

The Madoff Scandal, Market Regulatory Failure and the Business Education of Lawyers

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I. INTRODUCTION	101
II. THE REALITY OF COMPLEXITY	101
III. MADOFF'S FRAUD AND THE SEC'S FAILURE	103
IV. BUSINESS LITERACY AS THE OBJECT LESSON	114
V. A PRAGMATIC PROPOSAL (MAYBE)	122
VI. CONCLUSION.....	128

I. INTRODUCTION

The financial crisis of 2008 ushered in a “new” new era of financial folly. This historic chapter in American business and economic history has exposed failures of many institutions of society, from Main Street to Wall Street to K Street. For years to come, many commentators, like investigators of a plane crash, will comb through every minute detail of this catastrophe. This Article contributes in a small way to that process. It suggests that a deficiency in legal education is a contributing cause of the regulatory failure. The most scandalous malfeasance of this new era, the Madoff Ponzi scheme, provides a well-documented, important case study on how a deficit in competence and training of lawyer regulators contributed to market regulatory failure. This Article answers a question underlying these considerations: What can legal education do to better train business lawyers and regulators for a market that is becoming more complex? The answer, it suggests, is a simple one: teach a little more business and a little less law.

II. THE REALITY OF COMPLEXITY

It is obvious that our world is becoming more complex. The financial crisis conveys innumerable lessons for lawyers, bankers, regulators, and society at large. Perhaps the biggest lesson is a realization of just how complex our financial system and economic organization are.¹ In the past several decades, the financial markets have seen geometric growth in complexity. The junk bond market matured in the 1980s, the derivatives market saw explosive growth in the 1990s, and the new century witnessed the evolution of ever more exotic derivatives and financial instruments that directly connected Main Street to Wall Street. We no longer live in the simple days of stocks and bonds, nor

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1. See ALAN GREENSPAN, *THE AGE OF TURBULENCE: ADVENTURES IN A NEW WORLD* 488–90 (2007) (describing the increasing complexity of the financial markets).

Graham and Dodd's fundamental analysis of them.² Only recently did Alan Greenspan, the former chairman of the Federal Reserve, applaud the complexity injected by derivatives markets and hedge funds as a stabilizing force in the financial system.³ Since then, his assessment has proven to be quite wrong, but there is no denying that the growth of technology and knowledge increases the level of complexity in an ordered system.

The intellectual germ of this complexity originated not from the clubrooms of Lower Manhattan, but from the classrooms of university economics departments and business schools and the corridors of government. Intellectual breakthroughs provided the architecture of the modern financial market.⁴ Some of the most prominent innovations have been applied on Wall Street. These include portfolio theory, which taught us to distinguish between unique and market risks and the benefits of diversification.⁵ Asset pricing theory taught us how to value risky streams of cashflow and to quantify the cost of capital.⁶ Option pricing theory taught us how to value legally simple yet financially complex contractual bets on the direction of future price movements.⁷ The government facilitated the invention of securitization as a way to expand the credit market in residential mortgages.⁸ The connection between Wall Street and academia has always been close. The capital market is supported by an intellectual superstructure. Also, it is obvious that the financial crisis has elevated the connection between Wall Street and government to a level at which the two are joint adventurers in an ongoing financial enterprise, and perhaps will be for years to come.⁹

If the crisis was a failure of regulation, and if regulators are lawyers, then it follows that lawyers in a complex world must have an awareness and basic knowledge of the nature of this complexity. Explicitly, it is difficult to see how a lawyer regulator, from the most senior to the most junior rank and file, can purport to regulate complex financial instruments and markets without having a detailed understanding of these matters beyond legal definitions, qualitative intuitions, and half-guesses. Much of that understanding can be gained from work experience and natural curiosity, but knowledge acquisition is easier with a foundation based on education and training. The suggestion is not that lawyer

2. See generally BENJAMIN GRAHAM & DAVID DODD, *SECURITY ANALYSIS: THE CLASSIC 1940 EDITION* (2002) (explaining security analysis methods and techniques espoused in the mid-twentieth century).

3. GREENSPAN, *supra* note 1, at 370–72.

4. See generally PETER L. BERSTEIN, *CAPITAL IDEAS: THE IMPROBABLE ORIGINS OF WALL STREET* (1992). See also Barrett Sheridan & Adam B. Kushner, *B-School Backlash: Some Critics Have Blamed the Crash on the M.B.A.s. How to Fix Business Education*, NEWSWEEK, Aug. 1, 2009 (noting that the forefathers of analytical finance were business school professors).

5. See generally Harry Markowitz, *Portfolio Selection*, 7 J. FIN. 77 (1952) (discussing the risks of stock and portfolio selection and advancing a theory of efficient portfolio construction).

6. See generally William F. Sharpe, *Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk*, 19 J. FIN. 425 (1964) (discussing an economic theory that incorporates risk into predicting the behavior of economic markets).

7. See generally Fischer Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. POL. ECON. 637 (1973) (providing a theory for the pricing of options).

8. See Robert J. Rhee, *Terrorism Risk in a Post-9/11 Economy: The Convergence of Capital Markets, Insurance, and Government Action*, 37 ARIZ. ST. L.J. 435, 497 (2005) (“Securitization was first developed in the early 1970s when the federal government issued mortgage-backed ‘pass through’ securities.”).

9. See Financialstability.gov, <http://www.financialstability.gov> (last visited Sept. 21, 2009) (providing disclosure on various bailout and assistance programs to financial institutions in response to the financial crisis); see also MARK ZANDI, *FINANCIAL SHOCK* 193–231 (updated ed. 2009) (discussing various government bailout programs).

regulators should have advanced degrees in the technical fields they regulate, but that they should have a level of knowledge and the capability to analyze the technical details of the transactions in question, or at least be aware enough to know what they do not know and to ask the relevant questions. A basic literacy in essential concepts is required.

III. MADOFF'S FRAUD AND THE SEC'S FAILURE

Among the many leitmotifs of the financial crisis is the failure of lawyers as regulators and gatekeepers. This is not a new theme, as Enron collapsed only a few years ago.¹⁰ The Madoff Ponzi scheme personifies this "new" new era of economic catastrophe. The scandal is not really connected to the financial crisis of 2008, which was triggered by the domino effect of a collapsing housing market, solvency concerns of large financial institutions, illiquidity and distortions in the credit market, and subsequent severe global recession, except that the scandal and the financial crisis cultivated in a medium of recklessness and malfeasance across the entire financial industry and the inability or unwillingness of government to regulate bad behavior. Given the magnitude of the broader financial market crisis, the scandal is a tempest in a teapot. Madoff's fraud pales in comparison to the misdeeds that took place in Wall Street firms. Yet, the case merits academic commentary because regulatory failure is the commonality. Importantly, the scandal provides the best documented episode and case study of how lawyers and the SEC, a principal financial market regulatory agency operated mostly by lawyers, failed to understand the market they regulate and the nonlegal complexities surrounding their work.¹¹ The implication of this failure goes beyond a terrible fraud.

The basic facts are well known to most informed readers. Madoff ran the world's largest Ponzi scheme. The mathematics of a Ponzi scheme ensures that it ultimately collapses on the weight of the fraud. Madoff's scheme collapsed upon the steady flow of redemptions following the financial crisis. But the tragedy is that the SEC, on multiple occasions, involving multiple credible complainants, and spanning sixteen years, had opportunities to investigate and uncover Madoff's fraud.¹² The most publicized and documented opportunity was presented by Harry Markopolos. Markopolos was a financial analyst who, since 2000, had tried to get the SEC to investigate Madoff.¹³ In a 19-page memorandum dated November 7, 2005, Markopolos provided the SEC a detailed financial analysis, strong evidence that Madoff was running a Ponzi scheme.¹⁴ On

10. See JOHN C. COFFEE, JR., *GATEKEEPERS: THE PROFESSIONS AND CORPORATE GOVERNANCE* 192–244 (2006) (discussing corporate attorneys as gatekeepers).

11. On August 31, 2009, the SEC's Office of Inspector General released a 477-page report on the SEC's failure. OFFICE OF INVESTIGATIONS, S.E.C., *INVESTIGATION OF FAILURE OF THE SEC TO UNCOVER BERNARD MADOFF'S PONZI SCHEME (PUBLIC VERSION)* (2009) [hereinafter SEC REPORT].

12. *Id.* at 21 (noting that between 1992 and 2008, the SEC received six substantive complaints and knew of two published articles in trade journals raising significant red flags on Madoff's fraud).

13. Assessing the Madoff Ponzi Scheme and Regulatory Failures: Hearing Before the Subcomm. on Capital Markets, Insurance, and Government Sponsored Enterprises of the H. Comm. on Financial Services, 110th Cong. pt. 1 (2009) (statement of Henry Markopolos, CFA, CFE), available at <http://financialservices.house.gov/markopolos020409.pdf> [hereinafter Markopolos Testimony]. See SEC REPORT, *supra* note 11, at 1, 61–77 (chronicling the SEC's first attempt to investigate Markopolos's complaint).

14. Letter from Harry Markopolos to SEC, *The World's Largest Hedge Fund Is a Fraud* (Nov. 7, 2005), available at http://online.wsj.com/documents/Madoff_SECdocs_20081217.pdf [hereinafter Markopolos Memo]. Markopolos raised as a possibility that Madoff was front-running his trading orders, but dismissed this possibility because the mathematics of the returns did not support this theory. *Id.*

January 24, 2006, the SEC opened an investigation in response to Markopolos's memo, and on November 21, 2007, it closed the investigation on the ground that "[t]he staff found no evidence of fraud."¹⁵ On December 11, 2008, Madoff was arrested, and on March 12, 2009, he pled guilty to various felonies.¹⁶ Although Markopolos submitted his complaint only a few years before Madoff's public fall, Ponzi schemes typically grow in size as more victims are needed to fund the fraud until the fraud collapses on its own weight, and thus we can infer that the scandal embroiled many victims in the past few years. If the SEC had acted then, perhaps billions of dollars of investment by innocent victims could have been saved.

Subsequently, the inspector general of the SEC published a 477-page report documenting its internal investigation of the agency failure (hereinafter "the SEC Report"). This report discloses that the SEC engaged in at least five major investigations of Madoff dating to 1992, and the agency failed to uncover his fraud though numerous staff members had many substantial opportunities to do so.¹⁷ I focus in this Article on the last major opportunity to catch Madoff—Markopolos's 2005 complaint¹⁸—because his memo is the best single documented analysis of the fraud, and it provided the SEC a detailed roadmap for proving the fraud.

I had heard references to Markopolos's memo through various media reports. Curiosity led me to obtain a copy of the memo. Reading it was a surprising revelation: I found it difficult to conceive that the most important market regulatory agency and its highly qualified attorneys could have missed seeing a fraud that was spelled out in painstaking detail. There are two plausible, yet uncomfortable, explanations: either the SEC was influenced by Madoff's social and professional stature, a form of structural corruption in the agency,¹⁹ or its attorneys who read the memo were too ignorant to understand its import. With respect to Markopolos's interactions with the agency, both he and the SEC agree that the most probable answer is a deficit in competency.²⁰

15. SEC CASE OPENING REPORT (Jan. 24, 2006); SEC CASE CLOSING RECOMMENDATION (Nov. 21, 2007). Three SEC attorneys signed off on the closing recommendation. *Id.*

16. UNITED STATES DEP'T OF JUSTICE, *United States v. Bernard L. Madoff and Related Cases*, <http://www.usdoj.gov/usao/nys/madoff.html> (last visited on Sept. 21, 2009). Subsequently, he was sentenced to 150 years. *Id.*

17. SEC REPORT, *supra* note 11, at i–xv.

The OIG investigation did find, however, that the SEC received more than ample information in the form of detailed and substantive complaints over the years to warrant a thorough and comprehensive examination and/or investigation of Bernard Madoff and BMIS for operating a Ponzi scheme, and that despite three examinations and two investigations being conducted, a thorough and competent investigation or examination was never performed.

Id. at 20–21. Mary L. Schapiro, Chairman, S.E.C., Statement on the Release of the Executive Summary of the Inspector General's Report Regarding the Bernard Madoff Fraud (Sept. 2, 2009) ("His report makes clear that the agency missed numerous opportunities to discover the fraud.").

18. Markopolos Memo, *supra* note 14.

19. The SEC found that its staff was aware of Madoff's social and professional position and that his stature influenced their investigation. SEC REPORT, *supra* note 11, at 382–89. The supervisor who dismissed Markopolos's complaint in 2006 testified: "Do I think that there's an inherent bias towards [the] sort of people who are seen as reputable members of society, there may be an inherent bias in that way." *Id.* at 261–62.

20. Markopolos Testimony, *supra* note 13, pt. 1 (statement of Henry Markopolos, CFA, CFE), (elucidating Markopolos's beliefs as to the reason the SEC overlooked the evidence against Madoff); SEC REPORT, *supra* note 11, at 20–41 (providing an executive summary of the SEC's failure).

The Markopolos memo raises twenty-nine “red flags.”²¹ Some of these are based on gossip, hearsay, innuendo and rhetoric—the type of soft information that can easily be dismissed by a lawyer with natural skepticism toward such evidence.²² Although they should have provided vital information to the SEC staff, we do not address this soft information.²³ We focus instead on some of the harder evidence. The Markopolos memo is chock full of data, numbers, and financial reasoning, and it can seem intimidating. But beneath the apparent complexities are some simple, disturbing facts that anyone with some degree of financial training and knowledge should have appreciated.²⁴ The lawyer regulators at the SEC failed to understand this information, and their failure was complete and catastrophic.²⁵

By using the hedge funds as an intermediary, Madoff allowed the fund managers to reap an enormous return in hedge fund fees for simply directing funds to Madoff. These fees are typically 1% of assets under management and 20% of profit.²⁶ To provide the 12% net return to the hedge fund investors, Madoff would have to produce 16% gross return and the 4% difference would have gone toward hedge fund fees.²⁷ “Why is Bernie Madoff . . . allowing these third party hedge fund, fund of funds to pocket their 1% and 20% fees base[d] upon Bernie Madoff’s hard work and brains? Does this make any sense at all?”²⁸ It does not.

The mystery deepens when one considers Madoff’s claimed business model. He claimed that he only executed trades for clients: “Bernard L. Madoff Investment Securities LLC (Madoff Securities) does not provide prime brokerage or full service brokerage to its clients. We provide execution only services to a limited number of clients

21. Markopolos Memo, *supra* note 14.

22. Red Flags 11, 12, 14, 15, 16, 17, 19, 20, 21, 24, 25, and 29, while relevant to varying degrees, can also be considered rumor, innuendo, hearsay and gossip. Markopolos Memo, *supra* note 14, at 8, 10–13. The SEC staff was skeptical of this information. SEC Report, *supra* note 11, at 244–61.

23. A diligent lawyer should have followed up on at least some of these leads. For instance, Red Flag 20 suggests that several reputable firms, including Goldman Sachs, Royal Bank of Canada, Société Générale, and BNP Paribas would not deal with Madoff. Madoff was the former chairman of Nasdaq, and he supposedly ran the largest hedge fund. Markopolos Memo, *supra* note 14, at 11. These are major players in the market. It would have been odd that several reputable banks refused to do business with Madoff. If confirmed, this information should have been a red flag. As Markopolos later testified in Congress, “if the SEC had bothered to pick up the phone and spend even one hour contacting the leads, then [Madoff] could have been stopped in early 2006.” Markopolos Testimony, *supra* note 13, pt. 2. The SEC Report quotes another industry professional, Henry Laufer, who suggested the same: “This is not rocket science. . . . Someone at the SEC could wander down, you know, to Goldman Sachs and wander over to their options department and ask them, how does somebody execute \$10 billion of options, and find out it’s very difficult.” SEC REPORT, *supra* note 11, at 155.

24. Markopolos apparently obtained much of his data from several hedge funds that invested in Madoff Investment Securities, LLC, including Fairfield Sentry Limited, which invested \$5.2 billion. Markopolos Memo, *supra* note 14, at 3, 18–19.

25. SEC REPORT, *supra* note 11, at 24 (“The relatively inexperienced Enforcement staff failed to appreciate the significance of the analysis in the complaint, and almost immediately expressed skepticism and disbelief. Most of their investigation was directed at determining whether Madoff should register as an investment adviser or whether Madoff’s hedge fund investors’ disclosures were adequate.”).

26. Markopolos Memo, *supra* note 14, at 19 (showing the hedge fund fees of Fairfield Sentry as 1% of assets under management and 20% of profit).

27. *Id.* at 3. The 4% difference is calculated as 1% of assets under management plus 20% of remaining profits (15%). Other financial analysts also questioned Madoff’s odd capital raising strategy. SEC REPORT, *supra* note 11, at 70.

28. Markopolos Memo, *supra* note 14, at 12.

applying a technologically enhanced approach to a traditional trading strategy known as a split strike forward conversion.”²⁹ This representation makes no sense when one considers that Madoff contently passed standard hedge fund fees to feeder fund managers while simultaneously earning only execution commissions on his trading strategy. Why would anyone with Madoff’s trading history of earning 16% returns with virtually no risk accept execution commissions when he can run a hedge fund himself and earn the 1% and 20% fees?³⁰ With tens of billions in purported profits, these fees constitute several billion dollars that Madoff would have made for himself had he charged ordinary fees.³¹

The irrational fee and business model are simple points. With minimal financial training, the lawyer-regulators at SEC should have recognized the implications. Madoff produced consistent yearly returns in the neighborhood of 12%, but the fund would have had to yield 16% to pay off the hedge funds, which were funneling investor capital.³² Consistent yearly returns that beat the market return by a large margin are the stuff of financial alchemy.³³ The choice of passing through the expensive fee requirement of hedge funds rather than retaining such fees must be explained somehow, for it is deeply irrational.

Given the size of Madoff’s fund, the exchange-traded option market could not have supported his trading strategy.³⁴ Madoff would have had to access the over-the-counter (OTC) market. Such a strategy would have been infeasible given the purported size of Madoff’s fund and the actual size of the option market. Markopolos offered hearsay evidence to suggest that Madoff traded only with two large investment banks.³⁵ Although this point seems to be based on rumor and innuendo, there is more here. The option market could not have accommodated Madoff’s strategy without creating noisy distortions that would have been apparent to everyone. The size of the transactions and the risks assumed by the counterparties would be so significant that the bid-ask spread would have eroded the profitability of the trading strategy. As Markopolos noted:

These Broker/Dealers [Merrill Lynch and UBS Warburg] would need to offset their short OTC index put option exposure to a falling stock market by hedging out their short put option risk by either buying listed put options or selling short index futures and the derivatives markets are not deep and liquid enough to accomplish this without paying a penalty in prohibitively expensive transaction costs.³⁶

29. SEC REPORT, *supra* note 11, at 112.

30. Indeed, the SEC and its expert consultant subsequently concluded that among the issues that should have raised concern was “BMIS’s unusual fee structure, in which it did not charge typical management and performance fees, leaving hundreds of millions of dollars of fees for his feeder funds that Madoff could have taken.” *Id.* at 139. Other industry professionals pointed out the odd fee structure to the SEC. *Id.* at 145–46, 150.

31. In contrast, the purported fees for execution services on trades (at \$0.04 per share) would be far smaller. See SEC REPORT, *supra* note 11, at 214 (quoting an email suggesting that commissions would have been \$82 million in 2004 on a volume of two billion shares of stock).

32. *Id.* at 2 (“[Madoff] allows third party Fund of Funds (FOF’s) to private label hedge funds that provide his firm, Madoff Securities, with equity tranche [sic] funding.”).

33. The longterm average nominal return of stocks of major corporations is 11.7%. RICHARD A. BREALEY ET AL., PRINCIPLES OF CORPORATE FINANCE 149 (8th ed. 2006) (using data from 1900 to 2003).

34. Markopolos Memo, *supra* note 14, at 6–8 (Red Flags 6–10).

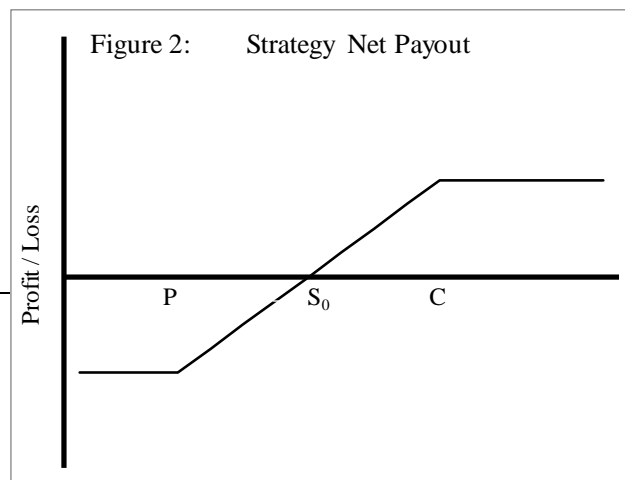
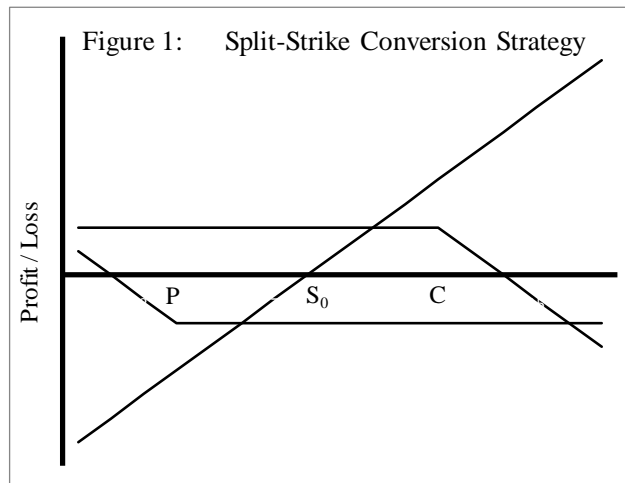
35. *Id.* at 7 (“One hedge fund FOF has told me that [Madoff] uses only Over-the-Counter options and trades exclusively thru [sic] UBS and Merrill Lynch.”).

36. *Id.*

Also, given the size of Madoff's transactions (that is, if they were real), they would not have been secret at all, but would have been easy to confirm on the market through discreet inquiries. An attorney with a basic understanding of markets would have realized a contradiction between Madoff's investment strategy and the size of his fund with the size of the market and its capabilities.

More fundamentally, Madoff's trading strategy, a "split-strike conversion," could not possibly have produced the claimed returns. Unlike the previous points, the argument here is complex and requires a more technical financial understanding. But as we shall see, someone with basic financial literacy would have understood it—or would have understood enough to ask the relevant questions.

A split-strike conversion strategy requires a long position in a basket of approximately 30–35 large capitalization stocks highly correlated to the broader market, a short position of out-of-the-money index call options, and a long position on out-of-the-money index put options.³⁷ Presumably, this strategy would not have been static, but would have required dynamic hedging. The purported strategy had two components: (1) bet on a few stocks with high correlation to the market return, but differentiate this strategy from a long position on the general index by seeking to pick only those stocks that will outperform the market; and (2) buy insurance against the lower end of a downturn on the portfolio and simultaneously sell the high end of a market upturn on the portfolio for a premium (this latter part is simply a covered call). One can schematize the split-strike conversion in its static form.



37. *Id.* at 5.

Schematizing a trade based on a description, as above, is a simple exercise. These schematics convey much information about Madoff's fraud. Figure 1 represents the components of the trading strategy—the various instruments bought and sold. The y-axis represents the profit and loss. The x-axis represents the return on the portfolio of stocks. The point S_0 is the amount invested. The strategy hedges a spectrum of downside risk with the purchase of out-of-the-money put options with a strike price of P . The put option would become in-the-money when $S_i < P$ and the funds payoff is $(P - S_i)$. To earn premium, the strategy executes essentially a covered call in which the higher range of the upside on the basket of stock is sold for a premium on an out-of-the-money call option with a strike price of C . The call becomes in-the-money when $S_i > C$ and the fund's payout is $(S_i - C)$.

Figure 2 represents the net profit-and-loss profile of the split-strike conversion strategy. This netting is achieved when the various investments are netted at each coordinate point along the possible portfolio value S and the resulting profit or loss. We see that the strategy is designed to limit risk to the bandwidth provided by the strike prices P and C . In other words, losses are capped and so are profits, and the range of value between the two strike prices $\{P, C\}$ is subject to market risk. If a lawyer-regulator looks at Figure 2 with the knowledge that Madoff had to consistently produce a 16% return, it is hard to understand how she could not be puzzled or disturbed by it.

For Madoff to have been making steady above-market returns on a basket of large capitalization stocks with a high correlation to the broader stock market, he had to have been consistently picking winners relative to the market return. Even without the benefit of precise calculations, one can intuit that his stock selections had to beat the market consistently and by a wide margin.³⁸ This makes sense only if he was a fortunetelling genius³⁹ (and apparently that reputation perpetuated the Ponzi scheme), but even this assumption would have raised a contradiction with the chosen strategy. If he were such a genius, he would not have needed to earn the additional yield by selling the out-of-the-money call, particularly after having demonstrated his genius year after year. The purchase of the downside protection could have been rational,⁴⁰ but the sale of the call option is irrational. If he was not a fraudster, he would have realized that he had a talent for picking stocks. He would not have given up the product of his genius for a premium on an out-of-the-money call option since he would have been fairly confident, given his past track record, that the option would eventually become in-the-money. This is simply to say that there is information asymmetry on the inputs of valuation between two potential counterparties. Given his inside information, he would have placed a greater

38. Markopolos testified in Congress and made this clear: “[Madoff’s] strategy required all or substantially all of the stocks in his portfolio to rise during the month, something which wasn’t sustainable for [seven plus years] without interruption.” Markopolos Testimony, *supra* note 13, pt. 1.

39. I say “fortunetelling” genius, as opposed to “stock picking” genius, because even the latter, such as Warren Buffett, experiences many losses. If an investor can be right 55% of the time, over a long period she will be very rich. Apparently, Madoff suffered only 7 monthly losses in a period of 175 months. Markopolos Memo, *supra* note 14, at 19.

40. But the same reasoning applicable for the sale of the call option would also apply to the purchase of the put option. That is, Madoff would have had superior knowledge about his investment returns such that his internal valuation of the put option would have been at odds with the market value. It is possible, however, that not having losses would be so important that he could have paid the market price to hedge the risk, though on the whole this seems unlikely if Madoff was a legitimate investor because people do not like to be on the wrong side of a mispriced transaction.

price on the premium for the call option as the issuer than the market would have. There would be a disparity between his insights and expectation, and the market price he could get for the call options, and thus he would keep the expected gain rather than sell it cheaply according to his internal valuation of the call option. This strategy would assume greater volatility of returns, but the expected returns would have compelled this choice for a risk neutral investor in a hedge fund (investors in hedge funds are predominantly interested in maximum return). Why would he do this rather than simply taking the long position on the basket of stocks? Upon critical analysis, the trading scheme does not make sense.

Figure 2 also raises fundamental empirical questions: Is the 16% required return above the bandwidth imposed by the short position on the call option such that the strategy is impossible to execute? If that benchmark is below the cap, how much room in the potential yield does the strategy leave to achieve the target return? In other words, was there even a feasible target to shoot for, and how big was that target window? And if this window was small, what is the probability he could have hit it year after year? These questions would be difficult to answer. They would have required direct data on the investments (impossible because Madoff was engaging in fraud), or an implied, backward induction analysis based on investment returns, which would have shown an impossibility. Such calculations can get complicated. However, Markopolos made them for the SEC, and they showed that Madoff's strategy could not have yielded the type of returns he was claiming.⁴¹ A trained lawyer should have had the wherewithal to recognize the important conceptual point irrespective of the precise mathematical answer, and this awareness should have informed the inquiry.

Lastly, there is another striking contradiction found in Markopolos's memo, though this was not directly raised in his memo. The memo attaches information on the investment strategy and returns of Fairfield Sentry, a feeder hedge fund that invested \$5.2 billion in Madoff's fund.⁴² This information describes the long position of a split-strike conversion strategy as "the purchase of a group or basket of equity securities that are intended to highly correlate to the S&P 100 Index."⁴³ Fine enough, but the investment returns show an average annual return to investors of 12%, net of hedge fund fees, with a portfolio beta of 0.06.⁴⁴ Standing together, these two statements—a long position on the S&P 100 and a portfolio beta of 0.06—are inherently and irreconcilably contradictory. As a joint proposition, they cannot be correct. Madoff supposedly invests in a significant number of stocks (30–35) that are highly correlative to the S&P 100, but the portfolio eliminates virtually all correlation to the market return on its way to producing an average annual return of 12% to investors and a gross return of 16%.

Madoff's claim would have been puzzling for someone with a modest statistics background. The S&P 100 would closely track the market return, and thus we would expect the portfolio beta on an S&P 100 index to be closer to 1.0. The wide deviation of beta from this 1.0 reference is significant. Madoff invested in a portfolio of stocks that

41. See generally Markopolos Memo, *supra* note 14.

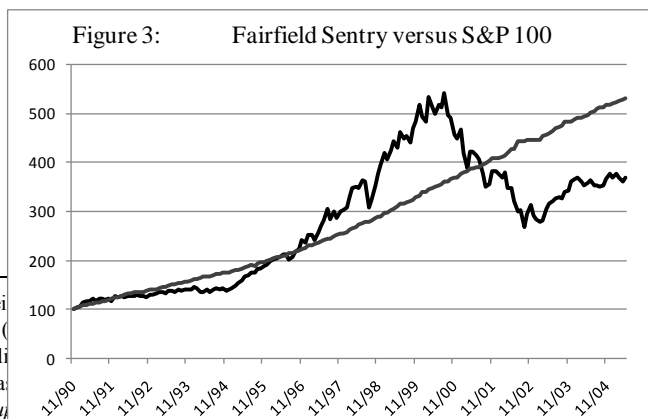
42. *Id.* at 3, 18–19.

43. *Id.* at 18.

44. *Id.* at 19. The beta is the measurement of the covariance between the stock's return and the market return over the variance of the market return. BREALEY ET AL., *supra* note 33, at 170. In short, it is the measure of the stock's sensitivity to market movements, and thus the measure of a stock's riskiness relative to the market. *Id.* at 167.

constituted approximately a third of the stocks in the S&P 100. Significant diversification can be achieved with a mix of relatively few stocks,⁴⁵ suggesting that a portfolio of 30–35 stocks selected from the S&P 100 would substantially diversify away firm specific risk, and the portfolio return would closely track the broader market return. For example, the Dow Jones Industrial Average, which is a composite of only 30 large capitalization stocks, is highly correlated to the S&P 500. Madoff’s portfolio would have had to track the market return. Yet, Madoff claimed that there was virtually no market risk in his strategy, as seen by the assertion of a portfolio beta of 0.06.⁴⁶ I do not know what the statistical probability of achieving this outcome is: that is, the probability of selecting the right combination of 30–35 stocks from the S&P 100 along with options to achieve continuous returns of 16%, not more or less, in a period of over 14 years when that index returned 9.4% over the same time period. There could only have been a certain limited number of stocks each month and year that would have outperformed the index. The portfolio must have contained mostly these outperforming stocks, each stock of which we would expect would vary in performance year after year relative to the broader index, and thus he had to be constantly adjusting the portfolio by selling future losers (once past winners) and picking new winners.⁴⁷ The statistical probability of doing this consistently over the months and years could not have been very high, maybe even astronomically low or maybe not possible at all. Given this probability, the Madoff proposition is that his stock-picking skill would offset the steep probability distribution of potential returns of any given basket of stocks picked from the pool of large capitalization stocks in the S&P 100.

This intuition is confirmed by a simple analysis. With the data on Fairfield Sentry provided in the memo,⁴⁸ and with publicly available data on the S&P 100,⁴⁹ we construct a relative return analysis. Figure 3 provides a comparison of returns from November 1990 to May 2005 (a period of 175 months), with normalized initial asset values of the fund and the index.



45. See Mei
353, 355 (1987) (

46. This was
SEC REPORT, *sup*

43. The SEC failed to catch this Ponzi scheme despite knowledge of these representations. *Id.* at 59–61.

47. The review of historical data and the calculations therefrom would be involved. Only a statistician or a finance professor can answer this question.

48. Markopolos Memo, *supra* note 14, at 19.

49. This data is available for download on Yahoo! Finance, <http://finance.yahoo.com> (last visited Sept. 21, 2009).

QUANT. ANALYSIS
of under 20.87%,

and riskless returns.
in a promotional

As evident from above, even the index of large capitalization stocks is volatile, meaning that an investment in the equity market is risky (note the technology stock market bubble in the late 1990s and the crash in 2000, subsequent economic recession, and the start of a bull market in 2003). But notice Fairfield Sentry's smooth returns over a 14 year period. During this period, the Fairfield Sentry annualized rate of net return to investors was approximately 12.1%, while the S&P 100 returned 9.4%. More important is that Fairfield Sentry's return, which is based on a large portion of stocks in the broader index, had virtually no correlation to the market. Up, down, or flat, the market return was not relevant as Madoff's strategy always made profit. This is a pure arbitrage proposition. The most fundamental theory of finance is that in a competitive market, such as the stock market, sustained riskless arbitrage cannot exist. But this was the lure of the Madoff fraudulent proposal: an investor gets consistently above average returns with no market risk.

An investor can eliminate or minimize market risk through derivatives, and the split-strike conversion strategy calls for the purchase of out-of-the-money put options to protect against the downside risk. But note that the put options are out-of-the-money, and thus there *is* downside risk within the range of the split strike prices $\{P, C\}$. We would have expected to see many instances of monthly losses because the strategy exposes the investor to some degree of market risk. We would certainly expect some losses in the time period from 2000 to 2002 encompassing the technology market crash of 2000, the September 11 terrorist attacks, and the subsequent economic recession. But Fairfield Sentry reported only 7 small monthly losses within a period of 175 months, one of which was a miniscule loss (0.06%, 6 basis points or a \$60 loss on an investment of \$100,000) in the three years 2000 to 2002.⁵⁰

To accomplish this feat, Madoff would have had to purchase not out-of-the-money put options, but at-the-money put options, which would have guaranteed no loss beyond the strike price. This can be done, of course, but not without a price. Such options would be very expensive because there is a much higher probability of a payout by the issuer. The premium paid would substantially erode the potential return. Markopolos noted that a one year at-the-money put option could cost eight percent.⁵¹ This cost would not have been fully offset by the sale of the call options under the split-strike strategy because these were purportedly sold out-of-the-money (in fact, they had to be substantially out-of-the-money to allow a 16% return and obviously an at-the-money issue would have produced no profit).⁵² If one assumes this to be a correct price, then Madoff would have to yield 24% from the long position on large capitalization stocks and the premium earned on the short covered call. A return in this neighborhood is the type of benchmark more commonly seen in venture capital investments, the riskiest equity investments around. But here again we have an irreconcilable contradiction: How could Madoff have consistently earned 24% when the upside of the portfolio was sold through out-of-the-

50. Markopolos Memo, *supra* note 14, at 19.

51. *Id.*

52. The put-call parity ensures a precise mathematical relationship between the prices of the put and call options: $S + p = c + Xe^{r(T-t)}$. JOHN C. HULL, OPTIONS, FUTURES, AND OTHER DERIVATIVE SECURITIES 167 (Prentice-Hall, Inc. 2d ed. 1993). Because this relationship is bound by arbitrage arguments, there is little room, if any, to exploit a pricing difference between the call and the put to offset the purchase of expensive put options.

money call options? Basic intuition suggests that if he was eliminating market risk, he could only earn the risk-free rate, net of any transaction cost, and yet he was purporting to earn large, venture capital-type returns from essentially a covered call strategy. One need not run through the calculations of a Black-Scholes option model to come to the answer that this cannot be.

If a lawyer regulator does not understand the significance of these contradictory representations in an investment document, or if he does not have even a sense of the market performance benchmarks and historical returns presented in Markopolos's memo, he simply does not understand how markets work.⁵³ This is a simple but devastating point. He cannot properly perform his job function. One may protest that my harsh assessment imputes too much into the job function of a lawyer regulator. They are not Wall Street traders or bankers. But without a basic understanding of the technical details of transactions and the workings of the market, how can the lawyer regulator ferret out fraud? Complexity is at the heart of this catastrophic regulatory failure. Regulating simple things is a simple task. For the SEC in this case, it could not detect fraud even though it was spelled out in explicit terms. As a result, many victims suffered needlessly.

My understanding of the Markopolos memo is not really sophisticated. It is a basic financial analysis, interpreting the memo and supplementing the insights therein with independent thoughts and conclusions. Already, financial economists have constructed sophisticated financial and mathematic models of Madoff's scheme,⁵⁴ but their analyses boil down to the same simple conclusion—upon proper scrutiny Madoff's scheme would have shown to be a fraud. The work presented in this Article is well within the ability of a qualified lawyer regulator with the appropriate skill set in her tool box.

At this point, a skeptical reader may wonder whether my interpretation of Markopolos's memo and other scholarly commentaries along similar lines is nothing but hindsight wisdom: the world is an ignoramus on a Sunday, and an Einstein on a Monday. This criticism would not be a fair point. Many industry professionals suspected for many years that Madoff was engaging in fraud. Markopolos was one. The SEC Report also recounts the concerns of professionals in another investment company.⁵⁵ A 2001 article in *Barron's* stated the skepticism of industry professionals over Madoff's returns: "Those returns have been so consistent that some on the Street have begun speculating that Madoff's market-making operation subsidizes and smooths [sic] his hedge-fund returns. . . . Still, some on Wall Street remain skeptical about how Madoff achieves such stunning double-digit returns using options alone."⁵⁶ In the same year, an article in

53. Upon being interviewed by SEC attorneys, Madoff explained how he achieved his remarkable returns: "Some people feel the market. Some people just understand how to analyze the numbers that they're looking at." SEC REPORT, *supra* note 11, at 311. The SEC lawyers testified that they did not know the market benchmarks on returns or have the wherewithal to contextualize Madoff's alleged performance. *Id.* The SEC Report concludes: "The Enforcement staff's inexperience and unfamiliarity with equity and options trading may have contributed to their belief that Madoff's explanations for his remarkable returns was satisfactory." *Id.*

54. See, e.g., Carole Bernard & Phelim Boyle, Mr. Madoff's Amazing Returns: An Analysis of the Split-Strike Conversion Strategy (Apr. 2, 2009) (unpublished manuscript, available at <http://ssrn.com/abstract=1371320>); Pierre Clauss, Thierry Roncalli & Guillaume Weisang, Risk Management Lessons from Madoff Fraud (Apr. 4, 2009), (unpublished manuscript, available at <http://ssrn.com/abstract=1358086>).

55. SEC REPORT, *supra* note 11, at 145–60 (recounting the suspicions of employees at Renaissance Technologies LLC).

56. Erin E. Arvedlund, *Don't Ask, Don't Tell: Bernie Madoff Is So Secretive, He Even Asks His Investors*

MAR/Hedge also raised similar concerns:

In addition, experts ask why no one has been able to duplicate similar returns using the strategy and why other firms on Wall Street haven't become aware of the fund and its strategy and traded against it, as has happened so often in other cases; why Madoff Securities is willing to earn commissions off the trades but not set up a separate asset management division to offer hedge funds directly to investors and keep all the incentive fees for itself, or conversely, why it doesn't borrow the money from creditors, who are generally willing to provide leverage to a fully hedged portfolio of up to seven to one against capital at an interest rate of Libor-plus, and manage the funds on a proprietary basis.⁵⁷

The professionals expressing their collective skepticism presumably did not conduct a forensic investigation, as Markopolos did, but probably applied basic industry knowledge to Madoff's purported historical performance. The interest in Madoff was probably sparked by a desire to replicate his success. Markopolos was tasked initially to investigate Madoff to deconstruct the trading strategy so that his firm could replicate the trade, evincing the proposition that true arbitrage is difficult in a competitive market.⁵⁸ It was apparent to many in the industry that something was wrong. The market operates under well-established intellectual principles and benchmarks,⁵⁹ and people who know the market have a sense for what is and is not possible. Once the data was compiled, an analysis using these concepts and benchmarks should have led the lawyer regulators at the SEC to many disturbing questions. Answering these questions should have led to a conclusion that there is a strong possibility Madoff is a financial alchemist, making profit out of thin air.

The thesis here is not that the SEC could have uncovered Madoff's fraud on its own. Detecting fraud without a complaining party or a whistleblower is very difficult. It is not surprising that Markopolos, like the accountant Sherron Watkins of Enron notoriety, is an industry specialist with an expertise in derivatives. Deep training and experience in accounting and finance are necessary to detect sophisticated market fraud. Markopolos had the benefit of piecing together the puzzle because he had access to many sources of market information such as the gossip, hearsay and innuendo referenced in his memo, and access to information from several hedge funds that invested with Madoff. Without these sources of information, it is doubtful that Markopolos could have made a persuasive case against Madoff.

In summary, financial analysis requires a chain of reasoning and inferences, very much like the process that a lawyer would use to build a theory of the case. The Markopolos memo put together a damning case against Madoff. Markopolos did the heavy investigative work, and the SEC only had to understand what he was saying. For a lawyer-regulator to comprehend the memo, she must have a basic literacy with these concepts: (1) fee structure and incentives; (2) exchange and OTC transactions and their impact on market conditions; (3) options and trading strategies; (4) arbitrage; (5)

to *Keep Mum*, BARRON'S, May 7, 2001, at 26.

57. Michael Ocrant, *Madoff Tops Charts; Skeptics Ask How*, MAR/HEDGE 1, 3 (May 2001).

58. Ross Kerber, *The Whistleblower Dogged Pursuer of Madoff Wary of Fame*, BOSTON GLOBE, Jan. 8, 2009, at A1.

59. I do not want to be misunderstood to state that the markets work all the time. Obviously, markets fail, as proven by the financial crisis of 2008.

principles of risk and return; and (6) historical and current market benchmarks. These are complex subjects requiring a thorough educational foundation, subsequent job training, and continuing education thereafter. Some of the information presented in the memo was difficult to comprehend, and it is doubtful that even a financially literate attorney could have constructed the investigative report from scratch. The SEC's failure is not in failing to discover the fraud itself. This would be understandable and excusable under some circumstances. But the SEC and its lawyers were presented the proverbial "videotape" of the crime, and yet they were unable to comprehend what had occurred because they lacked the skills, knowledge, and education.

IV. BUSINESS LITERACY AS THE OBJECT LESSON

We can explain the failure of the SEC to detect the fraud as a personal professional failure of the attorneys involved in the review. They may have been lazy, incompetent, or overworked.⁶⁰ This would not excuse the failure, but it would be understandable. Accidents happen, and when they do, liability and blame are assigned. But this excuse can conveniently lead to avoiding a larger causal connection between fraud and failure. The SEC review was conducted by many attorneys and other staff. Multiple failures by multiple attorneys suggest a deeper problem. It suggests a larger structural defect, one of professional training and education. A consistent theme throughout the 477-page SEC Report is a lack of experience of its staff as a contributing cause of the failure.⁶¹ Experience connotes a knowledge base from which facts and evidence can be contextualized in an analysis of the problem, and it is clear that the SEC staff lacked the minimum level of knowledge and experience.

Markopolos made this clear in his testimony before Congress.⁶² His opinion of the SEC and its attorneys was not kind. His prepared comments stated that the staff SEC suffered from "financial illiteracy," there was "over-lawyering at the SEC,"⁶³ and "too many of the staff lawyers lack any financial industry experience or training in how to conduct investigations."⁶⁴ He testified further: "The SEC is overmatched. They're too slow, they're too young, they're too undereducated."⁶⁵ He focused on a lack of knowledge and education as the root cause of the SEC's failure.

The SEC's internal investigation confirms this harsh assessment. One of the report's major findings is that "the Enforcement staff's failure to appreciate the 'red flags' contained in Markopolos's 2005 submission was a lack of experience necessary for a

60. The SEC's internal investigation indicated that there were instances of a failure to pursue leads and conduct a reasonable investigation, and complaints of lack of training and resources. See SEC REPORT, *supra* note 11, at 31 (finding "the reason given was that they were generally hesitant to get audit trail data 'because it can be tremendously voluminous and difficult to deal with' and 'takes a ton of time' to review"); *id.* at 39 (noting that the most "egregious" failure was the failure to confirm trading activities through third parties).

61. *Id.* at 23, 24, 26, 27, 29, 36, 39, 47, 60, 90, 91, 141, 163, 231, 244, 246, 311, 365, 366, 369, 370, 371. Consider the following assessment: "The team was composed entirely of attorneys, who according to one member, did 'not have much experience in equity options trading' but 'rather, their experience was in general litigation.'" *Id.* at 29.

62. Markopolos Testimony, *supra* note 13, pts. 1, 2.

63. *Id.*, pt. 1.

64. *Id.*, pt. 2.

65. Peter Howe, *Madoff Informant Makopolos Attacks SEC*, NEW ENGLAND CABLE NEWS, available at <http://www.necn.com/Boston/Business/2009/02/04/Madoff-Informant-Markopolos/1233782559.html>.

fundamental understanding of equity and options trading.”⁶⁶ An SEC staffer who had such experience (and who saw indications of a fraud and tried to advance an earlier investigation of Madoff)⁶⁷ also commented that she observed a lack of experience in the staff.⁶⁸ Moreover, outsiders who dealt with the SEC staff on the Madoff matter commented the same.⁶⁹ The SEC Report provided this assessment:

Because of the Enforcement staff’s inexperience and lack of understanding of equity and options trading, they did not appreciate that Madoff was unable to provide a logical explanation for his incredibly consistent returns. Each member of the Enforcement staff accepted as plausible Madoff’s claim that his returns were due to his perfect “gut feel” for when the market would go up or down.⁷⁰

The general tenor of this criticism, which the SEC has confirmed as valid, is not surprising on several levels. There is a fundamental tension between the philosophy of securities regulation and the necessities of anti-fraud market enforcement. It is axiomatic in securities law that the predominant regulatory philosophy is disclosure of information, and not assessment of the investment opportunity.⁷¹ The assumption, of course, is that once honest disclosure is made, the investor should be free to choose and the government should not be a gatekeeper of investment return. This is seen in the way that the SEC investigated Madoff in response to Markopolos’s memo. Even at the inception of the investigation, the SEC staff attorneys focused on disclosure. The initial focus of the SEC staff is apparent in the Case Opening Report. The staff attorneys provided this initial assessment of the investigation and further plan of investigation. This assessment illuminates the mindset and thought process of the attorneys tasked with investigating a charge of fraud, and it merits full quotation:

The staff found, first, that neither BLM nor [Fairfield] Sentry Funds *disclose* [sic] to investors that the investment decisions for the Sentry Funds are made by BLM rather than by FGG, and that, in substance, BLM acts as an *undisclosed* investment adviser to the Sentry Funds. Second, the staff found that, during an SEC examination of BLM that was conducted earlier this year, BLM—and more specifically, its principal Bernard L. Madoff,—mislead [sic]

66. SEC REPORT, *supra* note 11, at 369.

67. *See infra* note 104 and accompanying text (discussing a lawyer with relevant experience who reported suspicions about information provided by Madoff).

68. SEC REPORT, *supra* note 11, at 91 (comment of Genevieve Walker).

69. The SEC’s report documents a telephone call between the SEC staff and the staff at the National Association of Securities Dealers (NASD). This call took place two days before the staff would depose Madoff and was made to prepare for the deposition. The NASD representatives commented that the SEC staff asked “extremely basic questions” about options and trading, and that these concepts “were over their heads.” *Id.* at 309–10.

70. SEC REPORT, *supra* note 11, at 39.

71. *Basic Inc. v. Levinson*, 485 U.S. 224, 230 (1988); *Santa Fe Indus., Inc. v. Green*, 430 U.S. 462, 477–78 (1977). *See* Thomas Lee Hazen, *Disparate Regulatory Schemes for Parallel Activities: Securities Regulation, Derivatives Regulation, Gambling and Insurance*, 24 ANN. REV. BANKING & FIN. L. 375, 382–383 (2005) (finding that “[T]he 1933 Act was premised solely on a system mandating full and fair disclosure to investors, under the guidance of a federal agency, as a mechanism for permitting informed investment decisions. Disclosure rather than merit approach remains the regulatory philosophy of the federal securities laws today.”).

the examination staff about the nature of the strategy implemented in the Sentry Funds' and certain other hedge fund customers' accounts, and also *withheld* from the examination staff *information* about certain of these customers' accounts at BLM. Third, the evidence obtained so far suggests that BLM also acts as an *undisclosed* investment adviser to several additional hedge funds. The staff is now seeking additional evidence, in the form of documents and witness testimony from BLM and its hedge fund customers, on the issues of BLM's role in those hedge funds' investment activities and the adequacy of related *disclosures*. Additionally, the staff is trying to ascertain whether the complainant's allegation that BLM is operating a Ponzi scheme has any factual basis.⁷²

Notice the emphasis on the procedural issue of disclosure. The serious charge of operating a Ponzi scheme was relegated to the last sentence without further comment.⁷³

It is apparent that the agency did not seriously review the substance of the financial investment, the core of Markopolos's argument. Rather, it found that Madoff violated disclosure rules by failing to register as an investment adviser.⁷⁴ This is a purely procedural point, albeit its spirit resides in the fundamental mission of the SEC. In reading the 477-page SEC Report, I was struck by this assessment:

An explanation of why these private entities were able to understand and appreciate the suspicious aspects of Madoff's strategies and operations may be related to the differing approaches utilized by these private sector individuals conducting the analysis as compared to SEC examinations. The private entities generally described an "iterative" approach to due diligence, focusing on basic items, such as independence and transparency, while many faulted the SEC examinations for being too "checklist-oriented." Through this "iterative" approach, the private entities were able to better understand the matters they were analyzing, such as the improbability of Madoff achieving his returns using his split-strike conversion strategy and the fact that Madoff could not be trading options in such high volumes without affecting the market or having counterparties that could be located. In addition, private entities who conducted due diligence appreciated the "red flags" that the SEC personnel dismissed because they had a greater experience and knowledge base in the industry than many SEC examiners have.⁷⁵

The check-the-box approach, consistent with a functional focus on disclosure, is clearly inadequate to the task of sophisticated financial analysis and market regulation. During 16 years and multiple examinations and investigations by numerous staff members, most of whom were lawyers, the SEC found that Madoff did not follow a rule

72. SEC CASE OPENING REPORT (Jan. 24, 2006) (emphasis added).

73. Internal emails confirm that the staff focused on disclosure. SEC REPORT, *supra* note 11, at 292. In the first investigation of Madoff in 1992, the SEC focused on whether securities sold by a Madoff-affiliated firm was selling unregistered securities, even though it had evidence that the firm was advertizing 13.5% returns at zero risk. *Id.* at 26, 43.

74. Gregory Zuckerman & Kara Scannell, *Madoff Mised SEC '06, Got Off*, WALL ST. J., Dec. 18, 2008.

75. SEC REPORT, *supra* note 11, at 424. The private entities referenced in this passage are various private parties, such as Markopolos, and industry professionals who suspected Madoff was a fraud and complained to the SEC or privately expressed skepticism. *Id.*

of law found in the books. When he agreed to register and Fairfield Sentry agreed to disclose Madoff's involvement in its fund, the SEC dismissed the investigation because the disclosure violations did not merit an enforcement action.⁷⁶ The circumstantial evidence points strongly to the fact that the lawyer regulators did not have the ability to think beyond the rules and their infractions.

The SEC's mishandling of the Madoff investigation is indefensible. But the larger point is that lawyer regulators are not in the habit of passing judgment on the merit of the investment. Nor would they be trained to do so within the agency. This would require substantive financial analysis, a task not within the broad philosophy of securities regulation. A movement towards merit-based securities regulation would be problematic, posing the difficult question of whether lawyers would be qualified to perform the task and whether the government should be passing judgment on private investment activities. Yet, the contradiction is apparent. We cannot escape the conclusion that to a significant degree the detection of fraud and financial shenanigans requires precisely that—a merit-based financial analysis—just as the SEC would have had to perform a fundamental financial analysis of the Madoff investment strategy if it were properly performing its regulatory function. A lawyer regulator must have some capability to conduct merit-based evaluation, particularly when she is wearing her investigative hat.

There is a problem of education and experience. Markopolos testified: “the SEC has so little investment management experience that they don't know what the industry standards for good performance are, and what the industry standards for unbelievable, fraudulent performance are.”⁷⁷ An SEC lawyer observed: “myself along with other individuals in the group wanted to have more formalized training.”⁷⁸ Another offered: “frankly, I don't know how you trained somebody to do this side of the job.”⁷⁹ If a lawyer regulator does not instantly recognize the delivery of virtually risk free 16% returns year-over-year with a portfolio beta of 0.06 as most unusual, he is incapable of investigating sophisticated market fraud. Madoff's proposition violated the fundamental principle of finance, which is the principle of no arbitrage. That he was eliminating risk should have suggested that his strategy could not earn returns greater than the risk-free rate. There is a knowledge gap, and no amount of knowledge about legal doctrines or legal skills will bridge it.⁸⁰ As the Madoff Ponzi scheme shows, uncovering a fraud requires a substantive understanding of the investment and the financial logic.⁸¹

It is debatable whether the SEC can perform both market regulation and enforcement functions with a staff of mostly lawyers, most of whom lack even a basic education in finance and accounting, much less experience in the financial markets.⁸²

76. *Id.*

77. Markopolos Testimony, *supra* note 13, pt. 223.

78. SEC REPORT, *supra* note 11, at 90.

79. *Id.*

80. *See id.* at 36–66 (providing testimony of SEC attorneys that the failure was a “function of inexperience” and that there was a “knowledge gap”).

81. *Id.* at 249. According to one SEC attorney involved in the failed investigation, Markopolos's allegations were not believed because “there was no detail in terms of what exactly [Madoff] does” and Markopolos “did not have first-hand personal knowledge of the fraud.” The lack of knowledge and the limitation of the thought process are apparent from this testimony.

82. Press Release, SEC, SEC Announces New Division of Risk, Strategy, and Financial Innovation (Sept. 16, 2009), available at <http://www.sec.gov/news/press/2009/2009-199.htm>. Seeming to recognize this failure, the SEC sought to prevent the financial crisis of 2008 and the Madoff fraud. To strengthen market supervision

Regulation means that there must be personnel who understand technical rules of law, but who also understand the industry the agency regulates. Fraud detection and lawyering—like policing and prosecution—are fundamentally different job functions. To the extent that the SEC is performing the dual functions of regulation and enforcement activities such as fraud detection, its lawyer regulators must have some capability to do investigative work, meaning that it must have a competent staff with substantial knowledge of business, finance, and markets. The SEC itself seems to acknowledge this limitation. Its post-Madoff proposal for reform states, among other things, that the agency should hire more staff with industry knowledge and experience, and that it should provide its staff training in finance and complex instruments.⁸³

Law schools have historically not focused on teaching business and financial literacy.⁸⁴ The term *literacy* is intentional. Just as the law is a separate language, business has a separate language. In a different era, it made sense that law schools would not teach business vis-à-vis business law. The world seemed simpler then, and job functions were more compartmentalized. The misdeeds resulting in the financial crisis and the Madoff fraud shattered this illusion. In a complex world, a competent lawyer must be at least proficient in the language of business if the ambition is to serve the interest of large scale corporate enterprises or to regulate the financial markets. The cause of the SEC's failure is fundamentally an inability of its attorneys to understand what a whistleblower was saying. They were financially illiterate. They did not understand the workings of derivatives, arbitrage and pricing principles, historical and current market benchmarks, and generally the markets they regulate. This illiteracy was the proximate cause of the SEC's failure.

Lawyers are fundamentally legal risk analysts. The problem is that legal risk in the business and financial worlds is only one of many different types of risks. Should lawyers expect legal work to be analytically discrete within the set of rules they are trained to interpret? Or should they be aware, at least, of the complexities of their environment? In this “new” new era of financial scandals, market meltdowns, misbehaving corporations, and mega-bailouts, do we not want to train lawyers and regulators to be literate in the relevant academic disciplines driving a modern economy? My answer is “yes.” Lawyers should be equipped for the 21st century world, one where traditional boundaries in the labor market are eroding, where the contractual nexuses of firms and their relationships to employees have become less sticky, where workers should consider themselves entrepreneurial factors of valued-added skills, and where the expectations of society, clients, employers, and workers are ever more demanding and dynamic. This comment is not just relevant to regulation of financial markets. Having a workable understanding of our economic organization and financial markets is not just a matter of job function, but it goes toward a lawyer's intellectual development, and a better understanding of important institutions and events that change our society.

and monitoring functions, the agency created a new division, the Division of Risk, Strategy, and Financial Innovation. “This new division will enhance our capabilities and help identify developing risks and trends in the financial markets. . . . By combining economic, financial, and legal analysis in a single group, this new unit will foster a fresh approach to exchanging ideas and upgrading agency expertise.” *Id.* (quoting Chairman Mary Schapiro).

83. SEC, The Securities and Exchange Commission Post-Madoff Reforms, <http://www.sec.gov/spotlight/secpostmadoffreforms.htm> (last visited Sep. 21, 2009).

84. Roberta Romano, *After the Revolution in Corporate Law*, 55 J. LEGAL EDUC. 342, 352 (2005).

In theory, the business law programs of many law schools are designed to achieve the goal of business literacy. Found in many schools, these programs have positive attributes and purposes. They are marketing tools to attract prospective students and to satisfy the alumni base. Participation in them signals to a recruiter a student's sincere interest in business law. Pedagogically, they provide curricular coherence to the second and third years of law school where otherwise these years are largely amorphous. Although the business law program of each school differs, a program typically first requires the basic courses of business associations, securities regulation, and perhaps other courses considered to be core such as tax, and then the program offers an assortment of commercial and advanced corporate law classes from which a student must fulfill a minimum credit requirement. This is not enough.⁸⁵

To see why, let's discuss the limitations of the two core courses: business associations and securities regulation. Any professor who teaches the business associations class confronts the problem that students come with diverse backgrounds. Some students have substantial business educational or work experiences, but a substantial portion of students, if not most, have no such background. The problem is more pronounced because most law students lack substantial work experience. Basic terms like balance sheet, asset, liability, book value, market price, capital markets, liquidity, risk, investment banking, discount and premium, cash flow, multiples, arbitrage, and profit—the factual and analytical richness of many business association cases—are alien to many law students. No concept can be taken for granted. The professor always confronts the problem of how much explanation of ancillary, nonlegal concepts is required and how much course time should be devoted to teaching the prerequisite and background material in light of coverage goals. It does not help that some law students take a narrow approach and want to know “just the law,” thereby viewing matters outside of case holdings and statutes as unnecessary. This unhelpful attitude stems from a lack of experience and an inability to recognize that problems are often contextualized in multiple dimensions rather than compartmentalized into discrete legal issues. Go too deeply into these ancillary materials, and the professor may lose some students and face complaints in class or teacher evaluation for going off on tangents. Regardless of how the professor resolves this tension, it is clear that the course is a poor vehicle to teach systematically essential business concepts. The course focuses on the law's treatment of the basic principal-agent relationship inherent in complex business arrangements such as partnerships and corporations.

Now, consider securities regulation. By the time students take this class, they would have had some exposure to business concepts through business associations. During the course, they are provided more background in capital markets and principles of finance, and they may become well versed in finance theories having direct application to securities law such as the various flavors (forms) of the efficient capital market hypothesis (ECMH).⁸⁶ Class may also include discussion of valuation, and the theories

85. Roberta Romano has argued that future business lawyers will require a heightened level of technical proficiency in finance and economics, and that current business curricula of law schools are “thoroughly inadequate.” *Id.* “In short, law schools are doing a poor job when it comes to educating the preeminent business lawyers of the next generation and the fact that hardly any school is doing a particularly good job is no excuse. We ought to do something about this unacceptable situation. Simply put, the law school curriculum has not caught up with the transformation in the profession and legal scholarship.” *Id.* at 353.

86. The ECMH figures prominently in securities cases because of the complicated causation and reliance

supporting valuation techniques such as the capital asset pricing model and the discounted cash flow method (and certainly there would be no detailed discussion of Black-Scholes option pricing theory), though it would be impossible for a professor to go deeply into these subjects since teaching the predicate principles requires substantial class time independent of legal analysis. Without depth, however, these concepts become meaningless jargon, easily lost amidst the many cases, statutes, and regulations. Again, securities regulation is a poor vehicle to systematically teach business concepts. The course focuses on legal concepts such as the registration process, information disclosure, fraud, and standards of liability. Essential business concepts are typically explained as needed and always to supplement the understanding of primary legal sources and concepts.

Although business associations and securities regulation deal in the core area of business and finance, they are fundamentally courses in law. Let me go a step further: these courses are closer to torts and civil procedure, focusing on standards of liability and disclosure of information, than they are to corporate finance, where finance is the central subject. Many professors who teach these subjects may disagree with my characterization, and they would not be unreasonable, but there is also some truth to my general assertion. The problem is that these courses speak in the language of law. There is not enough course time to adequately teach the essential lessons in accounting, finance, and capital markets. Other courses in the business law curriculum, whether it be a course on commercial law, bankruptcy, or antitrust, are no different. In the law school curriculum, the teaching of essential business concepts is left to a haphazard, piecemeal process of dissemination and assimilation, which is simply inadequate for the task. There is not a formal curricular platform.

A thorough accounting treatment should be required in any business law curriculum. Indeed, any serious business law student would be well advised to take an independent introductory financial accounting course. If there was any doubt, the accounting scandals of Enron and WorldCom and the passage of the Sarbanes-Oxley Act resolved the matter. Ideally, accounting should be taught as a separate course. Time, effort, and formal instruction are needed to learn the balance sheet, income statement, and cash flow statement and their relationship, not to mention working with T-accounts and understanding the difference between debit and credit.⁸⁷ Finance governs the economic

issues. It frequently figures in academic debate, and I suspect is a favorite in the classroom as well. But financial industry professionals seldom discuss or use ECMH in the trenches of their daily activities. Beyond its utility in a specific legal issue, there is almost a “so what?” quality about the ECMH as a practical matter. Everyone accepts that past information is incorporated into the stock price and that the strong form of the hypothesis cannot be correct. *See West v. Prudential Securities, Inc.*, 282 F.3d 935, 938 (7th Cir. 2002) (Easterbrook, J.) (“That [strong] version is empirically false: the public announcement of news (good and bad) has big effects on stock prices, which could not happen if prices already incorporated the effect of non-public information.”). Market practitioners also understand that current public information is incorporated into the stock price at varying rates, though most public information is quickly absorbed. For example, we see the almost instantaneous adjustment of market prices to unexpected earnings announcements. In five years of working as an investment banker, I have never had a discussion of the ECMH with either colleagues or clients. Yet, in these five years, not a day went by without analyzing or discussing market developments, financial statements, and cost of capital with colleagues or clients. The daily tools of the trade for bankers and research analysts are accounting, financial projections, industry and strategic analysis, capital structure, betas, multiples, and DCF and EVA valuations.

87. When thinking about accounting, I am always reminded of a personal experience as a summer

relationship between the corporation and its capital providers, and it should be required in any business law curriculum. If there was any doubt, the financial crisis and the mega-bailouts of financial institutions resolved the matter. Ideally, finance should be taught separately. Time, effort, and formal instruction are needed to learn the principles of risk and return, arbitrage, asset and option pricing, and opportunity cost.⁸⁸ The same thought applies to basic courses in economics and quantitative methods.

Great shifts in societal wealth and welfare can turn on matters of accounting, financial, and economic policy in the same way that important constitutional law cases and theories of government can affect society. This was seen ten years ago with Enron, WorldCom, and other companies, and we see it again with Madoff, AIG, Lehman Brothers, and Bear Stearns. Mundane subjects such as accounting, finance, and economics—the academic disciplines concerning money—may be less intellectually stimulating (for some), but they have enormous relevance to societal welfare. Let me frame the point in a different way: is the failure of our financial regulatory system any less consequential for societal wealth or welfare than any single Supreme Court case or term, even in the past several years?

Law schools need not provide an educational foundation to train students to become Wall Street bankers and traders, though there is no reason why a rigorous law curriculum, perhaps supplemented with a few courses in business school, cannot prepare students for a career in business rather than law. Many Wall Street bankers and traders have a J.D. rather than an M.B.A.,⁸⁹ and increasingly what were once “alternative” career paths for law graduates are now standard tracks. Many students attend law school as the default option when they do not have a clear sense of what they want to do with their professional lives. A flexible program that stresses many skills benefits these students, who may upon graduation realize that the practice of law is not for them.⁹⁰

There should be room in the business law curriculum to study business as an independent academic discipline essential to the lawyer’s work. If there is doubt, consider the Madoff scandal. How many lives were shattered by the fact that the SEC attorneys failed to do their jobs properly? Is it really a defense of lawyers that society cannot expect them to understand business and financial concepts because they are only specialists in analyzing legal rules? My point is a modest one, and one that should be uncontroversial:

associate in the summer of 1990 at the New York office of a large Los Angeles-based national law firm. As a part of the training, summer associates as well as lawyers from the firm were given lessons on basic accounting from Pricewaterhouse (now PricewaterhouseCoopers). During the lecture on debits and credits, a litigation partner at the firm interrupted to ask, “So, let me get this straight, credit is good and debit is bad, right?” I knew nothing about accounting then, but I had the sneaking suspicion that this question was off. The look on the accountant’s face confirmed my suspicion.

88. These principles have broader application to legal analysis. See, e.g., Robert J. Rhee, *Tort Arbitrage*, 60 FLA. L. REV. 125 (2008) (modeling the interaction of dispute resolution and the negligence standard); Robert J. Rhee, *The Effect of Risk on Legal Valuation*, 78 U. COLO. L. REV. 193 (2007) (arguing the essential nature of a lawsuit is best viewed as an asset); Robert J. Rhee, *A Price Theory of Legal Bargaining: An Inquiry into the Selection of Settlement and Litigation Under Uncertainty*, 56 EMORY L.J. 619 (2006) (applying financial economics to settlement and trial); IAN AYRES, *OPTIONAL LAW: THE STRUCTURE OF LEGAL ENTITLEMENTS* (2005) (using option theory to explain legal rights).

89. Indeed, several prominent Wall Street CEOs, current and former, are law school graduates, such as Charles Prince, Lloyd Blankfein, and Robert Rubin.

90. Robert M. Lloyd, *Hard Law Firms and Soft Law Schools*, 83 N.C. L. REV. 667, 680 n.70 (2005) (“[M]any law school students come to law school not out of a passion to practice law, but simply because they do not know what else to do with their undergraduate liberal arts or social science degrees.”).

there needs to be greater, more rigorous training of lawyers who wish to specialize in business, and law and business schools can help in this regard.

V. A PRAGMATIC PROPOSAL (MAYBE)

Standard business law classes like business associations and securities regulations do not provide a systematic treatment of business concepts. If so, what can be done about this? My thought here is simple: require or strongly recommend that law students take courses that will provide such a background. The goal is literacy in the language of business and finance, and this can be done by adopting the basic parts of a business education.

Let us first review a typical first year M.B.A. program as seen in the Wharton School's curriculum. The first year courses are grouped into three curricular themes: leadership essentials, analytical foundations, and core business fundamentals.⁹¹ Let's disregard leadership essentials for the purpose of the thesis here on business law education, though leadership certainly has a role in the broader education. Analytical foundations includes courses in decision analysis, managerial economics, and statistics.⁹² Core business fundamentals includes courses in strategy, financial analysis, macroeconomics, accounting, operations, and marketing.⁹³ Since the goal is to provide law students a basic proficiency in business, we can eliminate several nonessential aspects of a business school curriculum. I suggest that a practicing lawyer or regulator will have marginal recurring need to use principles of operations and marketing, and probably strategy as well. This leaves the following core subjects: analytic methods, finance, economics, and accounting.

How do we teach this material? One answer is to do it "in house." Law schools can offer courses in corporate finance and analytical methods. Corporate finance is a specialty niche within a law school curriculum, but is growing in importance in the wake of corporate scandals and financial crises. Similarly, analytical methods, meaning quantitatively-oriented analyses, can be taught in law schools. Several years ago, a group of Harvard law professors saw a need to teach this subject and created a unique law school textbook covering elementary principles of decision analysis, game theory, contracting, accounting, economic analysis of law, and statistical analysis.⁹⁴ The preface of this textbook identifies the essential problem:

This text was created to accompany a course we have taught for the past four years at Harvard Law School. The course and the text grew out of our joint realization that the traditional law school curriculum, with its focus on the development of analogical reasoning skills and legal writing and research, left many law students inadequately prepared for upper-level law courses and, more importantly, for legal practice in the modern world. Lawyers, whether corporate counsel or public interest advocates, must work in settings where

91. See Wharton M.B.A. Curriculum, <http://www.wharton.upenn.edu/mba/academics/curriculum.cfm> (last visited Sept. 30, 2009) (describing business school curriculum).

92. See *id.* (categorizing these courses).

93. See *id.* (same).

94. See generally HOWELL E. JACKSON ET AL., *ANALYTICAL METHODS FOR LAWYERS* (Press 2003). The authors are Howell E. Jackson, Louis Kaplow, Steven M. Shavell, W. Kip Viscusi, and David Cope. Professor Viscusi is now at Vanderbilt Law School.

effective argumentation and the giving of sound legal advice often depend on mastery of language and techniques derived from disciplines such as economics, accounting, finance, and statistics, staples of the modern business school curriculum, but notably absent, in introductory form, from law school classrooms.⁹⁵

Consider also Roberta Romano's description of the problem:

A cavalier response might be that law students are bright and they can learn what they need to know on the job, rationalizing the institutional indifference to the situation. Such a flippant answer can most politely be characterized as misguided, less politely as silly. It is plainly not tenable for a professional school to refuse to meet its obligation to educate individuals for their profession. If that is not central to its mission, then what is? In due course a law school that chose to follow such a path would find its reputation in a downward spiral. Yes, law students are bright and much can be learned on the job; but we are failing them when we do not provide them with the opportunity to master the essential knowledge they need for having successful careers, particularly hard-to-master knowledge that is neither easily nor quickly mastered on one's own. If you think I am overdramatizing the situation, ask yourself, how many autodidacts in the accounting or finance profession have you met lately? While the best business lawyers do not need to become financial economists or accountants, they need a thorough working knowledge and mastery of the concepts and the relevant literature.⁹⁶

As these professors make clear, law schools need to teach greater technical skills in difficult, quantitatively oriented subjects such as finance, accounting, statistics, and economics.

There is a tradeoff in teaching courses such as corporate finance and analytical methods in law schools. A law professor's knowledge in these fields generally would not match that of a professor of finance, economics, or statistics, unless the law school professor has a Ph.D in one of these other disciplines.⁹⁷ But depth of coverage is relative, and the benefits of locating the courses in law school probably offset the disadvantages. Law students do not need to do substantial financial modeling, or to conduct regression and other statistical analyses, but only to understand the principles underlying such analyses and, importantly, the results. Also, the law courses contextualize these disciplines for law students. A strong argument can be made that business and law students should take corporate finance courses offered in both schools. There would be some overlap in the law school course, specifically the overview of the principles of finance, but these courses would be substantially different and mutually reinforcing for

95. *Id.* at v.

96. Romano, *supra* note 84, at 352-53.

97. There are a fair number of law professors with Ph.Ds in economics, because the field of law and economics has become so entrenched in legal scholarship. The cross-pollination of law with accounting and finance is less prevalent. Academics with Ph.Ds in accounting or finance are probably fewer in number than those with economics degrees. Most are found in business schools, and most do not have law degrees. *See* Romano, *supra* note 84, at 355-56 (arguing that Ph.Ds in finance are a better fit for academic research in business law than Ph.Ds in economics).

both sets of students.⁹⁸ Indeed, the business school professor cannot teach the law school corporate finance course, and vice versa.

As far as other courses, law students can benefit by taking courses like accounting and economics in business schools.⁹⁹ The accounting course in business school does not require a high level of math (i.e., calculus and beyond), and many business school students have not previously been exposed to accounting. Basic arithmetic suffices. Similarly, the economics courses in business school do not require the type of mathematical background necessary for graduate economics department work. The law student is not particularly disadvantaged by taking accounting and economics in the business school.

With coursework in corporate finance, analytical methods, accounting, and economics, the law student would acquire a working proficiency in the language of business and finance. In regard to the SEC's failure in the Madoff scandal, perhaps a lawyer regulator trained in these matters would have at least had her curiosity piqued and would have asked the relevant questions from the derivatives expert who was providing the investigative work.¹⁰⁰ We will never know whether a solid educational foundation in business and finance would have made a difference, counterfactuals being inherently speculative.

However, we have another episode involving an SEC investigation into Madoff from which we can draw an inference on the relevance of education and experience. Before Markopolos submitted his now famous memo in 2005, a lawyer investigator at the SEC reviewed information provided by Madoff. Unlike the attorneys who investigated and dismissed Markopolos's allegations in 2006,¹⁰¹ this lawyer found suspicious discrepancies and inaccuracies with respect to trading and confirmation activities, so much so that she recommended to her supervisor that further investigation be conducted.¹⁰² This recommendation was ignored by her supervisors.¹⁰³ How did this lawyer have the awareness to realize that something was wrong when her other colleagues were so obtuse? A quick review of her background provides a clue. She is not only a law graduate, but also has an M.B.A. and is a former analyst at a stock exchange.¹⁰⁴ Indeed, the SEC Report specially noted her background.¹⁰⁵ Clearly, a

98. The corporate finance courses in law and business schools share the same name, but differ substantially in content. The business course delves into the mathematics and economics of financial decisions. The law course provides an introduction into the basic financial principles, and then analyzes the legal aspects of financing decisions and financial instruments.

99. Recently, Dean Joanne Epps of Temple University Beasley School of Law suggested that "[e]ither the legal profession can let business school graduates offer some of these services (a change striking at the core of what it means to practice law), or law schools can start teaching this new curriculum." Joanne A. Epps, *A Tipping Point for Law Schools?*, NAT'L L.J., July 20, 2009, at 34.

100. In fall 2009, I taught a series of tutorials for students who are interested in pursuing a career in business. Two of these students had undergraduate backgrounds in accounting and finance. As a part of the tutorial lesson plan for these two students, I assigned the Markopolos memo. During the tutorial, these students were able to identify independently and with specificity the issues identified therein. In fact, both students specifically noted that the representation of the beta was highly suspicious.

101. See *supra* note 15 (describing the lack of evidence indicating fraud in Madoff's Securities Group).

102. SEC REPORT, *supra* note 11, at 117-19.

103. See *id.* at 77-145 (chronicling the investigation in which this staff member was involved).

104. Her resume can be found at <http://www.linkedin.com/pub/genevieve-walker-lightfoot/7/174/268> (last visited Sept. 21, 2009). She is a 1999 J.D. graduate of The Catholic University of America, Columbus School of Law, and a 2007 M.B.A. graduate of the University of Maryland, Robert H. Smith School of

plausible answer is that this attorney had combined educational and work experiences that provided a basic proficiency in business and finance. This probably made a difference, and she was probably able to see inconsistencies and intuit problems.

The focus on interdisciplinary educational foundation is not a one-way proposition. The connection between law and business has always been strong. Professional endeavors such as consulting, strategic development, entrepreneurship, and policy analysis frequently work with significant legal problems. Business students can benefit significantly by taking select law classes.¹⁰⁶ They stand to benefit from understanding business in the context of the broader society, government, and the rules of regulation, contract, and property rights. Some obvious candidates are corporate finance, contracts, bankruptcy, administrative law, financial institutions, or some other regulated industry.

Mutual benefit to students suggests that the law and business schools of a university can enter into a more formal academic relationship where certain courses are cross-listed. Of course, law and business students can take courses across campus at most institutions, and they sometimes do so. But this is seldom, and such endeavor results from student initiative rather than from programmatic requirement. Interdisciplinary studies can be programmatically instituted through formal institutional relations and curricular coordination and exchange. Moreover, most schools have joint J.D./M.B.A. programs, and there is a move toward making such programs cost effective.¹⁰⁷ For example, the University of Pennsylvania and Northwestern University, two schools with extremely strong law and business schools, have joint programs in which a student can achieve both degrees in three years.¹⁰⁸ Nevertheless, a joint degree is a substantial commitment.

With respect to legal education, law schools should consider mimicking a joint program “on the cheap” for students who do not have the time, money, or energy to do a joint program, but who are still interested in an interdisciplinary study program.¹⁰⁹ The case for deeper interdisciplinary study in the area of business law is strong. At stake is a 10–15 credit exchange, or about a semester’s worth of work at another institution. Such a program can come with a special designation for recruiting purposes, and can even be the basis for tuition increase if there are additional costs associated with operating it.

There are several barriers to implementation. Administrative, budgetary, or political

Business, which she attended on a part-time basis from 2003–07. Additionally, she had substantial prior industry experience. She was a stock trading analyst at Nasdaq-AMEX for nearly two years. This work experience was probably very useful in reconstructing Madoff’s alleged stock trading activities.

105. SEC REPORT, *supra* note 11, at 91.

106. Recognizing this, many business schools have either legal studies departments or faculty members whose primary graduate degree is a J.D. The Wharton School has the largest legal studies department of its kind with a full-time faculty of nineteen members, constituting a mini-law school within a bigger business school. Wharton School of Business, Faculty Page, Legal Studies and Business Ethics Department, <http://lgst.wharton.upenn.edu> (last visited Sept. 21, 2009).

107. See Romano, *supra* note 84, at 353–54 (advocating joint J.D./M.B.A. programs).

108. JD/MBA The Wharton School, <http://www.law.upenn.edu/crossdisc/study/jointdualdegree/mba.html> (last visited Sept. 21, 2009); JD/MBA Overview, <http://www.jdmba.northwestern.edu/> (last visited Sept. 21, 2009). Apparently, 10% of Northwestern Law’s entering class is in this joint program. Posting of Stephanie Francis Ward to ABA Journal’s Legal Rebels, http://www.legalrebels.com/posts/purple_praise/ (Aug. 24, 2009, 16:19 CDT).

109. I have previously suggested that law schools can learn much from business school curricula. See Robert J. Rhee, *Follow the M.B.A. Model*, NAT’L L.J., May 28, 2007, at 22 (arguing for law school curricula that is both more focused and utilizes a greater variety of teaching methods); Robert J. Rhee, *The Socratic Method and the Mathematical Heuristic of George Pólya*, 81 ST. JOHN’S L. REV. 881 (2007).

reasons of law and business schools may pose a barrier. For instance, one can see a problem if the two institutions are perceived as substantially different in terms of quality. The faculty of law may perceive nonlegal courses as nonessential, and vice versa. Electives taken at the student's initiative may be viewed differently from imposing a curricular requirement. These are institutional issues, unique to each institution and attitudes of the faculty and the administration.

Beyond these institutional issues, there are more difficult structural problems. A major issue is the admission process, which is different between law and business schools. At the risk of gross generalization, I state some facts or common perceptions. Most law students do not have strong quantitative backgrounds.¹¹⁰ Most students, like most people in general, appear to be risk averse. Some, but perhaps not most, do not like to be taken out of their intellectual comfort zone (in fairness, how many do?), especially when that discipline is unrelated to law and its principal analytic method, reasoning by verbal analogy and definitions. Specifically, they do not seem comfortable thinking in the mode necessary to conduct a financial analysis. Aside from these general tendencies, the typical law student is younger and has fewer life and professional experiences to draw upon. Difficult, abstract concepts with many terms of art and jargon can be lost without reference or contextualization. Again, these observations are generalizations, and a great many law students do not fit some or all of these attributes, particularly students in evening and part-time programs. With that said, there is a practical and competitive limitation posed by the prevailing admission standards in law schools.

Considering this problem, we expect that some law students may question why courses at other institutions are required or highly recommended. They may complain that competing with business students in business courses is inherently unfair, though there is nothing inherently difficult in terms of a mathematical background about accounting, economics, and corporate finance taught at business schools that would place the business student in some position of intellectual advantage.¹¹¹ The background needed is generally no higher than a solid grounding in algebra and comfort with basic arithmetic operations.

The structural problem is solved through voluntary participation. The business law program of a law school can offer two tracks. One is a traditional track with course selection drawn from mostly law school classes. The other program can offer an interdisciplinary program along the line suggested here. Since participation is voluntary,

110. See RICHARD A. POSNER, *CATASTROPHE: RISK AND RESPONSE* 205 (2004) (citing the Law School Association Council date and listing majors of entering law students); Lloyd, *supra* note 90, at 680 n.66 (citing the Law School Admission Council data on the majors of law school applicants in 2002–03). Only about 12% of entering law students majored in a technical field such as science, engineering, computer science, or health professions. POSNER, *supra*, at 205. Another 18% majored in business. *Id.* Arts, humanities, and social sciences constitute 64% of law students. *Id.* The remaining 6% are unknown majors. *Id.* In the academic year 2002–03, political science was the most popular undergraduate major by law school applicants (over 15,000), followed by English (6300), psychology (5200), and history (4800). Lloyd, *supra* note 90, at 680 n.66. Moreover, the LSAT has contributed to the decline in testing for analytic ability in law candidates by eliminating the math component and reducing the number of logical-analytical skills components. *Id.* at 680 n.69 (citing MARY ANN GLENDON, *A NATION UNDER LAWYERS: HOW THE CRISIS IN THE LEGAL PROFESSION IS TRANSFORMING AMERICAN SOCIETY* 202 (1994)).

111. There may be some disadvantage to law students if statistics and quantitative analysis are required as these courses may involve a greater degree of math and programming skills such as the use of spreadsheets and statistical software packages.

there is little room for students to complain about course content and materials and competition with business students. Given an opportunity in a prepackaged curriculum to obtain in essence a “lite” version of an M.B.A. in a traditional three-year J.D. program, one would think that some serious business law students, particularly the venturesome ones, would jump at the chance. The business lawyer and the lawyer regulator who has completed, at minimum, business school courses in corporate finance, economics, accounting, quantitative methods, and perhaps derivatives would have functional facility with conducting substantive financial analysis.

Before concluding, I comment on the effect of the crisis on the competition among law schools and the employment market for business lawyers and regulators. In the wake of the financial crisis, a rigorous business education is more important than ever. The crisis triggered a severe economic recession and we are seeing the market effects. Corporate America and the legal profession face many lean economic years ahead. The market for legal services has already changed in remarkable ways. Partner and associate salaries are falling with the stock market, and law firms are delaying start dates for new associates and instituting drastic layoffs.¹¹² The old business models of corporate America and the law firms that service them no longer seem feasible.¹¹³ In particular, corporate America will resist subsidizing the training of new associates through the institutions of billable hours and the pyramidal firm structure.¹¹⁴ In this new world, there will be a greater emphasis on efficiency.

What does this mean? For starters, training and education are not free. They must be funded in some way. Either employers absorb the cost of legal training—obviously undesirable from the law firm’s perspective—or law schools graduate students with more directly applicable skill sets.¹¹⁵ In the area of business law and financial regulation, the sole subject of this Article, the market requires more than the ability to assess legal risk through the analysis of primary legal sources. Some commentators have noted that while the legal marketplace desires graduates with hard skills, law schools have softened their curricula.¹¹⁶ These same commentators have noted a scarcity of analytical skills in the law school talent pool.¹¹⁷ The softening of the legal curriculum produces, in the words of Mary Ann Glendon, “verbal acrobats” rather than legal analysts.¹¹⁸ If this trend is in fact true, and I have no firm opinion on this contention, it cannot continue, particularly over prolonged, difficult economic times. Like the process of natural selection, such times tend to weed out weaker competition. Over the long term, there may be less training resources available and thus a greater demand on law schools for more “market ready”

112. See Amanda Royal, *Firm Salary Cuts Keep on Coming*, THE LEGAL INTELLIGENCER, May 5, 2009 (discussing nationwide decreases in associates salaries and delayed starts for new associates).

113. See Harvey A. Silverglate, *Commentary: Are Lawyer Layoffs Start of Major Restructuring of Profession?*, MASS. LAW. WKLY., Apr. 13, 2009 (discussing simplifications and eliminations of costly firm business models).

114. See Gina Passarella, *Drinker Biddle to Enlist Class in Basic Training: Firm Avoids Deferral for Incoming Associates*, THE LEGAL INTELLIGENCER, May 12, 2009 (noting that clients are resisting paying for the training of young associates).

115. See Epps, *supra* note 99 (“Clients are refusing to underwrite the training of new lawyers and are demanding that their matters be handled by experienced lawyers.”).

116. Lloyd, *supra* note 90, at 677–78.

117. “Medical schools, business schools and graduate programs in engineering and the physical sciences attract many of the college graduates with the analytical skills prized by law firms.” *Id.* at 679.

118. GLENDON, *supra* note 11010, at 203.

lawyers.¹¹⁹ This demand may inevitably differentiate law schools and their graduates, perhaps in ways that have more impact on law graduates than the rankings of a news magazine.

The employment process is basically a process of differentiation and segregation. This process begins in the front end of the law school admission process, which is the reason why graduates of the few elite schools need not worry as much.¹²⁰ Graduates from elite schools will always be in demand, irrespective of course selection or curriculum, because the admissions process serves to initially identify top candidates. Recruiters assume that the top candidates are quick enough to learn what they do not know during practice, translating into a privilege of an elite academic membership. The effects of this market demand will be most felt by the vast body of law graduates from schools that are outside of the dozen or so elite schools. Moreover, there is also a differentiation process that occurs during law school and culminates in graduation and recruitment. Grades and achievements are products of personal ambition, and there is little that a law school can do to provide additional motivation if the student does not already have the passion for the law or a desire to be a successful lawyer. In terms of curriculum, however, those graduates with hard skills will have a clear advantage during the interview process and employment, and the legal profession can begin to differentiate students at the back end of the graduation and employment process. The acquisition of substantial knowledge in difficult academic fields may provide an essential advantage in the short and long runs.

VI. CONCLUSION

The plain fact of complexity has substantial consequences for law schools and the business education of lawyers. The “law” is not an independent, discrete academic field, suggesting a knowledge base and language unto its own and removed from entanglement with other disciplines or other nonlegal worldly problems. The prime directive of legal study and practice is solving social problems, and this task requires facility with knowledge and language of other disciplines. No other event illustrates this point better than the financial crisis of 2008 and the Madoff scandal. It is not sufficient to know the rules or the definitions of the things regulated. How will lawyers regulate products and markets that they do not really understand, or appreciate the complexity of the thing that they regulate? They cannot.

The traditional Langdellian focus on studying primary cases and statutes, plodding through legal doctrine after legal doctrine in largely amorphous second and third years in the pursuit of that illusive mantra of thinking like a judge or a law professor, is increasingly unsatisfying. Legal education has not changed much since when I was a law student nearly twenty years ago, except that perhaps there is now more interdisciplinary perspective in the second and third years and more focus on experiential learning. These slow changes in legal education bring intellectual richness and emphasize skills development, and should be celebrated. At the same time, we should not confuse intellectual development with hard skills development, skills that are readily applicable to solving the problems of a complex world and markets. They are not the same.

119. Lloyd, *supra* note 90, at 677.

120. However, the economic downturn has even affected law students at the most elite institutions. See Gerry Shih, *Downturn Dims Prospects Even at Top Law Schools*, N.Y. TIMES, Aug. 25, 2009 (discussing dire job prospects for all law students, regardless of school).

While legal education has not changed much, the world of business and finance has changed in innumerable ways. The velocity of complexity in the market is dizzying. Even the curricula of top business schools are probably challenged to keep pace with market developments. I suspect that the business education I received from the Wharton School in the late 1990s is now probably obsolete in some ways. For instance, I recall that my derivatives class focused on plain vanilla options and futures and the methods for valuing them, but not exotic instruments such as credit derivatives, collateralized debt obligations, and their trading strategies. In addition, discussions of risk management focus on the enterprise, and not on broader themes covering systemic risk and economic policy. There was not a focus on the connection between business, government, regulation, and economic policy. In terms of a business curriculum, law students must have an educational platform that teaches beyond the scope of traditional legal education. Three years of a traditional law program is a long time. Additional coursework provides incremental benefits, but we must consider the opportunity cost at the margin. The American legal education system is held up as the gold standard of legal education as compared to the global standard, and this is unquestionably true, but one must then question at what price is the gold purchased if the third year offers more of the same, that is, teaching the same analytic tools in the context of different sets of laws.

Within three years of law school, there is room for an interdisciplinary program that mimics the basic components of a joint J.D./M.B.A. program, which would provide a basic proficiency in the language of business. Such a platform should be based on a solid foundation of accounting, finance, economics, and exposure to quantitative methods. The business lawyer and regulator today must not only be able to think like a lawyer, but also to analyze like an industry professional. An interdisciplinary business law curriculum is best done through some “in house” training and some outsourcing of courses to business schools. A natural collaboration between the two institutions makes much sense, though there may be administrative, institutional, and structural barriers to implementing such a program. My suggestion here is consistent with the march of legal thinking, at least on the scholarly front, toward interdisciplinary study. No field needs an interdisciplinary educational program more than the area of business and finance because the practicing lawyer or regulator must be proficient in two different languages. The business law curriculum of law schools can do with a little less law and a little more business.