Federal Reserve Board Oral History Project

Interview with

Donald L. Kohn

Former Vice Chairman, Board of Governors of the Federal Reserve System

Date: May 27, 2010, and August 5, 2010

Location: Washington, D.C.

Interviewers: David H. Small, David E. Lindsey, and James Clouse

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

May 27, 2010 (First Day of Interview)

MR. SMALL. Today is Thursday, May 27, 2010. This interview is part of the Oral History Project of the Board of Governors of the Federal Reserve System. I am David Small of the FOMC (Federal Open Market Committee) Secretariat in the Board's Division of Monetary Affairs (MA). I am joined by David E. Lindsey, who was a deputy director in MA when he retired in 2003. Also present is James Clouse, currently a deputy director in MA. We are conducting this interview with Donald L. Kohn, the current Vice Chairman of the Board of Governors of the Federal Reserve. Don started his career in the Federal Reserve System in 1970 at the Federal Reserve Bank of Kansas City. This interview is taking place at the Board of Governors in Washington, D.C.

Don, thank you for taking time to participate. All of us here, for significant parts of our careers, worked for you. It was a pleasure, and thank you for that experience.

Background and Education

MR. SMALL. Let's start with your family background, early education, and the training that led you to the Federal Reserve Bank of Kansas City.

MR. KOHN. I grew up in the northern suburbs of Philadelphia, Cheltenham Township, and attended Cheltenham Township public schools: Schumacher Elementary School, Elkins Park Junior High School, and Cheltenham High School.

Both my mother and my father worked in the nonprofit public-service sector. My mother was an elementary school art teacher, and my father worked for the YMHA, or the Jewish Community Centers of Philadelphia, as the comptroller.

I have two siblings. My sister is a recently retired public school teacher; she taught in the suburbs of Detroit. My brother is a refugee from the hippie generation. He was on a commune in southern Oregon and ended up as an entrepreneur. He owns some shops that sell wood stoves, pellet stoves, and has a chimney sweep operation in south Oregon.

I was an undergraduate at the College of Wooster in Wooster, Ohio. I was looking for a small liberal arts school. Wooster was a good school, and I was impressed when I went for a visit. Since graduating, I've been back every couple of years for one thing or another. I gave a lecture there once and was part of a symposium once. I received an honorary degree a couple of years ago.

I went to the University of Michigan for my graduate studies. I liked Michigan because it had a policy orientation. Unlike many others, I came to economics from the softer side rather than the harder side. I wasn't a failed physics major who ended up in economics the way so many people I know were. When I went to college, I thought I might major in history. I loved history, and I took a bunch of history courses. But when I got into economics, I really liked the idea of applying a disciplined and orderly way of thinking about problems to an aspect of human endeavor. And I liked the fact that you could apply that orderly, disciplined way of thinking about people's behavior to public policy issues: how many people are working, how wealth is distributed, welfare, and that sort of thing.

I took my first economics course as a sophomore, Intro to Economics. I had terrible teachers in my introductory courses, but I liked the subject. Paul Samuelson's textbook attracted me. I ended up majoring in economics at Wooster, and I went to the University of Michigan in large part because it had a reputation of being a good school with a policy-oriented approach. Michigan sent a lot of people from its faculty to the Council of Economic Advisers.

MR. SMALL. You're known as a clear, precise writer. Were you always good at writing?

MR. KOHN. No, I wasn't. I remember turning in the first draft of my dissertation and getting back a comment from my adviser saying, "I think all the things you need are here, but it's really hard to understand. You need to go back and do a thorough rewrite of this document." [Laughter] When I emerged from graduate school, I thought I was a better writer than I actually was, but it took some doing and some discipline to become a good writer.

MR. LINDSEY. You still rewrite.

MR. KOHN. I still rewrite, absolutely.

MR. SMALL. So now we know where you got the saying: "This needs a thorough rewrite; go back and try again."

MR. KOHN. [Laughter] I think the clarity of writing helps to make you think more clearly. Oftentimes, unclear writing reflects unclear thinking—not always, but often it does—so when something doesn't make sense, you dig a little deeper. It's usually the idea that you're trying to express that hasn't been thought through as thoroughly as it could be, as it should be.

MR. SMALL. What was your Ph.D. dissertation?

MR. KOHN. It was on German monetary policy. I had a grant from the Ford Foundation. I think the Foundation had given the international studies aspect at Michigan a bunch of money to fund some dissertations in international economics. I don't remember how I chose it, but the topic was whether the Germans had the freedom to tighten their monetary policy or ease it, as the case may be, in the fixed-exchange-rate era of the '50s and the early '60s. I don't remember it all that clearly. I do remember that it was a very educational process.

German monetary policy worked through its commercial banks. I ended up exploring theories of commercial bank asset and liability management. That literature, as well as some of the international finance literature, led me to portfolio theory—how the people at the banks decide what to do. I was reading Markowitz and stuff like that. I never reached a conclusion, so I never published the thesis because, in the end, the data didn't support a firm conclusion. But it was a good exercise, and I learned some econometrics in the process of doing it.

MR. SMALL. At that time, were you developing views of the likely unraveling of Bretton Woods?

MR. KOHN. I think I already thought that. At the College of Wooster, I wrote my senior thesis on floating exchange rates. I remember reading Milton Friedman on the subject. I was highly skeptical that the fixed-exchange-rate system could persist, so I think I was already skeptical about Bretton Woods before I got to the University of Michigan.

MR. SMALL. You received a Keynesian education?

MR. KOHN. I received a very Keynesian education at Michigan. The best professor I had, especially in domestic monetary and fiscal policy, was Warren Smith. Unfortunately, he died at a young age not long after I left. He was a terrific teacher, and he taught a course called Stabilization Policy. He went through monetary and fiscal policy interactions. We had, as required reading, a lot of monetarist stuff, a lot of Milton Friedman, Meltzer, and others. In the end, it was pretty clear what Warren Smith's views were.

Milton Friedman came to visit the campus a couple times while I was in graduate school. One visit was during my first year. There was supposed to be a debate between Friedman and Warren Smith. The debate took place in the undergraduate library. It was a good lesson in economics, because they ended up arguing about the size of coefficients in certain equations and what the implications of that were. I went expecting to see something like *Firing Line,* but it was really two economists arguing very specific things and the implications for how they saw the system working. It was a really good education. It wasn't "He said, she said," it was "Let's talk about the specifics of how these things fit together."

MR. LINDSEY. Did you take any of Gardner Ackley's classes?

MR. KOHN. No, I didn't. He was in Washington at the time (at the Council of Economic Advisers). He came back, I think, at the end of when I was there, but I never took any of his classes. We used his textbook. It was very Keynesian. And we were tested on that in our comprehensive exams; we were expected to know that stuff.

MR. SMALL. Do you remember what you thought of the state of the Phillips curve and rising inflation? Was the Phillips curve stable, and policymakers could move the economy up and down on it?

MR. KOHN. I think Warren Smith taught that it was stable—this would have been 1965—and that you were making choices along the Phillips curve. We certainly read that Samuelson–Solow article. In that article, they write about the effects of expectations.

MR. LINDSEY. The quarterly model in the Board's Division of Research and Statistics didn't have a totally vertical wage equation until 1972.

MR. KOHN. Yes, and there was—still is—a quarterly model at the University of Michigan that I'm sure the same people probably were working on, going back and forth.

MR. LINDSEY. Edward M. "Ned" Gramlich went from the Board staff to Michigan. I think he worked on the model at Michigan.

MR. KOHN. Yes, but he was there after me. I didn't overlap with him. Barry Bosworth worked on the model a lot as a graduate student the same year I was there. He is now over at the Brookings Institution.

MR. SMALL. What was your view of the profession as you were leaving Michigan?

MR. KOHN. I think it was a pretty standard Keynesian view. As I said, Friedman came that once, and then again. We had a good time the second time. He was brought in by the Libertarian Society to give a lecture to the undergraduates. I was a teaching fellow. Two other teaching fellows and I required our classes to go to his lecture. After the lecture, three or four of us went up to the front of the room, introduced ourselves as economics graduate students, and said to Milton, "Would you like to come out for a beer with us?" And the undergraduate guy who was sort of shepherding us around said, "Oh, no, Professor Friedman." And Friedman said, "Of course. Let's go for a beer." So we went out. All the bars were pretty noisy, but a bar next to a bowling alley wasn't. We had a great conversation with Friedman for several hours after his lecture.

MR. SMALL. Friedman came up with the natural rate of unemployment in 1968.

MR. KOHN. Right. So in 1964, 1965, 1966, when I was taking courses, that wasn't yet in the air. But that was a time in which you didn't yet have much of the beginnings of the acceleration of inflation, so I guess inflation expectations were pretty well anchored in 1964, 1965, and 1966. You had a little recession in 1965 and 1966.

Working at the Federal Reserve Bank of Kansas City

MR. SMALL. How did you get to the Federal Reserve Bank of Kansas City?

MR. KOHN. After I graduated from Michigan, I had two offers in the Federal Reserve System: One was at New York, and the other one was at Kansas City. The Kansas City offer was for $16,500, and the New York offer was for $17,000, but it was obviously going to cost a lot more to live in New York.

I talked to Mike Hamburger. He was recruiting me for the New York Fed. I asked him, "Where do you live? How long does it take you to get to work?" He replied, "I live in this nice garden apartment, and it only takes me an hour to get to work." I had lived in garden apartments in Michigan, and I didn't want to do that again. Also, I was concerned about going to New York and getting slotted narrowly into some specialization. Kansas City had a good research department that had sent a lot of people to the Board—Lyle Gramley, Sam Chase, Fred Struble, and people like that. So I was attracted to Kansas City because it was a smaller place, and I felt my real salary would be higher in Kansas City.

Kansas City was a good place to work for a number of years. Four of us arrived in 1970. I came first in January 1970. I don't remember the exact order, but the three other people who came the same year were Mike Prell, Steve LeRoy, and John Rea. I was from Michigan, Mike was from Berkeley, Steve was from Penn, and John was from Wisconsin, so it was a pretty good recruiting class.

MR. LINDSEY. Was Robert D. "Bob" Auerbach there?

MR. KOHN. No, he came later.

The four of us got along great. We had a lot of interaction at work; it was a nice crew of people. And we socialized outside of work—our families socialized. Gradually, everyone drifted away. I can't remember who left first. Mike went to the Board. Steve went to the Board's Special Studies Section to work on the stock market equation. John Rea went to Oklahoma State to be a professor. And there I was. Let's just say, I didn't feel as simpatico with some of the people who replaced them.

MR. SMALL. Were you recruited for your international expertise?

MR. KOHN. I think so, but I made it clear that I didn't want to be recruited into a narrow international slot, partly because of the influence of Warren Smith and the course that covered basically domestic monetary and fiscal policy. I wanted to do a variety of things.

MR. SMALL. Do you remember any initial projects?

MR. KOHN. I did a bunch of things. The last project I did was international. It was on capital flows and exchange rates. It was stock–flow models and different shocks—

MR. SMALL. This would have been after going off gold.

MR. KOHN. Yes, this was 1975. I did a project on that. I recall I had a lot of articles actually reprinted a couple times in various things. My model had demand and supply shocks under various assumptions about fixed and flexible exchange rates. Dale Henderson helped me when I sent the article back to the Board.

I did a project on minority-owned banks in the 10th Federal Reserve District. There were about three or four. Some of them were Hispanic-owned banks in New Mexico. I did some work on bank holding companies and bank structure issues. Part of the duties that one had was to help out in that area. Going out and assessing whether a particular bank holding company application was meeting the convenience of these rural communities was not my favorite thing to do, but I had one great trip around New Mexico. It taught me about what happened when the financial sector met the real world on the ground in the 10th District. But at the time, I was annoyed.

MR. LINDSEY. You briefed the Reserve Bank president before FOMC meetings?

MR. KOHN. Everybody did. That was a valuable experience. The research department was a small department. We had what was called "pre-Washington" meetings. I briefed the research director. Then, later, the Reserve Bank president started showing up at these meetings. You had to assess the Greenbook, and you had to give policy recommendations. You had to think. It was great discipline.

Some people were better at it than other people. The agriculture economists didn't care very much, but the rest of us had a good time, and we would have arguments with fellow staff members about what to do, and people that were legendary—Lyle and somebody else used to fight with each other like crazy in these meetings. It was great preparation for going to Washington, D.C. You'd have to think of a special topic to cover that would be helpful to the Reserve Bank president or the director of research. I wrote about currency demand—relating it to consumption.

Working at the Kansas City Fed was a good training ground, but, by the time I'd been there five years, I could see that my upward mobility was limited within the institution. I got along with everybody fine, but I didn't find myself as simpatico with some of the people coming in who were filling some of the slots left open by other folks who had departed.

Kansas City was a great place to live and raise kids, but it's not a very exciting place. Both Gail and I had grown up on the East Coast, so there was some attraction to coming back.

Moving to Federal Reserve Board in 1975

MR. KOHN. In those days, there was a rule in the System that the Board wasn't supposed to recruit from the Reserve Banks and vice versa. Mike Prell would call me from the Board every couple of months and say, "I was just looking on the bulletin board outside the credit union, and there were these vacancies in Government Finance and the Banking Section. I'm not recruiting. I just thought you ought to know." He'd also say, "This is really a great place. There are a lot of smart people here who know what the heck they're doing, and it's a lot of fun." One of those calls caught me as some of these other issues were weighing on me about why I might be happier somewhere else.

I wrote a letter to Lyle Gramley at the Board. He was the director of the Division of Research and Statistics. I pretended that Mike hadn't called me. This was totally my own idea. [Laughter] I got offers from Banking and from Government Finance—Ed Ettin and Fred Struble. I don't remember why I chose Government Finance, but I did. I came to the Board in July 1975.

MR. SMALL. Who was in the Government Finance Section?

MR. KOHN. Fred Struble was the chief of the section. Ray Lombra was his deputy. Ray left a couple of years later to go to Penn State, and he's still there. I think he's a dean. Brian Madigan was a Ray Lombra student.

MR. LINDSEY. Rosemary Looney must have been here.

MR. KOHN. Helmut Wendel was, I think, the officer in charge of Government Finance, which had two subunits. One was the financial side, the open market operations and the stuff that ended up being moved into Monetary Affairs. The other was the fiscal side. The reason they were together is that one of the jobs that Government Finance had was to help with the projection of the Treasury cash balance. Helmut was basically from the fiscal side of the operation. Mike Prell was in the section. I think Leigh Ribble was in the section.

I have a story about Leigh. We had offices around the square in the middle of the Board building on the west side. A fire broke out somewhere, and the fire alarms went off. There was smoke billowing throughout the building. I remember walking towards the stairs, and there was Leigh Ribble sitting at his desk. You could barely see him with the smoke. These were big, long offices. I said, "Leigh, for God's sake, there's a fire. Stop working. You have got to get out of here." [Laughter] He was so diligent.

Wolf Ramm came later. I don't think he was there when I arrived. Steve Roberts was there for a while.

MR. SMALL. What did you do?

MR. KOHN. I was on the financial side, but I also worked at some point on the Treasury cash balance projection. We had a call every week or every couple weeks with the Treasury, comparing projections. So I worked a lot with the fiscal people.

There were weekly briefings of the Board on Friday. And because Arthur Burns was so difficult to brief, there were a limited number of people who could or would do that. For a time, Mike, Steve, and I were sharing the briefings. I was doing a briefing every third week, and that lasted for a number of months.

MR. SMALL. Do you remember your first briefing?

MR. KOHN. My first briefing was in 1976. I presented a review of 1975 with charts about what had happened to interest rates, and I put things in perspective. Burns liked that a lot. Another briefing I gave that he liked ended up as a *Federal Reserve Bulletin* article. It was a briefing about household and business balance sheets using the flow of funds data very intensively.

One of my early briefings was a failure. I don't know if it was the second or third briefing, so I don't know if I had two successes before I had this failure. In the last couple of weeks, my wife has reminded me of this low point at the Board. [Laughter] It was a financial briefing about what had happened to interest rates. As I said, these briefings were done on Friday. You wrote them on Thursday, and at 10:00 on Friday morning, people were editing them as you went walking down the stairs to the Board Room. Fred Struble was a notorious editor; he rewrote everything. So you didn't have your mind together. You were trying to absorb all this stuff. These briefings were much more narrowly focused than the current "tell everybody your recent research."

This was a briefing on what had happened in financial markets; the text was a couple pages long. For this one, I read a sentence, and Burns interrupted me: "That's wrong. That's not what my table says." I tried to justify it, and then I read another sentence. He said, "I don't see that either. Where does that come from? What's going on?" Then Fred and Ray popped up to help me out, but they weren't successful. I read another sentence. Then Burns just waved his hand and said, "Ah, go on." Like, you're not worth listening to; let's just get this over with. That was a low point. [Laughter]

MR. LINDSEY. Were you depressed when you went home?

MR. KOHN. I was depressed. That Friday evening we went over to some friends' house to play bridge, and it was hard to concentrate on the bridge.

One of my jobs was to bring Steve Axilrod an update on the markets before he would give an update to the Board. When I did so following that problematic briefing, he leaned over and said to me, "Don't let it worry you too much." That wasn't exactly what I needed to hear. [Laughter]

Arthur Burns

MR. SMALL. I've heard people characterize Burns as being very demanding about the facts being right and getting deeply into the facts, but he wanted the staff to stop there and not theorize beyond the facts.

MR. KOHN. That's absolutely right, and that was true for how he viewed the other Governors as well. Burns wanted them to stick to the facts. I remember working on testimony with Governor Henry Wallich about one of President Ford's budgets and the implications of it.

Henry and I got deeply into balanced budget multipliers. I can't remember what this was, but it had both spending and taxes increasing at the same time. Fortunately, it was Henry that Burns picked on, not the person who was working with Henry. Burns didn't like that Wallich had put some theorizing into the testimony in the form of balanced budget multipliers.

MR. SMALL. Do you think that it is important for the staff nowadays to keep that distinction and make it clear when they're doing one or the other?

MR. KOHN. I don't think there is a very clear distinction, and there can't be.

MR. SMALL. What things you look at depend, in part, on your theory?

MR. KOHN. Yes, it depends upon your theory. It's important for staff to be as clear as possible when they're theorizing, when they're drawing inferences, versus when they're just reporting the facts. But as a listener, as a consumer of briefings and information, I've not had a problem with that.

I think Burns's attitude and his way of treating the staff and other Governors was a real weakness. I didn't witness that except the one time that I just mentioned, but I've heard stories. He didn't tolerate diverse views and therefore didn't hear the kinds of views and opinions that he needed to hear and the Federal Reserve needed to consider at what was a difficult time for the Federal Reserve System—at a time, in retrospect, in which we obviously could have done much better with our monetary policy.

MR. LINDSEY. Did Burns listen to the senior staff?

MR. KOHN. To some extent, but I don't know how intimidating he was to the senior staff. Lyle Gramley and Mike Prell wrote speeches for Burns. Burns liked Lyle, and Lyle was not afraid of anybody. I don't remember specific stories, but I am aware that Lyle did not hold back.

I think the way that Burns ran the Federal Reserve was a weakness. I don't know what the right balance is here between diversity of views and consensus, but Burns certainly was intimidating. One person that Burns never intimidated was Jim Annable. Jim would argue with him. I used to love listening to him. He had this deep voice. I always wanted to be like Jim Annable when I grew up.

MR. SMALL. Did Burns support the development of the large-scale econometric model and the research staff?

MR. KOHN. He wasn't as supportive as he could have been. I think he didn't like research results that did not accord with his preconceptions. The Board blocked the release of a number of results from various Reserve Banks or censored as best they could.

One incident involved Jack Rutner who came to the Kansas City Fed with Auerbach from the University of Chicago. At the Kansas City Fed, Jack did some work on seasonal adjustment of the monetary aggregates using spectral analysis, and he found deficiencies in the seasonal adjustments. Some congressman picked this up and started beating up Burns with this. Burns went nuts and wanted something done about Jack Rutner.

So the Burns Fed was not an environment that welcomed diverse views. I think some of the research that was done by John Kalchbrenner and some of those guys on Federal Reserve reaction functions, what we now think of as Taylor rule–type things, Burns didn't like, either.[1] So it was not a good environment for research.

MR. LINDSEY. Axilrod sat on some of that stuff, Kalchbrenner's work included. Tinsley and Kalchbrenner got sat on.

[1] The Taylor rule, proposed by economist John B. Taylor, stipulates how a central bank should adjust real short-term interest rates in response to the gap of inflation relative to its goal and the gap of real output relative to its potential.

Working in the Government Finance Section

MR. SMALL. Back to your work in the Government Finance unit.

MR. KOHN. I participated in the daily call with the New York Fed. And one of the jobs of the financial side of the Government Finance Section was to keep track of market operations. That put me in touch with Axilrod and the people at the New York Fed. Early on, I had to call the New York Fed in the late afternoon every day to find out what was happening with CD rates, because this was the time of the New York City crisis and tiering in CD markets for the first time—mid-1970s. I was talking to Sheila Tschinkel, I think, every afternoon. That was a good exercise, because it taught me how money markets and the bank funding markets worked and what some of the influences were.

Publicly Communicating Policy Changes Starting in the Second Half of the 1970s

MR. SMALL. Could you explain how the Fed operated in the reserve market at that time and communicated its change in policy to the banks and markets?

MR. LINDSEY. In the second half of the 1970s, didn't Fed policymakers aim at the federal funds rate, but also look at Treasury bill rates, free reserves, and—

MR. KOHN. Right. There was "Net Borrowed Reserves" there in the bottom right-hand corner of this long call sheet we used, which about three people in the world understood. They looked at that stuff, and I think any change in policy was communicated through our operations. If the markets saw us tightening up and draining reserves, they would tend to push rates up. And if they saw us adding reserves, rates tended to fall.

MR. SMALL. And whether you did the operations with overnights or term, and—

MR. KOHN. It mattered, right.

MR. LINDSEY. The New York Desk had a lot to say about what was done. I assumed they checked in first with the pre-call, with Axilrod that—

MR. KOHN. Axilrod, right. When Steve left and I took over, I used to check in with Volcker, and if I thought there was any question at all, he wanted to know.

MR. LINDSEY. I think he checked in every day.

MR. KOHN. Yes. Now, David (Lindsey), if I can jump ahead a little bit, you'll enjoy the gift they gave me at the New York Fed on Monday night. It was this framed thing—I couldn't tell what it was—with a cover over it. They said, "Don, come up and see the present we have for you." And it was a framed thing of the Thanksgiving turkey.[2] I asked them to send it here because I wanted to show you—if you'll come by on June 23 when I have my retirement reception here at the Board, you'll see—there was a quote from Don Kohn about uncertainty in monetary policy or something, and then they had copies of the *Wall Street Journal.*

MR. LINDSEY. Oh, cool.

MR. KOHN. It had details about all the market reactions. I didn't quite understand what it was until someone told me. Then they had, at the bottom, the cards on which Peter Sternlight had written his program for open market operations on that day.

MR. LINDSEY. He hated the term "Thanksgiving turkey." Josh Feinman used that phrase, and Peter really objected.

MR. KOHN. Yes, well, you can understand why.

MR. LINDSEY. I can.

[2] The "Thanksgiving turkey" refers to an incident just prior to Thanksgiving 1989: "On that Wednesday before Thanksgiving, the Desk needed to add reserves for technical reasons. Even though the funds rate slipped from 1/16 percentage point to 1/8 percentage point below the Committee's funds rate expectation just before the operation, the Desk still arranged for a five-day System repurchase agreement (RP). Market participants interpreted the operation as signaling a policy move, when in fact it did not" (David E. Lindsey (2003), *A Modern History of FOMC Communication: 1975–2002* (Washington: Board of Governors of the Federal Reserve System), p. 93).

MR. KOHN. Around November 24, 1989, there was a change in our communication with the market. After that, we were very clear in our market—

MR. LINDSEY. Funds rate targeting.

MR. KOHN. Well, but until 1994, we didn't say what it was.

MR. LINDSEY. It was clear in the actions.

MR. KOHN. We were signaling—it was very clear in the actions. There was no ambiguity whatsoever after that incident in 1989. [Laughter]

MR. LINDSEY. Were you on the call to hear the Thanksgiving turkey?

MR. KOHN. I must have been.

MR. LINDSEY. Yes, I was too.

MR. KOHN. Right. And I'm sure I didn't spot the problem beforehand. So I thought you would like that (gift). [Laughter]

MR. LINDSEY. The gift is great! I did spot the problem. I remember standing up and pacing the room, but it didn't occur to me to say anything. I just knew it was going to be a problem—the funds rate went from a 1/16 to a 1/8 below target. I remember telling Alan Meltzer that when he interviewed me. He couldn't use it because it was beyond the time period covered in his book.

Working in the Capital Markets Section

MR. SMALL. You were participating in the call to the New York Desk, but you were in the Government Finance Section.

MR. KOHN. That's right. At some point in there, I succeeded Mike [Prell] as the chief of Capital Markets.

MR. SMALL. Was going over to analyzing private-sector markets a big change?

MR. KOHN. It was not that big of a change. People moved around a lot. Ed Ettin had been the head of Capital Markets at one point; he succeeded Peter Keir. Dick Puckett had been the head. So people were moved around in those financial sections.

I wrote a whole bunch of Greenbooks while in Government Finance, so I was writing about the whole financial sector. My first Greenbook, Part 2, was only a month or two after I'd gotten to the Board. I'd been reading the Greenbooks pretty regularly at Kansas City, and I had my own ideas about how it ought to be organized. [Laughter] It had something to do in my mind with supply and demand for credit—I completely reorganized Part 2 of the Greenbook.

MR. SMALL. Did you give anyone a heads-up?

MR. KOHN. No. I just did it the way it should have been done and handed it in. [Laughter] To their credit, no one said, "This is the stupidest idea I ever heard." Over succeeding drafts they brought it back closer to the regular Greenbook structure, but not entirely. I continued working on that draft, incorporating their comments.

To the credit of Jim Kichline, Mike Prell, and whoever else, that didn't stunt my career. I think I got some credit for thinking originally about this document, but, from my perspective afterwards of getting these things in [the] first draft, it must have been a shock. I changed all the headings; I changed everything. [Laughter]

MR. SMALL. This is around 1978?

MR. KOHN. Yes. We took the Greenbook, Part 2, pretty seriously. Mike used to spend days writing the introductory paragraphs. He believed that if you got those first couple of paragraphs right—they summarized what had happened and why it had happened—then the rest of it flowed easily. I remember him taking a lot of time on that. He did a good job.

MR. LINDSEY. The best briefing I ever heard was given by Don Kohn on corporate finance in the late 1970s. You answered questions on corporations. I was so impressed. I thought, "I'll never be able to do that."

MR. KOHN. I was head of Capital Markets.

MR. SMALL. Dave, where were you at this time?

MR. LINDSEY. I was chief of the Banking Section. I worked closely with Axilrod. I never enjoyed briefing. I was never good at it. I got so nervous.

MR. KOHN. It was hard. Ed Ettin once said that I was much more articulate at the Board table than I was at the lunch table. [Laughter]

MR. LINDSEY. You were really good at the Board table. Ed Ettin would come up to the briefers right before they started their first briefing and say, "Don't worry, it's only your career on the line." [Laughter]

MR. KOHN. He thought he was relaxing people. Anyway, I went to head Capital Markets. Norm Mains was the corporate person. Martha Scanlon was in there; Galen Burghardt. What was the name of that commercial paper lady—Evelyn Hurley.

MR. SMALL. Was that a time of increasingly more open markets and liability management by banks and CDs and euro funding?

MR. KOHN. Right. Now, that wouldn't have been in Capital Markets; that was more in the Banking Section. I think that was something that developed over the 1960s into the 1970s rather than something that was particular to the late 1970s. S&Ls were in there.

Sherry Atkinson (that was her last name at that time) and Ed McKelvey. Oh, and Fred Furlong.

MR. SMALL. Dave, what was your life like in the Banking Section?

MR. LINDSEY. I didn't run into Don much. I remember letting Darwin Beck do his thing in the Projections Unit. He worked directly with Steve Axilrod, and that was fine. Ed Fry more or less did his thing in the bank credit area. I worked with Perry Quick and others in current analysis and banking. I also worked a lot with Axilrod. He would call my office, and down to his office I'd go.

MR. KOHN. Even when I moved to Capital Markets, Steve Axilrod said, "I want Don involved in the Bluebook," even though that wasn't the typical Capital Markets thing to do. At that point, Ed was doing the first draft of the Bluebook, so I went and worked with Ed on that.

Writing the Bluebook

MR. CLOUSE. Has there always been a Bluebook?

MR. LINDSEY. I think it goes back to 1968 or so. So, Don, Steve Axilrod wanted you involved in preparing the Bluebook? I remember working on Ed's drafts. They got a lot of work, I know that.

MR. KOHN. Everyone's draft got a lot of work.

MR. SMALL. I think the Bluebook started in 1965.

MR. KOHN. About the same time as the Greenbook. The Greenbook was started in 1964 or 1965.

MR. SMALL. Yes, just a year or two earlier than Bluebook. Historically, writing the Bluebook was a very controlled affair in Steve Axilrod's office?

MR. KOHN. A first draft was delivered to Steve by his deputy.

MR. LINDSEY. And it got tossed.

MR. KOHN. Right. [Laughter] And then it was me writing the drafts, and it didn't matter; Steve tossed my drafts too.

MR. SMALL. Were these one-on-one meetings with Axilrod?

MR. KOHN. No, they were group meetings, like we had when I was in charge and were around the same table, that table in my office. I don't know if it's still the same table in Brian Madigan's office now. This was on the second floor back then, but that same oblong table. People sat around it rewriting and rewriting and rewriting. We did it, like, three times. It would be one pass Wednesday night, one pass Thursday night, and then Friday night.

The Bluebooks were sent out Friday night. The print shop was busy late at night. Then we got it to the only air courier service that delivered on Saturday, and it wasn't one of the main ones.

The Reserve Banks would get the Bluebooks on Saturday. One of the reasons for that, particularly through the 1970s into the 1980s, was that the money supply data were very important. They were finalized Wednesday night or Thursday morning and published on Thursday. The thought was that you needed these final data in the Bluebook.

The New York Fed was very involved in Bluebook writing too. I don't know if that's still true. The New York Fed used to send somebody down—Fred Levin or Anne Marie Muelendyke would come. There was always somebody from the New York Fed that came to the Thursday night session. The Friday night session was supposed to be short and supposed to be just polishing, but occasionally it would go to 7:00, 8:00, 9:00 at night. [Laughter]

MR. SMALL. I remember as a young staffer going to my first Bluebook writing meeting. That must have been 1986. I brought down the money demand forecasts. The office is on the second floor on the hallway in the Eccles Building where the Governors' offices are located. The hallway is long, and Axilrod's office overlooked some greenery and a courtyard. I remember sitting there thinking that I was at the true center of power. I was so impressed.

MR. KOHN. If you were in Axilrod's office, you were. [Laughter]

MR. LINDSEY. Governor Partee would wander down and talk to Steve.

MR. KOHN. In the late 1970s, before Partee was elevated from Board staff to the Board, Steve was technically working for Partee.

So when I first got involved in this, I think Steve was in the office that Ed and I later occupied, and Chuck Partee was in the office that Steve Axilrod later occupied. Chuck technically had all the research divisions reporting to him, I think, as well as Steve. It was never totally clear to me what he was doing [laughter], but I think Chuck did play a role in the forecasts and stuff like that. Then when Partee became a Board member, Steve Axilrod moved over to a corner office, and Ed became Steve's deputy.

Steve Axilrod

MR. CLOUSE. Steve Axilrod was not a division director, right? He just had a call on staff, basically?

MR. KOHN. Yes. He had a small office. And he had the FOMC Secretariat in the office. That was basically it. Peter Keir and Murray Altmann or Norm Bernard, probably one or two others. Art Broida, at first. Broida left when Chairman Burns left.

MR. SMALL. Was Steve Axilrod influential? People would say he essentially was the eighth Governor.

MR. KOHN. Steve and Volcker worked closely together, and I think they were basically sympathetic to each other's perspectives. In terms of Axilrod's influence, the Chairman Miller period was interesting. You can read this in Axilrod's book.[3] Burns was totally dominant, and Steve was doing Burns's thing.

Burns sat around for a little while after being Chairman. He had an office across from the Chairman's office where Steve Malphrus is now or somewhere like that. I knew that Burns was no longer the Chairman when Burns called and asked Steve a question, and Steve said to me, "Why don't you go down and answer his question?" I thought, "That guy is no longer Chairman." Axilrod never would have sent me down if Burns were Chairman.

When Miller took over, he was very reliant on Steve Axilrod. He wanted Steve to make recommendations to the FOMC. Steve says that he was very uncomfortable with this role. So I think, during that period, Steve Axilrod truly was very powerful.

MR. LINDSEY. In Steve's book, he thought of political dynamics of the FOMC and the staff in a way I never did. Steve was very astute about those things.

MR. KOHN. He was strategic.

MR. LINDSEY. Most of what he thought through never crossed my mind, but that came through in his book. Did you think that way and just not talk about it?

MR. KOHN. Not so much. There was always some strategic thinking. I remember you and I consulting through the 1990s, and consulting with Alan Greenspan, who wondered: If we go in this direction, who will be in favor and who won't? So strategic thinking was always there in the background.

MR. LINDSEY. It was not as overt as the way Steve thought through. And, from his book, he was pretty savvy about these things.

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[3] Editor's note: Stephen H. Axilrod (2011), *Inside the Fed: Monetary Policy and Its Management, Martin through Greenspan to Bernanke,* revised edition (Cambridge, Mass.: MIT Press).

MR. KOHN. He was quite savvy about it, I agree with that. Steve was an extremely smart guy and a strategic thinker, and he was important in my career. He was not free with compliments. There were times when I was his deputy, and he wasn't satisfied with my work; he would say, "You know, I could have chosen Dave Lindsey or you, and I chose you because I thought you had a little more market sense than Dave. Dave's probably a better economist." And he said, "I'm not sure I made the right decision." [Laughter]

MR. LINDSEY. Steve interviewed both of us to replace Ed Ettin. I remember him asking something like, "Where do you think you'll be in 10 years?" I said, "I never thought about it." [Laughter] Steve would have planned it out and thought it through and all that. But I was being honest—a failure of mine. [Laughter] As you said at my going away reception, "What you see is what you get." I just blurted it out. Steve made the right choice. But he would let you know about it, wouldn't he? [Laughter]

MR. KOHN. Steve's still a good friend.

Volcker: The New Operating Procedures and Credit Controls

MR. SMALL. What was your first crisis that you recall?

MR. KOHN. During the famous October 6, 1979, FOMC meeting, in which there was a change in operating procedures, I was a bit player and on the periphery. We delivered a Bluebook draft to Ed Ettin the previous week, so I think the FOMC was scheduled to meet the following Tuesday. But the Committee had an emergency meeting on Saturday that I didn't know about. Darwin Beck knew about it.

MR. LINDSEY. Tom Simpson also knew about it.

MR. KOHN. We were working on the Bluebook and delivered a draft to Ed Ettin.

MR. SMALL. You were working as if it was a normal cycle?

MR. KOHN. Yes. Ed took the draft and played it as if it were a normal cycle. By coincidence, Steve Axilrod had invited Gail and me to his house for dinner that Saturday night along with Ted Truman [staff director, Division of International Finance] and his wife, and I think Steve's son Pete also was there. The invitation had been extended months before.

MR. SMALL. That was the Saturday night after the emergency FOMC meeting earlier that day?

MR. KOHN. Right, and I didn't know what was going on. While driving to the Axilrod house, I had the car radio on and heard about this press conference. [Laughter] Both Steve and Ted were late to dinner. So I wasn't part of that. But Dave Lindsey especially and I, to a lesser extent, were involved in the follow-up and all the studies that followed.

MR. SMALL. How worried were you guys with this experiment—the October 1979 change in operating procedures?

MR. KOHN. We were quite concerned about the effects. And through that there was the Hunt Brothers silver crisis. I was involved in that. The Hunt brothers had bet big on the rising price of silver—about cornered the market. When the price fell after the Volcker disinflation, they couldn't meet their obligations, and that threatened at least one major investment bank and raised considerable concerns about financial stability. I remember talking with Jerry Corrigan outside of Volcker's office about the silver crisis. Fred Struble and I worked on that matter.

MR. SMALL. We now know that the change in operating procedures was a great success and Volcker's reputation is stellar, but at the time you wouldn't have known that it would turn out so well. Were there questions?

MR. LINDSEY. Jack Kemp argued that Volcker should resign. Volcker was hated by the politicians.

MR. KOHN. Then [Representative Henry] Gonzalez wanted to impeach Volcker.

MR. SMALL. Were there doubts here about whether this newly appointed Fed Chairman was doing the right thing?

MR. KOHN. I don't remember any doubts of the Board staff or within the System that we weren't doing the right thing. Certainly, there were doubts outside of the System.

Consumer groups were very concerned about the 22 percent interest rates and the deep recession—10.3 or 10.4 or whatever unemployment rate. Gale Cincotta came in to the Board. She was a follower of Saul Alinsky, a community organizer. That consumer group convinced Volcker that the Board was out of touch with real people, and he needed to send people from the Board out to community meetings around the country. So they started having these meetings, and there were sessions where people would yell and scream at you. I think that Mike Prell and Chuck Partee went to one in Philadelphia.

I went to one in Seattle with Janet Hart, who was the director of the Board's Division of Consumer and Community Affairs. It was a Saturday morning in a Catholic high school from which they'd rented the auditorium. We arrived early to be polite. The organizers shunted us off into a classroom while they whipped the crowd into a frenzy. [Laughter] When they finally summoned us to this auditorium, there were cascades of boos and screams as we came into this auditorium.

I was around 40 years old. Janet Hart looked very old and mature to me. I'm sure she was younger than I am now, but she was a more imposing figure and taller than I am. They started asking us about personal finances: Did we have a mortgage, what was the rate, how much did we owe? She put a stop to that, saying, "That's not what this is about. We're very sympathetic for the pain you're feeling," and stuff like that. That was quite an experience.

Volcker ended up awarding Purple Hearts to everybody who participated in these meetings. Finally, after all the community meetings, the consumer group came to the Board and yelled and screamed at Volcker for a while.

MR. LINDSEY. Do you remember when the farmers brought their tractors around the building? And when people sent 2x4s to Volcker?

MR. KOHN. Yes, Ben Bernanke has one of those 2x4s in his office. Somehow it was passed down through generations of Chairmen. It was a very tough period.

MR. LINDSEY. Volcker was one tough cookie, I'll tell you. I remember Axilrod taking me to Volcker's office in July or later during the summer of 1982. I had a chance to say what policy should be. I told the Chairman I thought he ought to be easing the funds rate at least 50 basis points, as I remember—I could be off, as the number might be higher. [Laughter] That just shows how tough he was.

MR. KOHN. It was right about August, September that he started to back off. My memory of the September FOMC meeting is that we had allowed the money supply to tighten conditions a little bit between August and September, and he said, "That's not going to happen again."

At that time, the maturing of the All-Savers Certificates was distorting the money supply. The effects of limited exemptions to Reg Q ceilings—like All-Savers Certificates—were distorting the money supply and its relationship to inflation, and that's what Volcker cited when he announced that we were moving back from strict M1 targeting.

MR. SMALL. When you joined in on our interview with Paul Volcker, you two went over those money growth rate charts. It was a very animated and fun discussion, because

Volcker was indicating that he had been dying to ease, but he couldn't because money had been above the target range.

MR. LINDSEY. Yes, and then it came down in 1982.

MR. KOHN. The Latin American debt crisis broke out around the middle of that year. We tried to stop tightening, and then we allowed the money supply to tighten the funds rate up a little bit. Volcker said, "This is wrong. This is not right." He had enough flexibility to know when to ease.

MR. LINDSEY. He finally eased off, and did it in a big way when he started.

MR. KOHN. During that period, I also was involved in the credit controls of March, April, and May 1980. Eleanor Stockwell was in charge of those. Before they were announced, Jim Kichline asked Mike Prell and me to write an outline of the cons of credit controls. At the time, I didn't quite know the White House was giving credit controls serious consideration. In retrospect, I think Jim was using this as a way of fighting against the move towards credit controls. But that was a disastrous period, and the credit controls totally distorted spending, credit growth, money growth. Then the credit controls were taken off, and the economy came up again.

But credit controls distorted everything. And consumers said, "The government doesn't want me to spend," so they stopped spending. Money supply plunged, GDP plunged, and then the credit controls were taken off, and consumers went back to spending, and GDP, money supply, and credit growth rebounded sharply. At the time, there was a marginal reserve requirement against Eurodollar borrowing by banks.

MR. SMALL. During that period, the view of several outsiders was that setting a monetary target was a way for the FOMC to disassociate itself from the increase in interest rates.

MR. LINDSEY. "Nobody here but us chickens," as some said at the time. Nobody expected interest rates to go as high as they did.

MR. KOHN. I was listening to a conversation between Paul and Allan Meltzer four or five years ago on a bus in Germany. Volcker said, "We knew interest rates needed to be higher, but we didn't know how high they needed to be. It is true that I never would have been able to get interest as high as they got. It was tough getting the required increases in interest rates." So, to some extent, that I think is true.

But Volcker also thought there was a long-term relationship between money and inflation. Money was a necessary but not sufficient condition, to use his words. Slowing down money was part of fighting inflation. I think this was part of the Volcker interview. When President Carter interviewed Volcker for the Fed chairmanship, Volcker said, "I'm coming after inflation. If you appoint me, that's what's going to happen." I think he has recalled leaving the President's office, having dinner with friends, and saying, "I'm not going to get this job." Then Carter called him the next day and said, "It's yours." So, I think, give some credit to Jimmy Carter for appointing Volcker. Generally, Carter knew what he was getting. No one exactly knew what was going to happen, obviously. Those were difficult times. The Federal Reserve was under a lot of attack.

MR. SMALL. One attack was that the FOMC was less than completely sincere in that the FOMC would come up with different measures of money supply as was convenient. And there was criticism of base drift.

MR. LINDSEY. That was more under Burns, not Volcker.

MR. KOHN. Base drift was an issue the whole time.

MR. LINDSEY. Yes, but Burns started all that in the mid-1970s.

MR. KOHN. Base drift was more of an issue through the first years of Volcker's chairmanship. We had annual targets for money growth; when we missed in one year, we moved the base to which the new growth rates were applied, and so we didn't explicitly make up for the miss. That led to the monetarists complaining about the lack of a long-run target for the money supply. I thought that wasn't entirely justified, because the new target would be chosen based on where the economy and inflation were and where we wanted them to go.

We were under attack from both the monetarists and the supply-siders. The monetarists said there wasn't really a money supply target, and that we weren't serious about hitting what we put out as a target. One perceived problem was lagged reserve accounting, so the demand for reserves depended on past money growth, and the supply of reserves in any given period couldn't affect the money supply in the same period. We went off of lagged reserve accounting to some extent to tie reserves and money together better, but the accounting was still more or less lagged, so it didn't embody a contemporaneous relationship.

The supply-siders in the Reagan Administration thought we were being much too tight; we weren't allowing the Laffer curve to operate. Reagan himself kept out of it, but it was a period in which relations between the Administration and the Federal Reserve were not very good. Steve Axilrod would go over and have periodic meetings with people in the Treasury Department, justifying what we were doing.

Beryl Sprinkel and Volcker did not get along. I remember a Treasury lunch in which they turned their chairs so their backs were to each other. [Laughter] They talked about fishing for about five minutes—they had that in common.

MR. SMALL. Dave, you were in the Banking Section. Was it difficult following the monetary aggregates and the money demands during that period? Was there a sincere effort to target the aggregates, but you found shifts in money demand?

MR. LINDSEY. During this period it became very difficult, what with nationwide NOW accounts and MMDAs and the All-Savers Certificates. We did our best, but I remember Volcker saying, "The staff may put a lot of effort into this, but I don't believe what they come up with." And I don't blame him; it really was guesswork. We did our best. We used regressions and surveys and so on to give the adjustments to the money numbers. And there was M1-plus.

MR. SMALL. And there were phase-ins under the Monetary Control Act that affected the monetary aggregates?

MR. KOHN. Yes.

MR. LINDSEY. That was a big problem, but these shifts in demand, as you've put it, were problematic, and, finally, Volcker used the expiration of All-Savers Certificates as a rationale. But, as Don said, the main reason was, Volcker just wanted to get interest rates down. He didn't want money to be dictating higher rates.

MR. KOHN. A lot of effort was put into identifying shifts in demand curves and asking people in the University of Michigan surveys how they were treating this asset or that asset, and also into whether money market funds should have reserve requirements, because they were like demand deposits, and—

MR. LINDSEY. Right. What did you think about all that money stuff, coming from Michigan and with your predilections and so on? If you were looking back on it, what would you say?

MR. KOHN. I was skeptical about the role of the monetary aggregates in the new operating procedures. I could see the rationale for doing something dramatic about inflation, there's no question about that. I was pretty skeptical whether close control of the money supply was going to be all that effective. It was very difficult, but the whole thing turned out probably much better than I thought at the time. I don't remember exactly what I anticipated, but I was supportive of the effort.

MR. LINDSEY. I think Steve Axilrod was more of a true believer than you ever were—or even than I was. I got irritated at Milton Friedman for leading me down the primrose path for all those years. I don't even agree in the long run that there's an association between money and prices.

MR. KOHN. It's hard when there are so many innovations: What is the Platonic money supply that people actually use for spending? It is extremely hard to define that.

Working with Chairman Volcker

MR. SMALL. Earlier you gave your impressions of Chairman Burns. What were your impressions of Paul Volcker?

MR. KOHN. Paul was a smart guy and very analytic.

The Chrysler crisis was important for me, partly because it got me involved in the real world. I found out how bank lines of credit worked, what a "material adverse change" clause was and when it could be invoked, and what businesses did when they thought they were getting in trouble. Also, that matter put me into close contact with Paul Volcker. He was at the Monday reception and dinner for me at the New York Fed the other day, and he remembered the Chrysler stuff. So that was my first real contact with him working on stuff, not through Steve Axilrod.

MR. SMALL. Was Volcker demanding?

MR. KOHN. He was very demanding.

He denies this, but I thought he was using Chrysler to make anti-inflation points. He was a tough negotiator with the UAW (United Auto Workers union). In the legislation, all Chrysler's interested parties had to contribute to saving the organization before a government guarantee could be issued. It was tough legislation, and it was good legislation, if you had to do that.

The Federal Reserve was opposed to doing it, and Paul Volcker didn't want to be involved, but Senator Proxmire said, "If we're going to set this up, I want you sitting on that board as a safeguard for the public." Part of this was getting the UAW to agree to concessions with Chrysler, and Volcker was tough with Douglas Fraser, the president of UAW at that time. I remember later saying to Volcker, "I thought there was some macroeconomic implication of what you were doing, trying to get wage demands down." And he said, "No, I wasn't thinking about that." But I always thought that was part of his toughness—that he was tough dealing with these people was the good element in that relationship.

When Steve left in the middle of 1986, the first FOMC meeting that I sat at the table and gave the monetary policy briefing was the Humphrey–Hawkins meeting at the end of June, early July 1986. I was not really ready for that. I was intimidated by interacting with Paul Volcker on this monetary policy side. I didn't have the maturity or the perspective to make the change so suddenly into that. Catherine Mallardi, Volcker's secretary, was a savior. She made sure that I was included in every meeting. She was my best friend for a while. When I needed to see him, she would get me in. When I worked with Volcker on Chrysler, I didn't have that uncertain, unconfident feeling that I had on the monetary policy stuff. I worked with him and [Jerry] Corrigan [special assistant to the Chairman, 1979–80] on some of these bank structure issues—"Banks Are Special" and whatnot. Then I also worked a little on the Hunt silver crisis.

MR. SMALL. What was your opinion of Corrigan at the time?

MR. KOHN. I thought Volcker needed Corrigan; Volcker needed somebody to get him organized and to keep the flow going through his office. I think Jerry—whom I like a lot and have kept in touch with over the years, so I don't mean this negatively—saw crises everywhere. It seemed to me that about every third day, you'd come into the office and you'd get a call from Corrigan. He'd say, "Something's going on in this market, and you better figure out what the hell's going on, and this time it's really going to be bad." Sometimes he was right, but there were a lot of false alarms.

MR. LINDSEY. Thank God someone was looking out for trouble, though.

MR. KOHN. Well, he was looking out for trouble. So I think he was another smart guy who worked well and closely with Volcker. They complemented each other.

MR. SMALL. How would a Volcker–Corrigan team, dealing with crises or their potential, differ from a Bernanke–Kohn team?

MR. KOHN. I really don't know. From his public statements, Volcker would have been much more skeptical of the financial innovation that was occurring in the 1990s and early 2000s. And from the interactions I had with him in capital markets research—futures markets and things like that—he really didn't like those animals. He wanted to limit the Treasury futures market. We were constantly interacting with the CFTC (Commodities Futures Trading Commission). Volcker is famous now for saying, "The only worthwhile financial innovation in the last 40 years is the ATM machine."

MR. LINDSEY. I learned from Paul Volcker how dangerous short-term borrowing, overnight borrowing, can be. And that's what did in these investment banks. Volcker never would have put up with that short-term borrowing.

MR. SMALL. Short-term borrowing was a big issue in Continental Illinois.

MR. KOHN. The liabilities of any financial institution that's getting close to the edge of failure are going to shorten on them. Volcker wouldn't have had any authority over Bear Stearns and Lehman. And I am highly skeptical whether he could have done anything about that ahead of time. His authority was all about banks and bank holding companies. But I'm sure he would have been sounding alarm bells about lots of different kinds of financial innovations from the 1980s through the 2000s. Now, one question is whether sounding an alarm bell every time there's a financial innovation loses force over time.

Volcker did see problems coming. M. Danny Wall was chairman of Federal Home Loan Bank Board. The Bank Board was supposed to supervise the S&Ls, but it wasn't really doing that. Volcker sent Bill Taylor and people from the Board's Division of Supervision and Regulation to Texas to scope out what was really going on down there. Volcker saw the S&L accident happening—a lot of people didn't, but he sure did—and he acted on that. At least he tried to figure out what was going on and then tried to use that information to stiffen spines.

MR. SMALL. Recently, he's known for the "Volcker rule," which restricts banks from making certain kinds of speculative investments. Was that his view back then?

MR. KOHN. I think his view today is consistent with his views back then. He was a defender of the traditional banking model, and he didn't like these innovations. He was highly suspicious of them. It wasn't until Alan Greenspan became the Fed Chairman that the Glass–Steagall wall started breaking down. Volcker was very much a supporter of "Banks Are Special"—banks are different, banks have the safety net, and only banks should have the safety net.

After Volcker left the Board, one of the few times I saw him criticize the Federal Reserve was when he wrote an op-ed in the *New York Times* after LTCM (Long-Term Capital Management) was bailed out by the private sector at the Federal Reserve's suggestion.[4] He said the Fed shouldn't have done that. He was critical of the Federal Reserve's role because all the parties were not banks—they don't have access to the safety net, they're not protected under law.

MR. LINDSEY. I wonder what he would have said more recently.

MR. KOHN. After we did Bear Stearns, he gave—

MR. LINDSEY. He talked about going up to the edge, didn't he?

MR. KOHN. Right, right.

MR. LINDSEY. I thought that was critical. That's how I read it.

MR. KOHN. I thought it was on the edge of being critical. [Laughter] Geithner said he talked to Volcker, and he said he didn't really mean it to be taken literally.

MR. LINDSEY. Yes, he said that later. He was a traditionalist, wasn't he?

MR. KOHN. Volcker still is very much the traditionalist. But he is smart and thoughtful. He has a brilliant policy mind even when you disagree with him.

He had a small group of advisers on which he relied: Mike Bradfield; Steve Axilrod; Steve Roberts, who served as his assistant for a while; and Jerry Corrigan. He was comfortable with a few people but less comfortable with anyone else. I always thought he did a great job with the public.

I felt much more comfortable with Alan Greenspan one-on-one. He came to being Chairman from a different background.

MR. SMALL. Volcker was less into the details of the forecast than Greenspan?

[4] In September 1998, the New York Federal Reserve Bank facilitated discussions concerning the situation involving LTCM.

MR. KOHN. Volcker was less into the Greenbook forecast of the real economy because, in his experience through the 1970s, they didn't do very well. The extent and persistence of the inflationary tendencies were underestimated by the Greenbook and many other forecasters. The effects of changing labor market demographics—a higher NAIRU (non-accelerating inflation rate of unemployment)—and slower productivity growth, as well as the force of rising inflation expectations, were hard to see and predict in real time. So one reason to go to with monetary aggregates is: "Were we going to make policy based on a Greenbook forecast? It's going to lead you astray."

MR. LINDSEY. Right. And even after the monetary aggregates were deposed, Volcker focused on where the economy had been in growth rates of output and what inflation had been. He never trusted the FOMC forecasts.

MR. KOHN. I think that's right. And even after we abandoned M1, he was always searching for a monetary aggregate. I remember conversations with him saying, "You've got to come up with something here. We can't just rely on these forecasts. We've got to have some way of at least checking what we're doing, because we're going to make mistakes using those forecasts." It would have been like what the ECB (European Central Bank) says it does with its monetary pillar.

In a strange way, Volcker and Greenspan were well suited for their particular eras. Volcker was well suited for an era in which the forecasts weren't good, expectations were highly variable, and the economy was in a place where it had never been before. Therefore, all those old linear extrapolations from history weren't very useful, especially when we didn't understand expectation formation very well. Volcker said, "That stuff isn't worth much. We've got to rely on something else—money supply or whatever."

When Greenspan came in August 1987, the economy had calmed down and inflation expectations had more or less stabilized at a low level. They would continue to go down, but they weren't high and variable the way they were before. And the traditional forecasting with models, aided with intuition, was a much more valid tool for monetary policy in those calmer times.

MR. LINDSEY. Also, later in his career, Greenspan denigrated the idea of the NAIRU. He had an idea early on, particularly, of what the economy's potential was and so on. But, it seems, Volcker relied on growth rates: inflation and real growth. And if growth rates got too fast, he sat on them.

MR. KOHN. Like the monetary policy rule of Athanasios Orphanides and John Williams that reacts to growth rates and not levels.

MR. LINDSEY. Sort of. It seemed to me that Greenspan was more focused on levels—the unemployment rate and its natural rate.

MR. KOHN. Yes, to some extent. I think Greenspan had an intuition about where the economy was going and where the pressures were building up. He was an intensive user of FRB/US.[5] He had Dave Reifschneider and others running all kinds of things, although he just didn't believe the models captured the ever-changing and very complex economy. How many times did we have simulations in the Bluebook of optimal control things, and he would just trash the models?

MR. SMALL. I recall sitting next to John Williams in one of the briefings I did. Briefings went through the standard stuff, but often at the end you would have a special topic,

[5] FRB/US is the Board's large-scale quarterly econometric model of the U.S. economy.

and John had something on estimating the NAIRU, for which he used a wage–price or price–price equation to back out an estimate of the NAIRU from the intercept.

MR. KOHN. Yes.

MR. SMALL. Greenspan said, "That's just your residual. You don't know what that thing is. It's got everything in there that's not elsewhere. You don't know what that is." John tried to defend it a little bit, and finally Greenspan said, "You might as well call it hamburger. That's just as good as calling it the NAIRU." [Laughter] But, on the other hand, Greenspan believed there were limits.

MR. LINDSEY. Yes, Greenspan did believe in limits.

MR. KOHN. He had this "available labor" concept. To the official level of unemployed, he folded in people who were working part time or people who said they wanted jobs who weren't counted as unemployed. This is something Larry Slifman was working on—but it had the flavor that you can push the economy too hard and too far, even if there wasn't an explicit NAIRU. I agree with you, Dave.

MR. LINDSEY. And yet Greenspan's brilliance in the late 1990s was to realize you could keep pushing, in a sense.

MR. KOHN. There's a school of thought out there that says we got into intertemporal disequilibrium. Productivity was higher, we should have had a higher real rate of interest, we should have taken more of that productivity in lower prices rather than in more output. As a consequence, we kept interest rates pretty low and brought a lot of spending from the future to the present. Then we had to push rates down harder in 2001 to 2002 to get the economy going, and we've got to push down even harder now.

MR. LINDSEY. Who says that?

MR. KOHN. Bill White would be somebody who emphasizes that, to some extent.[6] Al Broaddus (president of the Richmond Fed) raised this issue at the time. He said at an FOMC meeting, "You've got the strong productivity growth. Doesn't that mean real interest rates should be higher?" And Greenspan said, "Well, we don't have inflation."

MR. LINDSEY. Yes, except the effective NAIRU was falling, and Greenspan realized that.

February 1986 Board Vote on the Discount Rate

MR. SMALL. There is the famous discount rate vote in which Volcker was outvoted.

MR. KOHN. I was in the room for that.

MR. LINDSEY. So was I. I was depressed for three months.

MR. KOHN. It was pretty awful. February 1986 was the first meeting at which there was a majority of Reagan appointees to the Board. They voted to lower the discount rate against Volcker's wishes. Wayne Angell says he didn't realize the implications—that Volcker might resign—and Angell later changed his vote. I always wondered if that was orchestrated from the White House or the Treasury Department in some way, but I don't have any proof of that.

David, do you remember the St. Louis conference where your paper was presented? Allan Meltzer stood up at one point and said, "Isn't it great how Ronald Reagan supported Paul Volcker?"

MR. LINDSEY. That was true.

MR. KOHN. Well, Reagan appointed people who didn't support Volcker. One of my regrets is not standing up and saying, "The only thing Reagan did was reappoint Volcker—I

[6] William White was economic adviser and head of the Monetary and Economic Department at the Bank for International Settlements from May 1995 to June 2008.

agree, that was supportive—but other than that, the Administration was at war with the Fed constantly."

MR. LINDSEY. President Reagan never publicly criticized what Volcker was doing. You've got to give him credit for that.

MR. KOHN. At the conference, I was sitting next to Murray Weidenbaum [chairman, Council of Economic Advisers, 1981–82]. He said he got Reagan to say early on at a press conference that he supported the independence of the Federal Reserve. But God knows everybody else in the Administration didn't refrain from criticizing. It wasn't like Clinton, where no one in the Administration criticized the Fed in public. President Reagan didn't, but Beryl Sprinkel and the supply-siders did.

In part, the incoherence of the Reagan Administration criticism protected Volcker. (William) "Bill" Poole was at the Council of Economic Advisers. Bill and Sprinkel [chairman, Council of Economic Advisers, 1984–89] were criticizing from a monetarist perspective, and then there were these other people doing it from a supply-side perspective.

MR. SMALL. So, two aspects of the issues at that time: One would be the domestic economy and how fast it was growing and whether you're following monetary targets, and the other was the dollar.

MR. KOHN. I don't really know what was going on there with the dollar. I wasn't part of that thing, so who took what initiative, I'm not sure. From reading Paul Volcker's book and listening to him over the years, he was quite concerned about lots of variation in the dollar and fluctuating exchange rates, so my guess is, he was pretty supportive of efforts to stabilize the dollar in one direction or another.

MR. SMALL. Do you think Volcker came close to resigning over the February 1986 discount vote?

MR. KOHN. I don't know that for sure, because I wasn't in the office, but people who were say "yes"—that that situation on the Board was not sustainable.

MR. SMALL. Volcker had lunch with Baker that day.

MR. KOHN. They found a way to save face by putting the action off and getting the Japanese to agree to do something at the same time. But, basically, it was not a good moment. The fact that it happened totally unexpectedly—there was no warning whatsoever—was also not good.

MR. SMALL. Vice Chair Preston Martin resigned not long after the February 1986 vote.

MR. KOHN. Yes. There was an earlier incident with Preston Martin in June 1985. Volcker was working with Jim Baker to restructure Latin American debt. They had an elaborate plan to stabilize the banks and Latin American countries. Volcker was in Tokyo trying to put this together internationally. Martin gave a speech criticizing the effort, and Volcker put out a press release back in Washington indicating that Martin's view was not the Federal Reserve's view.

Lenny the barber's story is that after that press release came out, Vice Chairman Martin went for a haircut, and Lenny said to him, "Mr. Vice Chairman, there's something you and I have in common in this organization."[7] Martin said, "What's that?" And Lenny said, "We've both risen about as far as we're going to in this organization." [Laughter]

MR. SMALL. What about Paul Volcker, the person, during all this? He has an image of toughness, but did you see the personal angst or strain?

[7] Leonard V. "Lenny" Gilleo ran the barber shop at the Board.

MR. KOHN. I wasn't close enough to see that. I wasn't a confidant of his. I didn't interact on that level with him. He was under stress.

He's another guy that did a lot of rewriting. I remember writing the monetary policy testimonies a couple times. Giving him my draft was like handing him blank spaces between the lines so he could write, so he had space. He would start in on about sentence three, after "Thank you, Mr. Chairman. I appreciate this opportunity to testify on monetary policy," and then he'd start doing these things.

MR. SMALL. Did he give you good guidance beforehand of what he wanted?

MR. KOHN. I don't think so. I recall once being at an OECD (Organisation for Economic Co-operation and Development) meeting or reading an OECD report in which a paragraph from one of Volcker's testimonies was quoted. It was one of the few paragraphs I'd written that he hadn't rewritten. I was so proud that they'd found the one paragraph I'd written. [Laughter]

Stock Market Crash of 1987 and Issues of Financial Plumbing

MR. SMALL. We have covered the Volcker era. Do you remember first meeting Alan Greenspan?

MR. KOHN. He had been at an academic consultants' meeting. A stronger memory is when he first arrived at the Board for briefings.

MR. SMALL. Is this when he was given briefing books and was being briefed for his Senate confirmation hearing?

MR. KOHN. Yes. I think we started building a good relationship from the get-go. Unlike being thrown into the deep end with Volcker, I was helping Greenspan get his legs under himself—explaining things to him and answering his questions.

MR. SMALL. Bob Woodward's book *The Maestro* states that Greenspan was worried about the stock market and had contingency plans from the beginning.

MR. KOHN. Yes. Corrigan was president of the New York Fed by then. Greenspan and Corrigan were feeding off each other and worrying about things.

Upon his arrival as Fed Chairman, Greenspan had us put together a book of contingencies. In it was a major bank failure, a stock market crash, and some other things. My memory is that no one ever opened the book when the stock market actually crashed. To his credit, Greenspan saw that as a vulnerability. He thought stock prices were way too high, they were going to come down, and he wanted us thinking about what to do. There were about five or six different contingencies in this book, but I can't recall them all.

MR. SMALL. Jerry Corrigan had been through several crises—maybe the Bank of New York problems (1985)—but he was concerned about "plumbing" issues. Were people becoming more aware of plumbing issues?

MR. KOHN. I don't remember, pre-crisis, whether or not he was concerned about plumbing issues. Certainly, during the crisis, Jerry was figuring out the plumbing, seeing where the cash wasn't flowing, and making phone calls to convince people it was in their own interest, as well as the national interest, to make payments where payments were due. There were some firms that were not being particularly forthcoming about the payments, and there was something about futures markets. Because they were worried about the counterparties, and they were worried about getting their money back if they sent it on, it was a gridlock situation—or had threatened to be gridlock—in which nobody was willing to let go of anything, because they didn't know whether they would get what was due to them back again.

The crisis threatened to disrupt a bunch of the clearinghouses. The Options Clearing Corporation, I remember, was one of the issues. We had to do something, because one of its members was owned by or had some relationship with one of the banks or bank holding companies. So there were a bunch of clearinghouse and plumbing issues that came up in that context.

MR. SMALL. People hear about the Fed opening the discount window, so that's one tool the Fed possesses. Was the Fed also stepping in, being a middleman, and guaranteeing counterparty risk?

MR. KOHN. I don't think we had the authority to do that. One issue was whether we even had the authority to lend to broker-dealers for purchasing or carrying securities, because section 13(3) of the Federal Reserve Act had a sentence that referenced other parts of the Federal Reserve Act that said the Fed can't make loans to support the purchase or carrying of securities. This grew out of the 1930s when people were worried about speculation driving and distorting markets. There was something in one section of the act that said you can't make loans for purchasing or carrying securities or something like that, and that flowed through to 13(3).

We got that changed in 1991 or 1992. The Congress conveniently forgets now that they changed it, but there was no subterfuge here. We went up and said, "We want you to change this section." We removed something from section 13(3).[8] This allowed us to take a broader range of assets as collateral. We wanted the change so that if we needed to lend to an investment bank or broker-dealer in an emergency, we had more flexibility under section 13(3).

[8] The restrictive language of section 13(3) that was eliminated in 1991 was the following underlined text (emphasis added): " . . . to discount for any individual, partnership, or corporation, notes, drafts, and bills of exchange <u>of the kinds and maturities made eligible for discount for member banks under other provision of this Act</u> when such notes, drafts, and bills of exchange are indorsed or otherwise secured to the satisfaction of the Federal Reserve bank . . ."

There were several occasions—and I think 1987 was one of them—in which the question was asked: If we need to lend to a broker-dealer, can we do it? We looked at: Can you lend to a bank that would lend to a broker-dealer? In every case, the bank would have had the risk. There was no way the Federal Reserve could take the risk unless we did the lending itself.

MR. LINDSEY. That was your first instinct in Bear Stearns? It was on a Thursday, wasn't it? Go through J.P. Morgan?

MR. KOHN. That is sort of what we did on that Thursday. But we had the authority. We also opened the PDCF (Primary Dealer Credit Facility). We also opened direct lending to broker-dealers that same weekend.

MR. LINDSEY. After Bear Stearns—

MR. KOHN. Right. Bear Stearns always thought that if we'd only opened that earlier, then it wouldn't have gone down.

MR. LINDSEY. That's right, they argued that.

MR. KOHN. I think our view was that Bear was not a going concern, and we shouldn't be lending to them.

MR. LINDSEY. It was [Secretary of the Treasure Henry] Paulson's view as well. It's got to be right—the housing assets they had couldn't have been worth much.

MR. KOHN. Some of the assets we ended up with in Maiden Lane were commercial real estate in particular.[9]

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[9] In 2008, as part of extending support to specific institutions under section 13(3) of the Federal Reserve Act, the Federal Reserve Board authorized the Federal Reserve Bank of New York to form three limited liability companies—designated Maiden Lane, Maiden Lane II, and Maiden Lane III—to facilitate the merger of J.P. Morgan Chase and Bear Stearns and, in two cases, to alleviate capital and liquidity pressures on American International Group.

In 1987, when the stock market crashed, Greenspan went down to Dallas or someplace like that to give a speech to the ABA (American Bankers Association). There was a big debate about whether or not he should go. It was thought that if he didn't go, it would scare people more than if he did go, so he went. And there was this debate overnight again about issuing a statement.

MR. LINDSEY. Did Greenspan or you come up with that?

MR. KOHN. I don't remember who came up with it.

MR. SMALL. The statement after the crash was very short.

MR. KOHN. Yes, it was: "The Federal Reserve stands behind the system in terms of providing liquidity," basically.[10]

MR. SMALL. And that was a template for the statement after the 9/11 attacks.

MR. KOHN. Right. I think there were some people who were opposed to it. I was a little skeptical about whether it would work, whether it was necessary. It worked out fine. Who knows whether it did anything? The stock market continued to go down for the next half a day. It didn't bottom out until around noon or so the next day. So how much effect that statement had was an open question in my mind. In retrospect, it was the right thing to do. It didn't do any harm; it might have done some good. But it was somebody beginning to buy contracts in the futures exchanges that turned things around the next day.

In subsequent months, among other things, we were trying to figure out how much damage this had caused. Greenspan put a lot of emphasis on what was happening in the money supply as an indicator of flight to liquidity, safety, et cetera. We were tracking that pretty

[10] "The Federal Reserve, consistent with its responsibilities as the Nation's central bank, affirmed today its readiness to serve as a source of liquidity to support the economic and financial system." Board of Governors of the Federal Reserve System (1987), "Chairman Alan Greenspan Statement on Systems Readiness to Serve as a Source of Liquidity to Support the Economic and Financial System," press release, October 20.

closely. Then there were a lot of debates about what the wealth effect of this would be. All the newspapers were full of comparisons to 1929.

Michael Darby at Treasury sent a letter to the FOMC in December or January saying, "This is terrible. You guys have got to ease policy further."[11] Greenspan had to publicly repudiate this letter as improper interference of the Administration in monetary policy. The stock market came back, and it didn't turn out to be as awful as everybody said it was going to be. So that would have been 1987. We eased after the 1987 crash and tightened in 1988. People were worried about inflation expectations at that time.

MR. SMALL. There's a story that after Greenspan came to the Board in August of 1987, you tightened a little bit, and he got the call from Volcker saying, "You're a central banker now."

MR. KOHN. Yes. So we tightened using both the discount rate and open market operations. So we first tightened using open market operations; we tightened up there by a little bit. And then we whacked them with the discount rate the next day. I remember thinking that was a bit of a screw-up.

MR. LINDSEY. You were on vacation. And when you came back, we had, under my tutelage, tightened a little, and you thought that was a screw-up.

MR. KOHN. It was confusing. We'd done one thing one day and something the next.

MR. LINDSEY. They raised the borrowing target by $50 million because the discount rate hadn't been changed after the open market operations raised the federal funds rate by around 12½ basis points. The next day the Board raised the discount rate without lowering the

[11] Editor's note: The letter, sent to the FOMC by Assistant Treasury Secretary Michael Darby of the Reagan Administration, was dated January 21, 1988. For more information, see Art Pine (1988), "Greenspan Discloses Attempt to Prod Fed to Ease Policy," *Los Angeles Times,* February 25.

borrowing target back down, and Don said to me, "If I were here, I would also have lowered the borrowing assumption back to where it was."

MR. KOHN. So I would have liked just the amount of discount rate increase.

MR. LINDSEY. Right, that was your view. Greenspan had advocated tightening the borrowing target earlier, so I was glad I did what I did and didn't listen to Don. [Laughter] But Don told me it was a screw-up.

MR. KOHN. In the weeks after October 19, we lowered the funds rate by ½ [percentage point], to ⅜ percent. Then, in early January and early February, there were gradual decreases. We went into this at a federal funds rate of around 7¼ percent; by early February we were at 6½ percent. I think that was when Darby—around the December or January FOMC meeting—was writing these letters: "You guys have got to ease. You guys have got to ease."

MR. LINDSEY. He had been at the Commerce Department. And then he went to the Treasury.

MR. KOHN. Right, and things turned out to be much stronger than anyone expected, and they started increasing interest rates. That's right.

MR. SMALL. And if I remember right, the tightening period—

MR. KOHN. 1988.

Monetary Policy in the Late 1980s and the Early 1990s

MR. SMALL. It was surprising how resilient the economy was, how quickly it came back. And also, inflation got up there.

MR. KOHN. We were worried where it was going up to. There was an anticipatory tightening in 1988.

I think one of the issues there was that we were tightening policy, but we were intervening to stop the dollar from rising, which at least Governor Angell thought was totally contradictory. The way I looked at it was, we were trying to make the tightening of financial conditions play on domestic demand because we were already running a current account deficit, and we didn't want the current account deficit to get worse. So it was contradictory, but not quite as contradictory as Wayne said it was. There was method in our madness.

We kept tightening through early 1989. The banking system was under stress from commercial real estate and residential real estate. The S&Ls were going bust, and the Senior Loan Officer [Opinion] Survey [on Bank Lending Practices] started showing tightening credit conditions. I don't remember if Greenspan asked for it, but we in Monetary Affairs—Bill Whitesell, maybe—wrote a memo saying, "One thing to look for here for tightening conditions is to look at the STBL [Survey of Terms of Business Lending] and see what's happening to the loan rate relative to the deposit rate. If we see the loan rate–deposit rate spread widening, that's a good indicator of tightening credit conditions." Then the STBL results we got in June showed that. So—between meetings—in early June, we took the funds rate down by ⅛, to ¼ percentage point. We eased policy based on Tom Brady's STBL numbers. It was a high point for the STBL in terms of policy influence. I thought it was a nice example of Greenspan, with the help of the Division of Monetary Affairs, analyzing things and looking for empirical evidence that something was going on rather than just listening to all the bellyaching from the bankers and the borrowers.

MR. LINDSEY. And it's an example of Greenspan's perspective in setting policy, looking ahead, and, through policy, trying to offset what he saw coming—which, I would argue, continued through the mid-1990s.

After that, there was a succession of crises, one after another, and Greenspan became more current oriented and less forward looking, although you'd never see that in that [Athanasios] Orphanides–Volker Wieland paper at the St. Louis Fed. They showed no distinction throughout the whole Greenspan era. Policy was always forecast based, which I think is totally wrong. The book on communications that I wrote and left behind at the Fed shows there was a distinct break in the way Greenspan did things in the mid-1990s.[12] After that, it was evenly split between forecasts and the current quarter.

MR. KOHN. What about the 1994 tightening? You don't think that—

MR. LINDSEY. That was still in the prospective era, absolutely. 1996 was the break.

MR. SMALL. Around 1990 there was the S&L crisis, and that was the Four Horsemen?

MR. KOHN. Well, that was the 50-mile-an-hour headwinds.

MR. LINDSEY. The Four Horsemen arose in mid-1992. M2 was weak. Don sent me to work on the July 1992 Humphrey–Hawkins draft—again, he wasn't happy—and I came up with this idea in my office: the Four Horsemen, basically. And M2 weakness was telling us something about the—

MR. KOHN. What were the Four Horsemen?

MR. LINDSEY. —economy being weak. RTC, deleveraging—

MR. KOHN. M2.

MR. LINDSEY. No, this is all part of why M2 was even weaker than GNP. I forget what the other two were. If you had my book on communications, it would tell you. They are listed in there.[13]

[12] Lindsey, *A Modern History of FOMC Communication*, chapter IV.
[13] "Suffice it here to recount the main forces that seem to have depressed the demand for M2 relative to nominal GDP . . . The Board staff has identified four of these forces, which we have dubbed the 'Four Horsemen of the

Anyway, you had me go back and work on it, so I did, and came up with this. It worked out great, but Greenspan got all the credit! I didn't get any! [Laughter] That's the way it worked with Humphrey–Hawkins.

The FOMC under Greenspan had lowered its funds rate intention by 50 basis points earlier in July 1992 and capped off its easing trend in the early 1990s with a small further reduction in September. But Greenspan was slow to ease in those years, let's face it, and President George H.W. Bush was irritated: "I reappointed him, and he disappointed me." I thought Greenspan was slow at the time. What did you think?

MR. KOHN. No, I didn't.

MR. LINDSEY. No? I did.

MR. KOHN. Greenspan was paying a lot of attention to inflation expectations, and he should have been. I thought the Bush, Sr., harping and complaining was counterproductive. I thought President Clinton was smart to say, "No comments from anyone in the Administration in public." It makes it easier to ease policy. It makes it easier, so you were not being accused of caving in to the Administration.

You'd like to think that you'd do the right thing no matter who's saying what, but there's a psychology there, and there's a market commentary, and who knows? But I thought the relationships with the Bush, Sr., Administration were terrible.

MR. LINDSEY. For a while, Greenspan stopped having lunch with the Treasury Secretary, Brady.

Apocalypse.' They are 1) Outlays of the Resolution Trust Corporation (as well as of the bank regulatory agencies) in resolving insolvent thrifts (and banks), which transferred a sizable amount of assets to the government's books and lessened the need for depository funding; 2) The so-called "credit crunch," which reduced bank loan growth and further lessened the need for banks to aggressively price retail deposits; 3) The process of household de-leveraging, which involved drawing upon liquid money balances to repay or avoid debt; and 4) The steepening of the yield curve, which made longer-term market instruments, including bond and stock mutual funds, more attractive relative to retail deposits." Lindsey, *A Modern History of FOMC Communication,* p. 133.

MR. KOHN. In fact, the Fed portfolio was handed to Michael Boskin [Chairman of the Council of Economic Advisers, 1989–93]. Brady and Greenspan just couldn't connect with each other.

I recall one letter that the Secretary sent complaining about monetary policy—maybe in the early 1990s, but I don't remember. It stated that you ought to do this and that; you ought to ease policy. Greenspan showed it to me and said, "I'm not answering this." I said, "Let's think about that. In some library somewhere, in somebody's archives, there will be a letter from the Secretary of the Treasury to the Chairman of the Federal Reserve that doesn't have a response." I drafted a response that Greenspan sent. Anyway, the relationship was like oil and water—I don't know the right metaphor. They just couldn't talk to each other very well.

MR. LINDSEY. They never did resume having lunch together again. It really must have been an irritant. That was not like Greenspan.

MR. KOHN. Then there was a long period in which Greenspan's reappointment was being debated and was put off. This would have been 1991 because he was appointed in 1987, and four years later was reappointed as Chairman and received a full 14-year term as a Governor beginning February 1, 1992. It took several months after his original term as Chairman was up to be reappointed. I think when he walked into the President's office, the President said, "Would you be Chairman again?" And he said, "Yes, and by the way, there's this Governor thing, too. I need to get that renewed." That's when he got both the chairmanship and the 14-year Governor term that took him up to 2006.

In August 1990, Iraq invaded Kuwait. The invasion caused an adverse effect on consumer confidence, and the economy went into a recession.

MR. SMALL. I remember debating in the Bluebook what the right policy response was.

MR. KOHN. Because the war was a supply shock, to some extent.

MR. SMALL. I thought there was something in the Bluebook that targeting nominal GDP would be the appropriate policy response.

MR. KOHN. We wrote something like that in some Bluebook, at some point in there, which was a Martin Feldstein thing. I think he advocated that.

MR. SMALL. Keep aggregate demand stable.

MR. KOHN. Right. There were some automatic stabilizing kinds of things to that. How one actually accomplishes nominal income targeting, I don't know.

We had some interesting Bluebooks in there about supply shocks and how to respond to supply shocks. Part of it was the demand shock because of the confidence issue—with the uncertainty about what was going to happen. And we were gearing up for war. Consumer confidence fell much more than the objective indicators of the economy would have suggested.

The economy started to turn around after the war was successfully concluded. I remember staff having lots of spider charts showing what happens at the beginning of an expansion of the economy, and then everything kind of stalled out. For a couple months, it looked like we were at the beginning of a garden-variety expansion, and then things stalled out. That's when Greenspan started talking about the economy facing the 50-mile-an-hour headwinds. Then I think we eased while the economy was expanding, which was really unusual. We eased all through 1991, but I think in the second half of 1991, the economy was moving higher. Then we eased further in 1992 as the economy was increasing. We kept the funds rate unchanged in 1993.

Anyhow, the rebound petered out, and we eased as the economy was increasing in the second half of 1991 and 1992.

MR. LINDSEY. Was this a jobless recovery?

MR. KOHN. Yes, this was a jobless recovery, with 50-mile-an-hour headwinds.

MR. SMALL. The funds rate came down, and the economy bounced back.

MR. KOHN. Right, but not very fast. The unemployment rate stayed high. In fact, it was rising into July 1992. [Looking at chart]

MR. LINDSEY. Then we didn't start tightening until 1994.

MR. KOHN. February 1994. That was another anticipatory tightening, that's for sure.

MR. SMALL. This was the great "soft landing"?

MR. LINDSEY. That's right.

MR. SMALL. For the first time, the modern economy had been brought back to the—

MR. LINDSEY. Greenspan's reputation was building, and deservedly so.

MR. KOHN. Then the February 1994 FOMC meeting was the one where there was a big debate about tightening 25 or 50 basis points. Some of the more hawkish FOMC members wanted to do 50 basis points. Greenspan and William McDonough (president of the New York Fed) were worried that even 25 was going to be a surprise. Although they had tried to warn the market ahead of time, the markets hadn't heard them, and doing 50 would be awful. It was a real battle to keep it to 25. After that in 1994, some meetings we wouldn't do anything, some meetings we'd do 25, some meetings we'd do 50. In April or May, there was an intermeeting increase. And we were announcing changes in policy at the time.

MR. LINDSEY. We started announcing in February.

MR. KOHN. We started in February 1994. There were these Chairman's announcements: "Chairman Alan Greenspan announced today that . . ." This was an attempt to avoid a group editing thing, so Greenspan just took credit.

MR. SMALL. There would be an announcement only when there was a change in policy?

MR. KOHN. That's right.

MR. SMALL. Was the funds rate target mentioned?

MR. KOHN. Not at first. At first, it was "slightly tightened," "tightened somewhat," still in code. Gradually, Joe Coyne (assistant to the Board for Public Affairs) said, "This is ridiculous"—which it was—"you're targeting the funds rate, and you have got to tell people what it is." He was doing it in the background, making sure market participants and the press understood the difference between "slightly" and "somewhat."

MR. SMALL. Dave, this is from your book. I have July 6, 1995, as the first announcement containing the funds rate target.

MR. KOHN. It took a year and a half. But there was concern that one of the lessons of the 1970s had been too sluggish policy adjustment, and that the FOMC had argued over every 1/8 point. By announcing numbers and being precise about what you were doing, you would be inviting a sluggish policy adjustment. But we were vague with the borrowed reserves. Sometimes you got more response in the funds rate, sometimes you got less than you anticipated, but it didn't tie you down.

MR. SMALL. That was one dimension of the appeal to Volcker's new operating procedures—that by targeting the money supply, you would go into an FOMC meeting with a higher interest rate sort of a fait accompli, and you would have to vote against it rather than having to—

MR. LINDSEY. You could ratify it by not doing anything.

MR. SMALL. To get away from that sluggishness.

MR. KOHN. And under those new operating procedures, there were several percentage points of scope for changes in the funds rate between meetings. That was a big point of discussion in the FOMC.

MR. LINDSEY. Oh, absolutely, back then. I thought that was important in making policy more aggressive, but I'm not sure I was right about that, because you could argue policy is plenty aggressive now without intermeeting moves. Moves normally happen at meetings now, and it's been plenty aggressive. But at the time, I thought you needed it to add aggressiveness.

MR. KOHN. Right, or to add flexibility.

MR. SMALL. But with a vague directive about pressures or tendencies, was there a battle over giving too much control and power to the New York Desk?

MR. KOHN. No, it was never about that nonsense.

MR. LINDSEY. Under Chairmen Martin and Burns there was, but not later.

MR. KOHN. Right, not with Greenspan. This was all about the Chairman and the Chairman's authority between meetings, and what did the directive say, and the "woulds" and the "mights" and the "maybes" and whatever all those terms were. [Laughter] It was not about the New York Desk anymore; that was during the Martin and Burns era.

MR. SMALL. So, again, from what I have from Dave's chronology: "August 19, 1997, giving the funds rate target in the operational paragraph of the Directive."

MR. KOHN. Yes, but I don't remember that.

MR. LINDSEY. Yes, but it was an accomplished fact well before that sentence in the announcement.

MR. KOHN. In fact, it was pretty much an accomplished fact from "Thanksgiving turkey" of 1989 onwards.

MR. LINDSEY. You were just playing catch-up at that point.

MR. SMALL. This was a period when you had the "tilt"?

MR. LINDSEY. The tilt was instituted in 1983.

MR. SMALL. But there was a period where Greenspan was making a lot of intermeeting moves.

MR. KOHN. Maybe in the 1980s.

MR. LINDSEY. Yes, the 1980s.

MR. KOHN. I think once we got to 1994 and the announcement, there were very few intermeeting moves. For the most part, the moves taken were in consultation with the Committee. But you're right. I think that there were more of them in the late 1980s as a carryforward from the Volcker era. But especially once the announcements started, I think it all kind of came to be more at FOMC meetings or occasionally in an emergency. There was one intermeeting move in April 1994. I think that was almost a way of proving that it could be done.

MR. LINDSEY. You don't sense that there is inertia to policy because we don't have intermeeting moves, do you?

MR. KOHN. No. Think about late 2007, early 2008. There were huge moves that were intermeeting, particularly January 2008.

MR. LINDSEY. Seventy-five basis points at one point. That was an intermeeting move not prompted by a tilt or anything.

MR. KOHN. Right. It was prompted by the incoming data.

MR. LINDSEY. That's right. But that seems fine to you?

MR. KOHN. Yes. I argued in favor of the easing.

MR. LINDSEY. I meant the process.

MR. KOHN. Right.

MR. SMALL. By 1995, with the soft landing, Alan Greenspan has had two major successes: the response to the stock market crash in 1987 and engineering this miraculous, preemptive soft landing.

MR. KOHN. He had to ease off a little bit in the spring of 1995—let's see, or summer, I guess. [Looking at charts] We went up with the funds rate in February of 1995 and then down in July and down again by ¼ percentage point, so there was some fine-tuning that was going on as 1995 rolled into 1996. And I think it was just fine-tuning. The economy slowed down in the spring of 1995 after all that tightening in 1994, early 1995, so we eased off the brakes a little bit. The economy was weaker in the first half. I don't remember the exact sequence of events, but I do remember the second quarter was a lot weaker than the first. The third quarter picked up, but we didn't really ease until after the second quarter was over and before we knew what was happening in the third quarter. Then we eased again in December. So there was some sense of softness in there. The economy wasn't bouncing back; the unemployment rate was remaining high again: 5½ percent, which seemed high at the time—5.6, 5.5, 5.7. The unemployment rate rose in the second quarter.

I remember there was something to do with class A trucks or something—an example of Greenspan's finding some series that told him that things were softer, orders for these big trucks went down. I remember him saying—maybe in a speech, in answer to a question at the New York Economic Club or something—class A trucks.

MR. SMALL. In some quarters, there was a little bit of rolling of the eyes when Greenspan would go into this minutia of freight car loadings and that. Of course, later on, when he discovers the productivity boom, people's skepticism is tempered.

MR. KOHN. Greenspan is very empirical. He knows these data series better than a lot of other people do, and he still follows them. Going into his office today is like walking into a time capsule for me. He's got piles of paper and regressions going and research assistants running in and out with this, that, and the other chart. Somehow he looks at all these trees and sees the forest. He loves it. And he loved the Fed.

MR. SMALL. In his book perhaps, I think, in effect, he said, "Why would I want to retire? The Fed's the greatest place, you have all this data and these resources."

MR. LINDSEY. He loved the Fed, didn't he?

MR. KOHN. Yes.

The Productivity Boom

MR. SMALL. In 1994 and into 1995, Clinton appointees began to join the Board of Governors. Alan Blinder came in June 1994, and Janet Yellen came in August 1994. Larry Meyer came in June 1996. Meyer and Greenspan had opposite views of the NAIRU and the "new economy."

MR. KOHN. Meyer was pretty skeptical about the "productivity miracle" and felt that it hadn't been proven. Greenspan was looking at some pretty strange data to see it.

MR. SMALL. And the staff was behind Meyer pretty strongly?

MR. KOHN. At the beginning, but after a while I think they came around.

MR. LINDSEY. [Laughter] Facts are hard to ignore.

MR. SMALL. In 1997, I think, there were some model simulations presented to the FOMC. The Board staff did a productivity shock simulation that had all the contours and movements in line with what was happening in the economy, but the staff still did not endorse the view of a rise in productivity.

MR. KOHN. That sounds credible to me. The staff was skeptical; it took them a while to come around to this view.

MR. LINDSEY. The facts certainly supported the view. I never quite understood Greenspan's reasoning exactly, how he got to the conclusion he did. He was right, but the process, the chain of reasoning never quite clicked with me.

MR. KOHN. I think he was observing profits. He was looking at the income side rather than the product side of the national income and product accounts and seeing big increases in productivity and declines in unit labor costs that didn't seem explainable with the normal models.

MR. LINDSEY. He was right.

MR. SMALL. I think the way he explains it in *Maestro* is that when he had a meeting with Carol Corrado and Larry Slifman, he wrote out: price equals labor cost plus nonlabor costs plus profits plus whatever, and productivity's implicitly in there.[14] With prices sort of flat and profits rising, Greenspan inferred productivity was increasing.

MR. LINDSEY. That makes sense.

MR. SMALL. I think he makes analogies to discovering missing planets, that there's a gravitational pull.

MR. KOHN. I think he did the Pluto deal a couple times at the FOMC.[15] At that time he was talking about analyst expectations of profits. Remember that?

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[14] Bob Woodward (2000), *Maestro: Greenspan's Fed and the American Boom* (New York: Simon & Schuster), p. 173.

[15] At the FOMC meeting on February 2–3, 1999, Chairman Greenspan stated: "I submit that there is a missing variable, and we are learning more about the nature of its characteristics. I think it may be about time to try to substitute this variable for NAIRU. Let me put it this way: Neither one is an observable phenomenon, but neither was the planet Pluto before 1930. Scientists figured out that there had to be something there, given the extent to which Uranus and Saturn were deviating from their forecast orbits. Well, I submit that at some point we are going to come to the conclusion as statisticians that the simultaneity of a falling inflation rate and an ever tightening labor market is trying to tell us something."

MR. SMALL. Steve Sharpe.

MR. KOHN. Yes. Profits were high, and analysts were expecting an increase. The only way that could happen would be these productivity gains. And Greenspan was right about the productivity gains.

MR. LINDSEY. Where were you in all this? Did you come on board with the Chairman in your FOMC briefings, or were you a little slow, like R&S?

MR. KOHN. I was a little slow. I think I was closer to R&S and Larry Meyer than to Greenspan. I think it was appropriate to be skeptical about some productivity miracle. There were a lot of perturbations in those numbers that are revised. They're not very good.

MR. SMALL. After the monetary aggregates broke down in the early 1990s and M2 went off track, we started doing model simulations in the Bluebook. We were starting to put in productivity shocks and working our way through how that worked in the model.

MR. KOHN. Yes, I remember that, and bringing spending forward and all that. In that process of working through those productivity shocks in the model, it was helpful to me to understand, if there was a productivity shock, what should I expect to see happening?

MR. SMALL. It was fortuitous, because—if my memory's correct—it wasn't much before that that the modeling staff came out with the new forward-looking Board model—

MR. KOHN. I don't remember the timing.

MR. SMALL. —that would give us some structure to think about forward-looking behavior and future productivity growth affecting current wealth. But that was very odd thinking at that time, because, normally, you think supply and demand: supply moves out, but to think that demand could increase by more?

MR. KOHN. But hadn't there been some work done on this by Steve Braun in the 1980s?[16]

MR. SMALL. Yes, on the flip side—the productivity slowdown.

MR. LINDSEY. And how the "effective NAIRU" was affected. Steve had that result. Dave Reifschneider had written some memo that Greenspan liked. It explained the world for him in this process. I remember writing a draft of a Humphrey–Hawkins testimony that Don wouldn't let me give to the Chairman, for good reason: It was all screwy. And then Greenspan came up with this productivity theory and how it affected the NAIRU and so on. And that's what got in the Humphrey–Hawkins testimony, as it should have, not my first draft at all. That's when Greenspan came up with all this.

MR. SMALL. Also in 1994, on the international side, was the Mexico crisis.

MR. KOHN. Right. Ted Truman was doing Mexico, right? The only thing I remember from Mexico was going over to Larry Summers's office at the Treasury one Saturday to talk about the Mexican monetary policy—consuming some Diet Cokes or whatever. [Laughter] That was basically Ted's deal.

MR. SMALL. Part of that idea was, you've got to get more than enough financial backing for all this to really convince the markets, for a demonstration effect. They got together a huge package.

MR. KOHN. Right, which is where we've been, I guess, through the current crisis. Geithner calls it "coming in force." He told the Europeans they needed that.

MR. SMALL. That was sort of the financial equivalent of the Powell Doctrine, right?

MR. KOHN. Overwhelming force.

[16] Steven Braun (1984), "Productivity and the NAIRU (and Other Phillips Curve Issues)," Economic Activity Section Working Paper 34 (Washington: Board of Governors of the Federal Reserve System).

MR. SMALL. Greenspan made the cover of *TIME* magazine.

MR. KOHN. Greenspan was on the cover with Robert Rubin and Larry Summers in 1999. That was "The Committee to Save the World."[17] The article was about the role those three played in fending off financial crises, importantly including those involving Asia, Russia, and Latin America.

In the end, they asked the Congress for authority to lend to Mexico, and eventually the Congress said, "This process isn't working very well; just go do your thing, and we won't criticize you." That's when Treasury started using the Exchange Stabilization Fund.

Director of the Division of Monetary Affairs

MR. SMALL. In 1987, you became the director of a newly created Division of Monetary Affairs.

MR. KOHN. When Greenspan became the Fed Chairman in August 1987, organizationally the research divisions were in flux. I had been put back into the Division of Research and Statistics in late 1986 or early 1987. I had been in the office that Steve Axilrod ran, but that office had been abolished, and I was moved back into the Division of Research and Statistics and was given a special title, Deputy Staff Director for Monetary Policy and Financial Markets. So there was a little extra something for me to soothe my feelings. Jim Kichline was still there as the division director of R&S. Jim left around the middle of 1987. So by the time Greenspan arrived, things had become a little unsettled.

MR. SMALL. Did Volcker leave them unsettled for the next Chairman to handle?

MR. KOHN. I don't think that was deliberate. Greenspan asked Volcker to figure this out. I wasn't privy to the conversation, but I'm guessing that Greenspan said, "I don't know

[17] *Time* (1999), "The Committee to Save the World," *Time,* February 15.

what's supposed to happen here." After Volcker left as Chairman, he came back to the Board and spent some time in an office somewhere and tried to figure out how to fix all this. That's when they created two divisions, trying to keep both Mike Prell and me happy. We were both candidates for the R&S director job. That's when Monetary Affairs was created.

MR. SMALL. As director of a newly created division, you were able to start with a clean slate?

MR. KOHN. I don't recall how all this came down. I know there were questions about exactly where the lines between the two divisions would be drawn. The Banking Section was the core of the new Division of Monetary Affairs, plus the financial half of Government Finance, and some other stuff was added.

MR. LINDSEY. There was a question about Capital Markets, according to Axilrod's book.

MR. KOHN. Capital Markets, that's right.

MR. SMALL. And where S&Ls would be?

MR. KOHN. Yes, so I guess.

MR. SMALL. They stayed over in R&S. And, of course, you got a little research section that Dick Porter started up.

MR. KOHN. Right, so we put together a nice little division. Over the next six months or year, there was still maneuvering for where lines between the new Division of Monetary Affairs and the Division of Research and Statistics were going to be drawn, but it worked out fine.

MR. SMALL. Did you have a plan to do things differently or avoid errors of the past?

MR. KOHN. I remember thinking that I wanted to work collaboratively. We started out quickly with regular staff meetings, debriefings after FOMC meetings, things like that. I wanted to operate in more of a collaborative way than I had sensed that R&S was operating. But I don't remember details. Lynn Richardson was helpful in organizing things. I wanted to team build.

MR. SMALL. How does a division director work with the Administrative Governor? Is that an important relationship?

MR. KOHN. In this case, I think the important relationship presumably is with the head of the Economic Research Committee.

MR. SMALL. Some lower-level staff think of division directors as being kings unto themselves.

MR. KOHN. "Barons," as John Berry [reporter for the *Washington Post*] called us. For the most part, we were reporting to the Chairman on all substantive matters. That upset some people.

MR. SMALL. Does the Chairman annually evaluate division directors? Did the Chairman sit you down and give you an annual performance rating?

MR. KOHN. No, the Chairman wasn't going to do much with that stuff. I guess it was some other Governor. I do not remember my PMPs. [Laughter]

When Alan Blinder was here as Vice Chairman (June 1994–January 1996), there was a lot of tension, because he wanted to be more deeply involved in the economic projections process and what the research divisions were doing.

MR. LINDSEY. He wanted to go to Greenbook meetings.

MR. KOHN. Right. He was not happy with division directors basically reporting to the Chairman, and, if they had a little time left over, they would answer questions from the other Governors.

I had a good relationship with Blinder that has carried forward to this day. He did not get along with some other division directors because, in part, he was interested in the Greenbook process, and others didn't want to have him anywhere near that, and neither did Greenspan. And, of course, Blinder didn't get along with Greenspan very well. Blinder's feeling was that Greenspan didn't come to his defense in Jackson Hole when he started talking about—

MR. LINDSEY. Apparently, he was put out when Greenspan didn't have lunch with him the first day he came onto the Board.

MR. KOHN. He had issues with Ted Truman in particular. There's a story in which Blinder arrives at the Board, maybe over the Christmas holidays and in his sweatpants or jeans or something like that, and these Mexican finance ministers and central bank governors were parading through, and Blinder had no idea: "Here I am, the Vice Chairman, and no one told me about this." And it was Ted and Greenspan working with these officials. So he had all kinds of problems like that, but I actually got along pretty well with Blinder.

MR. LINDSEY. He was not happy at the Board, was he?

MR. KOHN. He wasn't, no.

The issue of who you reported to, how you reported, and the relationship of the divisions to the non-Chairman Governors, I think, has evolved. I did great with Larry Meyer. Larry has said, "One of the things I enjoyed was sitting down with Don before an FOMC meeting and telling him what I was going to say and knowing that he was going to give me some clues about where the Chairman was." I had those conversations with him before every staff pre-FOMC briefing.

FOMC Meetings

MR. SMALL. Do you think that Greenspan made an effort to figure out where the FOMC was before he went into the meeting?

MR. KOHN. Definitely, especially after February 1994. February 1994 was a defining moment in Alan Greenspan's relationship with the FOMC. He said, "I am not going to get surprised again with a 25 versus 50 basis point argument. I want to know where people are."

MR. SMALL. That was when he went in pushing hard for 25 basis points, and then all of a sudden finds the Committee wanting 50?

MR. KOHN. Yes. I don't know if he thought he was going to have to push hard for 25, but he was caught by surprise at the strength of the movement for 50 basis points, and he felt 50 would have been a very serious mistake. He didn't want to get caught again.

MR. SMALL. I think Meyer said that the debate at an FOMC meeting was always to set the stage for the next meeting.

MR. LINDSEY. Yes, right.

MR. SMALL. The two imaginary red chairs and a game of musical chairs to determine who got to have one of the "dissent chairs" at FOMC meetings.[18]

MR. LINDSEY. Right. It affected what would happen at the meeting subsequent to the upcoming meeting on Tuesday.

I always thought that the reason FOMC meetings involved prepared statements and got so, let's face it, boring was because of the release of the transcripts with the five-year delay. In other words, it was due to Henry Gonzalez. But I now also think that a reason the meetings were

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[18] Lawrence H. Meyer (2004), *A Term at the Fed: An Insider's View* (New York: Harper Collins), p. 53.

boring was because people basically knew where they would come out. I assume they're not so easy to predict anymore. So have the meetings gotten more spontaneous under Ben Bernanke?

MR. KOHN. I think both contributed, but I think the transcript is more to blame than any pre-meeting activity. We're now dealing with issues that no one's ever dealt with before—both the emergency measures taken going in, but also the exit strategies. There is more spontaneous discussion about those issues, and people sometimes change their minds as the discussion goes on, or reflect on it and change their mind, or move a little bit towards the next meeting. I would say that on the economic outlook, it's no more spontaneous than it was before. But Dave Small also goes to those meetings.

MR. SMALL. Another structural change has been the accelerated release of the Committee's minutes. The design principle there is for the minutes to reflect the full range of discussion at the meeting, so I think participants now might have an incentive to speak out more at the meeting because they know at least they'll have some input through the minutes.

MR. KOHN. I think there's something to that, but it doesn't necessarily mean they would prepare ahead of time. Yes, I think that probably is partly right.

MR. LINDSEY. John T. Woolley, who wrote *Monetary Politics,* sent me an email last year saying he and Joseph Gardner had done a study of the contractions in the transcripts—"can't" versus "cannot"—and he found a decisive change the minute Henry Gonzalez got his way and we started making the transcripts public after five years. The contractions fell way off, according to Woolley and Gardner's statistical work, because much of the discussion wasn't spontaneous anymore.

MR. KOHN. I believe it. I remember the first meeting after that decision. It was around February 1994; the president of the St. Louis Fed purposely read a statement in a monotone voice as a way of saying this is going to get boring. I was shocked when he did it. Before that, people came in with an outline of things they wanted to say. They were comfortable saying, "I agree with so-and-so" and four more sentences. Now everybody reads these long things.

MR. SMALL. What I have here from page 127 of Dave Lindsey's book is "February 1995: 'Deciding the Disposition of Future Transcripts.' "[19]

MR. LINDSEY. That's when that formal vote on the future transcripts happened, I guess. But, as had been obvious to many FOMC participants much earlier, that ultimate decision became inevitable once the FOMC decided at the mid-November 1993 meeting to release the past transcripts with a five-year lag. Woolley and Gardner found the drop in contractions starting at the earlier date and continuing for a year.

MR. KOHN. So I think all that contributes.

MR. LINDSEY. But do you know what I realized also from his email? The transcripts have gotten so voluminous, no human being can read them anymore, and therefore researchers are reduced to these statistical studies of the transcripts. That's my theory.

MR. KOHN. After February 1995, participants got to review the transcripts. So that might affect how the transcripts were done.

MR. LINDSEY. According to one of the Secretariat guys who was here before working on it, participants often would take out contractions and put in two words, either in editing the transcripts or previously in their prepared statements. They thought it sounded more highfalutin that way.

[19] Lindsey, *A Modern History of FOMC Communication,* pp. 127–30.

MR. KOHN. I never did that. I don't know how I compare to other people, but I make small changes usually where I think I might be misunderstood in the transcript. I think the transcripts are pretty accurate representations of what was said in the FOMC meeting.

I prepare my economic go-round, and I write it out in outline form. It's pretty much whole sentences. I try to reference other stuff that goes on in the Committee discussion before I speak, and I often argue with Charlie Plosser: "Unlike President Plosser, I think . . ." I don't pick on him particularly, but where there are things I disagree with, I try to bring them in.

On the policy round, I don't write it out. I spend some time over the weekend thinking of the main points I would like to make in the policy round, but I often don't; things develop differently, people make different points, and I only will pick up a few of those points and improvise the rest. So I don't write the policy thing out at all. I think sometimes my words, which seemed very clear when I was saying them, don't turn out to be so clear. But, generally, just a few words will change. I've never changed a contraction. I don't care.

Greenbooks and Bluebooks

MR. SMALL. Larry Meyer described the Greenbook as the 13th member of the FOMC.[20] Do you think the Greenbook has a lot of weight—too much weight?

MR. KOHN. I think the Greenbook has a lot of weight. I don't think it has too much weight. It's the one document that is fully reasoned through, completely transparent. You know exactly what it says and why it says it. Other participants come in and say, "I'm stronger than the Greenbook for the following reasons." Sometimes those reasons make sense, and sometimes they're just assertions—"I think inflation will be higher"—and often by appeal to what might happen to inflation expectations, which you're unable to prove or to evaluate why that might

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[20] Meyer, *A Term at the Fed,* p. 34.

happen. I don't know if the Greenbook is the 13th member. I think the Greenbook is important and helps to shape the discussion.

MR. SMALL. I remember you—or someone much like you—saying about the Bluebook something like, "Geez, does anyone read this?" The main value might be making the staff work through it and writing it.

MR. KOHN. Corrigan said he never read the Bluebook or the Greenbook, right?

MR. LINDSEY. Could you comment on the Bluebook? I have said that you were a perfectionist, I thought, like Axilrod on the Bluebook. What did you think the role was then, [what] the role was in recent years after you left as Division Director, and what should the role be in the future?

MR. KOHN. I think the Bluebook has a couple of important roles. The Bluebook past has a nice summary of what's going on with financial conditions, not dividing the domestic from the foreign, and trying to find common themes and integrating a lot of material from what's happened over the intermeeting period. I always tried to think about the first two sentences or so of the Bluebook past: How can I characterize what's happened to financial conditions over the intermeeting period as they might affect the future, and whether changes in financial conditions were because of a change in risk appetite, a change in perceived monetary policy, a change in the IS curve, or whatever—trying to think about what was going on in markets, why it was going on, and what the implications for policy might be. So I like the Bluebook past.

I also like the first paragraph or two of the Bluebook future, which summarizes the staff forecast and relates it—used to, certainly when we were writing it—to changes in equilibrium interest rates and things. I think the Greenbook also does a pretty good job in the first paragraph or two of summarizing what it does.

The Bluebook does a nice job of integrating a lot of complicated nonfinancial material and the outlook to set the stage for the policy choice. I thought that the stuff we did, and eventually Vince Reinhart and Brian Madigan continued to do, on natural rates of interest, on Taylor rules, and on optimal control were useful metrics—useful ways of thinking about policy, none of which were conclusive but help the staff and the policymakers think through the choices.

The part of the Bluebook that I had the most questions about was the one where the FOMC could choose policy alternative A, alternative B, or alternative C. It was helpful to think through those things, but in the end, I wondered whether what we ended up saying wasn't pretty obvious. Now, maybe that's because it took us three nights late at night to write those things. By the time we got finished, you sometimes think about if there was any value added. We used to say, "If we do this, we'll surprise markets, and this will happen and that'll happen." It's useful, I think, both to the staff and to policymakers. I read the Bluebook.

MR. LINDSEY. Do you think other policymakers read the Bluebook and the Greenbook?

MR. KOHN. Yes. I think the care with which they read it varies, but it's not infrequent that you hear a policymaker reference the Bluebook—often a table, like the Taylor rule table or the optimal control thing or something like that, natural rate stuff. And sometimes the alternative A-B-C stuff in the back, too, but not as frequently.

MR. SMALL. The Greenbook is built off financial assumptions of the federal funds path going into the future. I remember years ago when the staff could not tell the Governors what the path for the funds rate was. We used to have pretty much a flat funds rate path—

MR. KOHN. Not always.

MR. SMALL. Yes, unless the forecast became really weird doing so. The reason for not telling the Governors was to keep the staff out of the debate between the Governors: "The Bluebook agrees with me." Was that a design element?

MR. KOHN. You didn't want to be seen as dictating to the FOMC. I think there was a definite effort in the Bluebook to not take sides, and it's an effort that I carried through in my briefings when I was on the staff. Now, people have told me that they often could tell what I really thought in these briefings, but I tried to be evenhanded, and Brian Madigan does the same thing. There are a lot of complications now in the Bluebook that weren't there when Dave Lindsey and I were doing it. The language is more complex, because they also have all this exit strategy stuff. The statements got much longer, and they are elements in the Bluebook.

MR. LINDSEY. Oh, is that right?

MR. KOHN. Yes. Wouldn't you say, Dave?

MR. SMALL. Yes. And you've got all this material on the Fed's expanded balance sheet and the exit strategy.

MR. KOHN. It's all the quantitative credit easing stuff that we didn't have before. The wording is much harder now than when it was with Kohn and Greenspan talking to each other over the weekend.

MR. LINDSEY. And you kept it simple. The current version of the statement strikes me as awfully convoluted.

MR. KOHN. So I think the Bluebook is a valuable document. I don't know that everybody reads it thoroughly, but I do.

Summary of Economic Projections

MR. SMALL. What do you think of the quarterly Summary of Economic Projections (SEP)?

MR. KOHN. I find the write-up disappointing, partly because the staff tries to make a distinction between the material in their write-up of the FOMC minutes and the material in the SEP. The staff has an unwritten rule that the material they use in the text on the quarterly projections and what the FOMC participants submit in the written comments with their projections for the SEP is taken only from the SEP submissions themselves and not from the discussion in the FOMC meeting. What is said in the FOMC meeting feeds into the minutes of the meeting. But in terms of content, there's a lot of overlap between the minutes and the SEP. I find the table and the charts in the SEP interesting. I find the write-up less interesting. Once you've read the minutes, the value added of the words in the SEP is limited. If you didn't have the minutes, it would be interesting.

MR. LINDSEY. I'd like to comment on economic forecasts. In the blue volume on communications I left behind, the last chapter is a statistical analysis of monetary policy, as you may remember. When I used forecasts to estimate the Fed's reaction function, I went out three quarters; I did not go out three years with a long-term forecast. In other words, in that statistical work, the Committee based its current policy on what they thought would happen in the next three quarters relative to their goals. I personally think that—you don't need to comment on this—FOMC members only look out basically three quarters when they're making policy. They don't look out three years with a long-term forecast in order to set today's policy. And taking the forecasts of participants out three years affected the perceived balance of risks. If you go out three years to make policy, of course you're always going to have balanced risks by then, and if you think that's the way policy is made, you always say the risks are going to be balanced with appropriate monetary policy. You think I'm being unfair?

MR. KOHN. Yes, on a couple grounds. One is that we've had unbalanced risks there—not in the last couple ones, but while the economy was tanking and stuff. So there've been times when risks have been unbalanced that far ahead.

But I think there is a more important point. I agree with you that the Committee puts more weight on what it thinks is going to happen over the next three quarters than the next three years, but I think it puts some weight on where that will end up relative to where they want to be in the long run—at least I hope so. As we know from Taylor rules and all that, levels are important, and you miss a lot if you just concentrate on the next three quarters' growth rates without some sense of where you want inflation to be in the long run. If the projections just went out only three quarters, you would have no idea where the Committee thought these variables should be in the long run. So that's what those long-run things are about.

MR. LINDSEY. But the projections three years out, who cares? They're just numbers written down. They don't mean a thing when they're not the basis of policy decisions.

MR. KOHN. Part of the issue when we went to the longer-term projections—I don't remember when that was—was, I think, people thought that the economy was probably not so far from its steady state, that the third-year projections would give you a sense of a steady state.

MR. LINDSEY. Well, that argues for putting in the long run, which is fine. I'm more objecting to the third-year forecast.

MR. KOHN. But the third year was an indirect way of getting at the long run.

MR. LINDSEY. Yes, then—but why is it there now?

MR. KOHN. Well, you couldn't take it away now.

MR. LINDSEY. That's the answer.

MR. SMALL. I'll give you another possible answer, and I'll start this answer 40 years ago. Under Chairman Martin, for a while, he forbade forecasting. And then there were forecasts out only three quarters or a year or so. So if you were arguing that the Fed should make an anti-inflationary policy move, the forecast would show output plummeting but no benefit from inflation coming down.

MR. LINDSEY. Because it was further out, yes.

MR. SMALL. So that by having a three- or four-year horizon, for people who want to control inflation, you can at least see the benefit of a change in policy. At least there's some perceived benefit.

MR. LINDSEY. Yes, in these phony numbers that don't mean anything, you can show an effect. [Laughter]

MR. SMALL. Yes, but they're no more phony than forecasts of the output gap.

MR. LINDSEY. But no one knows what's going to happen that far out.

MR. KOHN. Well, it gives you a sense of the trajectory.

MR. LINDSEY. It gives you a sense of what the Committee thinks, but who cares? It's phony!

MR. SMALL. Don, do you think that going out that far, to the long run, did help the Committee specify a long-run inflation target or help some individuals come to a decision about their inflation target because they had to write down their long-run inflation projection?

MR. KOHN. It's hard for me to speak for other members of the Committee, whether it made them think about something in a different kind of way. I do think it showed that the Committee was a little more focused in its long-run inflation expectations than the public might have been led to believe by all those people who said that anywhere between 1 and 2 percent is okay for inflation. There was a lot of that [from] "inflation zoners" or whatever we were calling them. So I think it has shown that 1¾ to 2 percent is a pretty solid central tendency for the Committee.

MR. SMALL. Do you think the flirtations we've had with the zero lower bound on nominal interest rates have caused people to more firmly get away from zero as an inflation target?

MR. KOHN. I don't know. It certainly hasn't changed me. I was always around 2 percent for my long-run inflation target.

MR. LINDSEY. It certainly affected the IMF![21]

MR. KOHN. I think a test of all this will come over the next couple of years when the economy is picking up and inflation is still well below 2. And how is the Federal Reserve going to explain what they're doing? I think there's going to be some interesting interactions between these long-run projections and monetary policy.

Asset Bubbles

MR. SMALL. We've talked about 1994 and 1995, and then we talked briefly in stylized terms about some of the productivity stuff. So maybe we're close to the high-tech boom and irrational exuberance—

MR. KOHN. Irrational exuberance was December 1996.[22]

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[21] See Olivier Blanchard, Giovanni Dell'Ariccia, and Paolo Mauro (2010), "Rethinking Macroeconomic Policy," IMF Staff Position Note SPN/10/03 (Washington: International Monetary Fund).
[22] Alan Greenspan made the following comment about the stock market and irrational exuberance in his speech "The Challenge of Central Banking in a Democratic Society" on December 5, 1996, at the American Enterprise Institute: "But how do we know when irrational exuberance has unduly escalated asset values, which then become subject to unexpected and prolonged contractions as they have in Japan over the past decade? And how do we factor that assessment into monetary policy?"

MR. SMALL. —pricking asset bubbles, the Jackson Hole conference where I think it was a Bernanke–Gertler paper that said you only take asset prices into effect to the extent they affect aggregate demand.

MR. KOHN. That was Greenspan's view, and mine as well. Until this last crisis and deep recession, the thought was that monetary policy could stabilize the economy and bring it back toward full employment—perhaps with an occasional jobless recovery—and financial instability wouldn't fundamentally undermine the "Great Moderation," but it did. So it calls a lot of that stuff into question.

As I've said in thousands of speeches, I'm still skeptical about monetary policy's ability to affect speculative bubbles. It certainly has raised questions. Life is more complicated than I thought it was, and maybe a couple of other people, too.

MR. SMALL. In 2003, the federal funds rate was down to 1 percent. Did you think that your Michigan training and the liquidity trap was all coming back to you?

MR. KOHN. I've thought of the liquidity trap recently, but I don't remember the liquidity trap in the 2000s.

MR. SMALL. But we studied the zero lower bound on nominal interest rates.

MR. KOHN. We did. I think I was influenced by what we studied about Japan and the necessity for being aggressive when we were close to the zero bound. That influenced me in 2003, and it certainly influenced me in early 2008 when we were aggressive with our interest rate cuts—the 75 basis points between meetings, and then the 50 or whatever it was in the meeting. I very much had the Japanese example in mind. In a situation like this, when in doubt, you've got to be aggressive to stabilize the economy.

MR. LINDSEY. The Bernanke–Reinhart–Sack paper seemed to imply—and the reaction to the financial crisis may reinforce this view—that there were a lot of actions a central bank could take at a zero bound, some of which might be effective.[23]

MR. KOHN. That certainly was the message of that paper. I was skeptical about some of those prescriptions, and I told Vince Reinhart. But I do think—and I've said this in public—that what we've been through at the zero bound suggests that some of that stuff is a lot more complicated than I thought. I think I said this in an FOMC meeting once: This was a lot easier when we were lecturing Japan on what to do than when we're doing it ourselves. [Laughter]

MR. LINDSEY. What do you mean when you say "complicated"?

MR. KOHN. There are aspects of the quantitative easing, buying securities, that people didn't think about back when they were talking about Japan. For example, among the complications are problems with inflation expectations and accusations that you've lost your independence because you're supporting the government market even though that seems to be the only thing to do. There are problems with the exit strategy: How do you get out of it once you've got all these securities on the Fed's balance sheet, and should they be sitting on your balance sheet forever? We've had to invent a bunch of tools—first of all, we got the interest on reserves, and if we didn't have the interest on reserves—

MR. LINDSEY. Excess reserves.

MR. KOHN. —excess reserves, the exit would be even more difficult. But even with that, there's uncertainty about how effective that tool's going to be, how precise that tool's going to be. I think we'll do fine.

[23] Ben S. Bernanke, Vincent R. Reinhart, Brian P. Sack (2004), "Monetary Policy Alternatives at the Zero Bound: An Empirical Assessment," in *Brookings Papers on Economic Activity,* vol. 35 (2), pp. 1–100.

MR. LINDSEY. My question is whether you might get sat on by the politicians for not having a good enough rationale, but I think, technically, you'll do fine.

MR. KOHN. It's taken a lot of effort in inventing new tools to technically "do fine." The other point that's lurking back there is a fiscal aspect, in the sense that we took a lot of interest rate risk out of the market and put it on our balance sheet. That's what we should have done, and I don't think we should apologize for it. It's had the intended economic consequence of driving down long-term interest rates.

MR. LINDSEY. And it may have had some effect in that regard, but I don't think you should be surprised—and I doubt if you are—if the Congress wants to audit that part of what the Fed was doing. They're doing it now on a one-time basis in the Senate bill.

MR. KOHN. Right. I think they're more focused on our special lending programs than the MBS (mortgage-backed securities) purchases, but the MBS is part of it.

MR. LINDSEY. Oh, you were thinking more of the MBS?

MR. KOHN. Yes, in terms of putting the long-term assets on the book. I think it turns out to be more complicated and fraught with actual or perceived constraints that didn't seem evident when we were telling Japan what to do. And then there's this discomfort. Tom Hoenig has expressed it thoroughly, but there's the sense of holding rates this low for this long.

MR. LINDSEY. And announcing the "extended period," which, by the way, bothered Axilrod in the second edition of his book. It made him feel uncomfortable because it was too close to what was done in 2003 and 2004—in his mind. I'm not sure I agree with that.[24]

MR. KOHN. But the "extended period" language is an attempt to influence expectations. Once you've got your target interest rate at zero, you've got a limited number of things to do.

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[24] Axilrod, *Inside the Fed,* p. 162.

MR. LINDSEY. I was more troubled in 2003 and 2004 because I was afraid the Fed was going to have to get out pretty darn quick, but now I think you've got a potential deflation problem on your hands, and I don't have any problem now with the FOMC's statement after meetings.

MR. KOHN. Yes.

MR. LINDSEY. There's this view—it may be right—that inflation expectations now are more anchored. Maybe that will hold up inflation. I wish I were convinced and confident of that.

MR. KOHN. It's a risk, especially now with oil prices coming down. I think one reason that inflation expectations are anchored is that inflation really hasn't come down in terms of the CPI (consumer price index). It's been 2¼ over the last 12 months. It has come down in three months, six months, but the run-up in petroleum prices has kept it high, but it's going to start coming down.

The core CPI is coming down, and some of that is just owners' equivalent rent, which is an odd thing. It's hard to imagine someone expecting deflation because they're paying themselves less rent. [Laughter] It's hard to know how to get your mind around that, right? A lot of it is owners' equivalent rent, but it's not all of it, and there's a lot of stuff coming down. So it's a little bit worrisome.

MR. LINDSEY. The monetarist worry is laughable, in my opinion.

Supervision, Unconventional Policy, and Mission Creep

MR. SMALL. What about mission creep, which gets into the current episode? Regulating banks is one thing, but with the Fed potentially setting (supervisory) authority over (systemically) important nonbank financial institutions, is the independence of the Fed threatened the more it gets away from its core monetary policy?

MR. KOHN. It's tricky. I didn't used to think so, but I think more now, it's not impossible. For a long time we lived with more independence on the monetary policy side than we had on the supervisory side. We worked with the other supervisory agencies and the Treasury, and what happened on the supervisory side didn't seem to leak over to the monetary policy side.

There was some leakage in this crisis, but it was almost as much reputational as anything. Because of some of the stuff we did to fight the crisis and because people accuse us of not being sufficiently on the job before the crisis to stop problems from happening, that gave legs to Ron Paul, who doesn't think there ought to be an independent monetary authority. I think some of it leaked over to the monetary policy side. If we do our job decently, I think we're okay.

On costs and benefits, I think having the central bank involved in some way in prudential regulation, and macroprudential regulation in particular, is essential. I think we can handle that, but it's complicated. Ben Bernanke addressed this to some extent in his speech yesterday.[25]

MR. LINDSEY. He's still distinguishing between monetary policy, which demands total independence, and supervisory policy, which doesn't. He tries to make a case for independence, but it's a tough case to make, because so much of it involves a fiscal-like policy that's the Fed's balance sheet being blown up—

MR. KOHN. But that's not the supervisory policy, right? That was monetary policy that blew up our balance sheet.

[25] Ben S. Bernanke (2010), "Central Bank Independence, Transparency, and Accountability," speech delivered at the Institute for Monetary and Economic Studies International Conference, Bank of Japan, Tokyo, May 25.

MR. LINDSEY. Some of the blowup was Bear Stearns and AIG, but most of the rest that lasted owed to unconventional monetary policy.

MR. KOHN. Yes, unconventional monetary policy. I think the supervisory policy is difficult because of the credit allocation side, not so much the fiscal implications. But writing new regulations for real estate loans—that's influencing real estate versus business loans and that sort of thing—that's the uncomfortable part of that. Ben Bernanke also was addressing a necessary independence on the supervisory side, enough so that individual institutions couldn't influence your supervisory policy.

I think there's another aspect of independence for supervision, which is moving against potential bubbles and imbalances and things like that. Chairman Martin's statement about taking away the punch bowl in monetary policy applies to supervisory policy—for example, tightening up on the housing market in 2005 and 2006 when all of Congress and the President of the United States with his ownership society were supporting increases in homeownership, and to have the supervisors come in and say—[26]

MR. LINDSEY. Greenspan has made that point. He said that the Fed couldn't do it.

MR. KOHN. I think if you give some independence to the supervisory authority, you can do it. But it will require independence and courage.

MR. SMALL. But there's an argument that's not so much pricking bubbles with supervisory stuff as the argument that supervisory policy has been procyclical; in other words, the standards have become lax when everyone's thinking the economy's great. Then when the

[26] In a speech delivered to the New York Group of the Investment Bankers Association of America on October 19, 1955, William McChesney Martin said: "The Federal Reserve, as one writer put it, after the recent increase in the discount rate, is in the position of the chaperone who has ordered the punch bowl removed just when the party was really warming up."

economy tanks, you start tightening up exactly when you want banks to be lending. So there's an argument for coordination, at least a countercyclical element to—

MR. KOHN. Yes, that's what people mean when they talk about this macroprudential policy. The emerging market economies are doing it. They're lowering loan-to-value ratios when they're experiencing these capital inflows that they're afraid are producing bubbles in their housing or their commercial real estate markets.

MR. SMALL. Does this get into mark-to-market accounting and those issues that exacerbate the pro-cyclical nature of financial markets?

MR. KOHN. I think financial markets are naturally pro-cyclical. This is the hypothesis of Adrian and Shin (Tobias Adrian and Hyun Song Shin) and lots of people. You generate capital gains on the way up, and lenders put that to work. There's a lot of natural pro-cyclicality in the financial markets. But I think you're right. You want the supervisory authorities certainly not to add to that and maybe, if possible, to lean against it in some way, but that does require a degree of independence.

MR. SMALL. But if you went to book-value accounting, it'd be less—

MR. KOHN. Right, so mark-to-market accounting contributes to the pro-cyclicality, no question about it. The accountants love mark-to-market accounting, or at least FASB (the Financial Accounting Standards Board) does.

Basel I and II

MR. SMALL. What's your view of Basel II? Is credit risk–based capital a pipe dream? Can it ever be done correctly?

MR. KOHN. The concept is right. Some of the stuff that we saw, the off–balance sheet stuff, was a regulatory arbitrage against Basel I. The Basel II and Basel I capital requirements on the trading book were not high enough. They need to be and are being adjusted upward. I think the Basel II concept is right.

MR. SMALL. Can it be made to work well?

MR. KOHN. That remains to be seen. It certainly can be improved. There's a lot going on both to improve Basel II—people are calling it Basel III now—and tighten up capital requirements in 100 different ways, including building in a buffer that can be, if not countercyclical, less pro-cyclical to enable banks to draw down their capital buffer in the bad times and build it up in the good times.

Bank Supervision

MR. SMALL. One of Paul Volcker's proposals was to designate a Vice Chairman of the Board as responsible for supervision and regulation. Do you think the Fed needs a more precisely defined responsibility in some way for regulation?

MR. KOHN. I think it can.

MR. SMALL. Does monetary policy get too much of the attention?

MR. KOHN. It's tricky. There isn't a Vice Chairman for monetary policy—that's the Chairman. There's something to be said for making the accountability a little clearer and giving some continuity to this role, which this proposal might do. On the other hand, I also think it's important that the Board be more involved in supervision, particularly the systemic risk stuff, than it has been in the past. There's been a tendency to have a Governor in charge of supervision and regulation dominate the effort in this regard. Sometimes the Governor doesn't even involve his committee. So I do think the Board has gotten out of touch with supervision and needs to be more involved.

MR. LINDSEY. You will have two female Governors now who are going to be experts in supervision, won't you?

MR. KOHN. Peter Diamond says he's interested in stability.[27] Then you've got Daniel Tarullo and Janet Yellen interested in this, so that's five.

MR. LINDSEY. Janet Yellen has had experience. So the Board's going to be more involved in supervision and regulation, huh?

MR. KOHN. The question is how to do it, and especially how to do it if one Governor is—you're going to have to put somebody in that slot who's designated as Vice Chairman for supervision.

MR. LINDSEY. Who is it going to be? Tarullo, I bet.

MR. KOHN. In the current setup it would be Dan Tarullo. That Governor is going to have to figure out how to live with this—that point you just made, David, that there are a lot of Board members interested in this—there aren't that many slots on the committee. How are you going to do this? And the Reserve Banks are more interested now. Setting this up is going to be difficult. Janet has given a lot of thought to organization.

MR. SMALL. How do you respond to the person out in the public who says, "Let me try to figure this out. There are 12 Reserve Banks. They are private-sector entities with bankers on their boards of directors, and they're regulating the banks. The Reserve Banks are supervising banks kind of, but not really. There's this delegated authority from the Board." For some people, that just doesn't have any credibility.

[27] Peter Diamond is a winner of the Nobel Prize in economics and a professor of economics at the Massachusetts Institute of Technology. He was nominated to the Board of Governors of the Federal Reserve System by President Obama in April 2010 and withdrew his nomination after facing Republican opposition in the U.S. Senate.

MR. KOHN. The reality is that the boards of directors of Reserve Banks don't get involved in supervision at all. They have some say over the management of supervision in the Reserve Banks, although an awful lot of it comes from the Board here in Washington. So this is more about perception than reality, but there is a perception problem.

MR. SMALL. Who holds the supervisors and the Reserve Banks accountable? Is it the Reserve Bank president and the Bank's board, or is it the Board of Governors?

MR. KOHN. It's basically the Board of Governors. The Division of Bank Supervision and Regulation here at the Board does a thorough evaluation of these things and these divisions at the Reserve Banks every year. The Board of Governors has a lot to say about the allocation of the resources to the supervision and regulation efforts, so it really is a delegated authority from the Board to the Reserve Banks. The Board of Governors has a lot more to say about supervision at the Reserve Banks than it does about, say, monetary policy and research at the Reserve Banks, which is a much more independent function.

The Role of Reserve Banks

MR. SMALL. Do you think the country is well served by having, say, a St. Louis Reserve Bank with a monetarist tradition and other Reserve Banks with their various traditions so that, when you get to the FOMC meetings, the Committee is getting these different perspectives?

MR. KOHN. It's good to have diverse perspectives on the FOMC even when I disagree with them. It's good that these people bringing these perspectives have their own independent research functions to help them think the stuff through. I observed the Bank of England [BOE] had a real problem: It has five internals and four externals on the [BOE's] Monetary Policy Committee. The four externals have limited access to research, and, at least when I was there in

2000, they were pretty unhappy about that. I think they have more support—there's a unit now to support them. But the fact that the Reserve Banks form a natural avenue for diverse policy views to be heard in the Committee is a good thing.

Now, to what extent the public expression of those diverse views, as often as it occurs with the intensity it occurs, particularly for some Reserve Banks, is a good thing is another question. Obviously, by bringing it up, I had my doubts. I saw a Larry Meyer line about this in the last day or two: The hawks are louder than the doves or the centrists. My joke had been that the gene that carries hawkishness also carries the desire for public exposure. [Laughter]

MR. LINDSEY. I assumed there were just more of them out there in the Reserve Banks. That's why you hear more.

MR. SMALL. The Bank presidents obviously influence policy through attending or being on the FOMC, but the Reserve Banks initiate discount rate requests. Is that an influence on the FOMC or on the Chairman that, just looking at FOMC transcripts, one would miss?

MR. KOHN. Right now the discount rate is a little odd. Reserve Banks are recommending increasing the discount rate to normalize the spread between it and the federal funds rate, so it's not indicative, necessarily, of a desire to change the stance of monetary policy. In fact, this Larry Meyer thing I read—the thing about the hawks and their being the loudest—was also about the discount thing and the most recently published minutes.

MR. SMALL. But over the longer run?

MR. KOHN. Over the longer haul, I always looked at those requests to change the discount rate as indicative of where the Reserve Banks were. Not that that exerted particular influence, but it told me, going into a meeting, whether there were going to be six or eight

Reserve Banks pushing one way or another. I think that's the way we've often used it: the avoidance of surprise, in a sense.

MR. SMALL. The Board members always outnumber the Bank presidents as voting members of the FOMC. Also, the Board can declare discount rate changes on its own, as long as there is at least one request from a Reserve Bank. Is this an extra lever Board members have?

MR. KOHN. Not anymore. I think it was for a while. There were times—maybe as late as the early 1990s, certainly in the 1980s—when Board discount rate changes forced changes in the target funds rate.

MR. LINDSEY. Certainly true during money targeting and for a while thereafter.

MR. KOHN. And for a while thereafter. I remember one meeting during Greenspan's chairmanship in which the Board did something to the discount rate days before the Open Market Committee Meeting. I can't remember whether the rate went up or down, like, days before the FOMC meeting. (Robert T.) "Bob" Parry (then president of the San Francisco Reserve Bank) said, "Why did I come here from the West Coast to this meeting? You guys have already made policy." There was considerable unhappiness about that. But that hasn't happened in 15 years.

MR. LINDSEY. Does the Board still require a discount rate request from a Reserve Bank?

MR. KOHN. In practice, yes.

Composition of the Board of Governors

MR. SMALL. The role of Board members and their backgrounds have varied over the years. What are your thoughts about the composition of the Board during your tenure here? Are the individual members becoming more academic? Do they have more firepower in the analytics? In the past, were the Governors overseeing the general shop and the staff while the division directors had more room to run than now, given the recent Mishkins, Kohns, and others with solid economic training?

MR. KOHN. I think it's been up and down. Lyle Gramley and Charles Partee were solid macroeconomists. Sherman Maisel thought he was a good macroeconomist. Andy Brimmer was an economist.

MR. LINDSEY. Martin objected to the appointment by President Johnson of Andy Brimmer, the first African American on the Board, on the grounds that Brimmer would be the fourth economist on the Board.

MR. KOHN. It has gone in cycles. I thought the Clinton Board was pretty strong—Alan Blinder, Janet Yellen, and then Larry Meyer. You had Alan Greenspan. Roger Ferguson, Ned Gramlich, and Alice Rivlin were Board members. It was a strong group. Ferguson was not a macroeconomist, but he was an economist. He was a good economist. I used to kid him by saying he wasn't a macroeconomist and wouldn't understand this stuff; he totally understood the stuff. The Clinton appointments were pretty strong.

MR. LINDSEY. Why are there no more long-term members of the staff moving up to the Board level like Charles Partee, Lyle Gramley, and you did?

MR. KOHN. I think there's resistance to that politically. Former Senator Paul Sarbanes said to me during my Senate confirmation hearing and privately, "I don't object to you, Don. You're extraordinary. But they shouldn't do this very often."

The idea of political appointments to the Board is to bring in fresh thinking, et cetera. I think nominating Board members from the staff could happen more often now. You've got to be willing to take a 25 percent pay cut or probably more now. When I moved from the staff to become a Governor, it was a 25 percent pay cut.

MR. LINDSEY. Dave Stockton could be on the Board. Brian Sack, I predicted to his face, would be a Governor before this was all over.

MR. KOHN. Or the President of the New York Fed.

MR. LINDSEY. That was before he joined the NY Fed and became manager of the System Open Market Account for the FOMC. They could do well.

MR. KOHN. I agree with both of those.

Managing at the Fed

MR. SMALL. Don, you called me into your office when you appointed me section chief. There were two conditions you set out. One, "You have to do money demand. No matter what academics think of it, the central bank has to know what's going on in money demand. You need to follow that." This was around 1990, after things had gone downhill a bit for the monetary aggregates.

The other thing that you said, which I thought was not only invigorating but on the mark, was, "I'm so involved in day-to-day stuff that you've got to look out for my blind spots—what's happening in academics, what's happening in journals." Implicitly, you were saying, "I'm focusing most everybody else on operations. Your section has to look around not at memos and stuff like that, but at issues outside of that." So, early on, we looked at the Taylor rule in some of the simulations we did for you.

MR. KOHN. Or opportunistic disinflation.

MR. SMALL. Yes. And the zero bound and unconventional monetary policy tools. That leads to the question of how you keep a large organization fresh.

MR. KOHN. I think it's something that the Division of Monetary Affairs is struggling with right now, when the workload is overwhelming. It's not hard to keep things fresh when people have leisure time. Our original conception—Dave (Lindsey), I think you and I were working on this together for the Monetary Studies Section—was that we would circulate people into and out of that section. This would be a place where people would go for internal sabbaticals. I don't think we ever did that, because people were too busy.

MR. SMALL. I remember the annual budget reviews under you. And Dave was there. We used to sit down and make out big whiteboards, all the possible issues that could be coming up, and what long-run studies we need to do. That was a real luxury.

MR. KOHN. Unfortunately, in the last three years, the Division of Monetary Affairs hasn't had that luxury. It's not Brian Madigan's fault and it's not Bill English's fault, it's just circumstances. Brian and Bill themselves say finding research time is a problem.

MR. SMALL. Does the research committee of three Governors—

MR. KOHN. It doesn't oversee research. As far as I know, it reviews statistical report proposals and oversees the budgets. Unlike in the Division of Consumer and Community Affairs and the Division of Banking Supervision and Regulation, the conception is that the Fed Chairman is the monetary policy oversight Governor, and three members of the Board of Governors generally don't interfere with that. Rick Mishkin tried to reinvigorate research and find ways to economize on the time of the research staff. He used the committee as a more active platform not for substantive policy issues, but for how the divisions were organized.

MR. SMALL. What about the role of minorities at the Board over your career?

MR. KOHN. It's been a tough issue. It certainly was while I was division director. The statistics show the number of African American Ph.D.'s is small, and the competition for them is intense.

MR. LINDSEY. I remember that, in this regard, you would not lower your standards come hell or high water. You were going to only hire above a certain level regardless.

MR. KOHN. Right, but under Dick Porter's leadership, I think we did reach out.

MR. LINDSEY. But you hired only good people.

MR. KOHN. Right. Minority hiring was a high priority, but it was hard, given the makeup of the pool from which we were hiring. When I was in R&S, maybe that second time around before I became division director of Monetary Affairs, we had minority fellowships that we ran with the American Economic Association (AEA). AEA ran a summer program that we helped to fund. I was active in that. But after a U.S. Supreme Court decision on equal opportunity, that program had to be dropped. Minority hiring was a priority for me. I was an enthusiastic backer of the AEA–Board thing. I think we hired one or two people out of that.

MR. SMALL. What about women?

MR. LINDSEY. You've always hired half women, haven't you?

MR. KOHN. I don't think half.

MR. LINDSEY. I bet it was 50–50 in R&S and IF (Division of International Finance).

MR. KOHN. I'm sure it is now, maybe more than half and half, but what it was like 20 years ago, I'm not sure.

MR. LINDSEY. I think it was pretty close even then.

MR. KOHN. We've always had women prominently in the division, now that I think about it.

MR. LINDSEY. Right. It was a priority. What about employees from foreign countries?

MR. KOHN. I certainly fought for the Board being more open to hiring foreign economists and giving them access to confidential information. It was an uphill struggle for a while.

MR. LINDSEY. Is that still happening now?

MR. KOHN. Increased hiring is happening more and more because of the pool from which we're hiring.

MR. LINDSEY. The pool has more and more foreigners and not as many Americans.

MR. KOHN. In fact, we're providing some help for people getting green cards, I think—not as much as some other employers provide, but we are. I think we had to do that in order to keep the quality of the research and staff up.

As I go to international conferences and to conferences here in the United States, it strikes me that these conferences that would have been dominated by U.S. economists 15 or 20 years ago are now pretty evenly divided with a mixture. Especially in the younger generation, I think, there are a lot of foreign-born economists. I remember when it was pretty unusual. The tribute to Lucas Papademos noted that he was a student of Franco Modigliani, and Franco specialized particularly in Italian economists, encouraged a lot of—but that was unusual in those days.

MR. SMALL. When I was a section chief, in one of my first budget review sessions, we were thinking of people for promotions and we had ranking of economists by salary. This was right before the start of "pay for performance," and I remember you saying, "This is a bargain with the devil. We're going to be able to move certain people along, but we're going to have to tell other people 'Sorry.' We're going to have to fit everyone into a bell curve, which is going to be the devil in all this." How did it work out?

MR. KOHN. I think it worked out better than I thought it would. I was worried about the interpersonal relations of the bad news to deliver, but I think most people, not everybody, understood where they fit in. I think we were able to move some people through pretty quickly, at least in the early years of the division and this pay for performance. We sat down and looked at everybody in the division. This is a small division—this is not R&S—there were 65 people in the division, and 30 or 35 were economists. The section chiefs and the officers, in my memory anyhow, took everybody together and said, "We do have a bell curve here. Who are the real outstanding ones we really want to reward?" It enabled us to look across sections a little better than we had been before. So I think it worked out a little better than I thought it would.

It doesn't mean there weren't some people who got pretty upset when they had an "outstanding" rating one year and then a "commendable" rating, or whatever the other thing was, the next year. You could explain till you were blue in the face that we just didn't have the opportunities this year, da-da-da. You had a group of people who were used to getting nothing but A's in their whole lives from kindergarten through graduate school, and all of a sudden some of them are getting B+'s. [Laughter] That was difficult, but I think it worked out okay.

The Structure of the Federal Reserve System

MR. SMALL. You traveled to many other central banks, particularly the Bank of England. In management or structure, what are some common mistakes made by central banks, or what are the strengths or weakness of the Board?

MR. KOHN. I don't like the European model of the director of research being a member of the policy committee or the head economist being part of the policy committee. I like the

Board's model in which there's a staff and there's the Board. The staff can present their forecast, and every FOMC member is free to say, "That's a load of baloney." Whereas if it was the Vice Chairman of the Board or somebody presenting this forecast, as it often is in the ECB, for example, with Lucas Papademos or somebody presenting a forecast, it's much harder to have a good discussion of the forecast. So I think that's a problem with how these European central banks are organized.

I do think having that independent capacity in the FOMC and bringing their own views to the table and not everybody funneling through the Board staff is good. I guess the ECB has this, because all these national central banks do research.

MR. SMALL. Does the ECB have a structure like ours where Board members control the budgets and salaries of the Reserve Banks?

MR. KOHN. No, they don't have that.

MR. SMALL. Does the Fed structure make Board members, Reserve Bank presidents, and FOMC folks too interdependent: "We're not going to cut your salary because we have to get along with you in some other venues"? Is it "go along to get along" because you're all tied together?

MR. KOHN. We have made the salaries of Reserve Bank presidents automatic and not tied to tenure, location, or an evaluation of performance. When I first served on the Board's Bank Affairs Committee, there was an annual performance evaluation of the Bank presidents, and the amount of salary increase a President received depended on the evaluation. In the end, no Board member was going to say, "This guy is trash; he shouldn't get anything. This guy is great; he should get 20 percent." So we ended up fighting over 0.1, 0.2, 0.3 [percentage point] differences and having these battles with the boards of directors, each of whom thought their

Bank president was the greatest president in the Federal Reserve System, which is what you'd expect. That's who they're familiar with, and they're defending their turf. That was an unproductive use of time and generated a lot of bad feelings and disagreement.

MR. SMALL. What about determining operating budgets or the number of personnel slots at Reserve Banks?

MR. KOHN. I never heard the policy stance of the Reserve Bank influencing that decision. It's all: What do you need, what are your new projects, how do you compare with the other Reserve Banks?

MR. SMALL. Do you talk directly with the Bank president on that and not with the board of directors at the Reserve Bank?

MR. KOHN. I would say, generally, it's with the Bank president, but also the board of directors. Now, during the financial crisis, we cut back a lot of the meetings with these boards of directors, particularly on budgets. On budgets, there are certain guidelines given out, and it's only when a Reserve Bank is significantly away from the guideline that we have a budget session. Sometimes just the threat of having a session is enough to get the Reserve Bank to cut back a little to avoid the trouble of having a session—not always; often they come in and defend their thing. There are still evaluation sessions in the spring and discussions with the board of directors about the performance of the Bank president, but it's not tied to salary, it's just discussions. They vary in openness and frankness.

MR. SMALL. If you were young, do any of these jobs at the new financial oversight—the new committee of regulators, whatever the institution that's going to acquire all the information—seem like exciting jobs?

MR. LINDSEY. Or they should have an independent staff that they have to build up?

MR. KOHN. I think to some extent. I think it varies between the House and Senate bill.

MR. SMALL. Are these exciting jobs for a young person?

MR. KOHN. It depends on how this is defined and how it comes out in the end. If it looks like there's a degree of independence and continuity for the staff jobs, I think that might be very interesting, especially setting things up at the beginning. If it looks like they're going to be political jobs and the Secretary of the Treasury will just dictate what he thinks the answer should be and tell the staff to go support the answer, then they're not going to be very exciting jobs. It also depends on how closely you're going to be able to work with the other agencies. If you're going to be constantly battling with the other agencies, then that doesn't sound too interesting. It could be an interesting place, but it remains to be seen.

The Secretary of the Treasury is the chairman of this group. And there is a data-gathering function, but exactly what it is is unclear to me.

MR. LINDSEY. Building up an expert staff is a monumental task.

MR. KOHN. I hope they rely on the Federal Reserve to a considerable extent. I think that the Treasury would have to build up a staff and build up its knowledge.

MR. LINDSEY. They've had trouble filling political appointments over there under Tim Geithner. A lot of Fed staff is visiting over there, including ex-Fed staff.

MR. KOHN. Debbie Danker is over there.

MR. LINDSEY. Pat Parkinson. Ted Truman has been there.

MR. KOHN. Ted was there a while ago. Mark Van Der Weide was over there, and he's back.

MR. LINDSEY. Ted Truman was there under Geithner, I think.

MR. KOHN. For a few months, he was filling in while—maybe for three, four months.

MR. LINDSEY. Gee, I hadn't thought of that, but they're not established. This is a problem, I think.

MR. KOHN. I think the political appointments process is a big problem. It's a weakness in this country. Extending it to the Federal Reserve Bank of New York is a terrible idea.

MR. LINDSEY. That probably won't get through.

MR. KOHN. It has support on both the House and Senate sides.

MR. SMALL. It's going to limit the number of candidates who find the job attractive, or even once they're confirmed—

MR. KOHN. It has a number of disadvantages. It will be harder to find candidates. The hurdles to go through the clearance process: never had a nanny who you didn't know was totally legal, you always paid every dollar of Social Security to everybody you ever hired, you've never had a tax audit—whatever. All these hurdles eliminate a lot of people, I'm told by people who have been involved in recruiting. People just don't want to go to the trouble of having their personal lives exposed, their financial lives exposed like this. Just getting the nomination is a very difficult process.

Then to have your life on hold while the Senate may or may not decide to confirm you for reasons that have nothing to do with your qualifications for the particular job, but because some Senator has something else he or she wants from the Administration, say the Treasury Department, that has nothing to do with anything you're going to do, and they hold you up as blackmail to get what they want. Meanwhile, your life is on hold. What are you going to do?

I was confirmed right away. Finances and what to do in the meantime weren't problems for me because I remained on the Board staff until I was confirmed.

MR. SMALL. Considering the proposal to have the president of the New York Reserve Bank confirmed by the Senate, do you think there would be problems after the person has the job—such as, that person could claim, "I've been appointed by the President, just like the Chairman. I've got equal standing. I can dissent more easily."

MR. KOHN. It's not just dissent. I think the New York Reserve Bank will look like another independent agency, and it will be much harder to make the supervision side, in particular, a Board-directed thing. I think the New York Fed, which is already a semiautonomous organization, would be even more autonomous.

I also worry that the position will be unfilled for long times. I doubt that you could do what they do in the Treasury Department, which is to appoint these people as consultants. They sit there and they do the internal parts of their job, but they're not allowed to represent the United States in international meetings, they can't be photographed. I was supposed to go with Lael Brainard to a Financial Stability Board meeting before she was confirmed as the undersecretary of the Treasury for international affairs. At the last minute, she had to check with her Senate committee: "Can I go to this international meeting?" Somebody on the committee said, "No, you can't," so, 24 hours before she was to take off, she had to cancel. It's a terrible thing.

MR. LINDSEY. Wonder where the proposal for NY Fed president Senate approval came from. It's such a bad idea.

MR. KOHN. I don't know. It's getting worse and worse all the time.

MR. SMALL. The impetus for it was if the Federal Reserve Bank of New York is doing all these quasi-fiscal actions—

MR. KOHN. Right. On that, right. I think it also came from the fact that the president of the New York Fed votes at every FOMC meetings, and so in that regard, he or she is no different from a Governor, and also the NY Fed has a lot of important supervisory functions. So I'm not sure how much of it came from these quasi-fiscal actions. And you do have this perception, in the case of the current president, that a Goldman Sachs guy was appointed by a board of directors that was headed by a Goldman Sachs guy.

MR. SMALL. Historically, some Fed Chairmen and presidents of the New York Fed have not gotten along so well.

MR. KOHN. Yes, Fed Chairmen Martin and Burns had some differences with the New York Bank presidents Allan Sproul and Alfred Hayes.

MR. SMALL. If you further strengthen the Federal Reserve Bank president that—

MR. KOHN. It could be difficult. It depends. The Fed Chairman and the Reserve Bank president can work out a decent working relationship, but I think it adds to the risk that the working relationship is more difficult to work out.

The story that I heard in New York last Monday was that Arthur Burns disliked and didn't trust Alfred Hayes. He wanted Hayes to quit the job of president of the New York Fed, but Hayes refused to quit. Burns wanted to announce Paul Volcker's appointment as president of the New York Fed a year before Al Hayes's term was up. I didn't quite hear all the details of the story, but when they did this, a bunch of New York Fed officers quit in protest, like Charlie Coombs and two others.

MR. SMALL. Coombs, I thought, resigned the day that Volcker took office.

MR. KOHN. Maybe he resigned when Volcker took office rather than when his appointment was announced.[28] But there was a lot of bad blood between the Board and New

[28] Charles A. Coombs announced his resignation on February 20, 1975, effective June 1, 1975. Paul Volcker took office as President of FRBNY on August 1, 1975.

York. Some of these things we have, like the foreign currency subcommittee on the FOMC, are a product of Burns saying, “I don’t trust the New York Fed.”

MR. SMALL. Burns was on the flip side of that position with respect to Chairman Martin, because Burns was brought in by President Nixon as a Chairman-in-waiting.

MR. LINDSEY. Only because Martin wouldn’t quit a year early. [Laughter]

MR. SMALL. Burns had been through that once before from the other side. That’s why Volcker went to Princeton.

MR. KOHN. Why did Volcker go to Princeton?

MR. SMALL. As I understand it, to wait out Al Hayes.

MR. LINDSEY. When he was an adviser to President Nixon, Burns did not insist on getting an office close to Nixon—a big mistake. He was sitting in the Old Executive Office Building, and he sort of got shunted aside. He was not as political as you would have expected, wanting to be being close to the President.

August 5, 2010 (Second Day of Interview)

How the Macroeconomy Works

MR. SMALL. We've covered several macroeconomic events during your tenure at the Board. But about 40 years ago you graduated from the University of Michigan, and now you are leaving the Federal Reserve. Would you share your thoughts on the economy? What do you think are the structural, behavioral relations? For example, in the FOMC transcripts and in the minutes, there are discussions of the Phillips curve. Some people say there is one; some say there isn't one. Could you talk about that debate, offer your views, and talk about the implications of that foundation for monetary policy?

MR. KOHN. Fundamentally, I take a pretty conventional neo-Keynesian view of how the economy works. To some extent, I tend to think of a Phillips curve, an IS Curve, and a Taylor rule, but I'm going to add a caveat to that in just a second.

Those ways of looking at the economy certainly have evolved tremendously since I got my Ph.D. in economics from the University of Michigan in 1971. Since that time, an awful lot has happened. The role of expectations had already been raised by Phelps and Friedman around 1968. We went through the 1970s, and inflation expectations rose. We kept getting worse and worse outcomes not only for inflation, but the real economy as well. In the 1970s and the 1980s, I learned a lot about how the economy worked and how macroeconomics was evolving: how to view the economy, to look at actors as much more forward looking, so their expectations were more important.

Particularly in the 1980s, but in the 1990s as well, I spent some time interacting with academics. I attended several NBER (National Bureau of Economic Research) conferences on monetary policy that were held every other year. John Taylor ran one on the Taylor rule, and there were a number of others as well. That was helpful for me in understanding the academic perspective, and it certainly influenced how I thought about the economy. At John Taylor's invitation, I spent a semester at Stanford teaching macroeconomics. One reason I accepted that invitation—and insisted on teaching an intermediate-level upper-undergraduate macro course—was to teach myself modern macroeconomics, to bring myself into the present.

At the same time, as a practical policymaker, I understand, or have tried to deal with, the limits of the standard model. We do not have a good understanding of how expectations are formed, how they change over time. These highly stylized models are just that, highly stylized models. They leave out most of the real world. In the last three years, we've seen a stark demonstration of the fact that these models could not explain a financial failure of the magnitude we had and the interactions of that failure with the real economy.

I start with a standard framework, a NAIRU (non-accelerating inflation rate of unemployment) framework, augmented with a Taylor rule. As the director of the Division of Monetary Affairs, I started incorporating the Taylor rule into the Bluebook. I had three to five different specifications of the Taylor rule, not just one. That was a message from me to the policymakers, that there were a range of outcomes, and no one rule was going to be definitive. It was always useful to look at that range of possibilities and ask yourself, if you're away from the prescriptions of the Taylor rule, is there a good reason to be away from it? So I think it's a useful guideline to look at, but it's not a rule to follow.

We also showed the FOMC macro model simulations for alternative economic and monetary policy assumptions to the staff forecast. As you're working through those situations, it's important to have in mind a story to tell about how factors are working through the economy, what's affecting what, and what the outcomes are going to be. It's important that the story not be entirely ad hoc, but that there be a structure and good reasons for believing: "If I lower interest rates by 50 basis points, the outcome for inflation and output will be X in one, two, three, four years." The models are useful for that, but I think we also have to recognize that models are not real life, every situation is different, and some situations are much more different than other situations. The last couple of years are a good example of that.

MR. SMALL. Part of Milton Friedman's k-percent rule was based on monetary policy having long and variable lags. Do you think this argues for using forecasts in conducting monetary policy?

MR. KOHN. Yes. When I look at the Taylor rule, I tend to look at it relative to projections of inflation and the real economy rather than at last quarter's outcome, the way Taylor wrote it down. I look at both.

MR. SMALL. You mean you put forecasts on the right-hand side of the rule?

MR. KOHN. I put forecasts on the right-hand side. Once the back of inflation was broken in the 1980s under Volcker's leadership and we got back into more normal ranges of fluctuations and shocks, the Federal Reserve did a pretty darn good job from 1982 to 2007 anticipating actions, smoothing the business cycle, and keeping inflation under control with preemptive policy strikes.

I know from reading things Milton Freidman wrote, and hearing him personally, that he was amazed that we could do this. He attributed it to Alan Greenspan's genius, and he was sure no one could ever replicate that. At least, that's what someone told me. [Laughter] I think, in fact, it was attributable in part to the settled economic environment and in part to what we learned in the 1970s about how you had to head off these inflation impulses before they gathered momentum, before they got built into expectations. We learned from our mistakes, and we are better policymakers for it. There is no need to have a k-percent rule for money growth as Friedman advocated, especially since the relationship of money and nominal GDP is not very predictable at all.

MR. SMALL. The term "bond market vigilantes" used to be tossed around. It was said, with a little bit of reserve, that we could rely on them to move bond rates if we were following a systematic rule such as the Taylor rule. Do long rates now move more in response to economic changes? Do the markets do more of the work for the Fed because markets know, for example, if output is seen as moving above potential, the Fed will tighten?

MR. KOHN. I don't know the empirical evidence for what you're saying. It's logically true that the more predictable we are and the more the financial markets understand what we're doing, the more they can anticipate our actions and the more stabilizing their actions will be.

But, as we found out in the last three years, the financial markets don't anticipate everything very well. The problem wasn't inflation at the general price level; it was inflation in the price of houses and the extension of credit in a number of dimensions in addition to the housing market. The markets didn't see that at all. There was no discipline to speak of. There was maybe a negative discipline, in the sense that they were encouraging people to follow the herd. People who didn't follow the herd were punished. So I think the idea of bond market vigilantes has some validity, but like human beings everywhere, they just react to the stuff they remember themselves. Financial markets often are not as forward looking and self-correcting as you might hope they would be.

MR. SMALL. If someone wanted to get a well-structured perspective of the staff view of the economy as expressed in the Greenbook, do you think the FRB/US model provides a pretty tight link to how the staff views the economy?

MR. KOHN. Well, I think there's a link, but the financial crisis has made the link less tight. I'm not in those projection meetings anymore. I don't get the FRB/US memos the way I did 10 years ago when I was on the Board staff, so I can't tell you how tight the link is to the overall staff view. The FRB/US model has been useful for doing alternative policy simulations, for poking underneath the hood of the economy and seeing what might be driving what. But the response of the people operating the models—this model and all the others—to the financial crisis has been a bunch of ad hoc adjustments and the input of financial stress variables where they weren't before. By their very nature, none of these models that are fitted importantly to the means of past data and shorter-run deviations from those means do a good job looking at a tail event and predicting how that tail event is going to feed through. There are all sorts of nonlinearities in the economic process that can't be captured in the modeling, stuff that happens quickly and suddenly: losses of confidence, runs on institutions. None of that is really modeled. So, in the crisis, the model was less useful than it is in peacetime.

MR. SMALL. Working for you back in the 1990s, I was working on some of those simulations. I remember the model's new version came out, switching from backward looking to forward looking, under the initiative of Peter Tinsley and others. That was a big change. It made the model much more useful and credible. It didn't incorporate all the financial stuff that would happen later on, but—

MR. KOHN. I remember working with you and others on those simulations. It took us a while to understand how the model was fitting together, what the mechanics were. In some sense, Tinsley and his people created this thing, building from first principles, which is what they should have done. But then when putting it together and turning the key, it wasn't always obvious to everybody why outcome B followed impulse A, so it took us a while to learn. But that was a good exercise.

MR. SMALL. At that time, the bond rate was being tracked reasonably well in the old model where it was a distributed lag on past values of the short-term interest rate.

MR. KOHN. I think that broke down in the early-to-mid 1980s. I remember a GDP meeting where some staff were having a terrible time figuring out why the model based on distributed lags had gone off track. I think part of the issue there was, once again, the evolution of inflation expectations. By having a distributed lag, in effect you were saying that people were forming their forward-looking expectations based only on the history, with certain weights on the previous years. I think what started to happen in the early 1980s was due to monetary policy, the 10 percent unemployment rate, and the drop in oil prices in 1986; all of a sudden, those inflation expectations behaved in a more forward-looking way, and the expectations were formed in a less linear, smooth way. That piece of the old MPS model broke down earlier than the mid-1990s. That's my memory.

MR. SMALL. Would you talk about forward-looking markets and the forward-looking nature of the model? Perhaps you got into that, or observed that a little earlier, coming through the Government Finance Section and working through the financial markets. You saw some of those market reactions of the forward-looking behavior rather than over on the wage side of things.

MR. KOHN. Coming through the Government Finance Section was a valuable experience. Every day I went to the call between the Board and the New York Fed. I had begun a learning process about that at the Kansas City Fed. There had been a shift in research directors, and the new research director asked me and another person to explain to him what all this stuff was that was going on in the morning call. So I had some contact with the New York Desk, and I was learning something about the markets.

When I came to the Board and had to go to the call every day, it was an immersion process in the markets, how they worked, how they reacted, and how they viewed our actions and formed expectations about our actions. I think that was a valuable part of my experience.

MR. SMALL. Generically, the Bluebook will have a lot in it about slicing and dicing the yield curve, spreads, and parsing out risk premiums from other things. Do you think that's been useful for policymakers?

MR. KOHN. I think it is useful, obviously. I put it in there. [Laughter] I think it's useful to think about why markets are moving around, how people outside this building view what's going on in the economy, and how they're betting on it. They are not just writing market letters to entertain customers every Friday night/afternoon, but they're actually placing bets on it.

I've always found it useful to think hard about why a certain configuration of market movements happened: The dollar went down while bond prices went up, and the stock market did something else, too. It helped me to think about what the shock was, what the unexpected development was.

You need to be careful not to overinterpret these things and to get carried away with relatively small movements. You need to recognize the limits of these term structure models that explain the term structure of interest rates with various factors. They're like the models we were talking about a few minutes ago: They're just models. They're a way of making sense out of a long time-series of interest rates and bond prices, but they're just an average of past history, and the particular factors aren't necessarily identified that well. But it is useful, and it should make you think about what's going on out there that would give you a certain configuration of prices, a certain twist to the yield curve—not a few basis points, but when things move more than trivially, you should be thinking about what the shock is that might cause that.

MR. SMALL. I'll take a stab here at a three-way taxonomy of these market interest rates: They can be used for looking at stresses in markets, they can be used to read where the market thinks monetary policy is going, and they can be used for pulling out inflation expectations.

MR. KOHN. You're just thinking about Treasury rates.

MR. SMALL. Yes, but the first part would be private rates versus public rates. The second one would be the fed funds yield curve or option prices. Do you think the usefulness differs across those three? For example, do you think they're useful for pulling out inflation expectations, and that policymakers can rely on that to determine where inflation is going?

MR. KOHN. I think they're another read, in addition to the surveys. There are issues with reading those rates and the difference between the real and the nominal interest rates, using TIPS and nominal rates, because liquidity differs over time and across markets. But I think it's useful, yes. I think all those things are useful.

On your first point about when markets are under stress, I think movements even in the interior of that stress frontier are useful to get a sense of whether people out there in the real world think the economy is weakening, and, therefore, businesses may have a little more trouble repaying their debt. All those things are useful, but you can't use them exclusively without thinking about the context in which they're happening. At times over the years, we have had Governors who just wanted to use market signals—the dollar, the term structure, I guess the price of commodities, the price of gold, or something like that.

We talked about how difficult it is when the central bank is looking at those things, and the markets are looking at the central bank. You get into a loop that sometimes you can't figure out what's really happening, what the shocks are in the economy, versus the markets' perceptions of the central bank. Paul Samuelson used to jibe us by saying that, by paying so much attention to the markets, we were like monkeys looking in the mirror. We were just looking at our own actions reflected in the markets. [Laughter] I think misinterpreting what you're seeing as something fundamental is a risk when all that's happening is that the financial markets are trying to guess what's in your minds.

Financial Institutions and Markets

MR. SMALL. Do you feel let down by the financial markets in that there has been an explosion in modern finance over the last 15 years—you have derivatives, and all this mathematical science was brought to bear, and all that was followed, in general, by the worst financial crisis in generations, and the markets weren't giving any signal of that? There's this concern that Alan Greenspan placed too much faith in financial markets. Do you think that's apropos of policymakers more generally?

MR. KOHN. I think it was, leading up to the crisis, yes. I was guilty as well. I had too much confidence that market participants, working in their own self-interest, would behave over time in a reasonably stabilizing way—not every day, and not in every way—you could get bubbles and whatnot. But market participants didn't see the tail risk of house prices going down so much and over the whole country, and we didn't either.

MR. SMALL. Do you think it is fair to say that if the Fed had been more "on the job" with bank supervision, regulation, and capital standards, then the markets would have had to take these risks more into account?

MR. KOHN. The question is whether we and the other regulators could or should have forced financial institutions—not markets, necessarily—to become more resilient so that even if they had the wrong idea that house prices would never go down in nominal terms or could only go down by a small amount in nominal terms nationally, and they thought they were pretty safe with a diversified geographic portfolio, they would have better survived the popping of the bubble in house prices. In other words, could we have acted to make the banking system more resilient to the breaking of that bubble? Yes.

MR. SMALL. And should have?

MR. KOHN. Yes, I think so. This is all 20/20 hindsight, so I would say a couple of things. One is that the banks, by historic standards, were well capitalized going into this. A second point to make is that some of the biggest messes were not in the banking system. We were not the supervisors of Bear Stearns, Lehman Brothers, and AIG, just to take three not-so-random examples. So I don't know what we could have done. If we had seen the problems of leverage and maturity transformation on top of the housing bubble coming, we would have had to persuade the SEC [Securities and Exchange Commission] and OTS [Office of Thrift Supervision] that there was a problem, and they needed to take action. That would have been hard.

We did see some problems coming. We saw commercial real estate problems for the banking system coming, and we had a heck of a time getting the other agencies to agree with us that we should put out guidance to banks and supervisors to be careful. The guidance was watered down in the process of putting it out. Then, after responding to comments, we did put out guidance on nontraditional mortgages, the option ARMs (adjustable-rate mortgages), and that sort of thing. But it also was a little late, it was a little watered-down, and we had the problems getting this through the other regulators.

We did not have the authority to move broadly in the financial system, to make it have more capital, be less leveraged, reduce maturity transformation. Could we have done more in the banking sector? Yes, I think we could have, but whether that would have been enough to avoid this problem is a little hard to tell, given all the stuff that was going on in the shadow banking system and investment banks, insurance companies, monoline insurers, and lots of people placing bets on real estate prices.

MR. SMALL. Both Jerry Corrigan and you have used the term "Banks are special." Your framework of regulation starts with that?

MR. KOHN. The Gramm-Leach-Bliley Act of 1999 has that, too.

MR. SMALL. If you believe banks are special because of the payments mechanism—for everyone, sooner or later, when they send a check, it goes through the banks—and if you protect that payment system, you can—

MR. KOHN. I don't actually believe that banks are as special as they once were, and the role in the payments system was always only a part of the story. That might have been true 30 years ago, but so much of the financial system, the credit system, has migrated from the banking system that just protecting the banking system is not enough. In some sense, the premise of the Volcker rule is to push much of the risky trading activities outside banking organizations that have the implicit or explicit backing of the taxpayers and the insurance fund, and that is helpful. But it's not the answer, because there's potential for creating credit, liquidity, and payment linkages outside the banking system that are systemically important, like at Lehman Brothers, Bear Stearns, and AIG.

MR. SMALL. People make the argument that access to the discount window is part of the safety net and generates moral hazard. Do you think the safety net features of the discount window are important in affecting how large banks can grow? Do investors in banks and large CDs say, "We can invest in this bank, because if it gets in trouble, it has access to the discount window"?

MR. KOHN. I don't know. I think it's a good research project. People are saying that not just about the discount window, but deposit insurance, also. They are saying that banks helped to lead to this crisis because market participants didn't have the incentives to monitor the banks. Owners of corporations, because of limited liability and bankruptcy, can only lose up to the amount of their direct investment in the company; they couldn't lose further. So incentives of the shareholders and debt holders weren't aligned, and certainly they're not aligned with the safety net.

I understand the theory of all that. How important that was is another question. I would go back to Lehman, AIG, and Bear Stearns. Certainly, before Bear Sterns, no one thought that a primary dealer had access to the safety net.

About a week or two before Bear Stearns went down and we started lending to primary dealers, Senator Dodd had asked me in a Senate hearing whether we would lend to primary dealers. I didn't say, "No, never," but I said, "That would be a huge step. It would be a big problem." I was careful not to say "no," but I also didn't want to encourage those guys in the market to think that. People have asserted that moral hazard was a big cause of the emergence of imbalances and vulnerabilities in the financial system. I guess it played a role somewhere around the edges, but I don't know. I think it's an empirical question as to how large it was.

MR. SMALL. President Obama has signed the Dodd–Frank bill on financial regulatory reform into law. What do you think are the most important accomplishments of that law?

MR. KOHN. The resolution authority is important.

MR. SMALL. Because it would deal with the problem we've just been discussing?

MR. KOHN. That's right. There are a lot of important issues there, but I think the resolution authority is important so that you can have orderly failures and the authorities are not faced with the same sort of on/off switch we were faced with over the last couple of years: Do you bail them out in some way, like AIG, or do you let them go under and suffer the consequences for the whole system and the economy, like Lehman Brothers? Shareholders should lose in all such circumstances, but the government needs the ability to differentiate among other stakeholders depending on the circumstances—to have some choices to avoid imperiling the whole economy. So I think it's important to be able to move the dial between those two extremes of AIG and Lehman and to move it in ways that will give the future crisis managers ways to maximize their ability to deal with crises while minimizing the moral hazard.

Another important aspect of the law is the ability to designate nonbanks as systemically important and then to subject them to regulation. It will be challenging, but it's an important part.

MR. SMALL. What about the provisions affecting financial derivatives?

MR. KOHN. The derivatives stuff is important too, requiring more be done through central counterparties, more transparency on derivatives. To some extent, we are moving in that direction with the Trade Information Warehouse under DTCC (Depository Trust and Clearing Corporation). The New York Fed was pushing the market in those directions already, but certainly it'll be pushed faster and harder, so I think that's important.

Fed Independence

MR. SMALL. The Fed engaged in some unusual activities over the past two years or so that some have argued border on implicit fiscal policy. Some people feel the Fed came out of this financial crisis with its powers in place, if not expanded. Do you think the threats to the Fed's independence were real?

MR. KOHN. I think the threats were real, but not from the actions we took, but rather the reactions of lawmakers. I always thought it was nonsense for people to say that we had sold out our independence by buying Treasury bonds. We did what we needed to do to help the economy, and there was no reason in my mind why we couldn't reverse those actions when the time was appropriate.

Also, there was a great deal of coordination and cooperation among the Federal Reserve, the banking agencies, and the Treasury Department, and I think that was entirely appropriate in the middle of a financial crisis. The Secretary of the Treasury is the chief financial officer of the United States, and, in the end, the Administration—as we're seeing now—will be held responsible for a lot of what's going on. Under Paulson and now under Geithner, I think there was, and is, a huge amount of cooperation and coordination between the Fed and the Treasury regarding financial stability. If you think about the initiatives of October 2008 with the government capital (TARP), FDIC [Federal Deposit Insurance Corporation] guarantees, and Fed lending, everybody was pitching in to fight the financial panic and implosion, but that doesn't mean that you can't raise interest rates to fight inflation when it becomes appropriate.

I never saw the direct threat to monetary policy independence from our actions, that the actions themselves were inappropriately coordinated with the fiscal authorities. I did see the threat from the reaction in the Congress. There was a lot of misunderstanding about what we were doing in that people saw our lending as equivalent to spending, but as long as we were making loans to solvent institutions against good collateral, they were loans, not spending. The credit risk aspect of them is minimal or small. It may not be zero, but the fiscal aspects should be small.

When the Dodd–Frank bill was finally in the last throes of making its way in the Congress, what helped the Federal Reserve was that those special lending facilities were unwound. Not the Maiden Lane facilities, not the ones for particular institutions. We really didn't want to do the Maiden Lane facilities anyway, and that was why we needed a resolution authority so the government wouldn't need to rely on the Fed for stabilizing systemically important failing financial institutions.

One reason why the resolution authority in the financial reform law is important is that it helps to separate the Fed from those fiscal actions. But, all the more, general liquidity facilities were unwound. No one lost any money. In hindsight, even the lawmakers saw that they were both necessary, and that the Fed wasn't intruding into their fiscal turf in ways that they had thought we were before.

MR. SMALL. In the middle of these crises in the past few years, when everything was dicey, was there any tension between the Fed and Treasury on where lines should be drawn—for example, instances where the Treasury might want the Fed to do something, but the Fed pushed back on the grounds that the action was fiscal in nature?

MR. KOHN. Yes. There is always going to be some discussions about where you draw the line—what the Fed can do, who's responsible for what. There is going to be some of that in the middle of a crisis, but, overall, the Fed had a remarkably close working relationship with both the Paulson and Geithner Treasuries. While there might have been some tension from time to time, we all recognized that we were pursuing the same objective. No one questioned anyone's motives. It was just an occasional "Wait a second, that's Fed turf. You can't tell us what to do" or "You shouldn't be taking credit for what we're doing."

I'm telling you from personal experience, there was lots of good back-and-forth at all hours of the day and night on how to frame things, what to do. The Treasury relied quite a bit on the Federal Reserve for its intellectual capital. The New York Fed and the Board played a major role in helping to inform the Treasury's responses, including Ben Bernanke. In one famous incident—it wasn't really tension, but it showed where the lines were drawn—Bernanke said to Paulson in the fall of 2008, "We can't keep going on like this. You have to go to the Congress and get authority. You can't look at the Federal Reserve as a piggy bank that's going to solve every problem here. These are capital problems, not liquidity problems, and you need to go to Congress to get that money." He didn't use those words, but that was, in effect, what he was saying. Once he said that, Paulson said, "Yes, that's right."

Central Banks and Banking Supervision

MR. SMALL. It's often questioned whether banking and supervisory authority needs to be housed in the same institution as monetary policy. In some European central banks, it's not. Does this crisis have lessons learned about that?

MR. KOHN. In other countries that broke the supervisory authorities away from the central bank, they're moving back. The United Kingdom is a perfect example. The new government in the United Kingdom said it was going to essentially disband or greatly shrink the FSA (Financial Services Authority) and put bank supervision in the Bank of England. The Labour government that came to power in the 1997 election had taken it out. The cooperative arrangement that the FSA and the Bank of England and the Treasury thought they had, full of memorandums of understanding and committees, broke down in the summer or the fall of 2007.

MR. SMALL. One argument would be for clarity of command issues. You have one person—

MR. KOHN. By the way, Germany is another example. Germany has put more of the supervision back in the Bundesbank.

It's more than the clarity of command; it's also perspective and knowledge. The central bank has a unique perspective on the economy and the financial markets. Central banks operate in financial markets every day. Therefore, they have expertise in how those markets work. The central banks operate policy through commercial banks often and pay attention to what's happening to commercial bank credit, money supplies, and other things. They need to know how commercial banks work. And central banks need to have a macroeconomic perspective as well as the microsupervision perspective. So I think central banks are uniquely qualified to play an important role in supervision.

A counterargument is that it concentrates a lot of authority in one place, and accountability for financial stability is hard. Unlike inflation and unemployment, financial stability is hard to measure; success is seen only in a lack of crisis. The issue is whether you want something so vague in an independent central bank.

It will be interesting to see how all of this works out. Parliaments are aware of these difficulties, so our parliament (the Congress) created a vice chairman for supervision because they wanted to have more direct and obvious accountability than they have now. It's the same in the Bank of England case. I think the Bank of England is in the process of creating a couple of committees, a microsupervision committee and a macroprudential committee. They're still trying to figure out how to organize themselves. I don't know what's happening in the Bundesbank, but the idea of how to organize a central bank to be in charge of both supervision and monetary policy is not easy and may involve different degrees of political independence for different functions.

MR. SMALL. Are there issues of information and skill? Can you think of instances in this recent crisis where the monetary policy person, Bernanke, would say, "I need Joe from Banking Supervision and Regulation to give me information on this. I can't get it elsewhere."

MR. KOHN. I think that comes into play particularly in the lender-of-last-resort discount window lending. You're trying to operate the discount window. You're trying to figure out whether to make a loan or open a new facility. You need to know what's going on in the potential recipient of that loan, whether it really is a solvent institution or it needs to be closed. You need to understand those markets, whether to open a particular CPFF (Commercial Paper Funding Facility) or whatever. Many times in this crisis, the Fed Chairman and the Governors called on their supervisory colleagues to help them make decisions about what to do next, particularly on the discount window.

Then you have the stress-test example, where the monetary policy and macroeconomic expertise of the central bank was brought to bear on the microprudential area so that the flow went the other way in a very successful effort. I think there are flows both ways, between macro and micro.

MR. SMALL. This segues into the relation between the Fed and the Congress and the Fed's independence: If the Fed were to become too large, too powerful, and all of a sudden finds itself running General Motors or whatever—

MR. KOHN. It does get back into the issue of how do you hold an independent central bank accountable: How does the independent central bank interact with the other parts of government that it is involved with in the supervision side of the house that it wouldn't be involved with in the monetary policy side of the house?

For a long time, I thought we ran this thing pretty successfully, in the sense that we had monetary policy independence and an arm's length relationship with the political process. We worked closely with the Treasury, the OCC, FDIC, and OTS on the supervisory side. No one said, "Oh, my goodness, you're working with the OCC and Treasury on supervisory issues. You're sacrificing your monetary policy independence." We were able to bifurcate how independent we were.

But you raised a good question: As the supervision becomes more macro-oriented—macroprudential—as it reaches to new institutions, as the supervisors get more and more powerful, how is the democratic accountability of that side of the house built? As I just noted, I think parliaments are very aware of that. They're building mechanisms to make sure that it's democratically accountable. How independent the supervisory authority should be of the political process is a good question. Some degree of arm's length relationship is desirable. It's the job of the supervisor to take away some punch bowls as the party gets going, and you need some independence for that.

MR. SMALL. With the Fed expanding and getting expanded powers under the new financial reform law, are there areas in which the Fed could cut back the system as a whole? Are there functions that the Fed could get rid of to keep its size down?

MR. KOHN. It's hard to see. We've already cut back hugely in the payments area through—as they call it—electronification of checks and payments. I don't see any major areas in which to cut back. There's always some consolidation of function within the Reserve Bank system to improve efficiency. But is there some huge, low-hanging fruit that we could remove that would free up resources to handle our other duties without growing? I don't think so. I think every financial regulatory agency is going to be growing willy-nilly over the next year or two, trying to meet the challenges in this new law.

MR. SMALL. Is there anything that didn't make it into the financial reform law that you would have liked included? Has there been a missed opportunity?

MR. KOHN. Everybody brings up overhauling Fannie and Freddie, but I don't think you were going to get a law passed with Fannie and Freddie in it, so I understand why the Administration didn't address that issue in this legislation. They were not the cause of the crisis, but they contributed, to the extent that loose credit contributed to a run-up in housing prices. Fannie and Freddie weren't the first entities there, but they sure piled on with their balance sheet, reducing their standards, and taxpayers are paying the price for that now.

Also, I hope that money market funds are addressed. They were revealed as a weak point in the financial system. The new SEC rules, as the SEC said, are only a first step. Money funds engage in a huge amount of maturity transformation. They appeal to people who want certainty in getting their funds back. Money market funds are bank-like in many respects and are not subject to the same kinds of regulation. So I think something needs to be done there.

I would be in favor of a variable net asset value instead of the dollar rounding. Right now, if you're in a money market fund, as long as the value of the fund is between 99.5 and 100.5, they round to 100. So, you can write a check, so to speak, against your money market fund, and you know that if you put in $100, you'll get out $100, as long as the value of the fund remains between 99.5 and 100.5. The problem is that as the value of the fund goes from 99.9 to

99.8 to 99.7, you can get out the money at 100, and you have every incentive to get your money out first before the thing is actually marked down. It's a destabilizing feature, but it's not the only destabilizing aspect of the money fund structure, so I would subject them to much more stringent restrictions on both the maturity and the credit transformations that they do. There are proposals floating around within the government that I hope are published soon. They talk about making money funds set up banks or something so they have a backup source of liquidity, and they don't add to downward pressure on asset prices when they have to liquefy their portfolio.

MR. SMALL. Thank you for your time.