Market efficiency in securities fraud cases

Readings posted to NYU Classes (Resources tab)

- Readings: Class actions folder

- The Stanford Securities Class Action Clearinghouse (http://securities.stanford.edu) maintains a list of cases.
Background

- U.S. Securities and Exchange Commission (SEC) rules require corporations to disclose information ...
  - When stock is first sold to the public (IPO), ...
    - Securities Act of 1933, Section 11.
  - And (ongoing) while stock is publicly traded/held, ...

The 1934 Securities and Exchange Act, Rule 10b-5.

- It shall be unlawful for any person, directly or indirectly, by the use of any means or instrumentality of interstate commerce, or of the mails or of any facility of any national securities exchange,
  - (a) To employ any device, scheme, or artifice to defraud,
  - (b) To make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or
  - (c) To engage in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person,
- in connection with the purchase or sale of any security.
## Liability

- If management does not make correct disclosures...
  - The SEC can bring charges
  - Investors also have a *right of private action*.
    - They can sue the company, its officers, and others connected to an alleged fraud.
- These private law suits are informally called:
  - *Section 11* cases, if related to the IPO.
  - *10b-5* cases, if related to trading after the IPO.

## Case Summary: Facebook

- **Filing Date:** March 20, 2018
- The Complaint alleges that throughout the Class Period, Defendants made materially false and misleading statements regarding the Company’s business, operational and compliance policies.
- Specifically, Defendants made false and/or misleading statements and/or failed to disclose that: (i) Facebook violated its own purported data privacy policies by allowing third parties to access the personal data of millions of Facebook users without the users’ consent; (ii) discovery of the foregoing conduct would foreseeably subject the Company to heightened regulatory scrutiny; and (iii) as a result, Facebook’s public statements were materially false and misleading at all relevant times.
Case Summary: Wynn Resorts

- **Filing Date:** February 20, 2018
- **Wynn Resorts** owns and operates luxury hotels and casino resorts.
- The Complaint alleges that throughout the Class Period, Defendants made materially false and misleading statements regarding the Company’s business, operational and compliance policies.
- Specifically, Defendants made false and/or misleading statements and/or failed to disclose that: (i) the Company's founder and Chief Executive Officer ("CEO") had engaged in a pattern of sexual misconduct with respect to Wynn Resorts employees, including instances of sexual assault; (ii) discovery of the foregoing misconduct would subject the Company to heightened regulatory scrutiny and jeopardize the CEO’s tenure at the Company; and (iii) as a result of the foregoing, Wynn Resorts’ shares traded at artificially inflated prices during the Class Period, and class members suffered significant losses and damages.

Case Summary: Wells Fargo & Company

- **Filing Date:** February 16, 2018
- On September 8, 2016, the U.S. Consumer Financial Protection Bureau published a Consent Order detailing fraudulent practices at the Company, which were centered on a corporate culture intent on growing its cross-selling opportunities and unlawfully and without its customers' consent opening millions of unauthorized deposit and credit card accounts, and imposing a fine of more than $185 million.
- The Complaint alleges that throughout the Class Period, Defendants made materially false and misleading statements regarding the Company's business, operational and compliance policies.
- Specifically, Defendants made false and/or misleading statements and/or failed to disclose that: (i) Wells Fargo had charged more than 800,000 customers for unneeded auto insurance, the expense of which pushed approximately 274,000 Wells Fargo customers into delinquency and resulted in almost 25,000 vehicle repossessions; (ii) the foregoing conduct, when it came to light, would foreseeably subject Wells Fargo to heightened regulatory scrutiny and/or enforcement actions; and (iii) as a result, Wells Fargo's public statements were materially false and misleading at all relevant times.
The typical 10b-5 case

- Firm D: “Previously reported earnings were overstated by $1 per share.”
  - The announcement is a *corrective disclosure*.
  - The stock price drops.
  - Stockholders file a law suit (*complaint*) against firm D and its managers.
    - The investors who file the law suit are the *plaintiffs*.
    - D and its managers are the *defendants*.
- The plaintiffs claim that
  - They relied on management’s information (previously reported earnings) ...
    - which contained misstatements and omissions, in violation of 10b-5
  - They were damaged: they lost money.
  - D should compensate them for their losses.

The lawsuit is a *class action*

- There must be one *named plaintiff* (a real person, identified by name)
  - But the suit is brought on behalf of many investors.
- The *class period* is the time span covered by the misstatement/omission.
- The *class* is usually all investors who purchased during the class period and held at the end of the class period.
The two kinds of misrepresentation

- **Misstatement**
  - Truth: earnings are unchanged from last quarter.
  - Management: “Earnings are up by 25%.”

- **Omission**
  - A pharmaceutical firm depends mostly on one product.
  - A new study by the firm shows that the product might be unsafe or ineffective.
  - Management says nothing.

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**Misstatement**

- A misstatement inflates the firm’s stock price.
- The size and timing of the inflation determine which investors are affected.
- Example:
  - On day 100, a firm releases its annual report.
    - There’s a misstated fact.
    - The stock price rises.
    - The misstatement adds $3 to the stock price.
  - On day 400, the misstatement is corrected.
    - The stock price falls $3.
Stock price inflation caused by misstatement

Stock price inflation caused by omission
(management should have said something, but didn’t)
Roka Bioscience (filed Dec 24, 2014)

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

WEI DING, INDIVIDUALLY AND ON BEHALF OF ALL OTHERS SIMILARLY SITUATED,
Plaintiff,

v.
ROKA BIOSCIENCE, INC., PAUL G. THOMAS,
AND STEVEN T. SOBIESKI,

Defendants,

Case No.:

CLASS ACTION COMPLAINT
FOR VIOLATIONS OF THE
FEDERAL SECURITIES
LAWS

JURY TRIAL DEMANDED

Note: This discussion is intended to illustrate, solely for educational purposes, various aspects of a typical class action. It does not represent an opinion on the overall merits of this particular case.

NATURE OF THE ACTION

1. This is a federal class action brought individually and on behalf of all other persons and entities who purchased or otherwise acquired Roka securities pursuant or traceable to the Company’s initial public offering, which commenced on or about July 17, 2014 (the “IPO” or “Offering”), including those who purchased or otherwise acquired Roka common stock between July 17, 2014 and November 6, 2014, inclusive (the “Class Period”); seeking to recover damages

... initial public offering," This is a Section 11 case.

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26. The Company held a conference call on November 6, 2014 to discuss the third quarter of 2014 financial results. Defendants Thomas and Sobieski were on the call. Defendants acknowledge on the call (i) that “revenue for the third quarter was flat compared to the second quarter of this year” and (ii) installments of the “Atlas Instruments did not increase during the third quarter.”

27. On this adverse news, Roka’s stock price plummeted by $5.34 or 64%, closing at $3.00 on November 7, 2014.

28. The Offering Documents were false and misleading because Defendants failed to disclose known trends and uncertainties about the Company’s sales. Defendants were aware of, but failed to disclose, the downward trend of demand for its Atlas System and its poor – or rather non-existent – sales when the Offering Documents were filed with the SEC.

Fischel’s article “Use of modern finance theory...” (1982)

- Traditional vs modern views of securities fraud cases.
  - Modern: market efficiency.
- In 1982 the law was in transition.
  - The principle of market efficiency had been argued in a few court cases.
  - Fischel: This is sensible and desirable.
A plaintiff in a securities fraud case has to show ...

- **Materiality**
  - Would a reasonable investor consider the misstated/omitted fact important in making an investment decision?
- **Reliance**
  - Did the plaintiff actually rely on the misstated fact (or would have relied on the omitted fact) in making the purchase decision?
- **Causation**
  - Did the misstated/omitted fact cause the economic loss suffered by the plaintiff?
- **Damages**
  - What are the losses attributed to the misstated/omitted fact?
  - Plaintiff can only recover compensation for losses.

The traditional view on materiality

- No clear guidelines. Judges had to guess.
- Fischel quotes from one judge’s decision in a 1968 case:
  - “Since no one knows that moves or does not move the mythical ‘average prudent investor,’ it comes down to a question of judgement ... It is my best judgment that the ... investor would not have cared about these errors in the 1960 sales and earnings figures, regrettable though they may be. I therefore find that they were not material.”
- How do we *know* that investors wouldn’t have cared?
- prudent: wise, sensible
The traditional view on reliance

- **Misstatement**
  - Reliance had to be direct.
  - Plaintiff knew the information in the misstatement and that they used this in their purchase decision.
    - “Before I bought this stock, I did a valuation analysis that used the misstated numbers. Here’s the spreadsheet.”

- **Omissions**
  - Here there was a presumption of reliance.

The traditional approach to causation and damages

- **Causation:** no standard practice.
  - Stock prices change for all sorts of reasons.
  - How do we separate out the effect of a misstatement/omission?

- **Damages:** no clear rules
  - If an investor lost money, could they claim that the entire loss was caused by the misstatement/omission?
Fischel criticizes the traditional view.

- Expert valuation opinions used to assess materiality, causality and damages are imprecise and subjective.
  - Different experts can come up with very different numbers.
- The burden of showing direct reliance is excessive.
  - Someone who purchased 100 shares would have to demonstrate that they read and understood all the financial statements.
  - And, in the case of a misstatement, that they used the misstated fact in making their purchase decision.

The “modern” approach: assume market efficiency

- The price of a security fully reflects all information and misinformation.
- Reliance
  - The purchaser “relies generally on the supposition that the market price is validly set and that no unsuspected manipulation has artificially inflated the price, and thus indirectly on the truth of the representations underlying the stock price – whether he is aware of it or not, the price he pays reflects material misrepresentations.”
    - Fischel, quoting from the court opinion in Blackie v. Barrack.
  - Indirect reliance (via the market price) substitutes for direct reliance.
  - Misstatements or omissions working through the market price constitute “a fraud on the market”
Reliance

- Materiality
  - If a misstatement or omission affected the market price, then it is material.
- Causality
  - If the market price changes right after the corrective disclosure, and if there are no other developments that could account for the change, causation is highly likely.
- Damages
  - The change in value caused by a corrective disclosure measures the economic harm.
Possible objections to “fraud on the market” principle

❑ *The approach encourages uninformed investors, discourages analysis, and therefore makes the market less efficient.*
  ▪ “I know that if management makes some misstatement of fact that I didn’t read or hear about, I can still sue and get compensated.”

❑ Fischel’s response:
  ▪ Small investors might not bother, but large investors will still engage in analysis to spot and profit from any misvaluations.

❑ *The approach is unfair to investors who relied on the information and expected higher returns.*
  ▪ “When I bought the stock, I thought I was getting a bargain.”
  ▪ Are investors entitled to expectation or benefit-of-bargain damages?

❑ Fischel:
  ▪ The courts traditionally used a “reasonable man” test.
    ▪ What would have been the loss to a reasonable man who relied on the information?
  ▪ The “so-called reasonable man” in this case is the market.
- **Unfairness to investors who suffer losses unrelated to the alleged wrongful conduct.**

- **Fischel:**
  - Plaintiffs shouldn’t get compensated for losses that aren’t connected to the alleged wrongful conduct.

- **The approach is not consistent with the principle of optimal deterrence.**
  - “Optimal deterrence:” a penalty should reflect the social cost of the misconduct.
  - Someone who bought at an inflated price has losses, but the seller has equivalent gains. The net social cost is zero.

- **Fischel:** The costs of fraud are large.
  - Misstatements lead to a misallocation of resources.
  - Resources must be expended to distinguish fact from fiction.
The approach is not consistent with a recent [pre-1982] trend by the Supreme Court to restrict 10b-5 liability.

- The courts have recently taken a view that there should be fewer shareholder lawsuits. The efficient market approach will lead to more lawsuits.

- The standard that the alleged wrongdoing affected the market price sets a clear and high bar.

- “In all probability, therefore, the effect on the market price approach will decrease the overall amount of litigation under rule 10b-5.”

The logic of the plaintiff’s claim in Roka

- Roka’s Nov. 6 conference call is a corrective disclosure
- “They previously told us x. Now they’re telling us y. The stock price dropped by $5.34.”
- So prior to this correction, the value of the stock was improperly inflated by $5.34.
Important

- This discussion describes the logic of the plaintiff’s claim, not its overall merits.
- We won’t be analyzing the offering materials (like the prospectus)
- For example, if the prospectus contained a statement like, “There is substantial risk that the firm will not be able to sell any additional units,” it would be difficult for the plaintiffs to claim that they were misled.
- There will be extensive argument about whether or not the warnings in the prospectus covered the adverse outcome.

ROKA stock price

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Class period

**NATURE OF THE ACTION**

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Damages per share

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**PRC (ROKA share price)**

![Graph showing share price data from 11/1/2014 to 12/11/2014]
Who is entitled to damages? The case of a misstatement

In a law suit, the investors are only able to recover damages that are caused by the misstatement.

- If Amy had ...
  - bought on day 290 for $23.61,
  - and sold on day 450 for $13.03.
  - She would have lost $10.58
- Her damages would be ...
Alternatively, if Amy had ...
- bought on day 290 for $23.61, ...
- and sold on day 350 for $21.27, ...
- for a loss of $2.34.

Her damages would be ...

If Brian had ...
- bought on day 80 for $14.12 ...
- and sold on day 450 for $13.03.
- His loss is $1.09.

His damages would be ...

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If Cathy had ...

- purchased stock on day 99 for $14.30, ...
- and sold at on day 100 for $17.49.
- For a profit of $3.19

Her damages would be ...

In Roka, who is entitled to damages?

- Class is “those who purchased ... between July 17 and November 6.”
- What are the damages to .... ?
  - Amy bought at the offering price ($12) and sold at $4 on Nov 20.
  - Brian bought at the offering price and sold on Nov 3 at $9.48.
  - Callie purchased Brian’s shares and sold at $4 on Nov 20.
  - Dan bought at $11.50 on July 25, and sold at $8.85 on Oct 21.
Causality and damages using event-study methods

- David Tabak and Frederick Dunbar, Materiality and Magnitude: Event Studies in the Courtroom, Section II, Performing the Basic Event Study
- Event: the arrival of new information (or misinformation) about the security.
- TD: “In securities fraud cases, the events of interest usually include all the alleged disclosures of fraud and/or the dates when fraudulent statements were made.”

- Event window: the period of time that contains the market’s reaction to the event.
- The event window ...
  - usually starts at the end of the trading day before the announcement.
    - Exception: the information might have leaked before the announcement.
  - usually ends one, two or five days after the announcement.
    - How long did it take the price to adjust to the disclosure?
“[T]here is a trade-off in extending the size of the event window
- The longer the event window is, the more likely it is to incorporate all of the prior leakage and the market’s ongoing adjustment to the news,
- but also the more likely it is to pick up other effects unrelated to the event under consideration.”

Approximate damage calculation

- Using a two-day event window, the inflation in share value is $8.34 - $3.58 = \$4.76$ per share.
- ROKA had about 17 million shares outstanding.
- $4.76 \times 17M \approx \$81M$
- 10 Nov 2016. Case settles.
  - ROKA pays $3.275 Million (including about $1M attorneys fees and expenses)
Causality in ROKA

- The ROKA claim attributes the entire stock price decline subsequent to the disclosure to the disclosure.
  - Was there something else happening that day that might have accounted for the decline or a part of it?
- We should at least consider what happened in ...
  - The broader stock market.
  - The industry to which Roka belongs.
- For example, if the S&P 500 was down 10% and an index of scientific equipment producers was down an additional 8%, a substantial portion of ROKA's decline could be attributed to causes besides the disclosure.

Causality is usually established using linear regression

- Single-index (market) model
  \[ r_t = \alpha + \beta \times r_{M,t} + e_t \]
- where
  \( r_t \) stock return on day \( t \)
  \( r_{M,t} \) market return on day \( t \)
  \( \alpha \) the intercept of the regression line
  \( \beta \) slope of the regression line
  \( e_t \) the regression residual ("prediction error")
- \( e_t \) on the event day measures the portion of the stock's return that is not attributable to the market ...
  - and is presumably caused by the disclosure
“ChunkyChocolates” (ticker symbol CCO)

- Jan 2. CCO stock is trading at $10 per share.
- Jan 5. The CEO is interviewed by Fox Business
  - Interviewer: “Do you think that we'll ever get tired of eating chocolate?”
  - CEO: “No. I think that very soon all children, every day, in every country of the world will be packing one-pound ChunkoBars in their lunchboxes.”
- CCO stock continues trading at $10 per share.
  - The market interprets the closing interchange as a joke ...

- Except for George.
  - George assumes that the CEO’s remarks constitute a serious forward-looking statement.
  - He sets up a spreadsheet that forecasts earnings will triple.
  - He thinks the stock is worth $30 per share.
  - He buys at $10/share, thinking “Wow. They're really going to sell a lot of chocolates.”
Jan 10. A harsh warning from the US Dentist General on the effects of excessive chocolate consumption sends CCO down to $6.

Jan 15. The CEO returns to Fox.
- Interviewer: “Now do you still think that school kids are good with a pound a day of chocolate?”
- CEO, “Okay, maybe they will alternate with an apple or something.”
- There is no reaction to the interview: CCO stays at $6.

Jan 20. George sues. He argues:
- The CEO lied about a material fact.
- I did a spreadsheet valuation based on the CEO’s initial statement.
- My model predicted that the stock was worth $30.
- With the new correct information, my spreadsheet says that the stock is worth $3.
- I’ve lost $27 per share.

How should we think about reliance, materiality, causality, and damages …
- From the “traditional/conventional” perspective
- From the “modern” efficient markets perspective