Federal Reserve Board Oral History Project

Interview with

Roger Cole

Former Director, Division of Banking Supervision and Regulation

Date: November 17, 2009

Location: Washington, D.C.

Interviewers: Michael Martinson and Cynthia Rotruck Carter

Federal Reserve Board Oral History Project

In connection with the centennial anniversary of the Federal Reserve in 2013, the Board undertook an oral history project to collect personal recollections of a range of former Governors and senior staff members, including their background and education before working at the Board; important economic, monetary policy, and regulatory developments during their careers; and impressions of the institution's culture.

Following the interview, each participant was given the opportunity to edit and revise the transcript. In some cases, the Board staff also removed confidential FOMC and Board material in accordance with records retention and disposition schedules covering FOMC and Board records that were approved by the National Archives and Records Administration.

Note that the views of the participants and interviewers are their own and are not in any way approved or endorsed by the Board of Governors of the Federal Reserve System. Because the conversations are based on personal recollections, they may include misstatements and errors.

Contents

Early Years at the Federal Reserve Bank of Boston in the 1970s 1

Early Years Working at the Board 2

Move to the Applications Area 3

William "Bill" Taylor 8

Transition from Volcker to Greenspan 10

Capital Requirements 12

Risk Management 14

Basel 16

Asset Bubbles; Risk Management 22

Structure of the Federal Reserve System 24

MR. MARTINSON. Today is Tuesday, November 17, 2009. I am Michael Martinson, a retired associate director in the Board's Division of Banking Supervision and Regulation (also referred to as BS&R). I am joined by Cynthia Rotruck Carter, currently on staff in that division. As part of the Board's Oral History Project, we are interviewing Roger Cole, the recently retired former director of the division. Roger worked at the Board for 30 years from 1979 to 2009.

Early Years at the Federal Reserve Bank of Boston in the 1970s

MR. MARTINSON. Roger, tell us what you did before coming to the Board and what brought you to the Board.

MR. COLE. I started working at the Federal Reserve Bank of Boston in September 1973. Dick Randall hired me into the discount area. Early on, I moved around quite a bit working on various projects. Soon after my arrival, I was put on a two-man project to tighten the currency destruction process at the Reserve Bank. One of my first assignments was to burn $30 dollars. That number stuck in my mind because it seemed so big then. At that time, there was no shredding. We rolled a pallet of $20 bills into a furnace. Then we crumpled up newspaper, stuck it under the money, lit the paper with a match, and carefully locked the furnace. We came back a day later and everything was ashes. That was memorable.

Not too long after that, I worked on supervisory matters involving the real estate problems in the mid–1970s. Hartford National Bank was one of the victims. From the Boston Reserve Bank's perspective, Hartford's loss of around $30 million was a catastrophe threatening the whole banking system. Sitting where we are today, a $30 million loss doesn't seem large at all. I spent a lot of time on policy issues. I was given the ABC form, the form to analyze bank capital, which provided some crude risk-weighting of assets. Little did I know that that would be a major theme of my entire career in the Federal Reserve System. I worked on various distressed institutions in the First District, and then decided it was time to take a break from the government.

Early Years Working at the Board

In 1978, I went to work for the Wyatt Company, an actuarial firm. I worked for a survey affiliate of the company. I did peer group comparisons of financial performance for a group of four, five, or six banks that had similar characteristics, and provided those comparisons to each of the banks. But the combination of selling the projects, doing the projects, and then briefing the director—who wasn't at the meeting but needed to be briefed—wasn't my cup of tea as a long-term career. I picked up on a job posting by Samuel H. "Bud" Talley that would expand the policy group he headed here at the Board in the banking supervision division. I applied for the job and was successful in obtaining the position. That was my entrée into the Board in September 1979.

MR. MARTINSON. Coming in, I was in the same group. I worked on international matters. Other than Section 23A of the Federal Reserve Act (relationships with affiliates) and starting what became the Top 50, I don't remember much about what went on in there. Maybe those were the two biggest projects.

MR. COLE. As I think back on my career, I boil everything down to a few themes. One is Section 23A. I guess that came out of Hamilton Bancshares in the mid-South. The real estate bubbles that I experienced for the first time while at Boston—and that I continued to experience—and excess leveraging that was obviously a key part of capital were major themes that I kept coming back to over and over. Then the risk management process is another theme. Bud Talley's policy group was a good place to start in getting to know the people in the bank supervision division; Bud is such a great person.

MS. CARTER. John E "Jack" Ryan was the division director then. He served from 1977 to 1985.

Move to the Applications Area

MR. COLE. I worked in the policy area until 1982, and then I moved into applications. I was in the applications area from 1982 to 1987. In the last year, I was a manager. Before that I was a supervisory financial analyst. By then I had developed a good rapport with Jack Ryan, the BS&R director, and William "Bill" Taylor. I was used mainly to work on the problem du jour.

Through most of the 1980s and even the 1990s, crises and problems seemed to be sequential. You had one big problem at a time, and one after the other. That's in contrast to the last three years of financial problems, where we have been barraged by multiple and global situations.

My work back then was dealing with failing institutions, mostly large regionals. New England, Texas, and the real estate problems in the Southeast were major parts of the story. I remember working on a number of cases, such as First Republic and Seafirst. The problems of a significant number of large institutions were dealt with by merger in one form or another. For Texas, we first tried to deal with the problems by merging institutions in-state and then quickly realized that the problems were too big for limited solutions. We started moving to out-of-state acquisitions. At that time, there were restraints on interstate banking, so those mergers were quite precedential in opening up nationwide banking.

One might think that the applications area would be a routine, processing type function; it was anything but that from my perspective. It involved close work with senior management, Bill Taylor and Jack Ryan, as well as the Reserve Banks.

MR. MARTINSON. The application process seemed to be the catalyst for dealing with a number of the problems that were coming on. We used to say, "More capital was raised in Bill Taylor's conference room than anyplace else."

MR. COLE. Yes, what you're saying is true. We did a lot of peer group analysis. There were institutions that stood out on the low side in the amount of capital they had and on the high side in the amount of leverage that they had. We used that quite significantly in getting the support of various Chairmen. We also used it in explaining the positions to the institutions by showing them where a group of their peers were and where they were within that group—at the tail end, an outlier. We had a good deal of statistical support for what we were doing. Also we never gave a number to an institution. We always did our analysis and then said you need to go back and think more about your capital position and see if you can come to us with a somewhat stronger proposal.

One example that sticks in my mind was Citi's acquisition of Quotron. As it turned out, that was ill-fated from the beginning for Citi. From our point of view, Citi needed to rethink the risks and the capital that would be appropriate. Another example that sticks in my mind is one that Tony Cornyn [then an Assistant Director] worked on. I won't name the institution, but it wanted to get into the nuclear reactor business; it would own the reactors and would lease them. We thought that might be risky and not quite appropriate for institutions that are supported by insured deposits. So no amount of capital was the answer there.

MS. CARTER. You said that, at that time, crises and problems were ongoing but sequential. It was a unique time in that there were a lot of firsts in the size of assistance provided. What were your thoughts on how the whole financial system was operating?

MR. COLE. My career at the Board has been a dynamic and absolutely non-routine experience. There has been a continuing flow of interesting situations, one after another, and each has had very specific and unique characteristics. One of the more unique situations was the Hunt Brothers silver crisis, but that was not all that apparent in terms of the new aspects that are brought to the table, and the policy and the financial implications.

I have been given words of advice over the years that have stuck with me, starting when I worked at the Boston Fed. Danny Aquilino was the head of supervision when I started out. Then he became the first vice president of the Boston Reserve Bank. He said, "No matter what you do, don't ever lose a dollar of the Federal Reserve's money. You don't want to lose a dollar of it, period." That stuck with me. I'm not going to say what that means for contracts on computer systems or whatever it may cost, tens of millions of dollars. The lesson stuck with me on the conservative nature of the institution. The Board's BS&R director, Jack Ryan, believed that institutions that come to Washington, or that we deal with, are trying to maximize leverage and minimize taxes. That also stuck with me.

My own view on both the international and domestic fronts, coming out of the recent financial crisis—and I've said this in meetings before my retirement—is that the industry continues to be a real challenge to supervisors. There is a lot of greed and arrogance. And then as things play out with excessive growth and leverage and so on, fear takes over and a lot of risk aversion can set in. Overlayering all of that is a significant amount of incompetence in the management of financial institutions. The driving force on boards of directors seems to be growth, product development, selling, and generating revenue, and it's for somebody else to figure out how to manage that and deal with the risks. The regulators and the supervisors have to provide some moderation to these characteristics. That's been the constant theme through my career and through these various events that we see year in and year out.

MS. CARTER. You mentioned the unnamed bank that wanted to acquire a nuclear power company. There was a period when it seemed as if banks were coming to the Board with applications to get approval for all sorts of activities. This was when there were still quite a lot of restrictions. Do you have any special recollection of that period?

MR. COLE. Ultimately, for banking in the United States, there is heavy reliance on insured deposits and government support. The government support part has become a clear reality in the current crisis. Even more than the deposit insurance, which isn't such a large portion of funding at a number of the big banks now, the government support creates a significant moral hazard. And that is more so today than even in the past, when I started out. Depending on what happens going forward, and for institutions that have received the massive support recently, there could be a message that, if you are big enough and important enough to the global system, the government will support you. That has an impact on risk-taking. We're seeing how that's dealt with for institutions that are receiving support today. Throughout the process there's always been a focus on the moral hazard aspect of insured deposits, and an effort in that regard to provide some constraint on the risk-taking of those institutions, to provide some parity with the underlying funding aspects of the institutions. I think that, as Greenspan used to focus on, there really does need to be some effective compensation for the insured deposit advantage that these institutions are given.

MR. MARTINSON. In the 1980s, there were a series of one-off problems—Continental Illinois, Bank of New England. Do any stand out in your memory?

MR. COLE. I was not that involved in Penn Square and Continental Illinois. I spent a lot of my time on the problems in Texas and the Southeast. Real estate problems came up again and again. In the mid–1970s there were real estate problems in New England and, in the 1980s, with the S&Ls. The Southwest had real estate problems. Then New England showed up again towards the late 1980s. And the big institutions such as Citigroup got caught up in the commercial real estate side in a significant way in the late 1980s, early 1990s. I'm not saying that real estate was the only bubble phenomenon; it was just an issue that tended to come across my desk over and over. Clearly, you have issues like the silver bubble with the Hunt's; you have excess leveraging in the highly leveraged transactions and all of the money that was being pumped out through them in the 1980s—and that was commercial as well as residential real estate.

So there is this bubble phenomenon, and it's difficult for regulators to step in preemptively and moderate that. If you look through the guidance that the Fed has put out, you will find that the Fed was anticipatory in putting out guidance on excess lending, excessive leveraging for HLTs (highly leveraged transactions), for commercial real estate and real estate lending in general. There's a litany of guidance that's been provided on these various excesses, going consistently back through the history here. And yet, over the years, we have received a lot of pressure from the industry and various other sources to not be overly draconian in our approach. We had the credit crunch in the early 1990s. That is a concern on which we've been very focused. If you clamp down too much, you constrain real economic growth in an undue manner. This is a balancing act that we've faced, but the reality is that, as Bill Taylor said, one thing that we have to do, and do quite well as supervisors, is get the dead dogs off the road and get them out of traffic. It's just that some of the dogs have become elephants [laughter] and they're harder to get out of traffic.

William "Bill" Taylor

MS. CARTER. You were an assistant to Bill Taylor for a while.

MR. COLE. Yes, I was working in the applications area. We were working on a lot of cases that required good charts that laid out the peer group comparisons. In 1986 or 1987, Bill sent me out to buy four personal computers; that was the beginning of the division's IT (information technology) function. I went to a local computer store and bought four computers. There was no bureaucratic impediment to it. I bought the PCs, unpackaged them, and set them up. There was a chart-making feature. It had strings and a pen that made the chart; it was really neat because of all these moving things on this chart where you could see it being made.

There was this competition between Mike Bradfield [General Counsel, 1981–1989] and Taylor and so Bradfield was very interested in the fact that Taylor was getting into these newfangled techniques. Bill offered me an officer position as head of the IT area. Fortunately, I had the wisdom to decline the position. It wasn't in my interest. Shortly after that he offered me the job as his assistant. I was his assistant from 1987 to 1988. Then I became an officer in the policy and financial analysis area in 1988. Working for Bill Taylor was insightful. For some reason, I was a protected individual. I was never confronted in a significant way by Bill except maybe one time. He was somewhat unhappy when we had a dinner for all the senior VPs and the bill for the dinner ended up on his credit card. [Laughter]. That might have been one time when he was a little displeased.

From what I observed of Bill's management style, he was very direct. He was not reluctant in making his thinking clear to individuals at the Board and to bankers, especially bankers trying to soft-pedal what they were doing and not talking about the risks and the problems that they were in at that time, let alone headed for. And it often revolved around issues of capital and, again, this whole question of arrogance and greed. Whenever Bill detected a significant element of arrogance in bankers, he definitely addressed that quite significantly and forcefully in expressing his own thoughts on the situation.

I got a first-hand view of Bill Taylor at work and at play. He was a great team leader, and he built a hugely supportive staff that loved him. We would have picnics at his house every summer when it was over 100 degrees. Somehow or other the division was able to figure out when it was the absolute hottest day of the summer to have a picnic, and there we would be.

MR. MARTINSON. And you had to make sure that you got in one of the pictures so they knew you were there.

MR. COLE. Right, right. [Laughter]

MS. CARTER. Do you remember the picture of Bill in a sleeveless tank top, shorts, and a floppy hat, walking around with a beer?

MR. COLE. Yes. We would have foot races. Bill was fast, and he would not let anybody beat him without a real push to win. He was an outstanding person to work for and with. I learned a huge amount from him on the importance of team building. When I took over the director's spot, I reverted to my Bill Taylor lessons in two regards. First, I thought that I should plan for a crisis. I didn't think there would be a crisis because everything was booming along, especially when I stepped in as acting director in June 2006: Real estate prices were up and things were booming. But, given what I learned from Bill Taylor, I thought I should set up a structure that prepared me to handle a crisis in case something happens. That's one of the reasons I set up the three deputy structure and brought in strong people to be those deputies.

Second, I was not going to be Bill Taylor. I was not going to be the point person that knew everything and was the go-to-person on everything. I wanted good people under me that would be recognized go-to people. We had the great luxury of having three good deputies and a line of officers under them who were outstanding in their experience and analytic capabilities and knowledge. Those were virtually all individuals who had been through the trials and tribulations of the 1980s and 1990s, so they brought a huge wealth to the table, when in fact a major crisis did occur. It was hugely important to me to have worked with Bill and to have learned those lessons.

MS. CARTER. Back then, the division grew a good deal. In particular, the policy side was built up. Do you have any perspective on that?

MR. COLE. The division probably doubled in size in the 1980s into the early 1990s in large part to build up the supervisory side to deal with all these supervisory issues. There was some addition to policy and applications or whatever, but a lot of it was to build up the supervisory side. As we got into the 2000s, there was some migration from the supervisory to the policy side in the reallocation of resources. In the last three years, with the crisis we've been under, there's been some significant pressure to reallocate more towards the supervisory side. We have always had a full plate; it's the composition that tends to change in emphasis. Right now, there's a full plate for both the policy and the supervision side.

Transition from Volcker to Greenspan

MR. MARTINSON. With the transition from Chairman Volcker to Chairman Greenspan, what do you remember about how each regarded supervision and how it might have changed or not changed?

MR. COLE. Volcker, Bradfield, and Taylor had a tight relationship. Volcker relied on Taylor and Taylor's staff for a lot of data, financial analysis, peer group comparisons; he wanted a lot of financial information on a rapid-fire basis to provide support to his thought process. And Volcker worked closely with Taylor and Bradfield in devising solutions and ways forward. That, in turn, meant that Taylor relied heavily on staff; he was very demanding on staff to get the information right away. People spent long nights and weekends generating this information.

When Greenspan took over, he was almost immediately hit by the stock market collapse, when the market declined over 500 points in one day. He was also hit by the reality of dealing with some big institutions up front. Citi was a very visible problem on his watch. So he was focused on institution-specific challenges, the real estate problems, then the credit crunch problems, and so on. With the passage of FDICIA (the Federal Deposit Insurance Corporation Improvement Act of 1991) and the energy that the Congress was bringing to bear to do something, the regulators were under a lot of pressure to come up from what they were presented by the Congress: specific requirements on things like interest rate risk, concentration risk, risk management, really kind of hardwiring the process. At that point Greenspan was very involved in setting a tone of developing principles but not hardwiring and being overly prescriptive in requirements.

That carried the day in the regulatory response to all of the legislation that was being passed. Then there was the issue of the credit crunch: Were regulations and capital requirements creating unnecessary restraints on credit? We worked on doing a balancing act with Greenspan on that.

In reflecting on the two individuals, Volcker was very hands-on in dealing with institutions and very forceful in the requirements for those institutions. Greenspan was also involved in a number of specific institutions, and the results were forceful in the actions that were taken. But, as time moved on, and the issues of the credit crunch and excess regulatory constraints arose, Greenspan was sensitive to the need to balance the necessity for constraints imposed by regulators and supervisors and the desire not to, in the process of regulating, kill innovation in the markets. I think that's what we witnessed in a significant part of the 1990s.

Capital Requirements

I would be remiss not to wind capital through all of this. This is a game that will go on as long as there are financial institutions and supervisors and regulators, I'm convinced. And there's an analogy here with counterfeiting; if you go back to Babylonia, Greece, Rome, or Egypt, you'll find instances in which the bureaucrats were trying to outwit the forgers and the counterfeiters of whatever the currency was. Every development in currency or the medium of exchange was met with a new way to outsmart it in forgery. This is history that goes back forever in that regard, and it's the same way with capital. There's an interest in constraining excessive leverage in financial institutions that goes back a very long time. It's clearly caught up with the boom-bust history that's so clear. Throughout my whole career, this has always been very evident. I've always been involved in the efforts to set up capital constraints and then re-devise the capital constraints because they're being circumvented by the industry.

For example, in 1974, I was looking at the ABC form at the Boston Fed. That was dropped not too long after that because it was regarded as arbitrary, and some institutions were feeling constrained by it. They were probably making pretty good arguments that the constraints were not statistically justified. So what I witnessed throughout much of my career was an effort to make the capital requirements more statistically valid. Economic capital was a guiding principle. We want to have capital requirements tied down to economic capital and to models that are good.

Going back to 1981, we came up with what's called a primary capital ratio. As I remember, it included equity and reserves in the numerator, and also had a secondary component of capital that was debt-like. Of course, recent events have shown that debt-like capital isn't worth much in the ongoing viability of the institution. In any event, what happened with the primary capital was that the reserves became a large proportion of the numerator, and the equity was a small proportion. We thought that didn't seem right; in effect the reserves were significantly allocated reserves against known or very suspect assets. So we put constraints on the amount of reserves, and then moved to a more risk-based regime in the late 1980s, which ended up with the first Basel I agreement. Bill Taylor and Rich Spillenkothen deserve a lot of credit for making that happen. Then there was a slight problem there in that it didn't include interest rate risk—it didn't include the trading account. So there was this great push to use models based on value of [at] risk, to come up with a requirement for the trading account, and that resulted in amendments in 1996, 1997 for the trading account. That set the stage for moving to a more fully based models approach for credit risk that was in off-balance sheet positions, which was at the heart of the Basel II requirements, a lot of the three-pillared approach. For that regime, we discovered that it was hard to implement in a number of countries overseas, it was hard to supervise, and the modeling itself was only as good as the data that was being fed into the model. There were significant challenges in data that probably continue.

We have moved to a more sophisticated approach. Financial engineering has pushed us there in significant part, and I don't think that's going to change. We are moving into the 21st century. The technology and engineering are there, so I don't think there's any turning back to the simpler days and formulas. But capital continues to be a significant challenge and has been exposed as such in the recent crisis. And excessive leverage has been clearly revealed at a number of financial institutions.

Risk Management

MR. MARTINSON. Let's go through risk management.

MR. COLE. We had been focusing on the risk management process significantly since FDICIA and the early 1980s, but I think it continued to gain steam throughout the 1990s. Betsy Roberts deserves a lot of credit for the drafting and the work that she did. Jim Embersit was involved heavily too, but there was a series of supervisory guidance put out on sound risk management and the exam process was revised to reflect that. The overarching theme was risk identification, quantification, monitoring and control, and limits. We took this approach very significantly and hard, and dealing with all of the alternatives, which would have been to hardwire requirements, and recognized—and I think that's still right—that it was crucial for directors and senior management to set the tone, set the culture at the top of the house in these institutions. We also insisted that a good risk management process be in place throughout the organization. This is something we focused on throughout the 2000s, and certainly the last part of the 1980s.

We looked at individual items such as interest rate risk and concentration risk, and concluded that it would be difficult to come up with quantitative constraints there, so that it was clearly setting the expectations so the firms have the quantitative analysis in place to make the appropriate decisions. Notwithstanding that effort and an effort to carry that forward internationally, we learned that there's still a great deal to be done there. This is an area of lessons learned on the recent crisis, it does show up as an area where more needed to have happened in the culture at the top. The focus of the firms, which was straying away from sound risk management, was on generating product, buying loans, packaging them, and selling them into the securitization market. Financial institution managers didn't think that the risk resided on the balance sheet and didn't recognize that there are a whole lot of tentacles to this risk that did tie back to the institution and were not properly captured by the risk management system.

All this was done on an explicit interagency basis throughout the 1990s. I think we came up with a series of good SR (supervisory) letters and guidance. We haven't felt that we need to revise, in any fundamental way, the guidance that was produced during that period. But we do need to make sure that it is, in fact, being implemented in a rigorous manner.

MR. MARTINSON. My view was—maybe from working on the LDC (less developed countries) debt crisis—that concentrations kill. And usually there are things that people don't think are risky at the time. I've always regretted that all the intellectual capital that went into Basel II wasn't redirected more towards doing something about quantifying concentration.

MR. COLE. Yes. I've talked to people who've worked on Basel II, people like Darryll Hendricks [Vice President, Federal Reserve Bank of New York] who certainly had a major hand on it, myself and others, and I think we can uniformly say that at some point in the process Basel II became almost an insular process. In addition to supervisors, there was significant industry involvement in this. The group became increasingly focused on a given set of issues. I think it would have benefited from a reality check of what was actually happening and from recognition of what was actually taking place within the firm and where the risks were building up. The classic example is the senior traunches, the securitizations that were regarded as virtually risk-free because they were so highly rated and so remote from the probability of loss, but which resulted in substantial concentrations and ultimate losses.

One of the challenges throughout this process—and one that remains going forward—is that it's possible to focus in on a process, and a lot of the details of the analysis, work with the firms to improve the models and get a lot of things right, and still have some very crucial aspects of the business that are wrong, and that can bring the institution down. A real challenge is avoiding coming up with checklists or processes that aren't dynamic, flexible, and alive in dealing with what's happening in the markets and where the concentrations are building up. The concentrations are ultimately where the big vulnerability is because that's what wipes out the capital in a major way.

Basel

MR. MARTINSON. When you went into applications, Bill Taylor was the leader. Then he left, and Rich Spillenkothen came in as division director. How did your life change after that?

MR. COLE. My life didn't change much when Rich came in. It changed when Tony Cornyn left and Rich suggested that I go to a Basel committee meeting. Tony had typically gone to the risk-management subgroup meetings of the Basel committee. Around 1991 or 1992, I went to my first Basel subgroup meeting. We were starting to work on interest rate risk for the capital requirements of Basel I. That was one of the areas recognized as needing work. From that point on, my work at the Board became significantly intertwined with the whole Basel committee process and the development of supervisory guidance on an international basis. We took what we had been doing in the United States and made it available through guidance at the BIS (Bank of International Settlements), working with the rest of the countries at the BIS, getting their buy-in, and getting their suggestions and enhancements to the guidance. But we largely leveraged off of what we'd been doing in the late 1980s, early 1990s and then pushed that forward into the Basel process.

As I mentioned, in the mid–1990s, the trading book work was significant in setting direction and moving towards modeling, and also putting a lot of pressure on the firms to aggregate data. When we started working on the trading books, the big U.S. firms were not able to aggregate their trading positions on a consolidated basis. Subsequently, they've made a lot of progress in that regard, which isn't to say that there's still not some room for improvement. So, for trading positions, that was very worthwhile. And, as we're moving forward today, there's a lot of work that still needs to be done to enhance data quality for the credit area, and some of the other areas in these institutions.

The real focus of Basel work after 1997 was the development of Basel II. A lot of the early 1990s was spent working on some of the aftermath of the excesses of the late 1980s. Then there was the credit crunch period and after that, from my perspective at least, the risk management guidance refinements and other Basel-related work. And there were always the accounting issues and all of the other issues du jour that permeated the day's work.

MS. CARTER. At that stage were most of your daily interactions outside of the System—with representatives of other banking agencies and other countries through Basel—as opposed to working with the Reserve Banks?

MR. COLE. Yes, definitely. Steve Schemering was heading up on-site supervision.

MR. MARTINSON. My memory is that we put in that market-risk capital minimum that put in some new intellectual principles, but then never generated much capital for this.

MR. COLE. Oh yes. The market-risk process was good in its education on the supervisory side, both domestically and internationally, in the various aspects of quantifying and managing trading risk and encouraging institutions to create the databases they needed to aggregate their exposures. But there was an overly optimistic reliance on models and on the

VaR (value at risk) process. And the real fly in the ointment there was the use of a normal distribution as the key driver. Even back then we knew that a normal distribution was not right; that's one of the reasons we threw in the three multipliers. We could argue that the three multipliers, along with the confidence level that we chose—99 percent and so on—got you up to 18 or so standard deviations of exposure. The 1987 market crash was maybe [a] 22 standard deviation, but this was all pretty fluid reasoning in becoming rigorous on the tail risk that was inherent in the trading function.

It wasn't until the recent crisis that a number of firms saw the full shortcomings of the VaR process; they now use the VaR process as one building block in developing a much more robust stress approach to getting their hands around the risks inherent in the trading book. And there's not a simple, straightforward way of doing that. How you model things like the liquidity risks that we've witnessed, and other aspects of the stress that have occurred and impacted these trading books, is not at all straightforward. You go to these conferences that are offered now by academics, talking about lessons learned and so on, and it's a pretty straightforward, honest acknowledgment that there are events that can rapidly move you outside the ability of conventional models to deal with. That's the real world, and that's what has to be addressed, one way or another. Whether it's through liquidity provisions or concentration provisions, and so on, it does need to be part of the equation.

We've moved well beyond what we did for market risk in realizing the difficulties of what we're trying to do. Still it remains to be seen how we as supervisors actually do that in a consistent way, in a way that could be the basis for an international agreement, which is the difficult part of this. It's one thing to work with an individual firm in the United States that's committed and has set the culture at the top of the house and committed the resources to build a credible, good system. As supervisors, we are doing that—working with the Reserve Banks and doing a lot in that regard. But moving that to some type of consistent framework is particularly challenging given the complexity of what has to be dealt with on an international basis. It's even more challenging given that the membership of the Basel Committee has greatly increased, and the breadth of interest and sophistication of countries at the table has greatly increased.

MS. CARTER. Going back to the Basel process in which you were heavily involved, do you recall any challenges dealing with particular countries or the regulators? Was there a lot of negotiation involved?

MR. COLE. I look back at the Basel process from my time in the 1990s through the release of the Basel II document in mid-2004 as a positive experience. There was a great deal of cooperation and willingness to work together, even though there were some countries that brought to the table specific issues politicized within their countries and that demanded that they get some specific treatment on risk weighting, or whatever. Those countries were dealt with in ways that didn't compromise the overall framework. They provided footnote exceptions and so on. But it was a very positive environment in the meetings and the working groups, and there was a huge amount of energy that was spent trying to get things right.

Could there have been more involvement with actual traders, as opposed to just the risk managers at the firms that were representing the firms? Probably, yes. In kicking the tires along the way, there probably was more opportunity to do that, rather than to spend a lot of the time in sub-group meetings composed of members of the Basel Committee countries, and then joint meetings with members of the industry representing the risk management function. As I've said in the past, the problems with that, as we now know, is that the risk management function of many of these firms tended to be quite insular within the firm, so that they did represent their function but they didn't necessarily represent what the firm was doing. I think that's a huge challenge, which created problems and shortcomings in the accord, and is something that needs to be dealt with head-on more forcefully going forward. Some firms now are creating director positions at the top of the house for risk management, similar to an audit director. There's also now starting to be more use of a risk manager director that is a point person in making sure that the right information is getting up to the directors and to the senior management, and pushed down to the line functions. That's a huge step forward because that was not happening at a lot of firms; we know that now, in terms of lessons learned.

MR. MARTINSON. At some point in the 2000s, it seemed like Basel II took on a life of its own and became the biggest consumer of overall supervisory resources. Since you were essentially our person at Basel, what was your perspective on the dynamics going on during that period of time?

MR. COLE. Senior supervisors at each of the Basel countries did quantitative impact studies to get some idea of what the capital implications would be. And there was a great deal of involvement of certain Governors here and, on the interagency basis, by the heads of supervision. That was a time-consuming process, and it had shortcomings in data quality; in a number of cases there was a paucity of data to feed these systems. One of the problems with the modeling approach is that it looks back, and if you don't have back data that makes it challenging to feed these models.

But, notwithstanding that, various methods were developed to create quasi-data in-house, if you had the data and make assumptions and so on, recognizing that it would get better as time went on. Another problem was that we were going through a fairly benign credit period, so we didn't have that much on mortgage losses and whatever. This was a problem that the United

Kingdom clearly flagged when it looked at the results—we're not getting much capital here because there are virtually no mortgage losses. So at that point we realized that this will get better as we go through a cycle, and go through a downturn and bring that data in. Little did we know the extent of the downturn for which we were headed. But there was a lot of supervisory time and attention at the senior-most levels focused on getting final international agreement, and then final domestic agreement that was, in itself, a big challenge because of the interagency process and the different thoughts of people involved in that. So it was a resource-intensive process, and I think continues to be so in trying to figure out where to go from here.

MR. MARTINSON. Do you have any recollections about Chairman Greenspan's involvement in overall supervision toward the end of his tenure as Chairman?

MR. COLE. Well, in the last years, he assigned his responsibility in the Basel process to the Vice Chairman, Roger Ferguson. Before that, Governor Laurence H. "Larry" Meyer was the point person. We worked intensely with those Governors. They were heavily involved in the decisionmaking process, the interagency process, and the international process at the Basel Committee. We had direct oversight by a Governor, but not Chairman Greenspan himself.

MS. CARTER. Were the Governors mainly briefed through the oversight committee structure?

MR. COLE. No, Ed Ettin, David Jones, Myron Kwast, Michael Gordy, and others would have pow-wows in Roger Ferguson's office. With Larry Myer, we had meetings in the Special Library room a couple of times a week, especially when we were getting ready for a Basel Committee meeting. He would attend and be involved in the Basel Committee meetings in which key decisions were being made.

MS. CARTER. Any particular memories about that time with those Governors?

MR. COLE. It was a very deliberative process in getting a uniform position for the Federal Reserve. They also helped in working with the principals from the other agencies and getting a United States position. Throughout this process the Congress was very interested in what we were doing. The Congress didn't want a divisive supervisory position on Basel issues. When we briefed them, we were told over and over again that they didn't need to understand all the fine points of what we were doing; they wanted the comfort of all of the agencies coming and saying that we were in agreement on a way forward.

It was a challenge to reach a consensus on an interagency agreement that would be useful internationally, as well as placate the Congress that we had sorted this out and were in agreement. It was a complex structure with so many moving parts—different risk weights and treatments of off-balance sheet positions, reliance on modeling and on data quality, and so on—that there were very legitimate reasons for differences of opinion on what constitutes a credible approach. The crisis that we recently went through, and are still sorting through on a way forward, highlights why there are differences of opinion.

Asset Bubbles and Risk Management

MR. MARTINSON. Alan Greenspan's Fed chairmanship ended in January 2006. Are there any other historical points you want to address?

MR. COLE. I would reiterate that asset bubbles are challenges that need attention. They are difficult and are such a factor in the problems that we've seen. It's certainly a major problem when the concentration of these assets bubble at an institution, and it's very hard to identify a concentration given all the manifestations that exposure to a bubble can take. That's one of the clear lessons. Going forward, I don't know whether a council would be able to deal with bubbles, but it's a challenge that needs attention. I can't say that we've done a great job of preempting bubbles. The risk management process still needs a lot of work at most financial institutions. We've put out all this guidance that goes right to the heart of what's appropriate. Recently, we put out consolidated supervision guidance, which makes it clear that it's crucial for an institution to tie the whole risk profile together on a consolidated basis and manage it on a consolidated basis.

But, all that said, it's clear that this is a continuing process that requires direct involvement by the directors and senior management. They've got to be in there pushing on a day-to-day basis to get the relevant data and understanding changes in the markets. Then that information needs to get up to the top of the house, to the directors and other decisionmakers, as well as senior management that are involved and not just a very few of the senior management. And then it needs to get down to the line folks in the firm for actual practice. This continues to be as much of a challenge today as it was 10, 15, 20 years ago, which to me reveals that all along the way more could have been done. There was a gap between what we were pushing out as guidance and requirements, based on working with the industry and agreement on what was the appropriate guidance, and the way in which the guidance and requirements were implemented within the firm. That gap still needs closure and I think that probably goes back even before the time period that we've been talking about.

It's a basic necessity for a financial firm to understand the risks of engaging in particular activities and to manage those risks in an appropriate manner. There is a tendency to focus on growth and product development, and to let the revenues that flow in from that cover the sins of not doing more risk management.

Structure of the Federal Reserve System

MS. CARTER. You spent most of your career at the Federal Reserve in Washington. What are your views on the Federal Reserve as an organization, or the core structure of the Federal Reserve System?

MR. COLE. My career in the Federal Reserve System, and especially my time at the Board, has been rewarding. The Federal Reserve is a first-rate organization that is very important to the functioning of the financial system in the United States. The Reserve Bank structure was set up by the Congress to create representation from the various districts and regions within the country, and it does that. It provides outreach to the regions.

The interagency process has been my focus and has taken a lot of my time. By and large, that was a productive process. I believe that the central bank needs to be involved intimately in supervision. There needs to be an FDIC, a deposit guarantee entity that is also involved in supervision because there are different perspectives, and I think the debates that come between the two organizations are healthy. And there definitely is a role for the Comptroller of the Currency under the Treasury. I think the tension and debates that we've had over the years have been healthy in developing a way forward and adopting the change. It hasn't always been easy, but that's life. Based on my experience, the overall structure and functioning of those entities is positive.

MS. CARTER. From the beginning of your career, have there been changes in the organization that surprise you?

MR. COLE. Our focus hasn't changed all that much. We're still talking about basics for deposit insurance and the moral hazards that involves and the use of not just the discount window, but all of these other liquidity facilities to provide support to institutions. That's somewhat expanded and the willingness to support these institutions. Section 23A is very much an alive issue in protecting insured depository institutions from other aspects of the organization. There are more people. The financial instruments are more complex. But the basic risks aren't that different. Globalization is hugely more intense—that's a major factor now—so there's much more importance and focus on the international aspects of what we're doing. But when it comes right down to it, there are basic principles and necessities, such as avoiding excessive leverage, knowing the risks, managing the risks, recognizing when bubbles are forming, and stepping back from the party, not necessarily relying on somebody to take the punch bowl away. There were institutions that did see that, and did step back from the current situation.

There's a lot that's bigger, and seemingly more complex, but there's also probably even more that is fundamentally the same in what's needed, and in the supervision of sound financial institutions, and the role this institution plays in that.

MR. MARTINSON. Thank you.