“Who Needs Data? The Struggle to Make the SEC More Data-Driven”
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at
Workshop IV: Forensic Analysis of Financial Data
May 19, 2015 11:30 a.m.
Institute for Pure and Applied Mathematics, UCLA

Thank you David Levermore for that kind introduction. It is a privilege to be here in Los Angeles at IPAM’s Workshop IV on the Forensic Analysis of Financial Data. You have a great set of panels and presentations lined up to discuss the forensic analysis of financial data.

Today I will address the effort since the 2008 financial crisis to make the US Securities and Exchange Commission better at using the tremendous amount of data that it receives from market participants including broker-dealers, investment advisors, investment funds and others. The 2008 financial crisis revealed that the SEC had limited ability to use data to detect issues at its largest broker-dealers or to uncover fraudulent actors such as Bernard Madoff or Allen Stanford. There are essentially three ways that the SEC uses its trove of data: 1. monitoring its registrants and markets for risk which also informs policy decisions; 2. analyzing its data to determine where to examine registrants or investigate wrongdoing; and 3. using economic analysis to analyze the expected impact of rulemaking proposals. Today I will discuss some of the issues the SEC had in all three of these areas before the crisis. I will then discuss the efforts by SEC leadership to improve the SEC’s use of its data. Although significant improvement has been made, serious issues remain. Finally I will discuss some new efforts announced by SEC Chair Mary Jo White in December that I hope will further improve the agency’s ability to exploit the data it collects. In particular, the SEC has scheduled an open meeting for tomorrow, May 20th to consider proposals related to increased data collection from mutual funds and investment
advisers. If these proposals are adopted by the SEC, they will dramatically change the SEC’s ability to use mutual fund portfolio information and adviser information to monitor the asset management industry.

My Experience with Data at the SEC

First, let me discuss some of my experiences at the SEC trying to improve the use of data. I started at the SEC in January 2010 supervising examinations of firms involved in the investment management industry in New York and New Jersey. In the summer of 2010 I became the Deputy Director of the Office of Compliance Inspections and Examinations (OCIE) with responsibility for, among other things, supervising the National Exam Program for broker-dealers, investment advisers/investment companies, exchanges, clearing agencies and credit rating agencies and working on policy issues arising out of the passage of Dodd-Frank in July 2010.

The use of data in the examination function was a critical focus as Exam leadership worked to reorganize the SEC’s examination program after the revelations concerning Ponzi schemes run by Madoff and Stanford. As part of the reorganization, the SEC formed the Office of Risk Assessment and Surveillance to monitor data on financial services firms to select firms for potential examinations.¹ That Office reviews data on Form ADV and other Forms filed electronically with the Commission to determine what registrants SEC examiners should visit.

Before the crisis the Exam program did little to exploit the information learned in exams. Examiners filed paper reports of their exams in file cabinets and the information learned was rarely used. As part of the reorganization of OCIE, exam reports are now compiled using an electronic system so that they are available all across the country.
In July 2012 Chair Mary Schapiro appointed me the Director of the Division of Investment Management and I served in that position until the end of January of this year. The Division developed the new Risk and Examination Office to better evaluate the risks presented by products and firms by analyzing data on the investment management industry. Leadership, in partnership with the union, reorganized the Division to increase communication across the Division and provide more opportunities for staff development. At the same time the Division completed significant policy projects such as the adoption of money market fund reforms\textsuperscript{ii} and the approval of a new type of Exchange Traded Mutual Fund last year.\textsuperscript{iii}

In my five years at the Commission I had the privilege of serving under three Chairs, Mary Schapiro, Elisse Walter and Mary Jo White, all of whom have made refocusing the SEC to be more effective a top priority. Given the problems revealed during the crisis, all three Chairs have focused on making the agency better at using data to carry out the SEC’s mission of protecting investors, ensuring fair and orderly markets and facilitating capital formation. Under their leadership the agency has become more data-driven to keep pace with developments in the industry.

At present I am a Visiting Scholar at Harvard Law School where I am conducting research and writing about some of the issues I found most interesting during my time at the SEC.\textsuperscript{iv} You can find some of the resulting material on my blog normchamp.wordpress.com.

\textit{Fallout from the Crisis}

The events of the fall of 2008 showed an SEC that had fallen behind in using the data available to it to monitor the industries it was regulating. During the crisis, five of the most
significant broker-dealers it oversaw went bankrupt (Lehman Bros.), were merged out of existence (Bear Stearns and Merrill) or became bank holding companies regulated by the Federal Reserve (Goldman Sachs and Morgan Stanley). The agency had a program to supervise broker-dealers that were termed Consolidated Supervised Entities, and part of the mission of that program was to “allow the Commission to monitor for, and act quickly in response to, financial or operational weakness in a CSE holding company… that might place regulated entities… or the broader financial system at risk.” But the program encountered difficulties in highlighting the risks to the major broker-dealers, partly because the SEC did not have jurisdiction at the holding company level above the broker dealer. A report from the Office of the Inspector General examining the program’s handling of Bear Stearns noted, among other things, that Bear Stearns was compliant with the CSE program’s capital and liquidity requirements, but still collapsed; that Bear’s concentration of mortgage securities was beyond its internal limits and was a major concentration of market risk, but the program failed to limit that concentration; and that the program identified significant shortcomings in Bear’s risk management of mortgages, but failed to push Bear to address those problems aggressively.

On a separate front the agency reeled as investigations showed a failure to detect the Madoff and Stanford frauds despite detailed tips and ready access to data that would have revealed Madoff and Stanford as frauds. The investigation of Madoff would show a draft letter to the options exchange asking for Madoff’s trading records that was never sent. There was of course no trading so that letter would have ended the scheme right then. This was on top of detailed tips about Madoff that were not adequately followed up by investigators. Examiners in the Fort Worth Regional Office of the SEC wrote reports stating that Stanford was running a Ponzi scheme but could not persuade Enforcement to pursue an investigation.
On yet a third front, the fall of 2008 brought a crisis at the Reserve Fund where a money market fund that was permitted by SEC rules to maintain a $1 per share value was in danger of “breaking the buck” because of its losses on Lehman Brothers debt. Here was a product that the SEC had authorized 30 years earlier that had a fixed dollar value as opposed to a net asset value that fluctuated based on the value of the securities in its portfolio. The motivations for the rule permitting an investment product to have a fixed one dollar per share value were many but part of the reason was so that investors could leave cash in a “safe” money market fund vehicle without having to worry about the risk of loss. As is so often the case, the rule had the unintended consequence of allowing investors to regard money in a money market fund as being not subject to the fluctuations of the securities held by the fund. In the case of Reserve when those securities turned out to be debt securities issued by Lehman Brothers, market forces reasserted themselves and the fund shares appeared to be at risk of no longer being worth the fixed one dollar price. Investors began withdrawing from other money market funds and ultimately the US Treasury stepped in with a program to guarantee money market funds. In this situation, the SEC’s ability to make a rule for a new product, monitor the product and understand its implications seemed to be in question.

Efforts to Improve SEC Use of Data

Faced with the difficulties of the crisis, SEC leadership has devoted substantial efforts to make the SEC more capable in the analysis of data than it had been before the crisis. This has come over objections of some in the agency’s culture who believe data is to be avoided for fear that the agency will later be criticized for failing to use the data. I will never forget arriving at
the SEC in early 2010 and asking for data from a program that I knew was being conducted regarding hedge fund leverage. I was met with continual excuses about why the data was not available. In another instance, I learned that data collected by the agency was simply being filed away without being looked at by anyone. Then when the Exam program asked for the data, there were suddenly reasons that it could not be shared! These challenges stem not only from its culture but also from difficulties in hiring and retaining the right people and developing and maintaining the right systems to store and analyze data. While there have been some significant successes in the struggle to make the agency more data-driven, particularly on analyzing data in connection with rulemakings, using data for investigations and publishing more market data, the agency continues to face challenges as it tries to better understand risks to its registrants.

There are certain steps the agency can take to improve its use of data, including collecting better and more useable data and making more of its data publicly available for use by academics and private parties. I am excited that last week the SEC announced an open meeting for tomorrow, May 20th, to consider requiring mutual funds and investment advisers to file more data with the SEC. I expect these proposals to transform fund and adviser reporting by requiring filings of fund portfolio holdings and adviser separate account information in a useable format. It sounds almost like a comedy punch line but one of the forms currently filed by funds is in DOS format! I expect these proposals to modernize these reporting streams which will give the SEC a much better ability to monitor funds and advisers to assess risk in the industry. Not only will the SEC be able to use this data but if, as I expect, the data will be made public after some period of time it will provide a rich source of material for academics and third party information providers to analyze.

Examinations and Investigations
As I mentioned, in 2010 the SEC Exam program formed the Office of Risk Assessment and Surveillance to monitor data on financial services firms to help select firms for potential examinations.\textsuperscript{xi} That Office reviews data on Form ADV and other Forms filed with the Commission to determine what registrants SEC examiners should visit. OCIE’s review of this data means that information about far more than 10\% of advisors is carefully reviewed and considered in the process of selecting candidates for examination. In addition, the firms that are examined represent a far larger percentage of assets under management in the industry.

In Enforcement, the SEC created a system for tracking and resolving tips to the agency called the Tips Complaints and Referral system or TCR. Using this system, tips and complaints are logged in to an electronic system and assigned to Divisions in the SEC for resolution. During my time at the SEC, this system worked well to keep track of the flood of tips that come into the agency. At the same time, “whistleblower” provisions of Dodd-Frank have encouraged more tips as tippers can now receive a share of any money that the SEC recovers.\textsuperscript{xii} There has however been recent media coverage suggesting that tip awards are taking a long time to process.\textsuperscript{xiii}

The Enforcement Division, in coordination with the Examination Program, has been quite successful in using data on fund performance to identify instances where managers may be smoothing or even falsifying returns. This use of data has produced numerous candidates for examination or investigation.\textsuperscript{xiv}

\textit{Rulemaking}

The Commission’s use of data to analyze the impact of rule makings has improved significantly since the crisis. Under the Securities Exchange Act of 1934 and other federal statutes such as the Administrative Procedures Act, the SEC must engage in economic analysis
to justify any rule making. Before the crisis this function to analyze the economic impact of rule
makings was centered in the Office of Economic Analysis and served the rule making functions
in the Divisions of Corporation Finance, Trading and Markets and Investment Management.
Typically once the rule making groups within the various policy divisions had generated a
rulemaking proposal, the economists would be called in to fill in the so-called “backend” of the
release with the economic analysis of the impact of proposed rule making on the US economy.

On September 16, 2009 Chair Schapiro announced the creation of a new Division at the
SEC, the Division of Risk Strategy and Financial Innovation for economic analysis of rules and
analysis of risk.\textsuperscript{xv} Shapiro’s idea was to centralize the economists and quantitative analysts that
the SEC did have and have them work together as a central resource for the rest of the agency.
Schapiro brought on board Craig Lewis, a Professor at Vanderbilt University’s School of
Business. Under the leadership of Lewis, the Division grew from 60 economists to nearly 100
economists by 2014 and had a central role in the economic analysis of proposed policies.\textsuperscript{xvi} This
effort was helped along considerably when Republicans gained control of the House in 2010 and
began including instructions in the SEC’s budget specifically to increasing the number of
economists in the Division. The Division has since been renamed the Division of Economic and
Risk Analysis.

With the economic analysis function centralized, the SEC committed to written guidance
to undertake fact-based economic analysis of any proposed rule or action to gauge its true cost
and analyze the expected benefit to investors. The Commission promulgated a set of principles
that would govern the economic analysis of proposed regulatory actions.\textsuperscript{xvii} This accomplishment
came against the backdrop of several of the early post crisis rules by the SEC being struck down
by the United States Court of Appeals for the District of Columbia. Since the policy went into
effect the SEC has not had a rule struck down based on a deficient economic analysis. This kind of analysis is critical. Government action will always have unintended consequences. Strong economic analysis cannot change that fact but it can help the SEC consider at least some of the consequences of its rules.

The best example of the improved use of economic analysis by the Commission is the passage of money market fund reform in July 2014. In 2009, the SEC proposed the first set of money market fund reforms and final rule amendments were adopted in 2010. Following the adoption of these initial reforms, Commission staff continued to monitor and study money market funds. In November 2012 the SEC’s Division of Economic and Risk analysis delivered an extensive economic study to the SEC addressing a series of Commissioner questions about money market funds. Less than a year later, in June 2013, the Commission proposed additional money market fund reforms based on this study, and the additional reforms were adopted in July 2014. The data-based economic studies and analysis that DERA provided throughout the rule making process were essential in formulating the 2014 reforms. The main thrust of the 2014 reforms was to move institutional money market funds off of the fixed $1 per share price and instead price such funds at a net asset value reflective of the underlying securities. The early involvement of Craig Lewis and the DERA study had identified runs by institutional investors withdrawing their money from money market funds as a residual risk remaining from the crisis.

Risk Monitoring

The SEC has made significant progress in its risk monitoring of companies that it regulates but significant issues remain. In 2012 the Division of Investment Management created its Risk and Examinations Office (REO) pursuant to a Dodd-Frank mandate that the Division hire examiners to work alongside professional staff in the Division. Since IM did not want to
try to replicate the examination program conducted by OCIE, the Division hired staff for REO that had strong quantitative backgrounds as well as lawyers, accountants and examiners. REO works with data that is provided to the Commission by asset management firms and also uses data from third-party service providers. Using this data, REO can look for emerging risks and trends in the investment management industry and at particular firms. REO can analyze new products to help the IM staff understand their risks and characteristics. REO gives the Division of Investment Management capability with industry, firm and product data that informs the SEC staff’s efforts to provide guidance, make rules and promote full and fair disclosure.

The SEC has benefited greatly from the monthly data about money market funds that is filed on Form N-MFP which provides information on money market fund holdings as a result of the 2010 money market fund reforms. Hiring one former money market fund portfolio manager to analyze the data has resulted in enormous returns for the SEC. For example, an Enforcement action against Ambassador Capital Management in 2013 stemmed from an ongoing analysis of money market fund data via SEC staff that involved a review of the gross yield of funds as a marker of risk. This data enabled the SEC to have the fund stop operations before investors were harmed.

The SEC continues to pursue ways to analyze data to keep up-to-date with market trends, product risk and firm risk. SEC expert staff, several of whom have PhD’s with science backgrounds, use their experience analyzing large quantities of data to help better analyze the information that flows to the SEC through various regulatory reports and filings as well as industry information received from third-party providers. The SEC also reviews and analyzes information it receives on forms such as Form ADV and Form PF.
There are areas where the SEC can improve its use of data. SEC rules require companies, broker-dealers and asset managers to file proposed offering documents with the SEC for review by SEC staff. These entities also file additional forms with information such as name, address, type of business, personnel involved in the business and other details about the business. For example, on Form ADV asset managers describe the types of funds that they manage, the amount of assets they have under management and strategies that they pursued. Much of this data flows into the SEC as forms that are filed electronically on a quarterly or annual basis. In the past the information flowing into the SEC was not used systematically to identify risk at firms and in the markets. Some of the information on the file on the forms literally was never looked at by staff. This situation is better now as I have described but the SEC is not at the level it should be yet. One of the initiatives in the Division of Investment Management was to try to capture some of the themes and issues from the filings by investment funds. The Division of Corporation Finance also has a tremendous number of filings from companies that are analyzed for risks. I would like to see all of this activity formalized and reported on, perhaps in public reports of risks that are found.

The limits on SEC technology are another threat to the SEC’s ability to analyze data to detect risk in the industry. the EDGAR system used to collect many, although not all filings, was state of the art when I began my career in the 1980s. It is a patchwork system that keeps getting “improved” to bring it up to perhaps early 2000s technology. The government contracting process and technology processes are simply never going to produce a system that can keep up with the private world. If the President had asked me I could have told him what would happen with the healthcare.gov website. Just last week a fraudster of some sort took advantage of EDGAR’s weakness to file a false document indicating that there was a tender offer for Avon.
As I have discussed more fully on my blog, the EDGAR system should be scrapped and the SEC should contract with Google or someone else to provide a state of the art system. Among other problems, each group within the SEC that uses EDGAR has tailored it to its needs so there are multiple versions of EDGAR being supported with technology resources.

With the inadequate technology, I fear that much of the progress on risk monitoring is driven by particular personnel hires that were made. These dedicated people are pushing forward the monitoring of risk by the SEC. One of the most powerful memories I have of seeing this new data-driven focus and mindset in action is of a meeting I participated in last fall on the agency’s data gathering project. It almost startled me when I realized that we had about a dozen experienced PhD’s, risk managers and portfolio managers sitting around tables in New York and Washington linked by video and discussing with the rule writing staff what data points should be included in the data gathering proposal that will be voted on tomorrow. It dawned on me that none of those dozen people worked at the SEC when I arrived in January 2010. The infusion of this new expertise has made the agency much stronger and better equipped to carry out its mission. However, if these people leave, I am concerned about the survival of these efforts. The SEC needs to institutionalize its approach to risk monitoring to make sure that these efforts survive beyond the individual efforts involved.

Another threat to the effectiveness of the SEC’s risk monitoring efforts is the proliferation of risk monitoring efforts across the SEC. Borrowing from a great film line, “the first rule of government spending is why buy one when you can buy two at twice the price.” Similarly, SEC risk monitoring efforts have sprung up all around the SEC in different Divisions and Offices. Separating these efforts around the SEC raises the real risk that information in one “silo” or fiefdom in the SEC will not be shared with others. This could result in the SEC missing
a problem that could harm investors. I urge the SEC to take steps to coordinate all of these efforts.

The need to look at risk with companies that the SEC regulates is particularly important because other federal regulators are taking an interest in the firms regulated by the SEC. The Dodd-Frank Act created the Financial Stability Oversight Council composed of ten regulators, including the heads of the top US financial services regulatory agencies. The Council’s Office of Financial Research issued a report in late 2013 about the asset management industry in the United States. The Federal Reserve and other regulators on the Council are looking at all aspects of the financial service industry for systemic risk and that examination is not limited by what statutes traditionally governed portions of the industry such as broker-dealers or asset managers. The Council spent much of 2014 considering the potential systemic risks of the asset management industry and in late 2014, the Council issued a series of questions about the asset management industry for public comment. In a recent speech, Vice Chairman of the Federal Reserve Board Stanley Fischer outlined his principles for the prudential regulation of “Nonbank Intermediaries and Activities.”

The Council also has an international cousin, the Financial Stability Board, of which the US Treasury, the Federal Reserve and the SEC are also members. At the same time that US regulators are asking about activities in the asset management industry, the Financial Stability Board recently released a Consultative Paper in March about the risks of Non-Bank Non-Insurer Global Systemically Important Financial Institutions. Such entities are known by the awkward acronym “NB NI G-SIFIS.” The FSB paper is not confined to asset management but encompasses all aspects of nonbank financial services.
With all of the other federal regulators interested in the companies the SEC regulates, it is important that the SEC make sure that it has the most up to date data on the firms it regulates. One embarrassment is that the figures that the SEC collects on the amount of assets under management by investment advisers in the US double count some assets. If an adviser manages assets but subcontracts the management of the assets to another adviser, the relevant SEC counts the assets of both advisers as managed. This overstatement was hard to explain to the other federal regulators. The Council and others are showing great interest in these areas. The SEC must have the data capability to meet these inquiries and demonstrate that it has a firm handle on the risks presented by the firms it regulates. I am hopeful that the SEC data gathering proposals announced tomorrow will remedy this problem.

What’s Next

On December 11th, Chair White gave a speech outlining five rule projects being worked on by the Division of Investment Management: data gathering, derivatives, liquidity management, transition plans and stress testing. The data gathering project I described publicly in several speeches. This project builds off of the success of Form N-MFP where having the data on money market fund holdings has transformed the SEC’s ability to monitor the money market funds for risk characteristics. One former money market fund portfolio manager in the Division of Investment Management analyzes the data and watches for trends and issues. As I have mentioned, the data gathering project should seek to extend better and more useable reporting to funds and advisers to increase the data available to the SEC and, ultimately, the public.
The open meeting tomorrow will tell us how serious the SEC is in stepping up its ability to monitor the investment management industry. I look forward to seeing what initiatives will be proposed.

*Conclusion*

I hope my remarks today have given you a sense of the struggle to improve the use of data at the SEC. This battle is ongoing and of critical importance to America’s investors.

Thank you again for your time today and I wish you the best with your conference. I understand we can use the remaining time for questions.


iv I’d like to acknowledge my research assistants at the law school, Jacqueline Trudeau, Amanda Liverzani and Cam Nunery, for their help with research, including on today’s speech.


vi Id. at ix.

vii Id. at x.

viii Id.


xvi Chief Economist and Division of Economic and Risk Analysis Director Craig Lewis to Leave SEC. Available at: http://www.sec.gov/News/PressRelease/Detail/PressRelease/1370541719744.


