Securities and Exchange Commission Historical Society
Interview with Thomas G. Doe
Conducted on May 19, 2014 by Kenneth Durr

KD: This is an interview with Thomas G. Doe for the SEC Historical Society's virtual museum and archive of the history of financial regulation. I'm Kenneth Durr. The date is May 19, 2014, and we're in Rockville, Maryland. Thanks for taking some time to talk.

TD: Glad to be here.

KD: So let's start with what one would expect, which is some background. You're from Massachusetts originally?

TD: Grew up outside of Boston – my father was an apple grower. Went from there to Colgate University, first job was in college admissions as I had an educational, institutional bent. I was interested in how higher-ed institutions operated, so that then led me to a master's degree from Harvard in education, not business; though everything with my degree is oriented toward administration, planning, and social policy. So it was during that period of time that, to pay for room and board during graduate school, I was a squash coach at a private secondary school and it was the parent of one of those players who was involved in the company called Municipal Market Data, and I was hired after graduation, worked there for ten years, and that's where I developed my understanding of the municipal bond market, because it was a research firm, one with a technical analytical orientation.

KD: Tell me a little bit about the firm when you got there. This must have been all very different for somebody still relatively young, and you hadn't been focusing on securities.

TD: Yes, there were four people involved with it. I had an ability to sell. So they had me selling research the company's products; and they would, in turn, teach me about the financial markets. And you're correct, I knew little about the difference between a stock and a bond, let alone a municipal bond. About the same time that I began, is when the Chicago Board of Trade had developed a futures on municipal bonds, and that became an area of my expertise and led me into understanding derivatives. Because it was a new area in the municipal bond industry, I was essentially starting at the same point as everybody else who may have had a more extensive background in what we call the "cash" market.

KD: But the derivatives were new for everybody.

TD: Right, so I could learn from that point. And then we sold the company to Thomson – that was in 1994 –I started my firm, Municipal Market Advisors in 1995.

KD: Well tell me a little bit about, you jumped through a pretty sizable span of time there. You got into MMD, and so you're doing some selling and you're learning about derivatives. Are you working, are you putting together one of these scales or indexes, is that what you're doing?

TD: We were writing commentary on the marketplace, which I began doing, focusing on the futures market. That then led over to, as I developed a better understanding of the cash market, of writing on that area. The indexes that the company developed I had some role in, but during my tenure at that firm they were nowhere near as prominent as they are today, because the founders of MMD never intended them to be market defining. But we then developed a risk-management consulting practice at Municipal Market Data, and so when the company was sold it was those clients that I was allowed to take with me to start my firm. So my firm started as a risk-management consulting firm for eight institutions that were involved in using interest rate futures and cash securities to hedge predominantly their interest rate exposure in municipal bonds.

KD: Now, was this a spinoff, or did you just go and start over again?

TD: I just went and started it on my own. The gentleman, Dick Dobbins, who had founded Municipal Market Data, he and I established an arrangement where I did some trading for him in the futures market. We had a fairly robust and successful trading model, and it was the proceeds from the model's success that was the revenue that enabled Dick to fund *CivilWarData.com* and pay for people to input soldiers' histories in the Civil War.

KD: How about that? So, tell me a little bit about this risk management consulting, what kind of work is this? This is municipal?

TD: So, we had several clients. We had several dealer firms who were positioning municipal bonds as inventory, and so during the time that those bonds were in their inventory and before they were distributed to investors, those security dealers had risk and it was that risk that we helped to mitigate through the use of futures and options, predominantly. The other types of firms that we worked with were originators of a product called unit investment trusts, and unit investment trusts were, and still are, a product in which municipal bonds, predominantly of a specific state, and bonds that shared similar characteristics, specifically rating and maturity, and they would be grouped together and then shares of those unit investment trusts would be sold to individual investors.

There's a process in the creation of UIT, whereby the institution creating the product buys a security and it's called the accumulation phase, and then there is a date certain that's called the deposit date when the trusts are formed, so the period of time between when these specific bonds are purchased and the point of deposit, the originating firm, let's call it that, has interest rate risk and so we were involved in hedging that risk.

That experience was very informative for some of my interests, which are predominantly pricing and the challenges associated with indices and evaluations that I've spoken a fair amount about during my career. It was then that we learned, when we were hedging the market risk, the market was not a Treasury bond going up and down or a security; it was actually the biases and tendencies of the evaluation models of evaluation vendors. Depending on how the vendors evaluated bonds, was the measure of our profit and loss in what we were hedging. So that interested me in pricing and the challenges the municipal industry had.

KD: So there's a sense here that the prices weren't reflecting underlying values, so to speak. They were just sort of arbitrary in a way?

TD: No, I wouldn't say that. I would say that because the municipal marketplace has very few bonds that transact for all that is outstanding – so it's a 4 trillion market and 1 percent of those bonds transact a day. The MSRB now tracks those transactions, and that 1 percent is minimal in terms of trying to draw and extrapolate from that data an evaluation of price.

So our industry has the challenge, since mutual funds have a net asset value (NAV) that is mandated to be created every day, and investors who own individual bonds have evaluations on their daily statements. With that evaluation comes an expectation of where that security could transact, and I think managing the investor expectation of accuracy and associated liquidity is a very difficult challenge for how the industry has evolved. The data itself isn't robust enough to have adequate price discovery to create evaluations that, in all market conditions, can be credible, and that's just the challenge.

KD: And certainly, it would have been an even greater challenge in the early nineties.

TD: When there was no visibility at all, correct.

KD: Right, so Standard & Poor's is doing this and another firm you talked about.

TD: It's now called Interactive Data Corp. It was called Muller back in the day.

KD: Okay. How were they doing it, just layman's terms?

TD: They would have people that would call around in a fairly laborious manner and ask people for trades. And they would ask both their customers and people who were selling bonds to the customers. The advent of the mutual fund in the late 1970s is what really mandated the need for evaluation services, because there had to be that daily NAV value. And so with that became what I consider an impossible task, to create credible evaluations, so people do their best efforts.

And yes, back in the seventies and when bonds – until 1999 municipal bonds were traded in five basis point increments; now they trade in one basis point increments. But that five, which is large, I mean that's half of 1 percent out in the 30-year maturity, that's a fairly wide swath. And of course, in the municipal market, as it gets more data and the MSRB provides it more data, everybody has expectations that now I can see more, well therefore, we should then have better liquidity and evaluations. However, again the data is still limited by the realtively small amount of issues that transact relative to the outstanding par. But the plethora of new data has created new regulatory standards but I think people are trying to push the data further I think than it can go.

KD: But the increments are coming down from five basis points to one.

TD: From five to one.

KD: And is that when the spreads are getting wiped out too, at the same time?

TD: Correct. It's a tighter market, a more visible market; I wouldn't say more efficient. I would just say there's more awareness of where transactions are.

KD: And in this period we're starting to see disclosure, 15c2-12 comes in, and that's disclosure in the primary market. Did that make a difference for you in the work you were doing?

TD: The work that I was doing, it was always part of the discussion, that and G-37, which was the pay-for-play type of regulation, and you'll have to work with me here because I always can't remember all of these.

KD: G-36 kind of went along with 15c2-12, because it's the MSRB's take on the disclosure.

TD: Right.

KD: Yes, and then G-37 comes in.

TD: Yes. During my tenure, disclosure was always a discussion point, and of course we were also instituting the Real-Time Trade Reporting System, which went online during my tenure on the MSRB, but G-37, the whole concept of pay-to-play was always part of a discussion. It never went away.

KD: But in the nineties here, in the years when you're –

TD: Well I'm early 2000s, right, so a lot of this was preceding me.

KD: Right. Yes, I'm heading toward the MSRB. I just want to get a better sense of the area you're working. One, it appears that you're working on your own rating system, or whatever you call it at this point.

TD: No, I mean we've always been a research firm to analyze the market conditions, and so our clients of our firm at Municipal Market Advisors are virtually all participants in the marketplace in every aspect of the transaction, so from issuer to securities firm, to investors, to high net worth individuals, people who are seeking to have an understanding of the market. And so our research reports that we generate and publish and sell on a subscription basis are directed toward improving the dialogue between the participants of the transaction.

I've always thought of our firm as being one in which there are capital needs for public infrastructure, those needs come from entities of all shapes and sizes, some large, some small, all have various degrees of knowledge of the marketplace, and it's in our best interest, being people who want to have public infrastructure needs met and funded in the best manner possible at the lowest cost, is to improve that dialogue and understanding of the market.

So this drives back on my educational background and interest. We really see ourselves at MMA as educators. To the extent that we created data, we did so to help us understand the market. Because again, from that risk-management experience that I had, I understood that the municipal market responded to evaluations generated by third parties and those influenced their daily behavior. So, you know, a very popular field now is behavioral economics, and I think the municipal market is a model for that.

I also think that the municipal market, in terms of raising capital for issuers, is kind of the original crowdsourcing. Another current popular term, because the largest holder of municipal debt, or if you want to think of it another way, the largest lender to public infrastructure projects, are individuals, so you're gathering all these eclectic people together in a very kind of cumbersome process to get money to a single entity to build a school, hospital, and that's very interesting to me because that's very complex.

KD: Now, that wasn't always the case, though. Before the '86 Tax Reform Act, a lot of banks would buy municipals, and institutions, is that correct?

TD: Well I'd say the world changed in the 1970s when mutual funds began. Because you had very high interest rates at the start of the 1980s with high inflation, and the mutual fund companies, saw the opportunity in this historic high interest rate. The fund companies saw that they could put individuals into a product, charge a management fee, and mitigate this perception of credit risk of bonds. The fund companies saw the opportunity to ride the historical anomaly of high interest rates down from very high levels to low levels, which would enable them to show tremendous total rate of return performance that would compare to an equity product (which they understood) very well pre- the creation of bond funds.

So the industry went from municipal bonds owned predominantly by individuals and banks – you're correct there – to then shifting, again (I'm going to use my crowdsourcing idea) to these individuals into mutual funds. Now the industry had large entities that had aggregated capital so that larger issuers could raise more capital in a more efficient manner. Now the capital that aggregated in the fund also allowed the underwriter of the bonds to go to that one fund and raise $200 million right away because the mutual fund had already aggregated all those individuals into the fund. Are you with me there?

KD: Right, yes, I am.

TD: And so I would say that was a big turning point in the municipal market. Mutual funds really began in the municipal bond industry only three years after the MSRB was started in ’75. So, its regulation of dealers kind of coincided with this new entity. You had a huge marketing power behind Fidelity, because I’m from Boston area, Ned Johnson, whose family has run that firm for decades, probably was the most aggressive marketer. You know, taking the maître d’ of a very popular restaurant and featuring him in advertisements so that every man could be seen as buying municipal bonds through this new product.

KD: Oh, okay. So the Jim Lebenthal model.

TD: Exactly. Right, but now you had a fund product. But everyone was telling a story, right, and marketing bonds, everybody’s a salesman, yes.

KD: I wanted to get a sense of how things changed, because I do get a sense that there was a big development in the municipal bonds business – the types of bonds that were being issued and the complexity of the market going from the eighties into the nineties.

TD: Yes. And I think what happened is, and then where I came into it in the mid-1980s – 1984 is when I entered into the industry – as I said earlier, coincided with the advent of the futures contract, so that brought derivatives into the municipal marketplace. And with that came a kind of a new perception of, or a different talent pool came into the market, because now math became more important, leverage became a greater part of the product; arbitrage was a word that were now being used a lot, and now we were trading futures and all sorts of exciting things like that.

And so it brought quantitative analysis into the municipal industry in a more robust way, and I think that encouraged proprietary trading, capital was allocated to that in the futures market; brought firms like Susquehanna, a large proprietary trading firm in Philadelphia, into the municipal bond industry, they did extraordinarily well. You had a tool that could be used for hedging. The futures now could be used as a risk management tool.

The problem with all these derivatives and how they evolved is because the municipal bonds are tax-exempt, the tax code prohibits the shorting of municipal cash bonds. So what happens is that, because now if you created a derivative product and it's undervalued, and you want to own it and you want to arbitrage, you want to sell the cash instrument, you can't do that in municipal bonds, so it creates inefficiencies in the derivative products that can become a difficulty for those instruments to grow to the size to really service the market adequately.

KD: Now, is that a more recent problem?

TD: No. It's been in existence since bonds were created and so every iteration, whether it's been futures in the 1980s, interest rate swaps, credit default swaps that came into our market, the evolution of tender option bond programs that were a huge chapter in the municipal industry, the creation of exchange-traded funds in municipal bond, all these things that could benefit from a risk-management tool, all have this Achilles heel because there's not an arbitrage opportunity, because you cannot sell short the cash market. And so the exemption itself creates a unique marketplace of a one-sided market (a market which one can only make money by owning, or being long, the cash bond).

KD: Does that get us to where you have to give the money to the IRS; is that what you're talking about?

TD: Well, it's just that I'm not an entity that can create tax-exempt interest, so even if it's a taxable equivalent amount it's still perceived as participating in this product in a way that the IRS frowns upon. Because the idea of the exemption is to provide a subsidy to the issuer and not have the subsidy, i.e. the exemption utilized for any other purpose. The exempt municipal market is to serve the public good, right?

KD: Right. Something else that's coming along in this same period is, bond insurance is becoming more and more ubiquitous, I guess.

TD: Correct.

KD: What was the effect of that during these early years, eighties, nineties?

TD: It became critically important to the 1980s and '90s. It comes back to this challenge of trying to create some kind of credible evaluation on a security. Now more and more people can see prices, more and more people are seeing them on their investor statements as we go from investors never having statements, then having them quarterly, then having them monthly, then having them daily online in the 1990s, is that now we can see these prices. And there's also a greater interest because of the advent of the mutual fund where the fund manager is compensated on how well he can perform, and it's a total rate of return performance.

So it means not just owning a bond and generating income, but now I'm going to give you some principal appreciation from my ability to buy bonds cheap and sell them at a higher price. And so that whole concept of performance then created more secondary transactions. So what bond insurance did is – its ideal was to protect the individual investors who were buying bonds that were distressed credits, but bond insurance thrived because municipal bonds historically had an unbelievably low default rate, so you were providing insurance to entities that had very little risk to them. Why was it popular? One was because individual investors really don't know much about the municipal bond market, they really don't care much about it; they care about the interest rate they're getting, so the investor thinks, 'I'll pay something and know that I have AAA, that's safe.' The other thing that it did is it commoditized prices, and so we had at the peak in, I think it was early 2000s, 60 percent of the primary market, so the time when bonds were initially sold, it was 60 percent carry AAA insurance, bonds then could be insured in the secondary, maybe get the number up to maybe as high as 80 at a certain point in time.

So now, everything's priced similarly. There's an underlying credit but now they're all very similar, and so that made it easier for you and I to transact bonds because they all look the same, there are very few defaults. New York City of the 1970s is a faded memory by the 1990's. WPPSS of the 1980s is also forgotten. And so bond insurance is kind of this wonderful whitewash of the market that commoditized these eclectic and idiosyncratic securities.

KD: Yes, but when you use the word whitewash, there's something it's covering up, right?

TD: Well what it does is it enabled, because now think about it, what's happening too, is that the reality of the business of the municipal industry is that now we're having more and more competition of more people creating these bond funds, where in the late 1970s you had three leaders, again, the Fidelity, Vanguard, Dreyfus, now you had, I don't know, a hundred different fund families that are emerging. Everybody was doing municipal bond funds or unit investment trusts or any of these packaged products.

So now there's a competition of getting fees down, and Vanguard of course saying well, low fees is the way to go. That was coming into the bond world. So interest rates are coming down, there's now a pressure on the fund families to drive their fees down, and we're driving transaction fees down. And so what was happening is that there was still a high cost of personnel, because the fundamental basis or the fundamental characteristics of the municipal industry hadn't changed, in that you have over 55,000 different entities that are issuing debt with over a million different CUSIPs in this 4 trillion market; it's still confusing. There isn't adequate disclosure of financial information, so individual investments are unclear.

But now bond insurance comes in and says this is all good. Again, all these fees are coming down so now I don't have to have high priced people. What I can do is I can reduce my credit analytical teams, because I can rely on the bond insurer to do my work for me and I can rely on the rating agencies to also do the work for me, so now I can keep my margins as a mutual fund company still attractive but I can cut people, I can reduce staff. And I can do that also on the Street as well. I can reduce my personnel, because I don't need analysts anymore.

KD: That's really interesting. The way I was thinking of it before is kind of like the information's not really there. You don't have the level of disclosure and the kind of information that is going to come about as the MSRB starts ramping up toward EMMA. So, I was wondering if the idea was essentially that the insurance was sort of substituting for that information, for the disclosure.

TD: Well no, because the insurance only says that somebody had done the review. They may not have had the adequate disclosure. I mean, there may have been a better effort. They were doing the hard work of getting the disclosure for those bonds they were going to insure. But again, because municipal bonds are predominantly, probably until we get up into the late 2000s, municipal bonds were underwritten not to default. Remember what you're dealing with. You're in a public space, the people that are borrowing the money – they're trying to do it for a purpose that's well known.

Now, there have been transgressions that have been done by different securities firms, some have gone out of the business, that abused the purpose and took advantage of their client, I would say, but at the end of the day you had somebody who was saying I need to build that hospital, get me a favorable financing. And the banker who's coming in, or the firm who's underwriting the debt, wants to do another transaction so they're going to make sure this bond doesn't default. Also, municipals are sold as safe securities (the investor, and again, mostly high net worth individuals) to customers with whom the firm wants to do more transactions.

So it's in everybody's best interest that these bonds don't go bad. But everybody who's involved in the transaction understands that the bonds are underwritten not to default so that's why it's taken so long, a hundred years, to get to this point in disclosure, is. There was not much motivation because of the underlying safety.

KD: Right. This is really great information. I know you don't have all afternoon.

TD: Well I've got until the Nationals game, so I can work with you here. Glad to do it.

KD: All right. I want to hit a couple of things before we head up into the MSRB years. One is, I'm intrigued by '94, a particularly bad year for bonds. I think the value dropped almost in half or something like that. What happened there? Tell me a little bit about the experience and what that –

TD: It started early that year, 1994. In fact, 1994 is the only time that my wife's book club asked me what I did for a living. And the reason was, on the front page of the *Wall Street Journal* was the decline of the net asset values of mutual funds and I think I was quoted in a story actually at that time. And again, it was high interest rates. But it was the first time that we had a lot of problems in the short term securities. It was letters of credit, Japanese banks were under a lot of stress, and there was a product that was created in order to generate incremental yield for money market funds, they were called inverse floaters, and this was kind of a precursor to tender option bond programs that will come a little bit later.

But inverse floaters in 1994 essentially, to make it very simple, enabled mutual funds to incur leverage. And so again, to try to get greater returns, because they're still measured on total rate of return performance – compensation still is driven that way – and there's still a perception at that time, which is now no longer really the case, that performance increased assets into a mutual fund complex. So you had some aggressive fund managers that had leverage, interest rates went up sharply in the early part of 1994, which meant that net asset values plummeted. This was a shock to investors because in 1993 we had moved into lower interest rates, if memory serves me correctly, and so then you have this vicious spike.

The Achilles heel of municipal bonds again comes back to an early comment that only 1 percent of the market trades. And when we have the dominant buyer in the marketplace – that's how I always characterize it - and at that point it was mutual funds, who when they reverse course and become a seller, there action can be disruptive to the point that there isn't adequate liquidity for an orderly secondary market. And so there is inadequate price discovery, and that absence of efficiency creates a sharp decline in prices and then the adversity feeds off itself. And then you'll have, further redemptions from the funds, the action becomes a downward spiral.

Again the only way profits are made in the municipal bond market is by owning the securities – there is no shorting to hedge or efficient arbitrage to maintain order.

So as a result since everybody can only make money one way, then when the market starts going down, it gets very bad. And no one wants to buy bonds, and so you have these gaps. And also, back in 1994 something that exacerbated the situation was again, as I was mentioning earlier, the bonds traded in five basis point increments. So before there was a print, it went down in large steps in prices because it wasn't as fine. So that's what happened in 1994, and that created a lot of losses among some security dealers.

I can't remember if people consolidated or who left the business at that time. We had had other shocks in the eighties, '86 specifically, that removed some firms from the market. That's a very similar condition that occurred. We look back over time, there are probably, I think I've done charts on this, maybe there have been twenty, twenty-five times since 1933 where we've had real significant rises in interest rates that are directly related to whether it was the mutual fund, or the banks leaving the industry, or the tender option bond purchasers leaving the market.

All of these events created these sharp, really catastrophic periods in the municipal bond industry which do two things. One is, it destroys the profitability of the securities firms in the market, and reduces the revenue from the mutual funds, so those participants are stressed. But also because it engenders so much fear among those participants that it serves almost a six to eight-month period where issuers can't gain access to capital in an orderly way, and so it has this kind of a hangover where issuers have to pay more money in order to borrow, because no one wants to take risks because they just had this horrific experience that they can't get out of their mind, and management is panicked.

KD: And Orange County hit at the same time.

TD: It came at the end of the year. However, if you look at data, it's almost a nonevent. There's almost nothing happening.

KD: No kidding?

TD: Yes.

KD: Was it just because it was such an –

TD: You had a single issuer run by one person who was it Robert Citron, I think was the guy's name, who took all sorts of risks in how he issued debt. I think he was involved in some of these, I really can't remember exactly, but the bonds were insured and so I don't think anyone lost any money out of the whole thing. Citron lost his job and there was a disruption because it did – for some people who were probably in management positions at that time in their career, they had cut their teeth doing WPPSS, so they kind of went well, this is a major problem again. This is a nineties version of what we saw in the eighties or seventies.

KD: And you're saying that's not the case?

TD: I'd say it passed really, it was really a nonevent.

KD: Well, the thing that made the news of course was that they were using swaps, derivatives, and didn't really know what they were doing.

TD: Correct, correct.

KD: And isn't this a concern at this point, because this is starting to get more and more common?

TD: Well again, the inverse floaters were kind of the introduction of leverage and that happened in the spring of '94, so sure, yes I mean, there was the use of derivatives at that time. The whole question for any of these people is who's at fault. You have someone who's looking for, who probably doesn't know a lot about the marketplace in terms of the issuer, there are very few that are engaged on a daily basis to be super knowledgeable, but they have a need, they're trying to do something. They want the lowest cost of financing. They have a number of different institutions that come in trying to solve that problem and they essentially saying, you know, here are your different choices. You can issue fixed, you can issue floating-rate securities; you can issue some cocktail with derivatives in order to get this low financing rate. It's almost like going to the doctor, and the issuer, being the patient, goes to the banker and says I'm sick, I have this problem, and you say well here are your alternatives.

And the discussion is that the patient asks, "What would you do? And the doctor responds, "Well, I'm not you, I can't make that decision". But it still comes back to what would you do? It still comes into that pressure of trying to get the answer. Because the patient, or the issuer in this case, just doesn't know. He has a need and it's an emotional position, and so all of a sudden, that's when bad decisions can be made. They may all be well intended, but it's a financial transaction in which people are being compensated so that enters into it. It's not a pure relationship. And so then there's a balance of where someone is taken advantage of or not, and so that comes down to the participants in the market. That's why we have regulation, right?

KD: Which happens, but on the other hand, you're helping to provide the information that can help these people make the decisions, is that the case?

TD: Yes.

KD: Who would your client be in a case like that?

TD: Well at that time, in the nineties, I was just starting my firm so we were still doing risk management. We hadn't really had conversations, or weren't providing our information to the depth that we are now some twenty years later.

KD: Yes, something I ran into was when you introduced this thing called the consensus scale, and that's what I was getting to earlier. I want to talk a little bit about that, the introduction of that scale. What was that about?

TD: It comes back to the challenges of data, which starts with evaluations back in the 1970s. So, the issue is that I learned in – so here I did this tenure at Municipal Market Data, so I knew well the data that was being used, that was becoming ubiquitous in the market in terms of determining daily evaluations, in terms of creating a basis for which a salesman would initiate a trade with an investor. It was being used in the same way that a Treasury yield curve is used in the corporate market to determine spread to then quantify value. But what I knew – I had been involved in the creation of that data set –that it was not an index, I knew that it wasn't robust statistically, and so there were risks associated with that.

I never really wanted to be back in the data business. I'd done that, I was on to other things, but there now had been created these derivative products and they still exist today, which are MMD Rate Locks, Municipal Market Data Rate Locks. And these Rate Locks were just a way of going long and short interest rates. And it was an over-the-counter market, there were very few participants involved in the creation of them, but I was aware they were occurring and I thought well, maybe the industry should try another way of creating an index and really do an index.

So, at that time – and we're now fifteen years before the Libor scandal - we began surveying participants as a good way of collecting data. So we surveyed both investors and securities firms to provide us their perception of where an index value would be. We did that because we didn't have transparency in the municipal bond market, and because so few bonds traded it's incredibly important to know the intent of the people that are involved in the transaction to understand whether that transaction can be extrapolated to a broader use.

And so my belief was that while it's great to have data, if you don't understand the data then you're at risk. And so I thought that if I could create a data set that was fully transparent where all the people participating were known, where I was taking data in and had a statistical process that was the same every day, and that any day ten years forward I could recreate that data set of ten years prior because I would have it and I could identify it, so if there was any regulatory scrutiny or if that data were used for the purposes of settlement of a derivative transaction and there was a dispute in arbitration, there was – you might not agree with the number - a process would be transparent and known. We did accomplish that.

We continue to do it to this day, but it has nowhere near the prominence. MMD's data still persists as being the benchmark of the marketplace. Everyone knows there's a problem with it, there's been numerous articles about it, MSRB board members have commented publicly about the inherent manipulative problems associated with the data, and yet it's still used.

KD: And this is a black box data?

TD: Absolutely.

KD: You don't know what's behind it.

TD: Absolutely. It's never been known.

KD: Okay. Why does it persist then?

TD: Because there's never been a problem.

KD: Okay, a nice, simple, easy answer.

TD: It reminds me of when we had a product that was involved with determining the accrued interest for variable rate demand notes, and this was in the 1980s and '90s. And you would go to the trustee, and the trustee in a transaction with a mutual fund is the one who receives the check at the bank for the accrued interest from a security. And in the municipal market, the accrued interest calculations are as varied as there are creative minds in the banking world. And you would go to the trustee and you'd say 'gee, this is a service we're providing.' And they go, 'well, I've never had a problem, I always get the check.' And so then we would then say, 'but this is the amount of money, did you receive this amount of money?' and they'd go 'oh, that's not the size of the check I got.' And I said 'well, because your calculation was done incorrectly.' Well, they'd never known, because they just got the check. They didn't know how to confirm it.

So to say this is so similar, you know, it's like bond insurance thrived because there was never a problem. It grew and proliferated because there wasn't a problem. And the data that the municipal market uses persists because no one has sued over a loss in a settlement, and so that's how it exists.

KD: Let's go into the MSRB then now, we're heading into this period. How does one get involved? How does one get put on the board?

TD: There's a nominating committee. You usually had to go through it twice. It took me two interviews, two processes, to be part of it. And again, it was pretty much you had to know people in the industry. You had some reputation as being knowledgeable, a person that you'd want to spend time on a board with.

KD: Had you had involvement with the MSRB prior to this?

TD: Well, there was a process where you had to show that you had some commitment to do work, so I was put on the glossary committee of the MSRB, which was, you know, writing a dictionary. It was terribly painful, but I knew that was paying my dues because I was a research firm. I was outside of the guys doing all the transactions. I wasn't at the closing dinners; that wasn't my world. But there were people who had gotten to know me, mainly because of my work in the futures market, and where I've been involved with the Board of Trade and around the contracts.

So that gave me a little bit of exposure, so I did my work on the glossary committee and then was nominated and went through the interview process, didn't get picked for whatever reason, and then resurfaced. That was in '99, so then four years later, I have the opportunity again, and this time, the right dynamic. Again, because of the way the board was, you had to be the right person at the right time. I was a public member, so there had to be a board seat open for a public member in order for me to be considered. The MSRB wanted representation from investors, dealers and issuers. So you had to kind of fit the right mold, and since I was this independent research firm, I could be considered a public member. So, I got on it and I was glad to do it.

KD: So what did you find when you got on? Tell me a little bit about sort of sizing the board up and seeing what their priorities were.

TD: So you walk in the first day and you see representatives from usually, at that time, five of the larger firms, so there were people from Goldman Sachs, UBS, Lehman Brothers at the time. You know, big guns, people that have big reputations, certainly larger than me. And then you had a second group that were usually smaller, regional representatives of smaller firms, and then you had the public entities and those were issuers, and then usually heads of like a mutual fund company or similar to that. And I usually knew those people better, because I knew the buy side better than I knew the dealer side in some ways.

KD: Why was that?

TD: Just because we were writing and producing research about the transaction, so we became more of a check, a third-party review of the market condition as opposed to the entity that was selling securities. So the investors gravitated to us first, as did the issuers.

KD: Okay. Now you've just chopped the MSRB up into these groups. In the deliberations and discussions, did those groups tend to stick together?

TD: No. In fact, it was interesting. As I was saying earlier, that in recounting some of the history of the municipal market is that when it's had adversity it's been responsive, and I'd say most of the challenges in the municipal market have been because it's always responded to things, it's rarely initiated efforts. So when a crisis occurred in the industry, then it responded, created regulation, everybody jumps up and down and do change, but rarely looking forward. You know, the industry waited for the problems to surface - that, has been kind of the history of the market.

And so we walk in, I remember the first board meeting Hill Feinberg at First Southwest was chairman, and we sat in a room in Carlsbad, California, in 2003 at the Four Seasons – because at that time we still went to nice places – and we talked about derivatives and the problems that we thought existed in the market. Now, in 2003, the aforementioned tender option bond programs, were proliferating, and this allowed securities firms to take tremendous leverage in the marketplace in order to take long-maturing bonds and create synthetic short-term securities that could feed the demand of municipal tax-free money market funds, which in the late 1990s, the only areas of growth in the mutual fund complexes were money market funds and high yield.

So these two entities, you had money market funds that needed a lot of product, and there was a need for a variable rate product, and so the industry said 'okay, we can take these thirty-year bonds that issuers need in order to do long-term capital projects and we can, through our magic, create a synthetic security that the money market funds need, and that's where we get the source of capital.' That's where the issuer's loan is going to come from. So we sat around in 2003 talking about how this was going to be a problem for the market, and of course it eventually was in 2008.

KD: What were the problems you were looking at in 2003?

TD: It's that there was going to be too much leverage in the marketplace, that the issuers who were involved in the transactions didn't understand the risks that they were taking by having a large variable rate exposure as opposed to fixed, and if there were stresses that could create budgetary problems. And we thought there were probably public finance professionals that were not operating in the best interests, perhaps, of the issuers, because at that point, because of the amount of capital that was going into these proprietary operations, these tender option bond programs – again, banks were doing it so the investment bank world was involved. Remember again, everything's AAA because of insurance so that gave more comfort with leveraging municipals. And so it was almost free money, and it was for a long period of time, a tremendous amount of revenue for the industry.

So risks are to be taken also on the underwriting, and we see it now looking back in time that by just four years later from this board meeting we saw issuers being loaned money through the municipal bond market and they never should have received a loan. But the demand was there. It was just like throwing wood into the steam engine's furnace. You could put anything in it, the fire was so hot, because they needed it and they generated – crazy large returns. The larger firms in particular were building larger and larger positions, creating products, selling them overseas. Everybody was enamored with this product. But in 2003, we saw the problem.

That created then an issue for the board, because we recognized the problem, but the statute that guides the MSRB prohibited us as a board from regulating derivatives. So, there had been an issue in derivatives from 1994, here we are nine years later discussing the advent of interest rate swaps, a growing product, and yet the statute that was governing the main regulatory entity of the municipal industry precluded us to address a product, that had evolved and could have direct impact on the area of the market we could regulate.

KD: So this tender option bond program, this is what you're talking about, these are long term bonds and then you're hedging them, more or less, with these interest rate swaps?

TD: Your mechanism is that you're stripping off the coupon and then you bifurcate the coupon and you create trusts. The simple answer is you take a long security, a fixed-rate security, and transform it into a variable short-term security. And so you're taking a product that's unsellable, because there's no demand for a thirty-year bond, and you create it to be a short-term security. And in that transformation is a tremendous spread that is retained by the creator of it, and there's also an ongoing revenue stream from the remarketing of the variable security to the money market funds.

KD: But derivatives are the tool?

TD: Right, because you use swaps to hedge and all this. But the products themselves were all linked to derivatives. Transformation of fixed to synthetic involves swaps, and swaps are derivatives.

Everyone on the MSRB knew there was a problem, but then the question was how was this board going to respond to that, what could we do? And that became an issue on the board. And for the three years I was on the MSRB there was a climate in D.C. where we were being told as a board that no one on the Hill would listen to our concerns, because it was the Greenspan era, derivatives are good, and this became a problem. Because there was a group of us on the board – I was one of them – that pressed to be on the record somewhere that we were aware of a problem. We asked whether there was a hearing we could participate in, or was there something else where we could talk about these concerns.

Later I addressed the depth of the issue when I testified in front of the Senate years later. As this was the interesting dynamic -- that derivatives were making money for all the Wall Street firms in a big, big way, and not in municipals, but on the corporate side. That’s where all the money was being made on the firms on Wall Street. And it was extraordinarily difficult for the largest firms, for the representatives on the board, to state publicly that these derivatives had risks that were a concern, because they could lose their jobs, and people did. And those who spoke up, their firms wouldn’t tolerate it, and it would be used against them.

So it was very difficult for the board to initiate. There was risks associated with establishing regulatory precedent, because the municipal bond industry, or the department was making money, it was small compared to what the rest of the firm was doing. So it was expendable, and therefore a representative was expendable if the board member took any risks that might jeopardize the rest of the firm.

KD: And you saw this happen?

TD: Yes, absolutely, yes, no question about it.

KD: So you're just talking about putting up the marker here and saying we don't think this is a good idea?

TD: Right. So all we could do and Frank Ingrassia, to his credit, who was chairman and was at Goldman, did his best when he spoke publicly to rattle the saber, and he really displayed a tremendous amount of integrity and took personal risk, professional risk, and I would speculate that his career was shortened by it, but he'd have to confirm.

KD: Yes. So this was one that you dealt with the entire time while you were on –

TD: It was always a topic of discussion.

KD: Yes. Was that the most pressing topic through that period, would you say?

TD: The issue that was evolving the same year that I came on the board was how the board was structured and organized. What came to light in 2003 was that the board didn't know that Kit Taylor, the executive director, had a contract. And there was sensitivity, because remember Grasso, who was chairman of the New York Stock Exchange, had just been given an extraordinary deal on his retirement and there was a lot of public consternation around it because the number was large.

And so the collection of people on the board at that time thought, do we have a similar problem? So we should do our best efforts as board members to be sure that we weren't at personal risk for not being aware of compensation. So no one until Deke Iglehart, who was chairman of the admin committee in 2003, discovered the contract knew the Executive Director has a contract. And I can't remember how he unearthed it. It was a contract that was outdated legally. Amendments had been made by footnotes in the margins, and initialed by the chairmen of that time, and we started there.. And the key aspect of the contract, it was an evergreen, so every three years it renewed.

And Kit was of the age that had the board remained ignorant of the contract, he would have vested in 2005 in which case his pension compensation would have been established. But there were issues regarding the compensation of the officers of the board. And because we had this contract and none of us really knew what was fair and what was right, we engaged a gentleman named Ray Cotton from Mintz Levin, who became the legal counsel to the board. It was on the initiative of Tom Fetterer, who was head of Eaton Vance, and Ben Watkins who was the head of debt of the State of Florida, that we began that process of reviewing the contract.

And I will never forget our first meeting with Ray Cotton, and Ray's expertise was compensation for college and universities presidents, and he represented at that time Gordon Gee, who was one of the more notable, notorious might be another word, but charismatic university presidents and highly compensated, and Gordon was one of his clients. So we knew that Ray knew how to gain aggressive comp, so we thought he'd be a good selection.

So we met with him in the D.C. offices and Ray sat down with us and he said, "I've spent some time over at the MSRB. I want to see if I can talk about some facts with you." And I may be off on some of the numbers, but essentially you have an entity that has annual revenue of $12 million, and so that's a small business. Then you have sixty people that are on staff, again a relatively small number of people. The revenue is generated by fees that are determined by transactions that occur in the marketplace, so there's no revenue generation responsibility by any of the employees at the entity. So yes, all these things are true.

He said, and yet the compensation of your executive director is nearly 8 percent of the gross revenue of the entity and there's no revenue responsibility, and there's no contract negotiation. He said, "You have to help me understand what is so special about this industry and what's so special about this individual to be compensated so unusually compared to my world of experience." And then because we now knew that we had this pension issue we grew concerned that if we couldn't explain the compensation to an outsider in an adequate way, then we feared what the liability might be to the board. And then there was a realization that the contract had to be changed, because it was outdated anyway in the context of current law.

And so then the compensation elements of the executive director had to be reviewed, there were aspects of that that didn't look right optically, and there were other elements that drove compensation and practices that had been developed by the board that didn't set right. And so if we were not talking about derivatives, we were spending an inordinate amount of time talking about the leadership change and how it was going to affect the organization. It was difficult especially because of Kit's tenure and "founding" status of the board. The emotion around the discussions added to the difficulty. I certainly am empathetic to Kit's position. He was a very smart man, very knowledgeable guy, a very personable guy, generous in many ways, but he had founded a company and now thirty years had passed and the industry had changed.

We could all see that with these derivatives, things were happening and the MSRB operations seemed outdated. And it seemed that, again as an SRO, that there had to be a different standard in terms of, as a board, as to how we were going to be measured. And we were representing the industry then at that point in a visible way, so we had to be aggressive, and we had to be very objective, to put the industry first and recognize this and provide opportunities for change to occur.

And the process took 4 year to resolve Kit's situation. We first froze his contract, and with that freezing of the contract ignited a change in the organization. And so I think I corresponded to you in an e-mail that a lot of the time was on what was this entity? How was it going to operate? And that certainly peaked my interests because as I was saying earlier, my interest was in educational institutions. If I had another career path I would have wanted to be a college or university president, because I thought it was just so fascinating, how an institution actually works. And my work now is how an industry works, so now here I am at a table and we're trying to figure out how does this institution goes forward and what changes should be made to have it operate better.

KD: You were worried a great deal about the executive comp and, as you said, if you take the New York Stock Exchange and what had happened there as an example, a worst case, that's a good thing to be concerned about.

TD: Correct.

KD: Sounds like you also looked more broadly at the entire MSRB and how it was structured.

TD: Well at that time, and this was more casual conversations, we saw that the MSRB was on a path of really having two agendas. One is regulatory, of just establishing the rules of how a group of people are supposed to play in the sandbox together, and the second one was the emergence of growing a technology company, which was occurring because of collecting the trade data, and then of course we could see down the road that there was going to be a disclosure, an opportunity of centralizing that.

So now you have a data company that's operating with two groups of people– you have a group of lawyers and you have a group of technology people. And the industry was growing, primarily and because of the tender option bonds there were more transactions, and new issue volume was rising with lower interest rates, So the MSRB, because of the growth of transactions and of primary volume, its revenue was going to grow.

KD: So the thing that you were just talking about was long and fairly intractable. You had the issue of the derivatives, which you really couldn't touch but you could be very concerned about them. How about some things that you could deal with? The consultants rule was one thing that was going around at the time.

TD: Yes. It was the end of a three-hour conversation board meeting we had, or it was actually just a three-hour debate on this one topic, and we were trying to define what is a consultant, because you had entities that were working with issuers to provide different forms of expertise. Some technical, maybe like an engineer around a water and sewer financing, or it may be less clear where it might be an adviser who's participating in, you know, this dealer over another securities firm helping with that choice, it's a little bit more soft. And so the question was which consultant is real, and is there any kind of bad behavior that's being fostered.

And so what we tried to do was to define the consultant to these people of technical expertise. And I think it became, looking back on it, maybe the first kind of germ of looking at the whole financial advisory process that now today, as the SEC's put forth the municipal advisor rule and what does it mean, how are issuers supposed to be counseled.

KD: And this goes in with pay-to-play as well, right, the consultant thing?

TD: Right.

KD: Tell me about that.

TD: It all comes back to a gentleman named Marlin Moseby who worked at a company called PFM – he's retired now and we were having dinner a number of years ago. He said the municipal industry is kind of fascinating in that you have two extremes of ignorance. You have the people who are in need of the capital to borrow. It's not that they're ignorant meaning they're stupid; they just don't have day-to-day expertise in borrowing money in the capital markets. And I always have bristled when people say oh, this issuer's not sophisticated. Well, they may be very sophisticated in how they do their collective bargaining agreements and pension plans and all this; they just may not have a good understanding of how to borrow money because they don't do it very often.

But if we use this to be blunt, is that the ignorant issuer on one side, and then we have the ignorant individual investor on the other side that we were talking earlier who had that salve of bond insurance that made all credit problems go away. But you had these two ignorant extremes that you try to get the money from one place to the other, and in between is the municipal bond industry, and that's where the industry's revenue generated.

KD: And those people aren't ignorant.

TD: They're not. They're knowledgeable. They do this every day.

KD: Yes, okay. That's good, so, and pay-to-play.

TD: So when you're talking about issuers, then you're looking at practices. So what is it that? It's just like campaign finance reform, right? It's just a slippery slope. You can't define it. Nobody really wants to. You find, what are the different ways that you can get somebody's favor and be the chosen person to get the business? In some businesses, it might be a box of Omaha steaks. It might be a favor that you do for someone's child. It might be a charitable contribution to somebody's favorite charity. But all these things were different ways that curry favor, that end up with someone getting a larger proportion of the business than someone else. And so I think to the credit of the board, this was a rampant problem that existed and got cleaned up, certainly before my tenure but there still were cracks and people would still find ways to, again, be the one who was chosen.

KD: Well wasn't one of the things was some of these advisors may have been a way to –

TD: Correct. That's exactly right.

KD: Okay. And did the rule go into place while you were there?

TD: On the banning of consultants, under the nontechnical consultants, but the whole financial advisory pay-to-play continued. These independent financial advisors still could write checks to politicians, and it wasn't until this new rule that's come into place that that's been curtailed.

KD: The whole mechanics of the system that you were talking about before. Basically, the IT company that you're starting very slowly to build, real-time reporting of financial transactions is starting to come in at this point; do you remember some of the discussions around that?

TD: Well then it became the discussion of what is fair price, and I think here it is however many years later the MSRB is trying to create best execution practices.

KD: Right. Well, the MSRB then, and you're talking about all this information that's becoming available and more and more detail, it seems like every year, every few years, and at the end every month maybe, and your business is sort of the same thing. It's about the information. How did that change the way MMA worked?

TD: Immaterial, immaterial, because the data that's available – again, it comes back to my perception is you need to know what the intent of the transaction is. And without being able to discern that and without having the granularity of knowing exactly how much is transacted, because there's still not full disclosure. And again, it comes back to there's so few bonds that trade on a daily basis relative the overall market. And I think even the MSRB statistics show that I think it's right around 50 percent of all the sales to customers are only done by five firms, that there's a reason not to have that granular transparency where you could then say oh, I know where that bond, you know, I could find that bond, I could match it together, who the buyer and seller is.

I think this is where we really talked a lot on how transactions were done where somebody would buy bonds at a low price and mark them up a certain amount. And over a period of time a bond would, say, start at 50 cents and end at 80 cents, and who's supposed to know what the right price is at that time. And again, this is the big challenge in the regulation of this marketplace and the problems associated with liquidity that looks like when you buy stocks, or you buy a mutual fund, and you do it easily on the phone and you don't worry about it, there isn't enough data to create the type of indices and confidence in the evaluations that – it doesn't matter how much data's available. The bonds don't trade – they're not designed to transact in the way that was pioneered by Ned Johnson with the creation of mutual funds at the end of the 1970s.

That event changed the way the municipal marketplace behaved, and in the mid-1990s, in 1995 with the SEC starting to demand that mutual funds represent their performance relative to an index. Well, the irony was that these indexes that were created, many of which have high correlations to this empty data, again, because the market just behaves a certain way, is that then people realize – them being the mutual funds – really realized that the nature of the municipal bond is for the income. Performance was over, because interest rates had come down from 20 percent. Well, on the taxable side of it. Let's say if municipal bonds were 14, 15 percent, now they were 5, you couldn't sell the performance story anymore.

So now everything goes to income, and now the mutual funds make another change, and what they do is they bring a trading desk in instead of portfolio managers. The portfolio managers exist, but the transactions are done by a trading desk that looks like they're people selling them bonds so now everybody's starting to look the same in transacting. So now when you're looking at all these prices, again, they're flowing in a different way. You now have proprietary entities that are participating in the market through these tender option bond programs, the futures market introduced proprietary trading and hedge funds, with these guys at Susquehanna and others like them, so now the flows are not defined.

When we created the Consensus – that data set – we were able to, at its peak, have eighty different participating firms involved. Now we have thirty-five, because of consolidation and all this. And what the difference was – they broke into six different groups, that being the large securities firms, what we call the New York firms; we then had regional firms that did institutional-type business and so dealt with the mutual funds, and tier one accounts is how it's characterized. Then there were regional firms that had a retail operation. And then we had mutual funds, separately managed accounts, which are a growing part of the business, which would be a firm like Breckinridge. And the last ones were the arbitrage funds or the hedge funds.

And those six different entities, on any individual bond, would have a different perspective. And so we could see, when we collected these perceptions of where the market was every day, these wide bands of disparity that were consistent with what I was seeing on the board with the transactions themselves, is that depending who the participants were involved there could be wide differences in price. And so I've always come back down to, as I was saying earlier, that it's a behavioral market. And it's very thin because there's very little that's transacted every day.

So a lot of the challenges with – you bring as much technology as you want to it, but there isn't enough data and enough of the same data every single day. And the market only trades Tuesdays to Thursdays, because most issuers borrow money on these days. But Monday and Friday you still have mutual funds that need prices, that need evaluation, so you have these inconsistencies in the market, and of course that creates opportunity.

KD: So when you're looking at the market, doing the education that you talked about, if somebody from a regional firm comes to you and wants to know about a certain bond or something, will you give them the insight that is most applicable, what the other regional firms are seeing, this is what regional firms like yourself are, how they're –

TD: I wouldn't say it's that granular. And we really characterize, because we think the data shapes the market so much, we can identify areas of the market where there's value in risk that's created by price distortions, and we now know how individual bonds are transacted to influence evaluations and pricing, so whether the derivative securities or whether it's the valuation of a mutual fund family's municipal bond holdings, it's pretty straightforward – how to create price discovery. So the municipal market, I believe, is controlled by the entities at any point in time that are creating the price discovery for that day, and that changes in different eras.

So it's very few participants. Those participants provide a very important function. I will say this, I think because they're loaning their capital to projects, and like any banker, if you're loaning money you're taking risk and you need to be compensated in order to make that loan. So with all the changes that have happened regulatory-wise is it has reduced the amount of compensation that people have for taking that risk. And remember, Ken, when we started off, is that it's a long-only market, which means if prices go down you can't protect yourself.

So now if I'm providing you that loan and I have exposure to interest rate movement I have no ability to protect myself, so at the time of transaction I have to do something to incent me to loan you the money. And in the 2000s, derivatives provided a lot of spread product, because it was not regulated so there was a lot of opportunity there, but now we have fewer participants. The market now is more like it was in the 1970s and early 1980s than it is of ten years ago.

KD: Just because of the regulatory changes?

TD: No. Well, one is because you no longer have leverage and you no longer have derivatives, and that dominated the 2000s. I would say from mid-1990s to 2008, it was derivatives that drove the revenue of the industry, facilitated a lot of transactions, a lot of issuers gaining access to the market, and as we were saying earlier, many who probably should not have.

KD: Insurance is gone at this point.

TD: Insurance is gone at that point, which provided liquidity because everything was the same. No one had to think well, is this bond safe? Is it not? I saw Detroit's in trouble; is this bond like Detroit? You know. So now it's not insured. Insurance provided a very important function, because again, using my analogy to crowdsourcing, you're trying to harness all these individuals together in order to make that one big loan. Because ultimately, even though Bank of America and Merrill Lynch may be underwriting the 300 million, they're then passing that 300 million off to a thousand other people in order to do the initial loan. And so how you get the bonds to the larger group, is critical, because I can't hedge that risk. It's inefficient. So if prices go down during that time, the money that I made by providing the loan might be gone if I have one of those adverse periods that occur, before I can get it to the people who just want to hold on to it because they just want the income.

KD: Well, let's talk about an adverse period, running up to the crisis. What was the effect on the market starting with 2007? You were looking at the effect of all the derivatives way back earlier in the decade.

TD: So August 2007, we get a call from the New York Fed. And the New York Fed calls us because Merrill Lynch had just had their corporate debt downgraded, and they were concerned as to what that might mean for Merrill Lynch, who served as a counter party in transactions. The Fed was shocked by what had grown to about a $400 billion or $500 billion segment of the marketplace. And it was that conversation that, for us, gave us a presence in D.C., and from there, then, it's been wonderful. My first step into D.C. was the MSRB, this then a few years later, and probably because I was on the board probably gave us as a firm some form of credibility to then be accessible. And then because we were pretty candid in how we talked about things, we were a helpful resource and we were willing to take the time to educate people.

KD: Did more of that follow in the months after that?

TD: Yes. The one testimony I did that – We've had three different people from our firm who have testified before numerous different House committees, Senate committees. The Federal Reserve is a client, OCC is a client, FDIC is a client, FCC is a client, Pew Foundation is a client, I mean these are entities that just appreciate our ability to educate them about issues that are confronting the industry. We're not spokesmen for the industry, we're very careful about that, but we have our opinion and we understand the data in the market very well.

KD: Yes, well let's talk about that pretty significant instance in which you did offer your opinion or told it straight, which is going to Congress and suggesting that the MSRB be folded into perhaps the SEC or Treasury or whatever.

TD: Yes, SEC, I think I was using at the time. Yes.

KD: When did that occur, that idea?

TD: Well, it was one that was always part of discussions in any type of regulation of the municipal industry. And the way I described it is that the point was that we'd seen all these things happen in the industry, the change, and the statute wasn't changing. And from what I can share with you, the problem with the SRO was because of the position that the municipal dealers – because remember, ten of the fifteen board members were securities firms – I believe that they were inhibited from initiating action. And so it was a tough spot to be. I never really fault anyone for not being – because it's just hard. I mean, you know, you've got a job to do and you're doing this board thing and it's hard.

KD: I mean, you're essentially saying the SRO model doesn't work.

TD: I think it's challenged, yes. What we're seeing as the industry has grown and more of the products have evolved in the municipal industry is that now those products are looking more of what the SEC regulates than what the MSRB statute can regulate. So without a change in the statute that's broader to involve all these new things (and I believe that pricing is a significant aspect of the industry that's not regulated by the MSRB) the industry's evolution is inhibited. When I testified to the SEC a year later maybe, I told them, I said the only thing that's really important to an individual investor are the two evaluation services and the three leading ratings agencies, and outside of that the individual investor really doesn't know much about the municipal market.

Those entities inform an individual investor every day as to the health of the market. So if there's volatility in an evaluation, whether it's a mutual fund or the individual security an individual owns that they need to have a resource that explains that volatility, why it's occurring. Is it because my investment's about to lose its entire value, which might be something they would hear on CNBC or Bloomberg or something, you know, some headline that's stirred up about chaos. Or is it merely a dislocation that's temporary and it's a reflection of the inconsistent liquidity that exists in the municipal market, and we're going through one of those periods of time.

So an example that's really better than 2008 was the fall of 2010, when at that point, in the third quarter of that year Meredith Whitney was in the headlines predicting $100 billion of default and so had really created a climate of fear around credit risk in the municipal market. And on Veterans Day of that year – Thursday was Veterans Day –

S&P reduced the credit rating of 50 percent of the securities backed by the tobacco settlement, so tobacco bonds, to junk status. On Friday, because remember, we don't have a lot of liquidity, and even more so between a Thursday holiday and a weekend there's not a lot of activity so there's very limited price discovery. At that time there were a mere seven transactions in tobacco bonds that day that reflected a 70 basis points change, a nearly 10 percent change in price to the worse.

So those mutual funds that had taken risk in the tobacco securities, their net asset values plummeted. So on Saturday morning, when investors in those funds looked at the paper and saw their value of their holdings decline, they wanted out because they didn't know what had happened. And so the next week $5 billion left mutual funds, and for the next twenty-six weeks money went out of the municipal bond funds and yields rose very sharply in the municipal market, higher than relative to the Treasury yields or to other interest rates, and there was absolute chaos. That was one of the worst quarters, in the fourth quarter 2010, that the municipal industry had experienced. And I went on CNBC that January and said I didn't agree with Meredith Whitney.

KD: And this goes back to seven transactions, basically, that touched this off.

TD: Yes, that occurred in the market. So even if you saw those transactions, which everybody did, it was the only information that the evaluation services had in order to apply a number on a statement or on a bond that was held by a fund in order to generate an NAV on a statement. And so again, it's no one's fault. It's just, that's the Achilles heel of the industry, is there is not adequate price discovery for what the expectations are now. With more data than it's had, it's still inadequate, and that's the challenge.

So when I come in and look to your question of the MSRB and should it be SRO or should it now be part of a larger entity, as I told many of my colleagues where we had this discussion about what would happen is, my ideal – and as I say, since I'm from Massachusetts and we have a lot of people that speak eloquently about ideals, we have a history of that and dreams and things – is that the integration of the MSRB into the SEC would be like having a five string quartet joining the New York Philharmonic. The downside is that it joins the middle school band. (Laughter) And so, it doesn't work. It's not so good.

So bigger isn't always better, and certainly the SEC has had its challenges as well, as have all these entities, but I think there still is yet more change to occur with the organization. I'm pretty distant from it now in terms of the initiatives and the expenditures that are being made, and the staffing that's been done and where it's headed, but one thing I will say is to Kit Taylor's credit, is that there are two things I give him a lot of positives for. One is he believed that the MSRB shouldn't be a vendor of data, believed that that was an inherent conflict in its other role as a regulator, and I think that's true.

And being somebody who knows the vendor community is that when you're asked as somebody who provides data and the regulator is saying we want your data and we want it for free, that puts you in a very awkward position as a participant. And the MSRB is trying to create data. I was called down there in the summer of 2012 I think, when they brought all the data providers together, and it was an unproductive meeting. And it was after MMD had been cited in a *New York Times* article by one of the board members who was saying that it was a manipulative data set, and so every vendor (not just MMD) was brought down, and what's the MSRB going to do, and well, data's not in their regulatory purview and all that.

But I think that was a good thing. I think there should be a difference. And I think this is true with EMMA. We see it in work we do on disclosure, that Bloomberg does a better job than EMMA does in collecting data even though they're not the designated repository. The MSRB is a growing technology company as opposed to one that's established. So I think that whatever they have, again I don't know the staffing, I don't know the leadership, I don't know, but my thought is that maybe it's not the best way that things could be done. They've done some good things, but still, there are limits.

And then the other thing was that Kit gave me a book called *Infectious Greed,* which was written by Frank Partnoy, who is now dean of the law school at University of San Diego. He was a Morgan Stanley banker, and it was all about the inefficiencies in the evolution of pricing of interest rate swaps. The interest rate swap market began because proprietary traders, who were being compensated not on how well the firm did but on how well their personal trading line did, is that the innovators of the swap market were pricing their own holdings so they could enhance their compensation. And of course things changed around that, but that was the theory, that there was a cowboy era, and that was, again, unregulated.

KD: Huge repercussions.

TD: Yes. But that was the book, and so Kit understood my interest in pricing and the challenges therein, and so yes, those two things.

KD: A couple other things I want to hit before we wrap up; recalibration.

TD: Of ratings.

KD: Yes, of ratings. There was this conservative ratings approach toward municipals.

TD: Yes.

KD: Why was that? Why were they in a different axis?

TD: Well in fact, one of my employees now, Lisa Washburn, ran the recalibration for Moody's, or ran that effort. And we as a firm always supported that recalibration, and the reason was is that we thought that municipal bonds, relative to their corporate counterparts, were rated too conservatively. That conservative rating also facilitated the growth of bond insurance, because you had more penal ratings probably than municipal issuers deserved so it created the opportunity for bond insurance.

The recalibration, of course, was occurring at the time the market was melting down, or had, so the timing of it was unfortunate. We still think it was the right thing to have done. And now what's confusing in the market is that Moody's is now adjusting their ratings higher and S&P is going the other way on their ratings. And I don't know where Fitch is in relation.

KD: Are they converging or are they going in different –

TD: No, they're diverging right now. They're going other way, so that's of course confusion to investors. So if you have the individual investor trying to gather information, he goes, well, why are there these two trends?

KD: So it's still underway, isn't it?

TD: Yes. It's going to take time to work itself out.

KD: And Dodd-Frank. Have we seen any changes in the municipal market directly?

TD: Well, we're directly involved, we have a business that's been an outgrowth of Dodd-Frank and it's been kind of interesting. And it comes back to the same topic of credit evaluation and rating. Now, since the bond insurers' demise, all those people that were let go – you know, I was saying earlier about cost-cutting, they've had a resurgence they're now highly compensated, and it's a popular profession to be a municipal credit analyst.

But with Dodd-Frank – one of the parts of Dodd-Frank was that the banks, who are now the third largest holders of municipal bonds and the fastest growing segment holder of municipal bonds over the last five years, and why is that? – because they couldn't make loans, there's no loan demand for homes, and so they needed to generate revenue, and a comparable revenue stream was generated and credit safety was a municipal bond, and a long maturing bond. So they increased their bond holdings, became a real important source of demand, because the tender option bond programs disappeared, as I was talking about earlier, and you needed somebody else to fill the gap on the margin to facilitate, especially for smaller issuers, access to capital.

So the banks stepped in at a good time, still performing their loan function but doing it through the capital markets, so their investment portfolios grew. What was happening, though, and this ties to Dodd-Frank, is that many of these were community banks, so they have a relatively small dollar value of an investment portfolio in municipal bonds but they have many, many, many issuers in their portfolios. And they don't have the professional staff to evaluate the credit, and they certainly can't expend the money that a larger bank would be able to spend, or a mutual fund, to do the same level of credit review.

So Dodd-Frank imposed regulation on the bank regulatory entities that part of the examination process would be the review of the credit worthiness of the municipal bond, and a process that wasn't solely dependent on ratings. So we developed a cost-effective metric so that the banks could remain in the municipal market, so it wouldn't be so costly for them to remain involved as a loan provider, and so we do that for over 200 banks now. And it's fun, and you get a real slice of America, you see all these small banks that have these investment portfolios which have kept them viable during the recession and the slow recovery.

KD: Interesting. And in that respect, it's another way that the market's gone back to the seventies and eighties, because the banks are back.

TD: Correct, because your largest holders are individuals, mutual funds, and banks. And banks are closing in on the mutual funds.

KD: Terrific. Anything else we should talk about that we haven't covered?

TD: I think that covered it. I think you have more than enough from me..

KD: You did well in pursuing the whole education thing, because this has been really good for me. I'm looking forward to working it into the gallery as it goes forward.

TD: Good, good.

KD: Thank you very much.

TD: Well, you're very welcome.

[End]