Testimony on
"The Future of Capital Formation"

Testimony by

Jonathan R. Macey,

Sam Harris Professor of Corporate Law, Securities Law and Corporate Finance, Yale Law School; Professor, Yale School of Management

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First, I would to express my gratitude to United States Congressman Darrell Issa and to his staff and his colleagues on the Committee on Oversight and Governmental Reform for recognizing that capital formation is becoming an acute problem in the United States.

This troubling issue is vital to the future of our economy as well as to the future of every economy in the world. As the world progresses and new business strategies and new commercial technologies emerge, the very heavy demands placed on the efficiency of the U.S. capital formation process are only going to become more challenging in the future.

In my view, the SEC is a failed regulatory agency. Its failure, however, unlike the failure of some governmental bureaucracies is not mostly attributable to incompetence or corruption. Some evidence of incompetence can be found in the SEC's bi-partisan decision to allow large investment banks to assume titanic amounts of leverage just before the market collapsed in 2007 and 2008. Additional problems are in evidence in the SEC's alarming failure to heed whistleblowers who were raising alarms about Bernie Madoff power scheme.

It simply is the case that mistakes sometimes happen. The hard truth is that it simply does not appear to be the case that the Securities and Commission and its staff are s*ignificantly* more incompetent or corrupt than other governmental agencies. Rather, the SEC's problems are structural and cultural. I think that there are the following five such structural and cultural problems:

1. No Clearly Defined or Attainable Goals
2. No Clearly Identifiable Clientele; The SEC Often Helps Big Fish Sue Other Big Fish
3. The SEC is Living In The Past and Cannot Understand How Modern World
4. The SEC's Perverse Incentives
5. The SEC's is not Knowledgeable About Economics of Its Own Regulation

1. No Clearly Defined or Attainable Goals

In order to succeed at something, one must have some sort of concrete goal worth attaining. The SEC itself claims that "mission of the U.S. Securities and Exchange Commission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation." http://www.sec.gov/about/whatwedo.shtml . But how does one know whether the SEC has succeeded or failed?

2. No Clearly Identifiable Clientele; The SEC Often Helps Big Fish Sue Other Big Fish

The SEC does not have a place for the small investor in its game plan. In the most famous SEC enforcement action of 2010, the SEC sued Goldman Sachs and its star trader Fabrice Tourre for "making materially misleading statements and omissions in connection with a synthetic collateralized debt obligation ("CDO") GS&Co structured and marketed to investors." But what investors were these? THE Complaint is conmpletely silent on this until page 15 of its 22 pages. Then the injured parties are: (1) IKB Deutsche Industriebank AG ("IKB") a commercial bank headquartered in Dusseldorf, Germany; (2) by ABN AMRO Bank N.V. ("ABN"), which was one of the largest banks in Europe. Why are U.S. taxpayers paying billions in taxes to have the SEC referee disputes among the world's largest banks that these banks easily could handle among themselves? The SEC claims to be trying to benefit small investors, but it has no coherent theory of what role, if any, small investors are supposed to play in capital markets. For one thing, if small investors are going to participate in stock markets, then they are going to lose money and the SEC seems to think that risk is unacceptable, even in the face of full disclosure by companies that are widely known and admired. On January 18, 2011, fears of SEC lawsuits and possible criminal prosecution caused Goldman Sachs to abandon its lan to privately sell as much as $1.5 billion in Facebook Inc. shares to wealthy U.S. Instead all of the Facebook shares were offered and sold only to foreign investors. Why? Because the SEC's strict rules on private placements are designed not only to prevent investors from buying; they also are designed to prevent investors from becoming unduly interested in or enthusiastic about new investment opportunites.

<u>3. The SEC is Living In The Past and Cannot Understand How Modern World</u>

Remember the world as it existed when the SEC was formed and for much of the SEC's history. When the SEC was formed there were few, if any international capital markets, this means that the SEC had monopoly regulatory power and U.S. companies and stock exchanges had no choice but to comply with any and all rules promulgated by the Commission.

The SEC evolved to its present form during the Great Depression and the post-World War II period of reconstruction. By the end of World War II, the capital markets of Asia and Europe had been destroyed. The goal of the United States was to rebuild the devastated European continent and to make Europe and Asia prosperous again. In addition to the massive contributions to Western Europe under the Marshall Plan, the U.S. provided billions of dollars in grants and credits to Asian countries including China, India, Indonesia, Japan, South Korea, Pakistan, the Philippines and Taiwan In other words, when the SEC was developing its *modus operandi* the global capital markets that dominate the planet in 2011 simply did not exist. The U.S. was the only capital markets regulator in the world that mattered, and the U.S. were the only capital markets in the world that mattered. This, fortunately, is no longer the case. Unfortunately, the SEC does not seem to have realized that it is no longer the only cop on the beat and that a growing number of honest civilians prefer to operate under less arrogant and intrusive supervisory regimes.

In other words, the SEC needs finally to make a clean break with the past.

4. The SEC's Perverse Incentives

A major factor that influences the SEC's conduct is the metamorphosis of the SEC from an administrative agency dominated by industry experts, economists and lawyers into an agency dominated exclusively by lawyers.[1] This metamorphosis has affected the culture of the SEC profoundly. In particular, the glacial speed at which the SEC operates is largely attributable to the Commission's lawyer-dominated culture. In addition to slowing things down, the SEC's domination by lawyers has affected the Commission in another way. There has long been a

[1] Troy A. Paredes, "Remarks Before the Mutual Fund Directors Forum Ninth Annual Policy Conference," May 4, 2009, available at www.sec.gov/news/speech/2009/spch050409tap.htm, accessed October 18, 2009.

revolving door connecting the SEC with Wall Street. But now SEC staffers are focused on maximizing their reputations within the legal culture rather than more broadly among economists and business people as well as lawyers. For example, the people heading the Enforcement Division of the SEC in recent years all have moved to jobs as advisers to banks. The most recent Director is now a partner at Davis, Polk & Wardwell. Her predecessor is the general counsel at JPMorgan Chase. His predecessor became general counsel at Deutschebank. Others in recent years have gone to Credit Suisse and Morgan Stanley. One "could be forgiven for thinking that the whole point of landing a job as the SEC's Director of Enforcement is to position oneself for the better paying one on Wall Street."[2]

Finally, the SEC has strong incentives to promote the appearance that the capital markets are in crisis and to eschew the development of market mechanisms that might solve the very problems that the SEC is tasked with solving. As long as it generally is viewed that the SEC is needed in times of crisis, and that there are no superior substitutes for the particular sort of crisis intervention done by the SEC then there will be a need for the Commission. And ironically, the more financial crises there are, the more the SEC can claim that it needs greater resources to meet such crises.

It appears clear that the SEC is largely evaluated on the basis of how well its Division of Enforcement performs. The SEC is divided into five divisions. Four of these are rather obscure and have not attracted much controversy. These four are: (1) the Division of Corporate Finance, which reviews SEC registration statements: (2) the Division of Trading and Markets, which pursues the SEC's mandate for maintaining fair, orderly and efficient markets; (3) the Division of Investment Management, which is supposed to protect individual investors by overseeing and

[2] Michael Lewis and David Einhorn, "The End of the Financial as We Know It," January 4, 2009, The New York Times, www.nytimes.com/2009/01/04/opinion/04lewiseinhornhtml (accessed October 18, 2009).

regulating the $26 trillion investment management industry; and (4) the Division of Risk, Strategy and Financial Innovation, which was established in 2009, "to help further identify developing risks and trends in the financial markets" by "providing the Commission with sophisticated analysis that integrates economic financial and legal disciplines."[3]

The principal SEC division is the Division of Enforcement. The SEC describes itself as follows: "first and foremost, the SEC is a law enforcement agency."[4] The Division of Enforcement exists to enable the Commission to investigate possible securities law violations. The SEC is supposed to investigate possible violations of the securities laws, and where appropriate, to recommend to the Commission that a civil action be brought against individuals and companies that have violated such laws. Upon obtaining the necessary approval from the Commission, the Division of Enforcement then prosecutes on behalf of the Commission the cases it has investigated.[5] An additional component of the Division of Enforcement mandate is to work closely with law enforcement agencies in the U.S. and around the world to bring criminal cases when appropriate. In the U.S. this is done through a referral process subject to which the SEC refers cases to the Criminal Division of the U.S. Department of Justice and then works with the Assistant U.S. Attorneys in the DoJ in bringing criminal actions.

At the SEC "enforcement actions have traditionally defined the mission of the agency."[6] In fact, the economic sociologist William Bealing has posited, correctly in my view, that it is the activities of the Enforcement Division of the SEC that legitimize the Commission's 's existence

[3] Securities and Exchange Commission: "The Organization of the SEC," available at http://sec.gov/about/whatwedo.shtml accessed October 17, 2009.
[4] *Id.*
[5] *Id.*
[6] John Sivolella, "Bureaucratic Decision Making – SEC Enforcement and the Federal Courts' Ideology" paper delivered at Midwest Political Science Association conference, April, 2007l available at http://www.allacademic.com//meta/p_mla_apa_research_citation/1/9/6/8/4/pages196843/p196843-1.php.

and its federal budget allocation to Congress.[7] And it certainly appears that "the SEC is carrying out its (enforcement) duties so as to maintain a base of support within the Congressional budget process."[8]

Assuming that the SEC is deeply concerned with its budget and that the performance of the enforcement division is critical to the SEC's success, it is my claim that the strategy that the SEC employs to maximize its appeal to Congress and more generally to maximize the overall notion that the Commission is effectively employing the resources that Congress has allocated to it is to emphasize focus on available, salient criteria.In particular the SEC focuses on the raw number of cases that it brings and on the sheer size of the fines that it collects. For example, when criticized recently for failing to respond to numerous tips from whistle-blowers and red flags in the case of Bernard Madoff's massive fraud, the SEC noted in Congressional testimony that: "comparing the period from late January to the present to the same period in 2008, Enforcement has: opened more investigations (1377 compared to 1290); issued more than twice as many formal orders of investigation (335 compared to 143); filed more than twice as many emergency temporary restraining orders (57 compared to 25); and filed more actions overall (458 compared to 359).[9]

The SEC's 2008 Annual Report's is similarly clear in its emphasis on the easily measurable criteria of number of enforcement actions brought and the amount of fines assessed in such actions:

> During 2008, the SEC completed the highest number of enforcement investigations ever, brought the highest number of

[7] Bealing, William E., Jr. 1994. "Actions Speak Louder than Words: An Institutional Perspective on the Securities and Exchange Commission." Accounting,Organizations and Society 19(7):555-567.
[8] Sovilella, *supra*, at page 30.
[9] Robert Khuzami and John Walsh, "Testimony Concerning the SEC's Failure to Identify the Bernard L. Madoff Ponzi Scheme and How to Improve SEC Performance," September 10, 2009, available at http://www.sec.gov/news/testimony/2009/ts091009rk-jw.htm, accessed October 19, 2009.

> insider trading cases in the agency's history, and brought a record number of enforcement actions against market manipulation—including a precedent-setting case against a Wall Street short seller for intentionally spreading false rumors. The SEC in 2008 also initiated the second-highest number of enforcement actions in Commission history.
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> During each of the last two years, the SEC set the record for the highest number of corporate penalty cases in agency history. For the second year in a row, the Commission returned more than $1 billion to harmed investors using our Fair Funds authority under the Sarbanes-Oxley Act. To support this record level of law enforcement activity, more than one-third of the SEC staffs now serve in the enforcement program. That is a higher percentage of the SEC's total resources than at any time in the past 20 years.
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> The SEC devoted more funds to enforcement in 2008 than at any time in agency history. In 2008, the number of enforcement personnel grew by 4 percent. [10]

The SEC's 2008 Annual Report was written at a juncture in the SEC's history when the Commission's reputation was under severe stress. Three events in particular, the collapse of Enron, the emergence of regulatory competition from state attorneys general, particularly Eliot Spitzer, and the SEC's incompetence in its handling of the $50 million securities fraud orchestrated by Bernard Madoff, which resulted in his arrest on December 11, 2008,11 tarnished the SEC's traditional standing as America's foremost administrative agency in terms of quality and integrity. The SEC has been buffeted in recent years and it is difficult to imagine that the Commission's position at the center of a political maelstrom has not affected the agency's behavior. The ruling makes salient "a long-standing criticism that the S.E.C. has largely failed

[10] http://sec.gov/2008annual/SEC_2008annual_trustp2.htm
[11] http://online.wsj.com/article/SB124605921584963599.html?mg=com-wsj

to prosecute cases against corporate executives, opting for quick settlements in which companies themselves are penalized instead of their leaders."[12]

In my view it is the SEC rationally has pursued a policy of opting for quick settlements because the SEC is largely judged on the basis of the number of cases it wins. The needs fewer resources to sue companies than individuals because companies don't defend themselves as vigorously as individuals do). In addition, the SEC has moved to a policy of suing and settling with industry groups.

The SEC in recent years has pursued policies of attempting to expand the contours of the law (which makes it easier for them to bring cases), of keeping the law vague (refusing to define insider trading). Finally and most importantly the SEC has pursued a policy that is consistent with the Commission's rational self-interest but clearly suboptimal from a societal perspective, of economizing on doing investigations. Investigations are costly and

In particular, the SEC's enforcement effort is evaluated in overly-simplistic ways. The focus is on the number of cases brought by the Division, and, to a lesser extent, on the size of the fines collected by the SEC. The more cases that are brought and the greater the amount of fines collected during a particular time frame, the better the enforcement staff at the SEC is thought to perform. This has long been the case, but the problem got worse as a result of the political challenge that the SEC has faced from politically opportunistic state attorneys general, particularly Eliot Spitzer.

Rather, I will argue that the root cause of the problem is the peculiar way that the performance of the Enforcement Division is evaluated, both by the general public and by elected officials.

[12] NY Times September 15, 2009 Zachery Kouwe, Judge Rejects Settlement Over Merrill Bonuses available at http://www.nytimes.com/2009/09/15/business/15bank.html?ref=business.

In light of this metric of success, it is not surprising that the SEC focuses on low hanging fruit: investigations take time. So the SEC focuses on bringing cases that do not require much, if any, investigative effort. Indeed, the SEC makes no secret of the fact that it does virtually no detective work. It derives its docket of cases from scandals that are reported in the press and from tips from whistleblowers. Indeed, as Maureen O'Hara and I have argued in other work, the SEC often does not even pay attention when evidence of fraud appears in well-known scholarly journals in corporate finance. Enforcement comes only after an issue is made politically salient by the financial press. Similarly, the pressure to bring lots of cases explains why the SEC tries to broaden the scope of the law and why it rushes to settle cases.

A major theme of this Article is that the performance-based incentives to which even the most able bureaucrats respond are perverse and lead to perverse results.

The number of enforcement actions and the size of the fines that the SEC may not be the best criteria by which to evaluate the conduct of the SEC, but they are data that are "available," as that term is understood in social psychology and behavioral finance. Something is available in this context when it can be easily recalled from memory or readily available sources. The availability heuristic is one of the most widely shared assumptions in decision making as well as in social judgment research. [13] The availability heuristic posits that people tend to use evaluative techniques on the basis of "the ease with which instances or associations come to mind."[14]

[13] Norbert Schwarz, Herbert Bless, Fritz Stack, Gisela Klumpp, Helga Rittenauer-Schatka, and Annette Simons et al., "Ease of Retrieval as Information: Another Look at the Availability Heuristic," 61 Journal of Personality and Social Psychology, 195-202 (1991).

[14] Aaron Tversky & Daniel Kahneman, (1973). Availability: A heuristic for judging frequency and probability.5 Cognitive Psychology, 207-232, 208 (1973).

Thus, the apparent focus by the SEC (and Congress and the public) on how many cases the SEC brings and on the size of the fines collected appear to represent the availability heuristic in action. And, as in other contexts, this reliance on availability leads to predictable biases. In other words, it is my view that the SEC's apparently odd behavior in recent years is not due to corruption or incompetence on the part of the agency. Rather, the SEC simply has been responding, more or less rationally, to the rather odd set of incentives that it faces from its overseers in Congress and from the general public.

In addition to its focus on the number of cases that it brings and on the size of the fines it collects, another factor that influences the SEC conduct is the dominance of lawyers within the agency. [15] The consequences of this domination include increased concern with process and decreased concerns with social science evidence in decision-making. In addition, because lawyers are less knowledgeable about how the financial markets operate than are actual participants in the industry, the rise of a lawyer-dominated culture at the SEC has resulted in a diminution in in-house technical expertise and in less understanding about the nuts and bolts of complex financial instruments and the operation of financial markets during an era in which complexity has been increasing rapidly.

The glacial speed at which the SEC operates is largely attributable to the Commission's lawyer-dominated culture. Consistent with the view expressed here, Harry Markopolos, the industry whistle-blower who tried, unsuccessfully, to bring the SEC's attention to Bernie Madoff's Ponzi scheme has described the the SEC as "too slow" and observed that the Commission ",was hindered by lawyers, did not understand red flags, could not do the math and was captive to the financial industry." Mr. Markopolos also testified that "the SEC staff lacks

[15] Troy A. Paredes, "Remarks Before the Mutual Fund Directors Forum Ninth Annual Policy Conference," May 4, 2009, available at www.sec.gov/news/speech/2009/spch050409tap.htm, accessed October 18, 2009.

the financial expertise and is incapable of understanding the complex financial instruments being traded in the 21st century," and that "the SEC is overlawyered and has few too staff with relevant industry experience and professional credentials to find fraud even when a multi-billion dollar case is handed to them on a silver platter."[16]

In addition to slowing things down, the SEC's domination by lawyers has affected the Commission in another way. There has long been a revolving door connecting the SEC with Wall Street. But now SEC staffers are focused on maximizing their reputations within the legal culture rather than more broadly among economists and business people as well as lawyers. For example, the people heading the Enforcement Division of the SEC in recent years all have moved to jobs as advisers to banks. The most recent Director is now a partner at Davis, Polk & Wardwell. Her predecessor is the general counsel at JPMorgan Chase. His predecessor became general counsel at Deutschebank. Others in recent years have gone to Credit Suisse and Morgan Stanley. One "could be forgiven for thinking that the whole point of landing a job as the SEC's Director of Enforcement is to position oneself for the better paying one (as a lawyer) on Wall Street."[17]

The available empirical evidence supports the conclusion that SEC lawyers have significant mobility. The turnover rate for SEC attorneys is almost twice as high as the turnover rate for all government attorneys.[18]

Finally, the SEC has strong incentives to promote the appearance that the capital markets

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[16] Markopolos Congressional testimony quoted at http://www.wkrg.com/politics/article/fraud_investigator_blasts_sec/23318/Feb-05-2009_6-46-am/ accessed October 18, 2009.

[17] Michael Lewis and David Einhorn, "The End of the Financial as We Know It," January 4, 2009, The New York Times, www.nytimes.com/2009/01/04/opinion/04lewiseinhornhtml (accessed October 18, 2009).

[18] During the eight year period for which data is available (1994-2001) turnover rates for SEC attorneys averaged 14.05% while turnover rates for government attorneys generally averaged only 7.6%. These figures calculated from data contained in United States Securities and Exchange Commission, "Pay Parity Implementation Plan and Report," at pp. 5-7 , May 6, 2002, http://www.sec.gov/news/studies/payparity.htm Accessed October 18, 2009.

are in crisis and to eschew the development of market mechanisms that might solve the very problems that the SEC is tasked with. This puts the SEC in a difficult position. On the one hand, of course, the SEC wants to be viewed as successful. On the other hand, if financial crises did not arise every so often the SEC might well come to be viewed as unnecessary, as many argued for a time.[19] From the SEC's perspective, the optimal way to handle this balancing act is to blame any and all failures on a lack of resources. The SEC pursued this strategy with great success after the collapse of Enron in 2002. The SEC long claimed that it faced a "staffing crisis" due to its "inability to compensate our employees adequately."[20]

Ironically, over the past decade, starting with the collapse of Enron in 2001 there have been unprecedented budget increases for the SEC staff. In some years the SEC was the only federal agency to receive substantial budget increases both in 2003 and 2004.[21] Finally, notwithstanding the fact that the SEC's budget that nearly tripled between 2000 and 2010, the Commission's current Chairman and senior staff have argued that its recent failures can be addressed by increasing the agency's funding.

5. The SEC's is not Knowledgeable About Economics of Its Own Regulation

Price Fixing on U.S. Capital Markets Ignored by the SEC

The first example of empirical work in social science that launched a major regulatory response was William Christie and Paul Schultz's article in the Journal ofFinance, "Why Do Nasdaq Market Makers Avoid Odd-Eighth Quotes?". Christie and Schultz examined trading in the Nasdaq stock market, which, along with the New York Stock Exchange (NYSE), is one of the two principal equity-trading markets in the United

[19] Macey, Obsolence, supra.
[20] United States Securities and Exchange Commission, "Pay Parity Implementation Plan and Report," May 6, 2002, http://www.sec.gov/news/studies/payparity.htm. Accessed October 18, 2009.
[21] Susan Dudley and Melinda Warren, "Regulatory Spending Soars: An Analysis of the U.S. Budget for Fiscal Years 2003 and 2004," 2004 Annual Report (July 2004), 14-19, http://wc.wustl.edu/Reg_Budget_final.pdf.

States. Like other U.S. equity markets, the NASDAQ stock market competes for listings and for order flow by offering an attractive trading venue to purchasers and sellers of equity securities. What Christie and Schultz found was not just price fixing, but probably the most subtle, ingenious, and successful price fixing scheme since Adam Smith began to worry about the problem in the eighteenth century. This discovery led to massive antitrust and securities enforcement efforts that entailed a private class action lawsuit with a settlement of over $1 billion, an investigation by the U.S. Department of Justice into price fixing that concluded with total fines on major U.S. investment banks exceeding another $1 million, as well as dramatic new regulations and market practices concerning not only the way orders are handled in the securities markets, but also how securities prices are quoted.

Mutual Fund Late Trading

Another example of empirical scholarship in social science that launched (literally) a thousand (or more) lawyers into action was work done in 2004 by Eric Zitzewitz, a young assistant professor who was then at the Stanford Graduate School of Business. Zitzewitz's work examined trading in U.S. mutual funds. Zitzewitz pointed out that the prices at which mutual funds bought and sold their own shares from their investors often were inaccurate. This, in turn, gave crafty institutional investors such as hedge funds the ability to transfer wealth to themselves from unsophisticated mutual fund investors. As Zitzewitz described the problem:

> Investors can take advantage of mutual funds that calculate their NAVs using stale closing prices by trading based on recent market movements.... For example, if the U.S. market has risen since the close of overseas equity markets,

> investors can expect that overseas equity markets will open higher the following morning. Investors can buy a fund with a stale-price NAV for less than its current value, and they can likewise sell a fund for more than its current value on a day that the U.S. market has fallen.

`The SEC clearly was aware of the problems caused by stale pricing. The Commission jawboned the mutual fund industry to eliminate the possibilities of abuse by using what is known as "fair value pricing." Fair value pricing involves providing more frequent price updates for securities that have not traded for a certain period of time. The fair value price is determined on the basis of the price that an arm's-length buyer would pay for the security at the relevant time. Interestingly, it appears that when the mutual fund industry resisted the SEC's efforts to reform the industry's pricing practices, "the SEC essentially backed down; Elliott Spitzer, then an ambitious, entrepreneurial state Attorney General, brought an investigation. Ultimately, virtually every major mutual fund complex was investigated and late trading ground to a virtual halt as a result of his efforts. These enforcement measures were probably inconsistent with applicable SEC regulations that clearly permit such activities.

Options Backdating

The third major regulatory initiative, which addressed the backdating in the granting of corporate stock options to corporate executives and other employees, was years in the making. In 1997, David Yermack, Professor of Finance at New York University, published a paper on the relationship between stock prices and option grants. Yermack was interested in the ability of corporate managers to influence their own compensation. Utilizing a sample of 620 stock option awards to Chief Executive Officers (CEOs) of the largest U.S. corporations made between 1992 and 1994, Yermack found that the timing of stock option awards coincided uncannily with favorable movements in company stock prices. Specifically, CEOs received stock option awards shortly before favorable corporate news that led to upturns in company share prices. Professor Yermack was not able to explain whether executives were receiving stock options at low price points because of luck, prescience, or some other factor.

Research in 2004 by Professor Erik Lie was the first to suggest a nefarious explanation for the timing of executive stock option grants. Professor Lie's research indicated that the best explanation for the timing of stock option grants might be rather unsavory. He posited that the available evidence was consistent with the theory that public companies were backdating stock-option grant dates to enrich their senior executives. \

Options backdating is the practice of granting an employee a stock option that permits the grantee to purchase shares at a lower price recorded on a date *prior to* the date that the company actually granted the option. For example, suppose that a company's share price was $25 per share on March 1,2008, but has risen to $35 per share on April 30. Clearly, an option to purchase stock in the company at the lower March 1 price is more valuable than an option to purchase stock in the same company at the higher April 30 price. Such backdating raises potential legal and regulatory reporting and disclosure problems. Professor Lie extended the earlier work of Professor Yermack by examining options grants by companies that granted options to executives in consecutive years, but not on the same day every year. Professor Lie discovered a pattern: stock prices systematically tended to fall just prior to the date on which the options were said to have been granted, but they rose almost immediately after the grant. In other words, if one thinks of a stock-price chart, options were granted at a dip in the market price that preceded a price increase.

Of equal interest to Professor Lie was the fact that the options granted to lucky executives did not always precede good news about the particular company for which an executive worked. Instead, options often appeared to have been granted just prior to increases in stock prices for the entire stock market that had nothing to do with any events in the company granting the options. In other words, the executives receiving stock options grants not only appear to have been very prescient about news at their own firms; they also appeared to have been very prescient about the stock market in general. These results led Professor Lie to the conclusion that "at least some of the awards are timed retroactively.

Dr. Lie actually sent a copy of his article to the SEC in early 2004 and later received an acknowledgement stating it was "interesting."   Then, in March 2004, building on Lie's work, the *Wall Street Journal* printed a story on the front page that reported on Lie's study and used its own statistical analysis to identify several companies with highly suspicious grant practices. Amongother findings, the *Wall Street Journal* looked at several option grants made to Jeffrey Rich, the former chief executive officer of Affiliated Computer Services, Inc. Ostensibly, all of these grants were made immediately prior to sharp spikes in Affiliated's share prices. The *Journal* estimated that the odds against this happening by chance were 300 billion-to-one, twice as bad as the 146 billion-to-one odds against winning the Powerball lottery with a $1.

After that, the SEC, DOJ and state enforcement actions came fast and furious.

The Commission's regulatory and management failures are attributable to the incentive problems and cultural pathologies described here.