Securities and Exchange Commission Historical Society
Interview with Shelly Bohlin
Conducted on September 23, 2013 by William Thomas

WT: This is an interview with Shelly Bohlin for the SEC Historical Society's virtual museum and archive of the history of financial regulation. I am William Thomas, and the date is September 23rd, 2013. Did I pronounce your name right?

SB: Yes.

WT: Okay. Why don't we begin then with a little bit of your personal background, where you grew up, what your family did, if that affected the course of your career or anything like that.

SB: Well, I was born in Tulsa, Oklahoma and I lived there until I was twelve, and then my parents moved to Northwest Arkansas, a town, Rogers, Arkansas, right next to Bentonville where Wal-Mart was headquartered. When I was very young my father owned his own business. And I guess you could say that that did probably in retrospect have a lot of influence on where I ended up later in life because I worked from a very young age—like we're talking probably eight, nine, ten—my dad would let me work in the store with him. I would work alongside his bookkeeper to see how things were going in the back office, helping him with customers. It was like a paint and wallpaper store, so I learned a lot about just business in general.

That was in the ‘70s, and leading into like 1980 when interest rates were very high things didn't go well. We ended up losing the business and we moved over to Arkansas, so I kind of experienced my family going through that whole scenario and situation and what all, how it impacted all our employees, my parents.

And then growing up in northwest Arkansas, being around Walmart, it was the heart of Walmart, and I ended up going to the University of Arkansas and just deciding at that point I wanted to major in business. I always enjoyed business, and particularly the stock market I always found fascinating. I interned at Walmart when I was in college, at their home office in Bentonville, Arkansas, and saw a lot about going through the different departments there and their corporate communications, and just all the different facets of Walmart, their investor relations department, and I just always found that very fascinating.

WT: So you went into business then?

SB: So I went into business. I majored in business at the University of Arkansas. I ended up double majoring in finance and accounting, and in particular my senior year, one of the classes that I took, it was called I think financial management theory and practice. In any event, it was an invitation only class and the purpose of the class was to manage a portfolio that had been endowed to the University of Arkansas. I think at the time we had a couple hundred thousand dollars that we managed collectively as this team sort of approach. And part of that class in the spring we went to New York City and got to visit the floor of the New York Stock Exchange.

My professor was good friends with the floor broker at the time. This was in I guess 1990 so then it was still all floor-based, a lot of action on the floor, and it was like one of the most exciting things I had ever done, to be right in the middle of it. And from that point on I knew I wanted to do something that involved the market and securities.

WT: Terrific. So then, take me through you getting your first job out of school.

SB: Sure. Well, back when I graduated it was a much better economy than it is now and basically you could just sign up to interview on campus with a lot of different companies, and I knew I wanted something in finance or accounting. At that point there were the Big Six accounting firms that were interviewing on the campus at Arkansas, and also some big banks. So I went through that whole interview process and I ended up getting an offer from Coopers and Lybrand it was at the time, and also a large bank that was NCNB Texas, which was eventually acquired and became part of what I think is now Bank of America.

I decided that I really wanted to go more in the financial focus, so I ended up going with the bank, and I worked there my first couple years out of college in Dallas, Texas, in their internal audit department, focused a lot on auditing their mortgage bank, mortgage lending, mortgage servicing. I got my CPA during that time, and then I was still very much interested in the market, even though I wasn't directly involved, and had some friends up in the D.C. area and decided I really liked it up in D.C. And NASDAQ and NASD were here at the time, or they still are, but they had some openings that they were advertising in the paper, so I applied and I ended up getting an offer to go to work for the NASD in what was their market surveillance, and that was in 1994 and so I've been with them every since.

WT: Okay, so coming up in Arkansas and with the bank in Texas, one of the things we're bringing out is women in regulation. What kind of an environment was it for women? Were there a lot of women around, was it more male-dominated, was it some other way?

SB: Well, going back to the financial management theory and practice class that I talked about, that was very male-dominated. I think there were twelve spots available in that class, you had to interview for it, it has historically been all guys, and I think the year before me there might have been a couple of girls or women, and when I went to interview with the professor he told me he thought he might let four women in that year, that he had this number.

WT: There was a quota system?

SB: There was a quota and it wasn't really, you know, it was like I should be very lucky that I'm getting the opportunity to participate in this class, because it's not really—you know, he was a little skeptical. During that whole year, it was still a male-dominated kind of mindset that you get in there and you perform as well or better than some of the guys, and at the end I felt like I had really earned his respect and more and more women were in that class in later years.

When I started in Texas at the bank, being in internal audit, it wasn't male dominated. In fact my first couple bosses were women, and I never felt there, in that environment, I never really thought about it that much. It wasn't apparent, or readily apparent, and then when I started I felt obviously the securities industry many years back is male-dominated, but over the years, just starting in, my first boss at the NASD was a woman.

WT: Did you ever have any particular mentors, men or women, or role models I guess, through the early period of your career or education?

SB: I would say, well in college it was ironically Dr. Kennedy, who was the professor who I was talking about. And even though he had a very old school way of thinking, in his own way I think he took a lot of interest and I learned a lot from him and I always thought he championed whatever I wanted to do. So in an ironic way he kind of was, in college. And then at the bank I had two very strong female supervisors that didn't approach it from a male/female kind of perspective. It was just they were very smart and they were very driven and it was just about doing a really good job, that would open doors for you. If you did an excellent job and were very bright, that's really what you needed focus on.

WT: Okay, so tell me about coming into the NASD then, what your job was, what the environment was like, that sort of thing.

SB: Sure. Well, I came into the NASD at an interesting time. It was 1994, so when I started NASD was definitely—we did the over-the counter-market, and NASDAQ at the time, which was not an exchange, it was still purely a dealer market as well, and we were always sort of the secondary regulator on markets after the New York Stock Exchange and the New York regulators. And it was before the period in 1996, '97, '98, when the 21(a) Report came out and the NASD was subject to enforcement action by the SEC and things dramatically changed after that time period.

But when I first started in 1994 it was focused mostly on a dealer market, and I started out as an insider trading analyst. So my first job was, we were somewhat specialized in the kinds of reviews that we did. I was in market surveillance, so we were responsible for surveying the trading activity from a centralized surveillance type of perspective, and enforcing the more technical trading rules, like trade reporting, rules like locked/crossed market, things like that, and insider trading fraud, more from like the boiler room, pump and dump kind of perspective, marking the close, things like that. So I was assigned insider trading and I did that for a couple of years.

WT: Could you tell me a little bit about the process of surveillance, how it worked?

SB: It was definitely much more manual than it is today, obviously. For example, to do an insider trading review what we would do is we did have automated tools that would allow us to look for news stories that came out, and then the automation that we had at the time would allow the computer to detect when your story came out whether a price of a security moved or not. So basically you looked for these price changes, and it detected an upward or downward price change.

It would generate an alert and what would be delivered to an analyst would be the fact that there was a change in the price of the security, and then all the news articles that came out on that issue, so you would have to sit there and read all the news stories and figure out what the news was. A lot of times, on the up side, it's a merger announcement, something like that, positive earnings. The down side, it's usually an earnings, a loss or something that's being announced, and then what we would have to do is manually go in and pull audit trail data, which basically you would just put in your stock and the date you wanted and it would print out this big report for you.

WT: That's all computerized then, the audit trail at this point?

SB: It was computerized in that it would deliver it to you from the computer, but it didn't come like into an Excel spreadsheet or anything like that where you can manipulate it. It was literally a hard-copy report that you printed out. We did have on-line volume concentration summaries that would tell you which firms had the most buy interest, which firms had the most selling interest, and so you could focus on which firms you wanted to look at based on these summaries, but when it came time to figure out who is actually trading you would have to literally print the audit trail out, go look for all the buys from the firm you were interested in, find out who the clearing firms were on all the different trades, write down—literally, on a little piece of paper—you would write down who the clearing firms were, what the clearing numbers were that you needed to do what we call a blue sheet, which we still do today.

It was automated back then but it was not nearly as sophisticated as it is today, and so you would write down all the firms you wanted to send a blue sheet request to. Literally, one of our admins would create a letter to that clearing firm, mail it to them, and they would submit the blue sheet data back to us. We did have an automated process where the data could come into us electronically, and it would be loaded.

Then, separately from that, we would go out to each of the issuers, very much like they do today, and ask them for a chronology of events of what happened leading up to whatever the news announcement was, and who all of the people were that were aware of what was happening before it became public. So you would get this chron list back from the issuer and you would type in all the names and the addresses of who was on their list, and then we did have a computer program that would compare all those names against all the blue sheet data that came in that showed who the customers were behind each of the accounts or behind each of the trades, and it would kick out to you any matches.

Then you would go from there and talking, perhaps going back to the broker-dealer who held the account, talk to the rep who took the instructions from whoever the customer placed the order with. Back then it wasn't a lot of online trading so there was usually a rep that the customer actually placed an order with, so you could call them up and you could ask them, “What did the customer say when he placed the order? Did he say anything about whether he may have known something, was this unusual, what kind of terms and conditions did he put on his order? Did he place a market order? Did there seem to be some urgency in his trade being executed?” And you would take and summarize all of this and, generally, most of the people we identified were not registered with the NASD. They were just individual customers, so we would have to refer that to the SEC and then they would take it from there.

WT: It was a wonderfully involved process.

SB: It was very.

WT: And you remember it very well.

SB: Many more years ago than I care to think of. So I did that for a couple of years and I learned a lot doing that, particularly when you get on the phone a lot, you talk to a lot of reps about how orders are placed, and you start learning the different nuances of market order, limit order, participate, don't initiate, all these different strategies that might tell you something about why the person did it that way and what they were trying to accomplish. But after I had done that for a while –

WT: Can I ask how, when you're talking to these people on the phone, how do they respond to it? Are they kind of aggravated by it, or is it just all part of the business that these things crop up from time to time?

SB: I think for the most part they knew it was just part of the business, and it was the NASD and these were all members and registered reps, so they didn't want any issue. Most of the time the reps had nothing to do with anything. They were not part of the transaction or part of whatever we thought the problem might be, so generally they were mostly helpful and forthcoming. A lot of times you have to work really hard to get them to fully answer questions because, I'm sure in their mind they want to protect their clients' rights as well, but they knew they have to be forthcoming. Usually they would have counsel on the phone, the way firms did it back then. I'm sure they still do it this way today. They want some sort of counsel representing the firm on the phone with the rep, but for the most part they were generally forthcoming and helpful.

WT: How often does this process kick up something of interest? Is it a needle in a haystack sort of thing, or is it more often than that?

SB: It was more often than that, or at least back then. I haven't worked closely with it in many years, but you'd be surprised. Even today, I think our group today that does that work under Cam Funkhouser, I think it's still a large number of referrals a year that they make to the SEC for insider trading. Because some of the cases I remember, you're talking retail level investors who maybe weren't aware of the tools we had that would detect what they were doing, so you usually had at least one or two hits almost in everything you looked at.

And it might just be somebody's secretary, or I remember one that ended up in the newspapers, it was a drug company, I'm forgetting the name of it right now, but they were in trials for some new drug that they wanted to release. And I don't know if they were scientists, but they were working directly on the trials, told their son about it and then the son starts trading, and he has the last name of the dad.

What you also saw a lot of times is they would put the buy order in very shortly before the announcement came out, right after they became in possession of the material news, and then they would liquidate or sell their position like the next day.

WT: Not real subtle about it?

SB: Not real subtle. It was always kind of amazing how people were, they just didn't think it through or they just didn't know that we could easily detect what they were doing. Or you would also see a lot of times, we only had access to the equity information on the stock side, but you would see a lot of times people would will be trading options too, so you get their account statement and they're in there buying puts or calls or whatever, depending on the news, at the same time and liquidating. Like an out-of-the money buy that just happens to pay off for you. It was always interesting stories around that kind of activity.

WT: Yes, yes, sounds like it. So you did that for a couple years, you said.

SB: Yes. Then I decided that the more I worked with it, as exciting as that was—and a lot of times you could read about it in the paper and that was always exciting—but I was also very interested in just the mechanics of trading and how trades got executed, and how traders operated and the kinds of systems that they were using to trade on. So we had a group in market surveillance at the time that focused on more of the technical trading rules like locked/crossed markets.

And at the time, ironically, we actually had an excess spread rule. This was before the 21(a) Report, where you had to quote at least a minimum, keep a minimum spread, which was later repealed because they felt it created an artificially wide spread. But you couldn't spread more than, say, half point, quarter point, depending on what the price of the stock was. So we would run alerts or we would have computer reports that showed us which firms were quoting wider than the allowed spread, and we would do reviews on that. And there were just various and sundry rules. You can't trade during a halt. I forget all of the ones, but I moved over to that group because I wanted to learn more about the trading aspects, or mechanical trading. So I did that for maybe a year or two and then the 21(a) Report hit, and of course we did a lot of new programs and surveillance in response to that 21(a) Report

WT: Could you tell me a little bit about the report?

SB: Sure. I think the gist of it and the main scope of it was that the SEC felt that in the dealer market, that dealers were colluding with each other to keep spreads artificially wide so that they obviously could make more profit at the expense perhaps of retail investors, and that they did not believe that the NASD had done its job to fully be aware of and enforce the rules or put the correct rules on the books to prevent this from happening.

So in terms of the collusion and keeping spreads artificially wide, there were also a lot of findings that market makers would harass other market makers or other market participants that would attempt to narrow spreads. In keeping the spreads artificially wide they found what they called quoting conventions, where people would typically only quote in quarter points or even eighths or whatever the particular price of the security was, they wouldn't go in and quote on an odd eighth. So if someone were quoting on an odd eighth, they might find themselves the subject of harassment in some way, phone calls, different electronic messages being sent to them, or people refusing to trade with them.

So they had the SEC, in coming to their findings and all the investigations that they had done, they had a lot of taped conversations, because back in those days everything was still a lot of telephone trading so a lot of it ended up being recorded so you could listen to these conversations. They literally had hundreds of pages of transcripts of calls that they had between traders, and then in some of the trading systems that existed at that time—like NASDAQ had a system called SelectNet—you could send messages to traders. It was not an auto-ex system, like in today's world everything is auto-ex. Back then it was more messaging, it was like send you a message: "Do you want to trade?" You can accept my message or not, but you had free-form text in those messages and sentences, so you could put harassing messages there if you didn't like how someone was quoting.

So what we did in response when all these findings came out, we had to put into place surveillance programs at the NASD to detect that kind of behavior, to look for collusion, to look for harassment. So we had set up a team—they created what we called back then I think a competency team was what they called it—but in any event, I moved over to work on that team to try to develop the surveillance that we needed to try to detect those instances. And we had spent a lot of money. Part of our settlement agreement was to spend a certain amount of money. I think it was something like $100 million on surveillance and improving our data and things like that. So we had what was really neat, although it was ironic that it came under sort of unfortunate circumstances, but to have the opportunity to get to sort of build brand new types of surveillance from the ground up. And we brought in some PhDs, a lot of really smart people on the computer side to help us, sit down with the business and say: "This is the kind of activity we're looking for, can you help us find it in the data?" Data mining was a big term then.

So we got to work and we started identifying how you could find perhaps harassment. We did that by using a lot of those taped phone calls that the SEC had found, complaints that had come into the NASD about what firms were doing, what kind of behavior we might look for that might reveal itself as being a collusion or a harassment and then let it start kicking alerts and start investigating those alongside with the complaints.

We actually brought several cases. I think it was probably in the '98, '99, 2000 time period, I remember one case in particular where a market maker was quoting in odd eighths and had filed a complaint as well—but someone who wanted to trade against his quote would send him a SelectNet message. Say that they wanted to trade 1,000 sharesand instead of sending him a 1,000-share order on SelectNet, they would send him ten 100-share orders in rapid succession so he would have to continually respond, which takes time in a more manual trading environment. You're actually having to physically watch your box and watch what you're doing, so they have to keep responding to these incoming orders. It was considered harassment. And, anyway, we ended up bringing that case and won, that in fact the other trader, that was his intention, he did not like how this one market maker was quoting an odd eighth, and he wanted him gone and this was his message. So those are very interesting cases.

WT: So what's your own personal role in this whole process? I don't have a full list of your positions.

SB: Right. At that time, I was a regulatory analyst, so my job was to gather the evidence. So it would be sending requests out for all the tickets, all the trading records, and then taking on-the-record testimony from each of the individuals involved, the trader who was doing the harassing behavior, the trader who was the recipient of that behavior, get their story, get their take on why they—you know, just lock them into a story. In that particular case I was just talking about, I ended up going to a hearing because the trader who was sending the harassing messages did not confess, so we had to take it to a hearing panel and present the evidence.

So my job, too, I had to testify at the hearing, present the evidence, explain why—like in that case the trader's explanation was, "Well, I was trying to get best execution. I thought I could do that better by sending smaller orders, this particular market maker wouldn't move off that price." And it turns out there were other orders on Instinet, which was a big system at that time where institutions traded in larger size, so there were larger orders on Instinet at better prices. So if you're trying to get best execution for your customer, why don't you just go take an Instinet order? Why are you sending ten 100-share orders? There's no plausible explanation for that, so we actually won that hearing. So that was kind of fun to look at the puzzle and take his explanation and all the evidence and the trading data around it and say that doesn't make sense in light of all these other facts that are here.

WT: Returning to the theme of women in regulation, being a woman and confronting people who are using very aggressive, harassing trading practices, would you ever feel gender issues crop up in these situations?

SB: I absolutely did, particularly in that context, because first of all, the traders were almost all men. In fact during that time frame I'm not sure if I ever encountered a female trader. So during that period of time when I was working on those anti-competitive practices, it was mostly working with traders, so they were all men, all the attorneys representing them were all men.

I remember one case in particular, which was in the OTC space, that involved harassing phone calls that, as you can imagine, did not have the most professional language included, and so I had to sit here and listen to all these tapes and ask them to explain what they meant by whatever. You just have to be professional and always have your facts, always know what you're talking about, because when you're in that environment, if you don't have a grasp of the facts and they can get you on any of those, then you're toast, so you've got to know your game and you've got to know your facts.

WT: Would you get treated with disrespect in particular by the traders, then?

SB: Yes, I think absolutely, like at an initial encounter with somebody. But I also look young, and twenty years ago, God knows how I looked, so they'd just see this little girl sitting there. But when you start putting facts in front of them that you know are accurate and good and they can't—you know, talk to whoever you want, but the trading data shows this, and you explain, "I have you on tape. You want to explain that?" There's not much they can do at that point.

WT: So obviously you have a lot of self-confidence going into that. Do you draw that from somewhere in particular, your upbringing, your experience?

SB: I guess I don't know. I guess a lot of it is my confidence comes from the facts, and if I'm confident in the facts then I'm confident to present it.

WT: Your diligence.

SB: Yes, so that's always been what I sort of use as my foundation or my confidence, I have to know the facts and if I'm confident with that then I can confront whoever.

WT: Absolutely. Okay, so do you move on from this position then?

SB: Yes, so around that time, too, moving into the late '90s, early 2000s, the electronic communication networks, or ECNs, were starting to blossom. Instinet had been the mainstay for a long time. I don't think originally it was called an ECN necessarily, but it was a crossing system that you could put orders in that were anonymous. And so that sort of evolved, and then the ECN started gaining popularity. Island came into the picture.

So we ended up creating a team in market, then we became market regulation for market surveillance at some point. We had an ECN team, we created this ECN team. So we started looking at how you can manipulate the market through ECNs: were the ECNs following the rules that they were required to follow as an ECN? So I moved over to a team that was doing that. I found that very interesting.

There was this system called Posit that ITG operated that we would look at data crossing systems. So we would try to look at the various crossing systems. Were traders trying to manipulate the NBBO of a security to get a better price in the cross that might be going off at a midpoint? So you would be looking at orders being placed into these ECNs, and who was on the other side of the cross. We brought some cases for that. There was also—at the time all these different kinds of new trading systems that people were trying to bring to market – Optimark is one that comes to mind. So I learned a lot on that team just trying to move into the more electronic space.

WT: I'm curious as to the technology of all of this. You know, what mechanisms are in place so that you can learn about them? You must have time to devote to becoming familiar with these.

SB: I think the way you kind of, from a regulatory perspective, is when you start getting more and more cases or alerts or complaints involving a particular kind of behavior, and when you start peeling that back and you start looking at the trades in detail, and then you go out to the traders, “Tell me how you executed it. Tell me what you did.” “Oh, I used Instinet, I used Island.” And then you have to really just educate yourself on how exactly it works so that you can then interpret what they're telling you versus what the trading data reflects, and what you think really happened.

At that time NASD and NASDAQ were still commonly owned, so whenever NASDAQ wanted to introduce a new trading technology the regulatory side would always get involved to, first of all, make sure we understood it so we could effectively serveil it, and then also to provide any insight or—I don't know if guidance is the right word, but these are the rules that you've got to be very careful of and you have to be able to fully comply with all of these. So when you're developing your trading system, you've got to make sure all these—you know, you dot your i's and cross your t's, from a regulatory perspective.

So there were several projects I worked on over the years where we would work with the product development side of NASDAQ on their projects to help whatever trading system they were working on at the time. And again, the 21(a) was just a game changer in so many ways.

The other thing that sort of took root then came out of the 21(a), that is now something I'm very involved in even today, is the order audit trail system—it’s called OATS—that the NASD was required to build and develop, which required all FINRA broker-dealers or any NASD members at the time to report all the orders they received or originated every day into the NASD, and any routing they did, any executions they did. And so at the end if there were multiple members involved all the members had to report, and they all had to give us linkages, so they had to give us numbers so that we could link firm A's order to firm B's order to NASDAQ, or wherever it went. So that was a monumental effort, to build that system. But bringing all of that order data in which we had never had previous to that—before OATS all you had was trade data, executed trades that got reported to the tape or to the NASD for clearing, and quotes. That's basically what you had to work with. So when you introduce orders there's a lot more, obviously, that you can do and you can see and that you can garnish from that information about whether firms are complying or manipulating the market, or whatever it is you're looking at. So I moved eventually from the ECN team –

WT: So, it's my understanding that in some of these systems that are then introduced that the regulations are actually built into them in a certain way, so that it wouldn't allow a certain kind of trade to be executed if it were in violation of the rules.

SB: That's right. Particularly for things like locked/crossed markets, so now most of the exchanges in NASDAQ have built in, there's obviously exceptions to everything, but as a general matter you can't enter an order such that it would lock or cross the market. It's kind of auto-ex. They can build in things to –

WT: What's auto-ex?

SB: Oh, I'm sorry. If you're in a computer system where a buy order and a sell order are both entered at the same time, this computer system will automatically execute the two orders together. They will match them off and automatically execute it, as opposed to a trader having to say whether you could execute. So that really changed the landscape a lot, when you had more and more auto-ex systems, so you don't need a physical trader sitting there deciding whether or not he's going to execute an order.

So, for example, in a locked or crossed scenario you can't enter a buy order that's priced higher than the lowest sell order, so if it's all manual and you're just posting quotes there's nothing to prevent that from happening. You can put a bid in that's priced higher than the lowest offer that's out there and nothing's going to stop you from doing that. So we had many more locked/crossed markets before. Now what happens is when you enter a buy order in an exchange that's priced higher than the lowest sell order, then the computer will automatically see, "Oh, I can execute this. I can actually price improve one and automatically execute the trade, and now I'm not going to put a quote up that's locked or crossed because I resolved it inside the execution engine before it ever came to that."

WT: Now, this is around the same time that there was this specialist front-running issues, too, right? I think this is the context in which I've read about the regulation being embedded into the system.

SB: I know generally about what was happening. That was happening at the New York Stock Exchange, and at this period of time we were very separate from the New York Stock Exchange so in my frame of reference and my knowledge base is focused on the over-the-counter market until the last couple of years. When now we've merged with New York Stock Exchange Regulation and we actually perform regulation for NYSE via a regulatory services contract, we do regulation for the New York. That was in this historical –

WT: It was over the wall.

SB: It was over the wall, it was over at the New York. Let's see, where was I?

WT: You were leaving ECN, I think.

SB: Oh okay, and moving—so OATS data was starting to come in which dramatically changed how we could do a lot of patterns and what kinds of conduct we could surveil for. So I eventually moved off into a team that I did in the interim. I also gained a lot of experience working with trade reporting during this time. In the over-the-counter world, any trade that's executed, other than off the floor of an exchange, they would call it over-the-counter, and has to be reported—back in those days within ninety seconds to the NASD. Today it's thirty seconds, going to be going to ten seconds, it has to be reported to FINRA. So you take those trade reports and that would feed the consolidated tape along with any exchange trades, if there was also an exchange-traded security, and that's what investors used to determine where the price of a security was.

So not only is it important to ensure that trade reporting data is accurate and timely but that nobody withholds prints. So one of the things I worked on for a while was intentional late trade reporting. So I've got a big block, I just executed a couple hundred thousand shares, and I know when it hits the tape the price is going to go up or down depending on which side the market's on. So I don't want to print that yet until I can liquidate a position I have in my proprietary account. So I'm just going to wait until the end of the day to let that block go to the tape so I can trade out of my position.

We have ways to kick out alerts where something that looked like that might have happened, and you do an investigation. So that kind of ended up diving into the world of trade reporting, when I did that, then I moved into the order audit trail world, the way they were structuring. At this point I had moved into management, I had become a front-line supervisor for a team - I think it was called the Trading Analysis Team or something like that.

WT: Can we put a year down in here when you –

SB: That probably was around 1999 or 2000 maybe, something like that.

WT: Okay, okay.

SB: And so then at some point, I ended up starting to manage the OATS team at that time, which was just one team. We were getting maybe 20 million reports a day. It started at like eight million, and we now bring in about two and a half billion reports a day, so it's just a dramatically different system than it was. So back then I managed that, plus other teams, the trade reporting team, we also had a fixed income system, the predecessor to TRACE today, which is the corporate bond reporting system.

There used to be something called FIPS, I think it was Fixed Income Pricing System or something that NASDAQ operated, much smaller scale than TRACE. So through those years I just did sort of a hodge-podge of things in all different areas. Again, all on the technical trading transaction reporting kind of focus, or any manipulation or fraud would be more in what we call like intra-day manipulation scenarios. Not like a pump and dump scheme, but I'm going to hold the prints for fifteen minutes so I can trade out of it first, or, I'm going to try to artificially increase the bid so I can get a better price in the cross. Stuff like that.

WT: So you're dealing with increasingly complex technologies. I'm wondering if the increasing complexity of financial products factors into this as well.

SB: Oh, absolutely. Over the years, just seeing the market, market structure, products, technology, it is all immensely more complex than it was when I started, which was only twenty years. It's really not that long, it's a completely different landscape, so you have

Exchange Traded Funds that have all their own unique trading characteristics, you have a lot more complex products where you're doing a cash and an options component, you've got structured products. The list goes on and on so that your typical just straight-up common stock is not—that used to be so much of our focus, but now you've got to understand how it relates or interrelates with a million other types of types of things when you're looking at it.

WT: So tell me a little bit about the relations with people above you in the organization. I mean, clearly this was at the front line of what NASD is all about; managing the trading system, so maybe just tell me about the people who are around you.

SB: Well, over the years I've worked with a lot of really smart people. I've been on the regulatory side, obviously, the whole time, so I've worked for a lot of attorneys. A lot of them had SEC background, so I think there's a lot of SEC influence here just because of the people who came over grew up with the SEC. I grew up at the NASD, so I've learned a lot from the people I've worked for in understanding maybe securities law and on the rulemaking side, which in the last five or ten years, particularly with OATS, learning how the rulemaking process works and formulating filings and going out for comment, learning how that works at the SEC in getting a rule approved. But I found over the years that I felt like I've worked with people who really care a lot about the integrity of the market and are focused on making sure the right rules are in place that achieve the right objectives, and in incentivizing behaviors and looking for what we want to see in a marketplace.

WT: Are there any individuals who stick out in your mind as particularly significant for their leadership in this area?

SB: Oh, gosh, there's so many people over the years. When I first started here, Jim Cangiano was the head of market surveillance and I always really looked up to him. I thought he had a really unbelievable understanding of the market and he could share his knowledge readily with the staff. I felt like he had very clear objectives about what our mission was. And then Steve Luparello came in. And Tom Gira, I worked for Tom Gira for many years. Tom has been a huge influence. I've learned a lot from him. I think he originally came from the SEC as well, but he has just an incredible amount of knowledge. So I think I've worked for Tom now for the last, I don't know, maybe fifteen, ten to fifteen years. So he's been a big influence.

I worked for Ivette Lopez. I would say she probably had a lot of influence on me, too. She was my immediate supervisor for a number of years, she was a vice president here in market reg over quality of markets, one of the biggest groups in market regulation. And as a female—going sort of back to the women's theme—she was a very strong leader, very knowledgeable, and very committed to doing the right thing. So I really looked up to her and felt like I learned and took a lot from her.

Jon Kroeper has been my supervisor for the last three, four, five years now, and again, he came from the SEC, very smart, very committed to doing the right thing. I always feel like I've got a lot of good examples to follow.

WT: Could you tell me a little bit more, going back to what you were talking about, the coordination of rules with some of the needs of enforcement and surveillance?

SB: Sure, probably an easy example to talk about that, too, is on the transaction reporting side. FINRA has a number of different rules that require different kinds of transactions to be reported to us that we use to build our audit trails with, and those audit trails are the foundation of our surveillance for things like fraud and manipulation. What you always have to do is look to see what kind of information do we need to detect the kind of conduct we think we need to detect. So if you're looking at an OATS perspective what are the pieces of information about an order that we need to know so that we can put that in context with other market information.

So you sit down and you say, oh, we need to know what kind of special handling instructions were submitted with the order, or we need to know whether it was electronically sent, or we need to know whether it went through an algo or whether it was part of an arbitrage strategy or something like that. So it's like, okay, well, we need that information.

WT: Algo is algorithm?

SB: Algorithm, right, a trading algorithm, it'll go rapid-fire, you'll see tons of order spew out all at once that no human could do. And it's like, okay, you know that's a sort of computer program that was designed for a variety of different reasons, depending on what algo it is. So we sat down, and we'd say, "Well, we need to require members to report that it was part of an algo." So you work to formulate the rule language that requires that data on it.

Then you have to sit back and say okay, how do we capture that data element, should it be a code; do we need to know more than one kind of order type; do we need to specify the number it has to tell us, a specific code? It seems all very simple on the surface, but then when you get into actually doing it, our OATS rules are I don't know how many pages long. We have tech spec that's a couple hundred pages long that prescribe all the information we need and how to bring it in so that we can load it up in our databases and then we can actually use it to do surveillance.

WT: To what degree does somebody in your position have to get into the nature of the statistical decision functions that run these computer automated systems? They're designed by people like at MIT and that sort of thing, at the real forefront of the work.

SB: Are you talking about the trading algorithms?

WT: Yes, that's the thing that I happen to have some knowledge of, I guess—or the computer programs, the guts of how they work, that sort of thing.

SB: Well, I'm not that personally involved in any of that. We do have specialized teams here in market regulation that focus on algorithmic trading and manipulation using that kind of trading, that their investigations will get into the meat of how a firm is actually coding its algorithms or how they're being supervised and things like that. In terms of writing the surveillance patterns here at FINRA, from a business perspective we do get very involved.

We have a technology team, a team of developers, a team of business analysts that write requirements so that when we determine we want to find some sort of whatever conduct we're looking for—trading ahead, order protection; a member can't trade ahead of its customer's order—we can sit down and say, "We want you to find this kind of trade with these kind of codes, and when this, this, and this happens, when you see this pattern in the data we want to get an alert." So we do get very involved in the kinds of business requirements that are needed to write the code.

WT: Okay. So as we were going through your career, then, I feel like we must have left off in the early 2000s, so I guess maybe we should return to the chronology at this point.

SB: As the years went by, and OATS got bigger and bigger, that piece required more and more time. So my role sort of ended up, as I grew in the organization, my role in OATS and my responsibilities with respect to that took up more and more of my time. I've been heavily focused on the OATS side for the last at least five or more years, probably ten years, along with some other surveillance programs that use OATS data. So, because my area of expertise started growing into the OATS data, then that expertise lent itself to help in looking at developing patterns and conducting reviews that use OATS data.

We have a variety of customer protection rules that we use OATS data as the primary starting point for our surveillance, like limit order display, which was ironically a rule, too, that was put in place as a result of the 21(a). And the wide spreads, they wanted all customer limit orders that were priced better than a market maker's quote to have to be publicly displayed. So that's an SEC rule, and we use the OATS data, we bring in all those customer limit orders, and we compare them to the market maker's quote, and anything that's priced better we expect to see a quote update. If we don't, then we would kick an alert and we go out to firms and we conduct reviews for failing to display their customer orders. So as my role grew I also kept that piece of it, because I could use my OATS expertise in helping develop those kinds of patterns.

WT: So you continued on, into that, into the creation of FINRA in that era?

SB: Yes.

WT: Okay. Was there anything in particular in bringing on the New York Stock Exchange people that affected you in your role?

SB: Yes, in that, again, I had an OATS focus on that primarily. The New York Stock Exchange also had an order reporting requirement, it was called OTS I think, the Order Tracking System. But the difference there was OATS data has to be submitted to FINRA every day, but the OTS data on the New York side was on an as-requested basis. So when we merged and brought over, we expanded the OATS rules to include all listed securities, including New York-listed securities and AMEX and all the others, not just NASDAQ listed securities, because initially OATS had just been NASDAQ-listed securities.

So we expanded that to include all New York-listed securities and all the FINRA members, including floor brokers and people that had mostly been in the New York space now had to start reporting to OATS. So I spent a lot of time in overseeing the effort to get those OATS rules expanded to New York-listed securities and all of the firms that were now impacted, getting them in and getting that data in and start reporting that.

Then in the most recent period of time, since we have the regulatory services agreement now with New York and NASDAQ, we've developed a whole suite of cross-market patterns. So we took all of those old surveillance programs that I've been talking about that were just looking at NASDAQ data and FINRA's, trade reporting data, and doing surveillance for the NASDAQ market—taking and merging all that data together, the New York data, the NASDAQ data—and put it into a cross-market scenario. So then we can go look across all those markets at the same time to see if somebody has particular conduct that they have before spread out across three or four different exchanges, and maybe it wasn't readily apparent. Now when you put it all together and look at it holistically, it reveals itself.

But you have to have the OATS data there at the foundation because all the orders, no matter where they come in or get routed, come into OATS. So a lot of what my responsibilities have been is to try to make sure that we have all the data we need in a form that we need it in to be able to do this cross market surveillance.

WT: We were talking about back in the 1990s, how you had just very open harassment, and even at the beginning of your career how there was just some really bold-faced insider trading that you were looking at. Have you noticed a difference in traders, like the sorts of people who they are and their attitudes or backgrounds and so forth, as you've gotten into much more complex trading patterns?

SB: Well, now a lot of it is, you mentioned MIT grads. You have a lot of people who are writing code now as opposed to maybe your old-school trader who's just sitting there on the phone all day. People are writing, you know, a lot of really smart people maybe don't have the best motives, but writing very sophisticated code to game other people's code. So the kind of person, maybe, has shifted more to the programmer, math, kind of background. So, yes, I think you've seen a difference in the kind of person that's involved, in terms of what their backgrounds are.

WT: Do you think they might treat it more as a game, as you were saying, than as the more aggressive type one would have seen earlier?

SB: You know, I think that's probably right, because you don't have to face somebody, or you don't have to talk to somebody on the phone. You don't have to call them up and bluff them on the phone. You're sitting somewhere, who knows where you're sitting, in your bedroom at home, writing computer code that you don't have to maybe overtly see the consequences of who you harmed on the other side.

WT: So does this bring you up to the present time, then? Like I say, I have on your bio here just 1994 to the present so I'm flying a little blind here, I have to admit.

SB: Today, I'm still responsible for OATS, which like I said, we're bringing in like two and a half billion records a day now. It's a huge piece of our regulatory program because it's such a foundation. Everything is data-driven now. Everything is technology dependent, so you start with this data set before we can even start doing anything else.

And then other groups that I am responsible for today in some way or other use OATS data or involve trade reporting, so transaction data. And I still am involved with groups that do the technical trading rules. Today we have Reg NMS. I was talking about locked/crossed markets, and now there's something called the Trade-Through Rule where you cannot trade at a price worse than another exchange. If they're showing a better price you've got to take out that better price, so there's a whole rule set around that under Reg NMS.

So we have a whole group that focuses on Reg NMS, looking for locked/crossed, those kinds of things, and then limit order display again: where are the orders in OATS, how do they look compared to the rest of the market footprint, and are you doing what you need to do for your customers? So it's all kind of evolved into a focus like that, so my group is called market analysis and audit trail.

WT: Where does that sit within the organization?

SB: The department of FINRA I'm in is market regulation, used to be market surveillance, when I first started, and then over the years it was renamed market regulation. And when I started we might have had 75, 100 people, and today I think we've got close to 400 or 500 people. And I'm in a group inside of market reg called quality of markets that Jon Kroeper manages. So there's maybe four or five main groups in quality of markets, and market analysis and audit trail is one of those.

We have a group that does fixed income. We have a group that focuses on short sells and all the different facets of the short-selling rules. And then we have a group that focuses on manipulation, intra day manipulations, algorithmic trading, HFT, and we still have groups that look at ATSs and ECNs. And then we have a whole other set of people in

New York that focus on the New York floor activity and activity that's unique to the New York Stock Exchange.

WT: Okay. I guess I'm out of questions. We're just a little bit over an hour here, so is there anything else you'd like to bring up?

SB: Well, there is one thing that I have been working on that has really for the last year consumed a lot of my time, and it's the consolidated audit trail. This is a new rule that the SEC passed. It became final in July of 2012, it was originally proposed in May of 2010, after the flash crash, after the May 6 flash crash, and today—I kind of alluded to it—the market structure today is a very fragmented marketplace, so you have many different national securities exchanges where the same security can trade, you have a whole proliferation of what they call dark pools.

WT: I meant to ask about the dark pools.

SB: Yes, which are ATSs, which are similar to the ECNs, and ironically the old Instinet, when I started out—so, because you can trade across all these different marketplaces, that’s one of our goals with cross-market surveillance is to try to bring a consolidated data set together so you can look holistically at what people are doing in the U.S. securities markets and not have to look at fifty different places.

When the flash crash happened, trying to put together that puzzle of what caused it and where did the orders start and which exchange, did any particular exchange play more of a role than another, or an ATS, what was the catalyst? Because OATS only applied to NASDAQ to begin with and now includes all of the other listed securities, when we bring all that data together we still don't have options, we still don't have some market-making and proprietary orders. We still don't have regulatory services agreements with all of the exchanges, so you still don't have 100 percent of the puzzle.

So the SEC passed a rule where they basically require all orders from everywhere in the United States, any SEC registered broker-dealer, to be reported to a central repository. All of the exchanges, all ATSs, dark pools, everyone has to report their data into a central repository—and that goes for equities and options—and that would all be loaded in a central database that could be used by the SEC and all the SROs to conduct surveillance and investigations. So as you can imagine, that is a huge undertaking for the industry, for regulators, for the SROs and the SEC, a very expensive proposition. So the SROs have been working over the last year to create the CAT. What SEC Rule 613 requires is that all the SROs come together and create a national market system plan that would be the construct of this audit trail.

So the SROs have been working on developing that plan for the last year. They issued a request for proposals of what they would expect. They're looking for a provider to come in and build this system. FINRA would like to be that provider. Clearly with OATS, we have a lot of experience, we have submitted an intent to bid. At FINRA we have a group of people that are working on the SRO side in developing the plan, and then a separate, walled off behind information barriers, people that are working on putting our bid together. So, I've been on the bid team and a lot of my time has been spent on looking at how we can develop a bid that would meet all the requirements of Rule 613.

I think that the CAT will be a huge game changer for securities regulation as a whole because it's going to give you a holistic view across all of the markets, all the participants, equities, and options. So if it plays out the way it's laid out, I think the regulatory landscape could look very different in five or ten years, once this is all implemented and everyone's using the data. So that's really been my focus the last year, and I'm excited about it and I look forward to seeing it all the way through.

WT: Can you tell me, concerning the dark pools, and the peculiarity of them is that you can't see any information before trades take place, but then they do have to be reported at a certain point after, is that correct?

SB: Correct. So from the public perspective, what you will see coming out of the dark pool is just a trade report that has to go up thirty seconds after execution, it will soon be ten seconds, but that are not identified to the public by which specific dark pool it is. Like you wouldn't be able to look at the tape and say, oh, you know, that's dark pool A that just printed that. You just know an over-the-counter print occurred. So you see all of the trades on the tape, but they are not identified as a dark pool trade.

From a regulatory perspective, however, everybody that operates a dark pool ATS has to be a FINRA member, and all of those orders have to be reported to OATS so we see all of the orders and we know which broker-dealer it is, but to the world outside, they don't see that dark pool A just printed a hundred shares, and they don't see dark pool A's best price order and dark pool A's best price sell order. You don't have visibility into their book like you would into the displayed orders of a public exchange.

WT: Okay. All right, then. Why don't we return one last time to the theme of women in regulation? Have you noticed any trends over the course of your career as far as that's concerned? I mean, it seems like you've gone kind of back and forth between environments based on where you've been, and I don't know if that's the correct broad scope reading of that.

SB: I think so. Mary Shapiro was the chairman of the NASD, so when she became chairman I think that definitely had an impact on how, I don't think friendly is the right word, but the acceptance of women in positions of authority and responsibilities in the regulatory environment, because before that I think predominantly the men had been in leadership positions at the NASD. And then she went on to be the chairman of the SEC, followed by Elisse Walter and now Mary Jo—so I think the environment is receptive and open. I feel like over the years as it's gone on I never felt like I couldn't advance because I was a woman, or I couldn't participate or work on the kinds of work I wanted to work on.

I've always felt as long as you could produce and you were smart, and you knew what you were talking about and you were a hard worker, you had as much opportunity as the guy sitting next to you did. More so than any other area of the industry—like being a trader or being a salesman, be it sitting on a sales desk somewhere—I think you had a much more equal footing and equal opportunity from my perspective on the regulatory side. I've felt that over the last ten—particularly with Mary and people like that in positions of power.

WT: Their success at the highest level sort of ratifies, as it were, everything else that was sort of already in place.

SB: Exactly. There's nothing about you being a woman that will preclude you from being the head of the SEC, that in and of itself is not a barrier. That barrier has already been broken down, and obviously I'm very grateful to women like Mary that did pave the way. And like my boss Ivette, who started their careers before I did and probably had a harder time than I did in trying to move through perceptions and artificial barriers that were there just based on whether you were a woman or not.

WT: Okay, well, that should do it then. Thanks very much.

SB: Thank you very much. I appreciate it.

[End of Interview]