period were damaged and how many shares were damaged.
VI. About NERA

NERA is widely recognised as a leading firm in the economics of securities and finance in the US. The members of our Securities and Finance Practice bring to bear a thorough understanding of securities, the markets in which they trade, and the regulatory institutions that govern them. NERA economists assist clients in all stages of securities litigation, including pre-trial discovery, depositions, fact analysis, strategy planning, development of economic and financial damage models, critique of damage reports by opposing experts, and preparation of well-documented reports, exhibits, and testimony.

NERA Economic Consulting is an international firm of economists who understand how markets work. We provide economic analysis and advice to corporations, governments, law firms, regulatory agencies, trade associations, and international agencies. Our global team of more than 500 professionals operates in 22 offices across North and South America, Europe, Asia, and Australia.

NERA provides practical economic advice related to highly complex business and legal issues arising from competition, regulation, public policy, strategy, finance, and litigation. Our 46 years of experience creating strategies, studies, reports, expert testimony, and policy recommendations reflects our specialisation in industrial and financial economics. Because of our commitment to deliver unbiased findings, we are widely recognised for our independence. Our clients come to us expecting integrity; they understand this sometimes calls for their willingness to listen to unexpected or even unwelcome news.
