

Federal Reserve Board Oral History Project

Interview with

E. Gerald Corrigan

Former President, Federal Reserve Bank of Minneapolis
Former President, Federal Reserve Bank of New York (and
Former Vice Chairman, Federal Open Market Committee)

Date: July 14, 2009; November 18, 2009; and March 24, 2010

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Ernsthausen; for March 24, 2010, David H. Small

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.

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E. Gerald Corrigan served in the Federal Reserve System for nearly 25 years. He served as the president of the Federal Reserve Bank of Minneapolis starting on August 1, 1980, and held that post for four years. He was the president of the Federal Reserve Bank of New York (and Vice Chairman of the Federal Open Market Committee) from January 1, 1985, until July 19, 1993.

July 14, 2009 (First Day of Interview)

Personal and Educational Background

MR. SMALL. Today is July 14, 2009. I'm David Small, joined by Jeff [Ernsthausen], and we are in New York City interviewing the former president to the Federal Reserve Bank, Mr. Gerald Corrigan. Thank you for joining us and letting us join you and making your time available. Let's start with your background and education and how you came to the Federal Reserve.

MR. CORRIGAN. I grew up in Waterbury, Connecticut, which was a major industrial city in the Northeast when I was a young kid. Like most of those industrial cities, even then it was beginning to come on to very hard times. And that is something that has continued more or less to this day.

I did my undergraduate work at Fairfield University in Fairfield, Connecticut, and then went on from there to do my graduate work, including my Ph.D. in economics, at Fordham University in the Bronx, New York. I had quite a fill of Jesuit education, which played a large role in my professional development, and the reason for that is because Jesuit education, first and foremost, teaches us how to think.

As I was finishing graduate school, I applied for work at the New York Fed and a couple of other places. I declined a job offer at the New York Fed. Instead, I chose to work with

Wassily Leontief in the Commerce Department. In those days, Leontief was working on a new approach to national income accounting. To somebody fresh out of graduate school, the attraction of Leontief and that project at the Commerce Department was pretty high-profile stuff. But my wife, who was carrying our second child, had a difficult pregnancy, so moving to Washington was out of the question. I had to renege on the job at the Commerce Department. With great humility, I picked up the phone, called the New York Fed, and explained what had happened, with the hope that the job offer that had been extended to me some three months earlier was still open. It turned out that it was.

That's an interesting little anecdote of how circumstances and those types of situations turn out to have a major impact on lots of things and lots of people. Despite all the emphasis that we put on career planning, things don't always work out as planned. A case in point has to do with my peculiar decision to work for the Fed, which was the first of many occasions in which I had the good fortune to end up at the right place at the right time.

Early Years at the New York Fed

MR. CORRIGAN. I joined the New York Fed in 1968, and, like lots of young economists then and now, I thought that I would spend a couple of years there, learn something about the real world, and then go off to teach at some small liberal arts college in New England. Obviously, that didn't happen.

In my early years at the New York Fed, I got a really bad case of the public-policy bug, if I can put it that way. There were monumental events taking place connected to the abandonment of the Bretton Woods fixed exchange rate system. Two high-profile individuals at the New York Fed were deeply involved in that. One was [Charles A.] "Charlie" Coombs, who was the top gun on the international side at the New York Fed. Charlie was a larger-than-life personality.

Charlie's counterpart on the domestic side was Alan Holmes. Alan was a marvelous human being; he was a tiny guy but a towering presence. He graduated from Millsaps College in Mississippi and somehow ended up at the New York Fed. In his early days at the New York Fed, Holmes played a significant role in the Treasury–Federal Reserve Accord of the early 1950s that basically reinvented central banking in the United States. Alan Holmes probably was the most sophisticated market guy I think I've ever met in my life.

I was a young guy. I was 30 years old. Both Coombs and Holmes got me involved around the edges of the whole Bretton Woods transition.

MR. SMALL. Because you came in as a research economist?

MR. CORRIGAN. Yes.

MR. SMALL. With the expectation of staying in the backroom of academic research?

MR. CORRIGAN. Yes. I don't know how that happened, but it did. At age 30, here I was, a kid from Fordham surrounded by all these people from Harvard, MIT, and Berkeley. Charlie Coombs in those days only spoke to God. He was quite a character. I got involved on the fringes of all this stuff, and that for me was the birth of the public policy bug.

MR. SMALL. What do you mean when you say "on the fringes"?

MR. CORRIGAN. I was doing minor tasks—putting together numbers.

MR. SMALL. They were coming up with operation after operation to stabilize exchange markets?

MR. CORRIGAN. Yes, so I was doing ministerial tasks. Somehow or other, these two guys recognized me, and, in rapid order, I found myself at the table.

Arthur Burns (Fed Chairman) and Alfred Hayes (New York Fed President)

MR. CORRIGAN. There was a watershed disagreement and debate that happened in those days, which I think is very important in the history of the Federal Reserve. In the early 1970s, there was a sharply different point of view between the Federal Reserve Board and the Federal Reserve Bank of New York—not the Board as a whole, but between Fed Chairman Arthur Burns and the New York Fed president Alfred “Al” Hayes—about whether or not there was a real, serious inflation threat.

This disagreement on the inflation threat was in the context of the Vietnam War—guns and butter and that stuff. It turned out that there was indeed a very significant inflation problem building, and the tension between the New York Fed and Chairman Burns was quite real. In the context of the overall economic, financial, and political environment in the difficult period of the mid-'70s, coming to a consensus on most public policy issues, including monetary policy, was not easy. To be fair, I think one has to recognize that the differing views between the New York Fed and its president, Al Hayes, and Chairman Burns were, in some real sense, understandable, given the extraordinary tensions and difficulties of that period.

I had written a paper, with my research economist hat on, about fiscal stimulus. The paper took sharp exception with the so-called full-employment budget concept to which Arthur Burns was wed. That paper stipulated that, even though you may be able to say that the full employment budget was in balance, the amount of fiscal stimulus that was being created by President Johnson's Great Society, Vietnam, and all that stuff portrayed a very different picture of the fiscal situation.

Lo and behold, Burns let it be known that he wanted to attend one of the pre-FOMC credit policy meetings at the New York Fed. This, I think, was in the summer of 1971. It turned

out that what he was really interested in was the material I had written about fiscal stimulus that took sharp exception with his point of view. I was then 30 years old. Burns came to the credit policy meeting in an environment where there was all this tension between Al Hayes and Arthur Burns. I was so naive that I wasn't particularly worried about that; I had to make a presentation.

MR. SMALL. Burns had quite a reputation.

MR. CORRIGAN. Oh, yes. Most everybody else in the room was sitting there on the edge of their seat. I didn't know enough to be sitting on the edge of my seat. [Laughter] I went through the presentation. Burns was still smoking his pipe in those days. He was blowing all this smoke, then he took the pipe out of his mouth, looked at me, and said, "You really believe what you're telling me?" I said, "Well, of course."

I was just incredibly naive. But that was when I began to understand the politics of policy, and the fact that you better get it about right most of the time. When I began to reflect on that, it was a remarkable experience. I didn't know it at the time; that came a little bit later.

MR. SMALL. Was there give-and-take between you two?

MR. CORRIGAN. No, just that one question—that was it. But I sensed there was a lot going on behind the scenes.

Paul Volcker Becoming President of the New York Fed

MR. CORRIGAN. Paul Volcker, who at the time was with the U.S. Treasury Department, was executing the unwinding of Bretton Woods. Charlie Coombs thought that undoing the Bretton Woods system was not the wisest thing you could do. Al Hayes had been president of the New York Fed for almost 18 years then. He was scheduled to retire in July 1975, and there was intense maneuvering about his successor. By then, I was asked to become

Secretary of the Bank. I said that I had absolutely no idea what the Secretary of the Bank did. It turned out to be a pretty important job.

There was this very awkward compromise whereby Paul Volcker became Al Hayes's successor as president of the Federal Reserve Bank in New York in 1975. For a person like Charlie Coombs, that was not a welcome development. He resigned. He walked out the door the day it was announced that Volcker would succeed Hayes as president of the New York Fed, and Charlie never came back.

With the passage of time, though in very peculiar ways, Coombs and Volcker were always both intrigued with each other. Little by little, they did write to each other. To my knowledge, I don't think they ever met after that, but they began to write to each other. Later on, when I was in Washington as Volcker's assistant, I saw some of their correspondence. They were both warming up to each other.

Both Coombs and Holmes died in the 1980s. They were, without question, among the legends at the Federal Reserve.

If you look at some of the things Volcker is talking about today—for example, his speech in China about two weeks ago—the pendulum with Volcker has swung way back to the point where he doesn't quite say it, but he gets pretty close to saying that maybe fixed exchange rates weren't the worst thing in the world.¹

MR. SMALL. Nowadays, it would be fairly common to take the view that government intervention—setting exchange rates—is inefficient and wrong. With large capital flows, you can't really do it. But there's also a view that fixed exchange rates imposed fiscal discipline.

MR. CORRIGAN. Both monetary and fiscal discipline.

¹ Paul A. Volcker (2009), Keynote Address at the 2009 Spring Membership Meeting of the Institute of International Finance, Beijing, China, June 11.

MR. SMALL. And once the discipline broke, any fooling around through interventions was surely not going to last long term.

MR. CORRIGAN. Right.

MR. SMALL. Is that broader framework for discipline of monetary and fiscal policy how Holmes looked at it?

MR. CORRIGAN. Coombs was more aggressive on this than Holmes. The fixed exchange rate regime went a long way in ensuring discipline in macroeconomic policy. If you look at what happened in the 1970s, the inflation genie got out of the bottle big time worldwide, not just in the United States. Coombs would say, "I told you so." So it was not an academic argument.

The bigger question today, as opposed to then, is whether you can make a fixed exchange rate regime like that work, given, as you mentioned, the size of capital flows and things like that. I don't know the answer to that, and I'm not sure Volcker would say he knows the answer to it, either. But he certainly is much more intrigued about it today than he was 30 years ago at the Treasury.

In any event, Volcker became president of the New York Fed partly as a result of the differences regarding the inflation outlook between Arthur Burns and Al Hayes.

MR. SMALL. Did Arthur Burns encourage the appointment of Volcker as president of the New York Fed?

MR. CORRIGAN. Absolutely.

Working for Paul Volcker at the New York Fed

MR. CORRIGAN. When Volcker arrived at the New York Fed, I was still a young guy and was the Secretary of the Bank. I had never met him before, and I didn't know anything

about him, except Alan Holmes kept telling me that he was a good guy. Within a matter of weeks or months after his arrival, Volcker called me and said, “The back office here at the New York Fed is a mess,” which it was. He said, “I need your help cleaning this up for me. For now, we’re going to put you in charge of the accounting department.” I thought, “The accounting department?” [Laughter] But, naturally, I said, “Okay, if we need to clean this up, I’ll give it my best shot.” Volcker knew what he was doing. It turned out to be an unbelievable learning experience for me. The New York Fed, through its operational presence, was the nerve center of the international financial system. I had no clue about that.

MR. SMALL. So this was accounting not only of electricity bills and staff salaries, but of discount window lending and the open market portfolio?

MR. CORRIGAN. Well, it wasn’t discount window lending approval, but it was recording those loans, among other things, [and] running Fedwire® and the Treasury–Fed book-entry system and all that stuff. It was an unbelievable eye opener. For decades since, I have been one of the people who has put all kinds of emphasis on the “plumbing” of the financial system. Back then was when I learned about it.

You also learn about discipline. I was a vice president in charge of accounting. Walter Rushmore was the assistant vice president. As I recall, Walter did not have a college degree. He started as a messenger at the New York Fed, like, 45 years earlier. He had worked up through the ranks on the back-office side. One time I said to Walter, “We’re going to automate the general ledger.” Rushmore looks at me and said, “No, we’re not.” I said, “What do you mean, ‘No, we’re not’ ”? [Laughter] It turned out that Rushmore’s view of the general ledger was that it had to be posted in fountain pen even if it meant posting it at three o’clock in the morning. For Rushmore, the use of a fountain pen was the ultimate discipline, because once you put those

numbers in there in fountain pen, you couldn't change them. Rushmore said to me, "You're not going to automate the general ledger until after I retire." And you know what? It didn't get automated until after he retired. This was an old-school, salt-of-the-earth guy who had his own conception of discipline—fountain pens. These were the kinds of things that I began to appreciate about the Federal Reserve.

For me, the magic of the New York Fed was shaped by the crazy-quilt patterns of these little things that happened when I was still a very young man. They culminated when President Carter asked Paul Volcker to become the Fed chairman. By then, Paul and I got along very well. I was one of the few people who every now and again was willing to ask him difficult questions. After he was appointed Chairman, he called me and said, "What are you doing for the next couple of months?" I said, "I don't know." He said, "Well, pack your bags. You're going to Washington with me." This was typical Volcker—no ceremony, no nothing, just "pack your bags." Again, another example of my being in the right place at the right time.

The Great Inflation

MR. SMALL. What are your views of how we got into the Great Inflation?

MR. CORRIGAN. The beginnings of the inflationary process, which ultimately dominated the second half of the 1970s, seemed benign enough at the time. Part of the problem was rapidly rising demand for goods and services in the United States growing out of President Johnson's Great Society and the emerging, rapidly escalating war in Vietnam. Also, we had the first of several bouts with rapidly rising oil prices, which in turn were related to a family of geopolitical issues arising throughout much of the world. In those circumstances, it became fairly obvious that the historic clash between so-called guns and butter was indeed to become a

major force in the acceleration of the inflation rate by the mid-1970s in a context in which the second oil shock just served to make things that much worse.

But most importantly of all, in that time frame, the psychology of inflation simply took over: The genie was out of the bottle, and inflationary expectations, if anything, were rising more rapidly than inflation itself. Thus, as we approached the end of the 1970s, we had a classic and uncontrolled escalation of inflation not just in the United States, but around the world. In that psychological environment, things reached the point where consumers and others were more interested in fine art and fine wines as investments than they were in consumer staples. And in the business sector, the psychology was even worse, as typified by extraordinary—and, in some cases, rather excessive—extensions of credit, including in much of the third world as part of what became known as “petrodollar recycling.”

So by the time of the famous October 6, 1979, meeting of the Federal Open Market Committee, the Fed itself, and the Chairman in particular, really had no realistic option but to take decisive and vigorous actions, once and for all, with a view toward bringing about the reversal of the inflationary process. Needless to say, that adjustment was going to be painful, but I think it’s also fair to say that once the adjustment took place, it played a very major role in the United States and around the world in the much more satisfactory performance of the economy throughout much of the ’80s and ’90s.

MR. SMALL. Was the rise in inflation because the Fed looked at nominal interest rates and not real rates? Was it because the Fed didn’t know the level of potential output?

MR. CORRIGAN. It’s hard to say, in retrospect. Technically, all of those factors probably played a role. More fundamentally, I think that monetary policy accommodated multiple excesses in the economy, in terms of guns and butter and all the rest of it, thinking that,

somehow or other, monetary policy itself could out-muscle all these other things. It was a serious misjudgment.

Burns was theological about this being a problem that was foisted on the Fed. He was a powerful personality. If you disagreed with Arthur Burns, you did so at great risk. I don't want to blame him alone—that would be unfair—but, certainly, the policy over much of Burns's eight years as Chairman was simply too accommodative. That's how I see it.

That gets to the thrust of your question: Why is it that those mistakes were made? Part of it is technical. Take fiscal policy: Arthur Burns fervently believed in the so-called high-employment measure of budgetary deficits and surpluses. As I mentioned, I wrote some things about the high-employment deficit as a young economist at the Federal Reserve Bank in New York in 1970. We all make misjudgments and mistakes. I'm sure I've made a lot myself. But Burns's mistake of having a too accommodative monetary policy—especially in the context of the generalized malaise of the 1970s—was a big mistake.

MR. SMALL. We could go through weighting factors behind the Great Inflation: Arthur Burns, the deficit, the Vietnam War, social spending, or other domestic factors. But a few minutes ago, you noted that the inflation was worldwide. Does that mean that the Fed was pumping up global liquidity, or that other countries were making the same policy mistakes we were?

MR. CORRIGAN. Some of both. We were experimenting with a floating exchange rate regime in much of the world. That was brand new in that time frame, particularly the 1970s after the suspension of the Bretton Woods system. The United Kingdom, among others, had a family of serious economic and financial problems during this period, so this was an unhappy time on a broad scale. What differentiated the bad news in the United States was the political overlay that

included Watergate and Vietnam. Those two phenomena had a huge impact on the collective psyche of the United States.

MR. SMALL. Do you think there's a lesson to be learned from the '70s that policymakers can't let inflation get out of the bottle in the first place—they should have been tighter despite those forces?

MR. CORRIGAN. That is absolutely true. And, again, I think the cliché that fits your question beautifully is that it is almost always a serious mistake to take the position that a little more inflation isn't going to matter all that much. I think if there is an absolutely unambiguous lesson from the 1970s, that is the lesson.

Leading to President Carter's Appointment of Paul Volcker as Fed Chairman

MR. SMALL. Nowadays, you hear that President Carter went to Camp David, returned to the White House, and announced some policy and personnel changes. Miller was to move from being Chairman of the Federal Reserve to being Secretary of the Treasury, and, the story goes, it was obvious that Carter had to appoint Paul Volcker as Chairman of the Fed.

MR. CORRIGAN. Volcker was not his first choice.

MR. SMALL. Knowing now what Volcker accomplished as Chairman, that choice of him as Fed Chairman seems obvious. He had been at the Treasury and at the New York Fed, but how did he get so much esteem and credibility through what he did up to becoming Chairman?

MR. CORRIGAN. That's a good question. The short answer is that he was at Treasury three different times, I think. During his last stint there, Paul was the undersecretary for monetary affairs in the Nixon Administration, and he was the guy who was on the cutting edge of changing the whole exchange rate regime, so he had a lot of ability. When he took over as president of the Federal Reserve Bank in New York, he was already well known on the

international side, but when he got to the New York Fed in August 1975, I think that substantially elevated his visibility in the financial community, broadly defined, and I think that his credibility grew at every step of the way. Intellectually, he was seen as a real tough guy—“tough guy” being a high compliment. His mind is a steel trap. It’s still that way today, in late 2009, at 82 years old.

President Carter talked, I think, to David Rockefeller, Reginald H. “Reg” Jones—who was the chairman of General Electric at the time—and there may have been a third. As I understand it, all of them said the same thing to Carter: “If you want to deal with this problem, the guy you’re going to have to get to take this job is Volcker.” I wasn’t there, but I am confident that the recollections that people had are correct. I don’t think Carter was thrilled with the possibility of having to appoint Volcker, but I think he came to realize that he didn’t have any choice.

MR. SMALL. At least on the public record, Volcker, while president of the New York Reserve Bank, didn’t leave many footprints of dissenting with Burns or Miller over tight policy.

MR. CORRIGAN. That is true up to a point. This is something else that I’ve learned from the master. I believe he dissented twice each with Burns and Miller. In that time frame, I don’t think Paul saw his success in dissenting. With justification, he felt that policy had become more responsive, and that he was contributing to that process. There are two ways to skin a cat: One is to dissent, which may or may not work; the other way is to work within the system, so to speak. I think Paul felt that he probably had a better chance of working within the system. And I can associate with that.

MR. SMALL. In mid-1977, the discount rate was 5.75 percent, and just before Volcker's new operating procedures took effect in October of 1979, it was 11 percent. I mentioned that to confirm what you're saying: Policy had been tightened.

MR. CORRIGAN. Oh, yes. I don't think there's much question about that. I can associate with Paul's view of working within the system. In the years to follow, I was a member of the Federal Open Market Committee for 12 or 13 years and Vice Chairman of the Committee for 9 years. I never dissented, not once. I always felt that I was able to have a substantial impact on the process, and, with one or two exceptions, I felt I had helped get the policy process to the right place.

The October 1979 FOMC Meeting and New Operating Procedures

MR. CORRIGAN. At the October 6, 1979, Federal Open Market Committee meeting, we went through all this cloak-and-dagger stuff of getting all the Committee members together. None of them stayed in the same hotel. We thought we were smart, but we didn't know what we were doing about secrecy and all that.

That morning, we had all the drapes closed in the Board Room. It was like being in a dungeon. Around the time the meeting was starting, there was a commotion out on the Mall. I went over and I pulled the curtains apart to see what was going on out on the Mall. There was a helicopter landing near the Lincoln Memorial with the Pope. I went over to Volcker, and I whispered in his ear that he need not worry: "This is baked in the cake. We have got the big guy on our side here." [Laughter] Those were great days.

November 18, 2009 (Second Day of Interview)

On the second day of the interview, Mr. Small—along with Mr. Ernsthausen, a member of the staff at the Federal Reserve Bank of New York—continued the conversation with Mr. Corrigan at his office in New York City about the October 1979 new operating procedures.

MR. SMALL. Let's talk about the details of the new operating procedures.

MR. CORRIGAN. The great challenge that Volcker faced at that special Saturday meeting of the FOMC was to get unanimous support for what I think everyone knew was going to be an important, if not dramatic, change in the way monetary policy was conducted. In Volcker's mind, and in the Committee's mind, what motivated this radical change in policy was the fact that confidence in the U.S. economy had fallen—a fear of runaway inflation and a general deep sense of malaise that characterized the social and political environment in the United States in the late 1970s had set in. It was clear to Volcker, in particular, that reversing these adverse economic developments was going to take powerful medicine.

MR. SMALL. Had you moved to Washington, D.C., at that point?

MR. CORRIGAN. Yes, I had moved two months earlier. Volcker came to Washington on August 6, 1979, and I arrived on August 7.

Leading up to the FOMC meeting, Chairman Volcker had spent a lot of time with the Board members and some time with the Reserve Bank presidents on the phone. The big change was in the mechanics of monetary policy: moving away from what had been a short-term interest rate target approach to monetary policy to an approach that was focused, in target terms, more on the money supply itself.

For the FOMC, this change in approach was a dramatic watershed event. Most of the discussion and debate that Saturday was spent on that issue, as you would expect. It was only

toward the end of the meeting that the question of what to do with the discount rate arose.

Volcker did not take the lead on that question. He had gotten what he wanted and needed, and I don't think that he wanted to jeopardize the consensus by overplaying his cards. As I recall, it was one of the Federal Reserve Bank presidents who raised the question of raising the discount rate—kind of the icing on the cake. I think the increase that was finally approved was 100 basis points. By the standards at that time, that was a big change, and that change was also announced that Saturday night—October 6, 1979.

When the results of that meeting were made public, the press and the financial markets initially focused on the discount rate change—an action that was, in some ways, a footnote to the meeting. It took a while for people to digest the changes in operating procedures. The focus on the discount rate change didn't last for long. In very short order, the marketplace, the media, and others began to focus on the changes in operating procedures. Once they were able to digest what was in store, we began to get a sharp reaction in interest rates that continued for some time to come.

To me, the most interesting aspect of the change in operating procedures wasn't the technical side of it, although the technical side was challenging. Only somebody like Volcker had the intellectual wherewithal to be able to think through not just the superficial side of it, but the substance of the policy changes. He also knew that the policy changes would have an adverse impact on the economy. But, I think it is fair to say, Paul looked at the policy initiatives as an investment in the future of our country, and events proved that view to be accurate.

MR. SMALL. Was it fortunate that he had come up through the Federal Reserve Bank of New York when he was a young economist and had worked on the details of open market operations and the reserve market?

MR. CORRIGAN. Yes, and he also had three or four stints in the Treasury, so he was comfortable with the technicalities of all this.

Volcker also knew that focusing on the money supply had an advantage in communications with the public because of the simplistic notion that when you say to people that the problem with inflation is “too much money chasing too few goods”—or those clichés that we all learned when we were taking freshman economics in college—the man or woman on the street could identify with that type of statement. The public backlash to what turned out to be extraordinarily high interest rates—15, 18, and some of them 20 percent—and a sharp recession was, in my judgment, less than what might have been expected. And part of the reason was that the men and women on the street understood that something had to change. Because of the sense of economic and even political malaise that characterized the second half of the 1970s after Vietnam, Watergate, and all the rest of it, something had to change. Partly because of that focus on the money supply, it was a little easier to get people to at least loosely identify with not only what was being done, but also why it was being done. Obviously, there was a lot of criticism, but I think, on the whole, that the focus on the money supply helped a great deal in communicating not just what was being done, but why it was being done.

MR. SMALL. Sometimes it’s said that the prominence given to the monetary aggregates was a way for the FOMC to deflect responsibility for high interest rates.

MR. CORRIGAN. I don’t buy that argument in those terms.

MR. SMALL. But you’ve heard it?

MR. CORRIGAN. Oh, sure. But I would not associate myself with the term “deflect responsibility.” That’s further than I’m willing to go! There is no question that those technical considerations made it easier to communicate what was being done and why it was being done.

They helped people understand that, as a byproduct of the process, interest rates were much higher than anybody had imagined for a long, long time in the United States.

But as things began to play out, following that meeting on October 6, things became very difficult. The pressure on interest rates and the economy clearly took its toll, but in some circles it was recognized that these developments were the price that had to be paid for the excesses of the 1970s.

Fred Schultz came on the Board in July of 1979. When I found out that President Carter had picked him as the Vice Chairman, I read his résumé and said, “Oh my goodness, Schultz is a Florida Democratic politician. What are we doing with some Florida politician as Vice Chairman of the Federal Reserve?” Schultz turned out to be a real asset; he was a rock. He would go to the Hill and testify, and he would just get beaten up mercilessly. At that point, he wasn’t terribly well informed, but he didn’t care. He was willing to take the pounding to protect Volcker. It was unbelievable to see this.

MR. SMALL. You mentioned that one advantage of the new operating procedures was communications to the public. Was there a beneficial effect in the dynamics of FOMC voting? If you go to the Committee at every FOMC meeting and say—I’m characterizing—“I want another ½ percentage point on the federal funds rate,” whereas if you just say, “We are committed to the monetary aggregates, and the change in interest rates is going to happen as a result,” it shifts from requiring a deliberate decision to raise interest rates to the presumption that it’s going to happen unless you decide otherwise?

MR. CORRIGAN. Well, the answer is, “Yes, for a while.” Certainly, for a period of time after the October meeting, the policy decisionmaking process was much more streamlined. I don’t want to say it was automatic, because that would be an exaggeration, but it had a

consistency that made it easier for people to get to the same place, whereas actually making decisions to raise interest rates step by step is more difficult because of the nature of the decision itself.

Volcker's Image and Public Support during the Inflation-Fighting Years

MR. CORRIGAN. Let's go to a story about Volcker in a coffee shop in Montana. Volcker was living in this postage-[stamp]-size apartment on F Street in Washington, D.C. I have forgotten exactly where it was. The rest of the apartments in the building were occupied by college kids. Volcker didn't have security people around him then, although, at the time, there was this image of him as Public Enemy Number One. But he really wasn't.

On June 13, 1981—I know the exact date, because it was my birthday—Volcker, Jacques de Larosière of the IMF, and I were visiting some people I knew in Montana. We were going fly fishing at a spot on the Madison River. To get to this spot, you have to go through a little town called Ennis, Montana. Pickup trucks are virtually the only vehicles in town. We were going to stop at this little coffee shop in Ennis, Montana, to get some breakfast. They had diagonal parking, and, as far as the eye could see, there were 15 or 20 pickup trucks. And every one of them had two or three rifles in the back window. I was saying to myself, "I'm not so sure about this." [Laughter]

There were four of us—Volcker, de Larosière, one of these local guys, and me. In those days, people often thought I was Paul's security guard. I was a lot younger then. I was still in pretty good shape, and I had the look and the profile. We went into the coffee shop. Of course, everyone recognized Volcker. The place was packed, but there was absolute dead silence. We sat down in a booth in the back corner of this place. A guy who was sitting on a stool at the counter got up and started to walk over toward us. He was the perfect stereotype of the Montana

cowboy rancher. He was wearing boots and a big hat and he had a sunburned face. He was a big guy who was about the size of a Coke machine. As he walked toward us, he had his hand in his pocket, and I thought, “This could be trouble.” When he got to the table, he pulled his hand out of his pocket. He had a \$10 bill. He looked at Volcker and said, “Mr. Chairman, would you autograph this for me?” Volcker said, “Yes, yes.” Then, all of a sudden, guys were standing up, walking over, and asking Volcker to autograph dollar bills.

The ranching industry and the feed grain industry were getting crushed then. But these guys knew that somebody had to step up to the plate and fix the problem. The reason why they had that almost reverential respect for Volcker in that coffee shop was because they knew that somebody had to do it, and he was doing it.

When you see events such as I experienced in that coffee shop in Montana, you never forget them. For me, in witnessing that experience, what came across was the notion that under the most difficult of circumstances, regular people have an innate capacity to appreciate and understand when leaders bite the bullet, take the hard road, because it’s only by taking the hard road that you can ultimately get back on a path of growth and stability. Those ranchers had an impact on my thinking that is still with me to this day, because it serves as a reminder, once again, that we all tend to underestimate the values, the determination, and the wisdom of the regular people who make up our society.

That is not to say that there was an absence of extraordinary pressures in many different forms that fell on the Federal Reserve and on the Chairman, in particular, in this period. I can recall, for example, homebuilders mailing hundreds, if not thousands, of 2 x 4s to the Chairman’s office at the Federal Reserve in Washington. It served as a very visible reminder of the extent to which people throughout the economy—but, in some sectors, such as homebuilding, more than

others—really were suffering during this period of what turned out to be a very steep, albeit relatively short, recession.

Even in circumstances as difficult as they often were, I came away with a respect and an admiration bordering on hero worship for Chairman Volcker. He had the capacity under these extraordinarily difficult circumstances to maintain his composure while understanding the pressures of the day. And he did this with an inner strength that kept reminding him that, at the end of the day, this was the necessary medicine to get the American economy and the world economy back on solid footing.

I would also add that, in this time frame, as I mentioned earlier, the Chairman was, I think, living in an apartment on F Street in Washington. In his weak moments, Volcker talked himself into thinking he was a great cook. [Laughter] On more than one occasion, at 11 o'clock at night or midnight, he would insist that I had to go back to his apartment where he was going to cook a spaghetti dinner for the two of us. Those were some of the light times.

But, again, I think that the message that we should all keep in mind, notwithstanding publications like *Secrets of the Temple*, which I think grossly misrepresented and misunderstood it, was the extent to which there was broad-based public support for getting the inflation problem behind us despite all the pain associated with that adjustment. That is one of those lessons that a few of us have a chance to observe up close, in person, but once again, it's something that you'll never forget.

So when I reflect after all these years on Chairman Volcker's role in the context of this difficult time, the dominant story that emerges to me is a man with incredible courage and values to match his courage. That was what I think ultimately made it at least somewhat easier for him to get through these difficult times in the extraordinary manner in which he was able to do so.

MR. SMALL. Do you think Volcker understood the value of tying monetary policy to the monetary aggregates in the new operating procedures that were unveiled on October 6, 1979?

MR. CORRIGAN. Yes.

MR. SMALL. This would help him be credible?

MR. CORRIGAN. Yes. I often referred to Volcker as “the master,” and that’s not a trite term when I use it. I think he did understand, yes. I think he also understood, although he would never say it, that the probabilities were fairly high that we would have a fairly significant economic adjustment—recession—as a result of this situation. I think he took a lot of flak, but in his heart of hearts, I think he understood that that was a byproduct of the circumstances.

I suspect the hardest thing for him at the time was the uncertainty as to how long the adjustment process would take, how high interest rates had to go, and how deep the recession might be, because none of us were smart enough, under those circumstances, to be able to answer those questions. And those questions would nag at you persistently if you were the person who was seen, and rightly seen, as the architect of that adjustment process.

Paul had a network of people, starting with his wife—who, by the way, was a wonderful, wonderful woman—where he could turn and did turn for support and comfort. I’d like to think that there were a few people like myself who worked with Paul who also hopefully provided some support and comfort for him as well. But one should never ever underestimate how difficult for anyone, but especially for him, the uncertainties about this adjustment process must have been for the period of a better part of two years.

MR. SMALL. The big issue would have been what’s at stake for the American people. But narrowing in from that, the whole structure of the Federal Reserve System and its independence was an issue.

MR. CORRIGAN. I'm glad you brought that up, because that's an interesting point. I think it was in early 1980 that the whole subject of what became the Monetary Control Act came up. I think it was signed in 1980, if my memory is correct. But anyway, Volcker made the observation early on in his conversations, particularly with the Congress, that the circumstances faced by the Fed, and faced by the mechanics of monetary policy in the framework of the new procedures and all the rest of it, called for some fairly sweeping changes in the Federal Reserve Act: The supervisory powers of the Fed would be deepened and broadened, the introduction of pricing of Federal Reserve services, universal reserve requirements imposed on all depository institutions, and, more generally, providing greater flexibility in terms of the objectives of monetary policy.²

It was very interesting, because under the circumstances at that time, the thought of the Chairman of the Federal Reserve, with 20 percent interest rates, rising unemployment, and all the rest of it, petitioning the Congress to strengthen the Federal Reserve Act seemed to me, initially, as a wing and a prayer, if that. I remember, personally, how astonished I was to see how this all played out, because at the time, Senator [William] Proxmire from Wisconsin, a frequent critic of the Federal Reserve in earlier times, was the chairman of the Senate Banking Committee. At the time, Henry Reuss of Wisconsin was the chairman of the House Banking Committee, and he too had been a frequent critic of the Federal Reserve.

I recall Volcker asking me to start doing some work with the staff people on the House and Senate Banking Committees to pave the way for this legislation. I had never been involved with this kind of work. I probably didn't know what I was doing half the time. But, early on, I was really surprised and gratified to find that the working relationship between myself and Ken

²² See Charles R. McNeill and Denise M. Reichter (1980), "The Depository Institutions Deregulation and Monetary Control Act of 1980," *Federal Reserve Bulletin*, vol. 66 (June), pp. 444-53.

Guenther, who at the time was the Federal Reserve's congressional liaison guy, on one side and the minority and majority staffs of both the House and the Senate banking committees on the other, turned out to be much more open, much more cordial, and much more understanding than I would've ever in a million years expected.

And, again, to my astonishment, the process which led to the enactment of the Monetary Control Act and its signing into law by President Carter in 1980 was another one of these examples of "It's just too good to be true." It was astonishing to me that, under those circumstances, a political consensus of broad proportions was achieved to bring about these fundamental changes in the Federal Reserve Act. And I think it's fair to say that the only reason that was possible in that time frame was because of the respect within the Congress for Chairman Volcker, under what again were just absolutely extraordinary conditions to bring about this kind of change. So this was another one of those "the right place at the right time" things, because for someone who had no experience whatsoever in these matters, it was an extraordinary set of circumstances that I found myself again in. It was another example of Volcker, the master at work, pulling off another one of his many miracles.

MR. SMALL. Let me ask, was Vice Chairman Fred Schultz involved?

MR. CORRIGAN. Yes, Schultz was involved. As I mentioned earlier in this interview, I first thought of him as a Democratic political hack from Florida. But he was a tower of strength, and he was such a support for Paul, because time and time and time again, when the atmosphere in the Congress was particularly heated and they were calling upon the Fed to provide witnesses for hearings that were far from cordial, Fred Schultz was often the volunteer who took on those congressional testimony responsibilities to provide some shelter for Chairman Volcker. And he was remarkable, in terms of his ability to literally, at times, get beat up all in the name of being a

consummate team player who was willing to play that role—which, believe me, was no fun—because he thought he was serving the Fed and the country by his willingness to take on those responsibilities.

MR. SMALL. I think you've addressed this, but maybe just from a little different angle, part of this public image—and I think this showed up on the cover of *Time* magazine—is a guy with a cigar, with the smoke, and his mumbling. And that image is the farthest one could imagine from a guy who was clear and able to listen and talk to people. Who was the guy behind the smoke and the cigar?

MR. CORRIGAN. There is something to the view, a lot to the view, that back then there was an enormous amount of mystique surrounding the Federal Reserve, generally. You know, even very informed people really didn't understand how it worked, what it was trying to do, and this mystique was amplified by parts of Volcker's personality. I mean, he did mumble, and he was very good at it, by the way. But he did have a remarkable capacity, without being insulting, of not answering a question that he didn't want to answer, but he could go on for five minutes really not answering, and you need those skills.

The Federal Reserve System

But I think it's also fair to say that that mystique factor, with the benefit of hindsight, probably was more of an issue, in terms of this notion of the Federal Reserve being made up of a group of individuals who are not elected by the public at-large, are not accountable to the public at-large, and that argument still comes up even today. I think that one of the reasons why Chairman Bernanke, I think, works so hard on what I will just call "enhanced disclosure" by the Fed is that he sees that political argument of absence of accountability on the part of the Federal Reserve as a very, very real issue, and he's right. I think that if they had to do it all over again,

perhaps the Fed Chairmen, even going back to Bill Martin's time, probably could've spent a little more time and emphasis on better disclosure, better understanding, to try to at least moderate this lack-of-accountability argument, which is a political matter. It was a very powerful argument, and you just can't brush it off as inconsequential. It's very consequential.

MR. SMALL. Commercial banks own stock in the Federal Reserve.

MR. CORRIGAN. The stock owning, I think, probably is not a big issue anymore. I think that there is an issue, frankly, with the Reserve Bank presidents that's gotten a little more life. The issue there is that, as you know, the members of the Federal Reserve Board in Washington, including the Chairman and the Vice Chairman, are appointed by the President, subject to confirmation by the Senate. So there is a direct role of both the Executive and the Legislative branches of government in that process. But in the case of the Federal Reserve Bank presidents, they are appointed by the boards of directors of the individual Reserve Banks, subject to approval by the Federal Reserve Board in Washington.

From time to time, the political issue comes up again as to the wisdom of that arrangement, and people have suggested a variety of alternatives, none of which has, at least up until now, gained much support, thankfully, because based on my own experience, including tenure as the president of two Federal Reserve Banks, I think the regional character of the Federal Reserve System is without a doubt one of the great, great institutional strengths of the Federal Reserve. I think the fact that input comes from the grassroots of the country through the Reserve Bank presidents is an unbelievably important institutional strength for the Federal Reserve. I think the regional character should be preserved at virtually all costs.

MR. SMALL. Are those grassroots also important, in terms of the political support?

MR. CORRIGAN. I've never been crazy about stating that quite in those terms. I think the grassroots relationships that characterize the Federal Reserve Districts and the Federal Reserve Banks are a very big part of that overall strength of the Federal Reserve. And the Reserve Banks, especially the presidents, deal with multiple constituencies in their respective Districts: everyone from farmers and small businesses to big banks and small banks. And naturally, also, they have interaction with local politicians as well as elected members of the House and the Senate. But it's the totality of those relationships at the grassroots level that I really think makes the big, big difference.

MR. SMALL. There's more than just the grassroots saying that business investment in a particular Reserve Bank District is weak or consumer spending is strong?

MR. CORRIGAN. Yes. In attending the FOMC meetings, we always had these presentations by the staff of the Board of Governors on the economic outlook. Then there was always a roundtable discussion by the Governors and presidents, but most of it was the presidents, and they were giving these informal reports about conditions of their respective division, or Districts. Frankly, I always spent more time listening to the reports of the Federal Reserve Bank presidents than I did to the economists at the Federal Reserve Board in Washington.

MR. SMALL. The economists had equations that were tracking—

MR. CORRIGAN. They had equations, but I always felt I knew what they were going to say before they said it. But I didn't know what the Reserve Bank presidents were going to say before they said it. So for me, at least, that input from the 12 Federal Reserve Districts was a very, very important value added, in terms of the mix of things that ultimately make up your judgments as to what you think should be done with monetary policy.

February 1986 Vote on the Discount Rate

MR. SMALL. Can you discuss the February 1986 vote on the discount rate?

MR. CORRIGAN. There's a lot of history to it. First of all, by February 1986, there was a reasonably high degree of tension between Volcker and the Reagan Administration—not President Reagan himself, but his Administration. Some of that was policy related. There were differences of opinion, for example, about the foreign exchange agreement, the Plaza Accord of September 1985. There were also other tension points, if I could put it that way. At the time, four members of the Federal Reserve Board were fairly recent Reagan appointees as Governors to the Fed Board.

MR. SMALL. During February of 1986, the third and fourth Reagan appointees joined the Board—Wayne Angell and Manuel Johnson. They joined Preston Martin, who was appointed by President Reagan in March 1982, and Martha Seger, who was appointed in July 1984.

MR. CORRIGAN. Yes. But if they were appointed by President Reagan, that meant that Jim Baker almost certainly played a major role in their selection. Let's not kid ourselves about that. That relationship, the Baker–Volcker relationship, was cordial but strained.

MR. SMALL. Was it that things were tense between Volcker and Baker, and Baker helped to select these appointees, so they come to the Board with a little—

MR. CORRIGAN. I don't think it was that literal. Also, differences in policy aside, there were what I will call differences in style between these individuals.

MR. SMALL. Yes, but did they come in with a little—

MR. CORRIGAN. You'd have to ask them, but, in my opinion, the answer is “yes.”

MR. SMALL. What did you observe about the revolt itself?

MR. CORRIGAN. I was not there personally, because it happened at a Board meeting when I was president of the New York Fed, but I was flabbergasted by it, because it flew in the face of everything that I thought was sacred about how things should work in the Federal Reserve. It seemed to me that there clearly should have been—and there was later that night—some kind of a compromise that was worked out. To me, and putting aside the differences in personalities, the fact of four Board members joining together to out-vote the Chairman on a discount rate decision was a very unfortunate turn of events that ultimately served no good public policy purpose.

At the time, I was shocked when I learned that the Board ended up with this 4–3 vote, with Martin, Johnson, Angell, and Seger outvoting Volcker. That vote was symptomatic of the fact that, at that time, the Board as a whole had a very unusual pattern of views about economic and financial issues that were quite diversified. There were a lot of strong personalities involved, of which Volcker was one.

The majority—the four Governors—did not appreciate the symbolic importance of what had taken place. There are times when, no matter how strongly you feel about an issue, you have to respect the sanctity of the organization as much, if not more than, you do your own particular views on things. So I thought it was unfortunate that they let it get to the place where it got. They did reverse the vote later that day. I was happy with the reversal, but I certainly was not happy with the initial vote.

MR. SMALL. Do you think that had lasting effects on Chairman Volcker and how happy he was being Chairman?

MR. CORRIGAN. I don't think that had much of an impact along those lines, although it may have had some. What was probably more of a nagging issue to Volcker was that he realized

that his relationships with some of the leaders in the Reagan Administration had fallen on hard times. Human nature is human nature, those things happen. But when they happen, they're not easy to ignore. I think that probably was something that nagged at him in this time frame, yes.

MR. SMALL. The story's been told that later—if not at that point—it became clear to him that, as vacancies opened up on the Board and people were appointed by the President, he was likely going to face a future of being more isolated.

MR. CORRIGAN. Let me get the chronology right here. The discount rate event, the 4–3 vote, was in 1986, right?

MR. SMALL. February 1986.

MR. CORRIGAN. By then, I think, it was pretty clear that the Chairman's ability to have any influence on possible Board member nominations by the President—I don't know this for certain, but the circumstances were pretty clear to me—was very slight indeed. It is the President's job to nominate Board members, there's no question about that. But, historically, over time, it has not been unusual for the Administration—the Secretary of the Treasury or somebody—to say to the incumbent Chairman, “Do you have any thoughts about a candidate?” I don't think that was happening in this time frame. But I think it did happen with the Greenspan selection by President Reagan in 1987. They probably did sound out Volcker's views on that nomination.

Paul Volcker's Relationship with the Reagan Administration

MR. SMALL. Did you have a sense of Volcker's relationship with the Department of Treasury and whether that relationship changed over the years and across Administrations?

MR. CORRIGAN. With the passage of time, the tensions between Volcker and Ronald Reagan's Treasury Department got pretty raw. I don't think it was as much a matter of

philosophy as it was of personalities. Volcker and Ronald Reagan got along very well. In that same time frame, Volcker had a great relationship with Margaret Thatcher as well. But Paul was never a conservative, politically. There were a lot of squabbles that built up with intensity with the Treasury Department in those years. Those squabbles involved everything from the role of the Fed in banking supervision to the 1985 IMF meeting in Seoul and Jim Baker springing the so-called Baker plan for the next stage of the LDC (less developed country) debt crisis, which wasn't much of a plan at all. Then you had the Plaza Accord, which some people thought was a great triumph for Mr. Baker, while others thought that, long before the Plaza Accord, the correction in exchange rates had already started.

MR. SMALL. I've heard Volcker opine on the thought that someone had to stand up against inflation, and that was his basis for a good relationship with President Reagan.

MR. CORRIGAN. That's true.

MR. SMALL. Reagan might not have known the details, but he knew about the pain?

MR. CORRIGAN. Whatever the issue was, Reagan never cared about details. However, regardless of one's political persuasions, there is no doubt that President Reagan was a transformational President of the United States. "Transformational" meaning that by his nature and by his philosophy, he brought about some very profound changes in how the country thought about itself and how the rest of the world thought about the country.

The Bush Task Force on Regulatory Reform

MR. CORRIGAN. President Reagan put together a big blue-ribbon commission on the structure of banking supervision. Vice President Bush was the chairman of that committee—the Bush task force [formally known as the Bush Task Group on Regulation of Financial Services]. There were a dozen or so other members from the Administration and various agencies that were

part of the commission. It was gang warfare, because every single one of those other agencies—to say nothing of the Treasury and the White House—wanted to shrink the role of the Fed, and the easy way to do it was in the area of banking supervision and regulation. That task force was on the cusp of having a vote on a draft of the Bush report, as it was called.

But Volcker shows up either for a pre-meeting with Vice President Bush or at the actual meeting. I was not physically there, but he and I had talked about it both before and after. Even though I wasn't there, I could just see this thing playing out. Volcker had prepared some notes, and he spoke out. And at the actual meeting, what several hours earlier was a 12–1 vote to shrink the supervisory role of the Fed, later became a 13–0 vote in the other direction. That event, probably more than any other one, set the tone for the next five years until Paul finally left the Fed in August 1987.

Are Banks Special?

MR. CORRIGAN. That was the time when, philosophically, Volcker was more convinced than ever, using his phrase, that “banks are special.” He said to me, “We know it’s true, but it’s hard to articulate why. Why don’t you go and write something about this?” I wrote an article in the calendar year 1982 annual report of the Federal Reserve Bank of Minneapolis called “Are Banks Special?” It was published in the spring of 1983.³ To this day, that article is still required reading in hundreds of college and graduate school programs in finance and economics. Volcker still prods me endlessly about this stuff. He says, “I thought you were the one who said banks were special. Why are these banks doing all these crazy things today?”

³ The summary from that article is in the appendix to this transcript.

MR. SMALL. As of 2002, you revisited that issue, and you basically thought the lines of argument still held.⁴

MR. CORRIGAN. I did.

The Banking System and “Too Big to Fail”

MR. SMALL. Volcker has said that when he was a young man attending the London School of Economics, one of his professors said, “The key to the financial system is to keep the credit in the banking system, because then, when something goes wrong, you know who to call. When credit escapes into the open market, you lose this control.”

MR. CORRIGAN. That’s exactly the point. The Hunt brothers crisis is another example. We knew who to call, and, as I said, you could get people in a room—it wasn’t just who to call. In those days, all creditors had a common interest and a vested interest in restructuring when it was necessary.

That’s no longer true today, because you’ve got as many shorts as you have longs in credit risk—maybe not as many, but you certainly have lots of them. And the short guys have a vested interest in instability. That is a big, huge change from the financial environment 30 or 40 years ago.

MR. SMALL. Didn’t all of this come under a cloud of public suspicion related to the ideas of “too big to fail” and forbearance—almost pampering the largest institutions?

MR. CORRIGAN. I’m not sure. The amount of criticism for the forbearance on the LDC debt stuff was relatively limited, in part because the multiple loan restructurings took some

⁴ E. Gerald Corrigan (2000), “Are Banks Special? A Revisitation,” Federal Reserve Bank of Minneapolis, *The Region*, March 1.

of the sting out of the issue. There were some pretty hostile congressional hearings and so on, but my memory is that that was nothing like what we have witnessed in the recent past.

The Continental Illinois problem was a big issue, but we were able to neutralize the flak in part because we got some private money in there, side by side with the FDIC [Federal Deposit Insurance Corporation] money. So while too-big-to-fail certainly was part of the lexicon in political and academic circles, I don't think it was nearly as overriding in those days as it is now. Also, it's important to keep in mind that in Japan and other countries in the late '80s, too-big-to-fail was by no means restricted to the United States.

I remember there was a big argument about who invented the phrase "too big to fail" as between Edward Alan John [Eddie] George, the then-governor of the Bank of England, and me.

William "Bill" Taylor

MR. SMALL. Would you talk about Bill Taylor?

MR. CORRIGAN. When I arrived in Washington, John E. "Jack" Ryan was the director of the Board's Division of Banking Supervision and Regulation. Bill was the number two guy in the division. That was when I first got to know Bill. Everybody got along with Bill. We became close. He was one of the most outstanding human beings I've ever known in my life, and he was unique: great instincts and a great sense of humor that was just dazzling.

He loved to tell all these comical stories about growing up in Chicago. He had a paper route when he was around eight or nine years old. One of the houses on his route was—as he told the story—owned by an individual with a questionable reputation. On a rainy day, Bill decided to cut through the hedge row between this guy's house and the next house to deliver the paper. He comes through the hedge row and someone grabbed him by the shirt and scared him half to death. [Laughter] The rather large and intimidating man said to Bill, "Let me tell you,

young boy, you learn to take your time.” [Laughter] He would tell stories like that, and people would be in stitches, because he would do the theatrics of the story, not just tell the story.

Taylor was in a class by himself. We haven’t seen a staff person the likes of him since at the Federal Reserve Board or at any of the Federal Reserve Banks. Volcker and Bill hit it off like Ike and Mike. As an example, Bill and I were on the case for Continental Illinois Bank fairly early on. That was when I first became aware of Taylor’s instincts. Bill could smell a rat five miles away downwind. He had that incredible capacity to look at a situation and say, “Something’s not right here.”

Financial Shocks during Volcker’s Chairmanship

Herstatt Bank (1974)

MR. SMALL. Earlier in your career, at the New York Fed, did you have much experience in banking supervision?

MR. CORRIGAN. There were a few things early on before Volcker got there. In 1974, there was the failure of Bankhaus Herstatt, a German bank. I was asked to be part of a task force that was set up by the Fed and the New York Clearing House to do a post mortem on Herstatt. I was also asked to get involved with the financial crisis in New York City in that time frame. And when I was secretary of the Bank, I got involved in the Franklin National Bank failure of 1974. Those were the three pre-Volcker events in which I got involved with banking and banking supervision issues to some extent.

MR. SMALL. As a result of the Herstatt failure, there was a temporary gridlock in CHIPS, the Clearing House Interbank Payments System.

MR. CORRIGAN. That’s right.

MR. SMALL. That was part of the financial plumbing. Maybe you could explain that.

MR. CORRIGAN. Herstatt became an incident because the German authorities made the mistake of announcing, during a business day, that Herstatt was bankrupt and was being put in the German equivalent of receivership. We have long since learned that you don't do that when banks are open. You wait until they're closed.

While Herstatt was a relatively small bank, it had a significant presence in foreign exchange markets. The CHIPS system was the mechanism through which, at the end of the day, foreign exchange-related payments between banks were netted down and settled. But in order for the netting down to work, because of the differences in time zones, among other things, you had to have debits and credits together at the same place and the same time so you could do the netting. Suppose, for example, Lloyds Bank was owed 100 million deutsche marks by J.P. Morgan, and that J.P. Morgan was owed 100 million deutsche marks from Herstatt; then if J.P. Morgan can't get the 100 million deutsche marks from Herstatt, it can't pay Lloyds. That's the essence of it.

When the counterparties in CHIPS found out that day that Herstatt was bankrupt, all hell broke loose, because they said, "Since I don't know if I'm going to get my money from Herstatt, what do I do about the money I owe in the CHIPS system?" This was the first living, breathing example of a situation in which the plumbing of the system was suddenly at risk in ways that most people hadn't even thought about. It was just an act of faith that you would receive the payments from Herstatt into CHIPS and that your own outgoing payments could be safely made with the payments you were to receive from Herstatt and other banks. All of a sudden, that act of faith was a nightmare. This was a real wake-up call.

MR. SMALL. CHIPS is obviously not a depository institution or the type of institution for whom the Federal Reserve would normally have a lending facility.

MR. CORRIGAN. At that time, there was no direct Federal Reserve oversight of CHIPS. Of course, that changed. One of the things that was very much a part of my career at that time at the Fed was working on things like the CHIPS settlement system to make them as close to fail-safe as possible. The DTC (Depository Trust Company), which settles all the trades on the New York Stock Exchange, became a limited-purpose state member bank. And as a state member bank, it was directly supervised by the Fed.

MR. SMALL. Did it have access to the discount window?

MR. CORRIGAN. Technically, yes, but I don't think any of us had considered it much more than a technicality. That was never put to the test. Even in 1987, with the stock market crash, it wasn't put to the test.

The Hunt Brothers and the Silver Market (1980)

MR. CORRIGAN. Not long after the implementation of the new operating procedures, we had the big blowout in March 1980 associated with the Hunt brothers silver market crisis. In some ways, that was my baptism under fire on the banking supervision front. By then I was working in Washington. Volcker and I had become quite close, both professionally and personally. Those were unbelievable days. If you got to bed by midnight, that was early. It was seven days a week. It was the most intense 12 months that you could possibly imagine. This was when I saw the side of Volcker that never leaves me, because, for understandable reasons, 20 percent interest rates inevitably provoke sharp criticism of the Chairman of the Fed.

Anyway, the silver crisis in March was perhaps the first financial crisis I experienced directly. With 9 million other things going on, Volcker said to me, "You've got to figure out what is going on here." I thought, "How the hell am I going to do that?"

MR. SMALL. Were there questions about the appropriateness of the Fed's involvement with silver markets or later in the LDC debt crisis?

MR. CORRIGAN. Yes, there were such questions. They arose in part because of a view in some circles that the Fed—and particularly Volcker— had too much power, which resulted in a major challenge as to the role of the Fed in banking supervision. This occurred in 1982 or 1983.

One of the first examples of the “knock-on” effects of the policy changes was the silver market crisis that occurred in March 1980. This was the famous case of the Hunt brothers seeking to corner the market in silver. They had accumulated huge positions in silver that were being financed largely with borrowed money. This began to get people's attention in late February when the price of silver was up to almost \$50 an ounce, which was unthinkable. This is when Volcker said to me, “You've got to figure out what is going on.” The exposure of a handful of major banks to the Hunts was about \$2.3 billion, as I recall.

I'll never forget sitting in Volcker's office with him on a Wednesday in early March 1980. In those days, we still had ticker tapes from which you got the financial news. An item came over the ticker that said that Bunker Hunt was in Paris, and he was announcing that he was going to sell half a billion dollars in silver-backed bonds. I showed the tape to Volcker, and instantly he said to me, “That means this guy's in serious trouble.” This was another example of Volcker's unbelievable instinct, because he immediately recognized that the silver market incident had the clear potential to trigger a financial crisis—about the last thing the Fed needed at the time. By Thursday and Friday, all hell had broken loose, because the silver price started to tank and the banks started to make huge margin calls on the Hunts. All of a sudden, we were, in fact, faced with a real crisis.

That weekend was the annual meeting of what in those days was called the Reserve City Bankers Association—consisting of the largest banks in the United States—in Boca Raton, Florida. Everyone was convening in Boca Raton, Florida, including the Hunts. We had a very dramatic weekend in which Volcker, as usual, was at his best in helping to negotiate an arrangement whereby the Hunts essentially had to take all of their silver and silver-related assets and some oil wells in the Beaufort Sea off the north coast of Alaska to collateralize loans from the banks to make good on the margin calls and other obligations that they had accumulated riding the silver price from \$11 to \$50 and watching it go from \$50, I think, back to \$18 or something like that.

That was the first time that I saw Chairman Volcker “in action” in the middle of what certainly was not the last challenging financial problem that we faced in the 1980s. What struck me—and it has never left me—was his in-depth understanding of how things worked and what needed to be done to contain the crisis. His instincts, combined with his powerful intellect, the force of his personality, and his pragmatism were and are truly extraordinary.

MR. SMALL. What makes such negotiations difficult? It’s a pie that’s way too small, and people are arguing about how it gets divided? Other than not enough money to go around, are there other dimensions that the crisis manager struggles with?

MR. CORRIGAN. Oh, sure. First of all, as you say, it’s never clear until after the fact whether there was enough money to go around or not. In this case, bringing the oil wells in the Beaufort Sea into the collateral basket was probably the decisive factor that resulted in the massive restructuring of the Hunt debts and the containment of the crisis.

MR. SMALL. That was something the Hunts would have resisted?

MR. CORRIGAN. Absolutely!

MR. SMALL. What was the tool used to make them include the oil properties as collateral?

MR. CORRIGAN. It was common sense on the part of the Hunts and the creditor banks and the force of Paul's personality and his personal credibility.

MR. SMALL. You mean that resolved the differences between the Hunts and the bankers, or between the bankers and the Fed?

MR. CORRIGAN. Well, even on the Hunt side, you had the three brothers and the sister. Of the three brothers, two of them viewed it one way, the third brother viewed it another way, and the sister viewed it a third way. They were coming from different places. Some of the assets were family property, especially the oil. So there were those kinds of tensions. Also, some of the bank creditors were big, some were well secured, some weren't, and some had other relationships with the Hunt family. While there were two sides at the table and an honest broker in the middle, the interests of neither group on either side of the table were well aligned. They almost never are. That is a major complication when you're trying to put together a complex transaction. Paul wanted that transaction closed on Sunday before the markets opened on Monday. That's not easy to do, but it got done.

That was my first direct experience with a major financial problem. I was kind of standing in the background watching the master at work in dealing with these things. It was always amusing to me, because Paul would make sure I was answering all the press calls and things like that. I was stuck in the hotel room for hours at a time. I got very nervous, because at the Boca Raton Hotel in those days, there was no direct out-dialing from your room. You had to call the operator to make an outgoing call. I'm saying to myself—

MR. SMALL. Someone's listening?

MR. CORRIGAN. A couple of months later, a British author—I can't remember his name—was writing a book about this whole episode, which turned out to be a pretty good seller. He picked up the fact that I was “hanging around the basket,” so to speak, and he started pressing me about who I was talking to on the telephone. As soon as he said that—and this was a couple of months after the fact—I remembered that I had had to go through the switchboard. This guy was pretty persistent. He kept pressing me, so I said, “I really can't help you. All those calls were incoming phone calls, so I didn't keep track of them.” I figured that the guy was going to get ahold of the operator in the hotel and get the list of numbers that I was calling. He fell for the incoming-calls story, and that was the end of that.

MR. SMALL. What were the Hunt brothers up to? The most common story is that they were cornering the silver market. But another story is that they were producing and selling a ton of oil, and they were being paid in dollars. With high inflation, they wanted to get out of dollars, and they wanted a hedge against inflation.

MR. CORRIGAN. I think that's an exaggeration. I think it was a plain, old-fashioned inflation-induced asset-price bubble. They saw the silver market as a place where they had a huge inventory of silver assets. It was very much a part of the rush to commodities and “hard” things in general that characterized the second half of the 1970s. You name it: wine, paintings, sports cars, silver. This was inflation that we hadn't seen in the United States for decades, and it was a worldwide phenomenon. Anything hard was being bid up in price, and the Hunts were part of that. They may have had some other incidental motives like the dollar, but I think it was just the plain speculative hard-metal fever of the time that, in turn, was an outgrowth of the inflation and this sense of economic and financial malaise that characterized much of the second half of the 1970s.

Mexico and the LDC (Less Developed Countries) Debt Crisis (1982)

MR. CORRIGAN. The other big event then was the LDC (less developed countries) debt crisis. That was threatening, because if you marked the loans to these countries to market—not just for the major U.S. banks, but for many of the largest banks in the world—they all might have been virtually insolvent. Volcker, in particular, and Jacques de Larosière, who at the time was the head of the IMF (International Monetary Fund), were the major agents of stabilization at that time.

Life was simpler in those days. For the LDC debt crisis, there were two or three dozen international banks that held 70 to 80 percent of the LDC loans. In those days, when you told them you wanted them to meet collectively with the official community, they came. They didn't send their deputies. You closed the door and said, "Look, we've got to restructure Mexico's debt. The Mexicans are waiting in the next room. You guys go and negotiate a restructuring and let us know when you're finished." I'm exaggerating, of course, but life was much simpler then than in 2007 and 2008.

Continental Illinois Bank (1984)

MR. CORRIGAN. I was then president of the Federal Reserve Bank of Minneapolis (1980–84), but I was still spending a substantial amount of my time in Washington, because Volcker kept calling me up to say, "You've got to go find out about this thing or that."

In the case of Continental Illinois Bank, Bill Taylor put his finger on the way Continental was funding itself in London. This was 1983 or 1984, and lots of smart people still hadn't quite woken up to the way in which the international activities, especially on the funding side, of the major U.S. banks had radically changed. As a consequence, their liquidity risks were very different. It wasn't just a question of depositors standing in line to get their money out of the

bank. It was the risk that foreign funders, in particular, might say—by pushing a button on a computer—that they were not going to rollover a multibillion-dollar funding facility. So that was a very different ballgame.

MR. SMALL. This was the first “silent run” on a bank?

MR. CORRIGAN. It may not have been the first, but it was unique because of the way it occurred. And Bill Taylor sensed what was going on. The guy running the London branch of Continental Illinois Bank, as I remember, was also named Taylor. Things started to come to a head in the summer of 1984. By this time, Volcker and I were also fishing buddies. Volcker taught me how to cast a fly rod. Fly fishing is a great sport. To this day, he still beats me up on this, because, at least sometimes, I would either catch bigger fish or more fish than he would.

Volcker and I were fishing in the Snake River in Wyoming when Volcker got a call from Bill Taylor. Taylor sensed that the silent run thing was beginning to accelerate. So Volcker told Taylor to meet us in Wyoming. We spent the night trying to figure out what the facts were. Roger Anderson was the chair of the Continental Illinois Bank, and the other Taylor was running the London branch. Roger Anderson was the most prim and proper guy you could ever imagine.

Silas Keehn was the president of the Federal Reserve Bank of Chicago (1981–94). I don't know how he did it, but Si Keehn never had a wrinkle in his pants or his jacket. Si was a great practitioner, and he always looked like he just came off the cover of *Gentlemen's Quarterly*. Volcker called Si Keehn and told him to come to the ranch in Wyoming. Volcker also asked Anderson and the other Taylor to join us. When Anderson, Taylor, and Si Keehn arrived, Volcker, Bill Taylor, and I were sitting in rocking chairs on a porch at this ranch with jeans and sweatshirts on, and these three guys, including Si Keehn, showed up in pinstriped suits.

I kept my mouth shut, but Volcker and Bill Taylor did a good cop (Volcker) bad cop (Taylor) routine that left no doubt that, sooner rather than later, Continental Bank was history.

In some ways, the point of highest drama was when the FDIC stepped in and recapitalized the bank. This was one of the many ingenious ways Volcker approached problems. He said to me most emphatically, “We have to get some private money in here side by side with the FDIC. I don’t want this to just be a government bailout. We’ve got to get the U.S. banks to put money in.” So Volcker, Taylor, and I talked about it. We concluded that we would tell the major U.S. banks that each of them would purchase a large chunk of subordinated debt in the “new” Continental Illinois Bank so that, from a public relations point of view, we can say this was a joint public–private rescue. This was a great idea. We had to call all the banks, and the question was, who was going to call who? Volcker said to me, “You call Wriston. He won’t talk to me.”

So I got the duty of having to call Citibank. Wriston was on vacation, but he must’ve sensed why I was calling. He got Tom Theobald to call me back. Tom was the number three guy at Citibank. The irony of this is that, six years later, Continental Illinois Bank was resurrected as a private bank, and guess who the chief executive was? It was Theobald. Theobald called me back and said, “Walt asked me to call you.” I said, “I really wanted to talk to him, but you’ll do. Here’s the deal: You know what’s going on with Continental Illinois. We are taking the view that all of the major U.S. banks need to purchase a large chunk of subordinated debt in there, side by side with the FDIC equity in the name of a public–private solution.” Theobald was adamant; he said, “No way!” But even Citi found a way.

One of the big questions about the Continental Illinois Bank was what was going on in its London branch. We sent Bill Taylor to London to find out what was going on. Those poor guys

didn't know what hit them. Bill was really tough. To make a long story short, nobody had to get called in on anybody's carpet. The four of us (Volcker, Bill Taylor, Si Keehn, and I) worked very well together. And the problem was solved.

The stabilization that was put together in May 1984 wasn't elegant. The FDIC had to recapitalize the bank. We threw out the board of directors. We threw out the senior management. We fired the shareholders. The FDIC put in money. Volcker came up with this brilliant idea: As I indicated earlier, Volcker said, "You have to get some capital from the other U.S. banks." This idea of having a public-private rescue had a lot of political appeal. This was unheard of at the time.

We got the money. And the FDIC made money on the capital injections it made into the old Continental Illinois Bank, because it gave rise to the new Continental Illinois Bank. The commercial banks and the FDIC got their money back. It was pretty cool. It's not exactly how things seem to be working these days, but the model used was very good.

MR. SMALL. In the legal shadows, is there the question of how much authority the Fed has to put pressure on banks and whether banks have to accept pressure?

MR. CORRIGAN. There were some sharp differences in opinion that went back and forth for a while between the Fed and the FDIC on how to best manage this problem. In circumstances like that, it's good to have a constructive tension. I would never want this kind of authority vested with any one agency, including the Federal Reserve. Checks and balances are important. To me, that's a source of strength, not weakness, and we saw it in that case of Continental.

The Bank of New England banking crisis started in 1987 or 1988. That involved real estate. In the Bank of New England case—and in New England banking cases in general—it's fair to say that the chemistry probably didn't work as well as it did with Continental Bank.

MR. SMALL. It involved a different Federal Reserve Bank.

MR. CORRIGAN. The personalities were different. Greenspan was the Fed Chairman, and there was a new guy at the Boston Fed. We were having serious troubles with the New York banks then as well as the investment banks and the insurance companies. When it came to that stuff, Greenspan and I had a very good relationship. Bill Taylor had left the Fed to become chairman of the FDIC, but he was only there for about 15 months. He had what was thought to be a simple surgical procedure, but he ended up with some complications that killed him. I'll never forget that.

Bank of New York Computer Failure (1985)

MR. SMALL. If there was a liquidity crisis in the plumbing, how would the central banks inject liquidity and decide when and where the liquidity was needed?

MR. CORRIGAN. There are lots of different examples of this. Let me give you one that stands out while Volcker was Chairman. There was a massive computer failure at the Bank of New York (BONY) in November 1985, 10 months after I became president of the Federal Reserve Bank in New York. The Herstatt crisis had had a big impact on me. In part because of the Herstatt crisis and a few other lesser events, I had been arguing for some time that the New York Fed had to have a fail-safe backup redundant processing system so that Fedwire simply couldn't go down. Nobody wanted to listen to me, because, back then, such a facility would be extremely expensive. But then I had the "good fortune" of the Bank of New York computer failure. As it is today, BONY was one of the two clearing banks for government securities on

the Fedwire system and was the interbank correspondent bank for dozens of other banks, both foreign and domestic.

One Thursday afternoon I was going into a regular board meeting at the New York Fed. Ernie Patrikis, who was the general counsel, stopped me when I was walking into the board meeting and said that the Bank of New York had this computer failure and nothing was moving. BONY was supposed to process and deliver all of the transactions and government securities on the Fedwire, but nothing was happening. Because nothing was happening, BONY had a big cash overdraft in its account at the New York Fed. So I said to Patrikis, "What's the nature of the problem? I don't like the sound of this. Call J. Carter Bacot." He was then the chief executive officer of the Bank of New York. I said, "Let's get a supplementary discount loan agreement in place for BONY where, if we had to, we can take as collateral for a discount window loan everything down to the flower pots." Patrikis called J. Carter Bacot, and Bacot said, "Well, you know this thing will get fixed," but he signed this supplemental discount window agreement under which we possibly could end up taking the whole bank.

So this day goes on and on and on. One of the things you dread with these kinds of things is that once you get to midnight, you have a problem, because the computers start to automatically change the dates and all this kind of stuff. We reached midnight, and BONY's overdraft on the books to the New York Fed was approximately \$20 billion and rising. So what do you do?

MR. SMALL. Because they were sending out money?

MR. CORRIGAN. BONY couldn't send securities, it could only receive them. So when BONY was supposed to turn around securities and send them to other people and get cash back from them, BONY couldn't do it. There was a classic gridlock.

Finally, around two o'clock in the morning, I said to Bacot and my colleagues at the New York Fed, "We can't let this thing go any further. The size of the overdraft is \$23 billion. The value of Bank of New York as a whole, including the flowerpots, is \$24 billion."

This is literally what happened. We lent BONY \$22.6 billion at 2:30 in the morning on Friday. We had to backdate that loan to 11:59 p.m. on Thursday to make all the records in the computers think that the loan had been made on Thursday. The computers didn't come back until about 2:30 in the afternoon on Friday, so when we started business on Friday morning, the overdraft was building up again.

Volcker was in Argentina. I called him on Friday morning in Argentina and said, "You'll never guess what happened last night. We had to make a discount loan of \$22.6 billion to the Bank of New York." Volcker screamed into the phone: "What!" It took a little time to get him to understand that there was no choice. In addition, BONY ended up with an overdraft of \$1 billion, for a total of \$23.6 billion of loans from the Fed. That was another one of those incidents of problems with the financial plumbing.

Bank Holding Companies

MR. SMALL. When did the Fed get its first major authority over bank holding companies?

MR. CORRIGAN. The original authority went back to the Bank Holding Company Act of 1956, but the Federal Reserve's authority over bank holding companies was substantially broadened over time through other legislation.

One of the fascinating personalities of the time was Senator William Proxmire. He had always been critical of the Fed, but he was not hostile the same way Wright Patman was. Proxmire did a 180-degree turn because of Volcker. In that time frame, Proxmire became one of

the Fed's biggest supporters. As chairman of the Senate Banking Committee, he rode to the rescue on more than one occasion, including the passage of the Monetary Control Act of 1980. There's no question that was in deference to, and out of respect for, Volcker. That support would not have happened were that not the case.

International Crisis Management (Basel and the LDC Crisis)

MR. SMALL. Basel (Bank for International Settlements in Basel, Switzerland) started its Committee on Banking Supervision in the mid-1970s. Later you played a significant role in that committee, and then there were several other developments—the International Lending Supervision Act of 1983 and ICERC (Interagency Country Exposure Review Committee). How did that approach to handling a crisis set the stage for what we're doing now?

MR. CORRIGAN. Some of the things that we did then you couldn't do today because the world has gotten too complicated. Let me use the Mexican-LDC debt crisis as an example. We had this phenomenon where, in the years leading up to 1981 and 1982, banks all over the world had been literally pouring money into what we call "less developed countries" at that time—countries that were seen to be prosperous in raw materials, whether it was agriculture, mining, or oil; many of those countries were in Latin America.

Walter Wriston pontificated over and over again that countries don't go bankrupt. The concentrations of credit exposure of major banks (not just in the United States, but in the United Kingdom, continental Europe, and Japan) to the developing countries were, in some cases, much larger than their capital. And, lo and behold, in the summer of 1982, the bubble burst. Wriston was right—Mexico didn't go bankrupt, but Mexico literally ran out of money. It had no dollars to pay the interest, and ultimately the principal, on its dollar-denominated loans!

This was where Volcker's leadership was absolutely instrumental. In late 1981 and into 1982, the central bank governors got together with great regularity at the BIS in Switzerland—usually every month or so. There were five personalities involved in those meetings: Volcker; Gordon Richardson, the governor of the Bank of England; Fritz Leutwiler, the chairman of the Swiss National Bank; Haruo Mayekawa, the governor of the Bank of Japan; and Jacques de Larosière, managing director of the IMF. These guys knew each other reasonably well.

During the crisis that lasted throughout the 1980s—it went from one cycle to another to another—these guys worked together like a piece of fine machinery. It was really something to see. They knew each other, they trusted each other, they believed in each other. And even though they didn't necessarily agree about all things, they did agree and understand that they had to act together. And they did act together—over and over again. That was what produced a “fix” that you could never accomplish today, because the form of the fix was based in large part on some patience. It was also based on restructuring all those bank loans—billions and billions of dollars of loans to 12 or 15 different countries—two or three times over, while at the same time providing new loans to keep these countries alive.

In those days, it was not easy. I was a part of this at times. Some of those meetings were tough going. You could get the leading banks—the chief executives of roughly 20 banks—all in a room at the same time, and you had covered 80 percent of the exposures. You sit those guys down and say to them, “Guess what? Here's what we're going to do.” There would be yelling and screaming and arguing for a couple of days, but it would get done. You couldn't do that today. You have to be lucky. And, in that case, the luck came, in part, from these five guys. They just happened to all be in the same place at the same time from five different parts of the world, and their ability to work together was really instrumental.

Dealing with the LDC crisis and its aftermath played out until after Volcker left. The LDC debt crisis is still referred to as the “Lost Decade” in Latin America. Even now it’s hard to believe it could be that bad for that long. It was only in 1989 that the success of multiple restructurings of the loans and the rest of it got to the point where the banks’ exposures had become manageable, the countries by and large were doing better, and the permanent solution took the form of the so-called Brady bonds—named after [Nicholas F.] “Nick” Brady, who was George Herbert Walker Bush’s Secretary of the Treasury at the time. This was an eight-year period of patience and perseverance and make-do buying of time that you couldn’t do today.

Asset Bubbles

MR. SMALL. One view of the Latin American debt crisis is that OPEC flooded the world economy with savings. And you look at the current situation, and it’s China flooding the world with savings.

MR. CORRIGAN. We’ve been there before!

MR. SMALL. And, you could say, there’s no conceivable regulatory body that is going to save you from a flood of cheap money.

MR. CORRIGAN. It’s uncanny that history does repeat itself. I think that it’s indisputable that some of the conventional wisdom about economic policy in general and monetary policy in particular has been misguided. For example, even before Greenspan, it was accepted in international central banking circles that there wasn’t much the central bank could do about asset price bubbles. Greenspan really popularized that, and he really believed it.

MR. SMALL. Some people said there wasn’t a need to do a lot, since markets would discipline themselves.

MR. CORRIGAN. History doesn't support that. I gave a speech in London in which I said that I no longer accepted that view, and that, at a minimum, I thought there clearly were circumstances in which a "tilt" in monetary policy could be justified by the apparent emergence of asset price bubbles.⁵ I went on to say very carefully that I was not saying that asset price bubbles should become the "target" for monetary policy, but I clearly was saying that I thought that we possibly could not ignore emerging asset price bubbles.

I think that everything that we've learned since then, including the events of the last few years, reinforces that view. But Greenspan was outright theological about this, and I think he made it too easy for people to ignore what was obvious in this particular case. I also think that some of the shortcomings in monetary policy terms—mainly, the very low interest rates—were made worse by shortcomings in the execution of supervisory policy.

Volcker and Basel Capital Standards

MR. CORRIGAN. If you go back to around 1984, Volcker recognized the potential impact of busting asset price bubbles—as did I, maybe because of him. The capital positions of banks in the United States during that time frame were pretty skimpy. Walter Wriston believed that banks didn't need capital. That was quite a point of tension between him and Volcker. Reflecting his political skills, Volcker knew that perhaps the surest way to get bank capital to more respectable levels—not just in the United States, but elsewhere—was to create an international framework of consistency of capital adequacy measurement and standards.

At the time, the Basel Committee on Banking Supervision had just been created. It may have been a couple of years earlier, but no one had ever heard of it. It was just a bunch of

⁵ On May 10, 2000, Mr. Corrigan gave the Roy Bridge Memorial Lecture in London in which he made this point about a tilt to monetary policy (see "Two International Financial Stability Issues: Asset Price Inflation and Private-Sector Participation in Financial Crisis Stabilization"). He made this same point in his 2002 Per Jacobsson Lecture, "The Boom-Bust Capital Spending Cycle in the United States: Lessons Learned," Washington, D.C.

technicians that met every three months or so, thought great thoughts, and had a good bottle of wine with dinner. But beginning around 1984, central bankers began to focus on using the Basel Committee on Banking Supervision as the vehicle that might be able to create an internationally accepted framework on common approaches to capital adequacy. Volcker was the intellectual father of that approach.

In this time frame, when I was president of the New York Fed and with Volcker's consent, I set up this mechanism where the leadership in the New York Fed and the leadership of the Bank of England, specifically, got together a couple of times a year. They'd come to New York, and we'd go to London. There was never any real form of agenda; it was just making sure that we were on the same wavelength about things.

I think it was in September or October 1985—we at the Fed had been doing a lot of our own work on an approach to common capital standards, including measurement techniques. I asked some of my guys to make a presentation at one of these meetings at the Bank of England, so these guys went through our thought process. Then Eddie George, who at the time was markets director, asked one of the guys at the Bank of England to get up and go through their thought process, and it turned out that our two approaches were remarkably similar! I said, “Why don't we let the experts spend some time together over the next couple weeks and see if maybe we've got something here.”

You have to be lucky sometimes. I called Volcker—he was in Washington—and I said, “You won't believe this, but it looks like, independently, we and the Bank of England seem to be pretty close.” And it turned out we were very close, so close that we began to say to each other—I was on the phone with Volcker nonstop at this point—“What do you think about the

two of us just bilaterally going public in January and saying, 'Here's what we're going to do in the U.K. and the United States, and the rest of you can do whatever you want to do' ”?

Robin Leigh-Pemberton was the governor of the Bank of England at the time. For Robin, this was really hard to do, because the European Community was emerging, and this was going to be seen as the United Kingdom sticking its finger in the eye of the European community. Robin—frankly, to my surprise—said, “Absolutely, this is what we should do.”

I called Volcker, and I said, “It’s your call, but we are ready to go with a bilateral announcement.” Volcker says to me, “The Japanese are going to go wild.” I said, “That’s why I called you!” So he got on the phone with Robin. They decided to go public with a bilateral announcement. That bilateral announcement, which I think was January 1987, crystallized in short order an industrial-country consensus framework for capital standards. The Japanese were the hardest ones to get on board, but even they finally came along. I may be off a little bit in timing, but within a year, we had a general agreement!

In retrospect, thank goodness we had it, because the next serious set of banking problems began to emerge in 1989, 1990, and 1991, where people forget that here in the United States, in particular, we had a serious banking problem. Once again, Citibank’s share price was down to \$8. We had to engineer an ambitious program of restoring the financial health of all those major banks in that time frame, and that was done, thank goodness, without spending one nickel of taxpayer money or one nickel of discount window support for individual banks.

Chairman Greenspan

MR. SMALL. Let’s transition to the Greenspan era. The macroeconomy looked in pretty good shape at the time of that transition.

MR. CORRIGAN. One thing that I remember about that transition was that I was at a meeting at the Federal Reserve Bank of Chicago in June, I think. I left the meeting to take a call from Volcker. He said, "Could you be comfortable working with Alan Greenspan?" [Laughter] I had known Alan reasonably well, and I said, "Sure!" He said, "Thanks," and hung up. That was the end of the conversation. Shortly thereafter, Reagan nominated Greenspan to succeed Volcker.

MR. SMALL. The Fed had tightened interest rates a little in 1987. The economy was doing well. The unemployment rate had come down. The Board staff's Greenbook forecast foresaw continued improvement in the economy.

MR. CORRIGAN. The recession was way behind us by then.

MR. SMALL. A lot of the financial stress had been put behind us: the LDC crisis and Continental Illinois.

MR. CORRIGAN. The LDC crisis was not totally behind us by then. It was still there. It was much better, but it was not behind us.

MR. SMALL. Maybe I'm incorrect. In Bob Woodward's book, *The Maestro*, there is this viewpoint that Greenspan came in and was more alarmed than most of the FOMC about the potential for inflation and overvaluation in the stock market. Do you remember a change in outlook from Volcker to Greenspan?

MR. CORRIGAN. I must say I don't.

MR. SMALL. The stock market crash wasn't far in the future.

MR. CORRIGAN. I'm aware of that. I think Greenspan's appointment was announced in June 1987. Between the announcement of his appointment and his taking office, Alan spent a fair amount of time with me at the New York Fed brainstorming about issues. About three-

quarters of the issues that we brainstormed about were financial issues and financial risks—those have always been my forte—and one-fourth was probably purely economic stuff.

There were mounting concerns, not by any means limited to Greenspan, about an incipient buildup of inflationary pressures in the time frame of the summer and fall of 1987. And there were concerns about pressures on the exchange rate with all the kind of indirect knock-on effects that that can have both on inflation and interest rates and so on. When Greenspan took office, it was not a tranquil time. In late 1982 or early 1983, the economy had done quite well coming out of what was a deep recession in 1981, 1982, but I would not characterize the period from then until when Greenspan took over as tranquil.

MR. SMALL. Those conversations between Alan Greenspan and you would have been interesting to an outsider. Here you have Jerry Corrigan, the Fed's "plumber," focused on financial structure and stress, a strong regulator at times, who was coming out of working relations with Paul Volcker and Bill Taylor, people of a similar bent. And here's Alan Greenspan, who publicly has been—rightly or wrongly—characterized as "Let the markets discipline themselves"—efficient markets, free markets, capitalism. Jerry Corrigan meeting Alan Greenspan and talking turkey about regulation—was it a sea change for you, going from working with Volcker to reconnecting and reestablishing with the Chairman in the person of Alan Greenspan?

MR. CORRIGAN. I never felt that way. Maybe others did. To his credit, I think that Alan Greenspan went way overboard in the approach he took in his relationship with me. He went out of his way to be cordial, friendly, and open minded. I never felt a smidgen of stress or strain in these conversations. I think he felt that the experience I had, over a fairly long period of time by then, was quite different than any experience he had had. I felt the same way about him.

I have a Ph.D. in economics, but I didn't think I was a match for his scholarly, in-depth understanding of the economy at large. This was a case of largely complementary skills. There was no tension at all in our conversations. As I said, Alan and I had done a couple of panels together over the years—so there was not stress and strain for me at all.

When the stock market collapsed, then it got a little more difficult. Even there, I knew Alan was the Chairman. I knew the Federal Reserve Board was the Federal Reserve Board. But I think Alan and others on the Federal Reserve Board took some comfort from the fact that I was a little closer to the scene of the crime, so to speak, and again, I think things worked out pretty well.

Stock Market Crash of October 19, 1987

MR. CORRIGAN. One of the humorous events in this time frame—but you can only laugh after the fact—was the Monday night of the stock market crash. That was scary, and Tuesday was worse. Given all we've been through over the last two years recently, it's still hard to capture in your mind what a 25 percent one-day drop in the stock market really means. It was dicey.

MR. SMALL. Was it scarier to you than to Greenspan, because you knew about all the plumbing and collateral problems? You knew more what could go wrong?

MR. CORRIGAN. Perhaps that's true. But the interesting story was that that Monday night Greenspan was in Dallas, and he couldn't get back to Washington. So Monday night there was a conference call. He and I had talked before the call. I had mentioned—and I'm sure others did—that one of the things we needed to think about, which up until then had never been done, was literally to flood the financial markets with liquidity through open market operations. This was going to break new ground big time. With the limited exception of George Harrison's

single-handed effort to provide central bank liquidity at the time of the 1929 stock market crash, this action was without precedent. The liquidity was provided on the Tuesday and the several days after the stock market crash.

When you think about that in the context of the last couple of years, it probably turned out to be a much more valuable experiment than any of us realized at the time. I told Alan, “We have to see how things play out in overseas markets. We better be prepared tomorrow morning to do something dramatic. And if we are, we’re thinking about this approach of flooding the market with liquidity.” I think I said to him, “It’s never been done before, but never say never.” We agreed that we’d have to have a statement prepared to issue the next morning, depending upon what had happened. He said, “Fine.” He arranged a conference call a couple of hours later to go over all this stuff.

I don’t know who it was, but somebody on the staff of the Fed in Washington had drafted this statement, and it was hysterical. [Laughter] It was a lawyer’s nightmare. It went on for a couple of paragraphs, talking about section 13(3) of the Federal Reserve Act. There wasn’t a human being in the world who would have known what the statement was saying! I said, “Wait a minute. We need a statement that’s no more than 10 words!” [Laughter] There was all this consternation in the background. The poor person who had drafted this thing must have been ready to shoot me. It was pretty funny.

MR. SMALL. And that short statement became the gold standard for 9/11.

MR. CORRIGAN. That’s right. We got it down to about 10 words or so.⁶

⁶ “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.” Alan Greenspan (1987), Board of Governors of the Federal Reserve System, press release, October 20.

Tuesday was much scarier than Monday. The market started to come back rather well. Then, for whatever reason, at about 10:30, quarter to 11:00 in the morning, the market started to tank again. It was down about 250 points or something like that. I had told Chairman Greenspan that I was going to talk to the CEOs of all the banks and remind them of their responsibilities. He was very nervous about that; he said, "Be sure you aren't dicey." "Don't worry, I know what I'm doing," I said. That was one of those cases where his instincts were to let nature take its course. My instinct was: We pour all this money into the system, but if it just sits there, it's not going to do any good. The banks had to start to put the money to work by lending to securities dealers and others.

Anyway, about 11:00 Tuesday morning, there was a growing sentiment in Washington, and especially in Chicago, that the market should be closed. The Chicago market was closed for half an hour, but the big issue was halting trading and closing the New York Stock Exchange. I was opposed to that. The pressures were enormous.

I got a call from, I think, the White House. The caller said that he was being told that there was broad sentiment to close the New York Stock Exchange, but he was also being told that I was opposed to that. I was one of the only people who was opposed to that, and everybody else thought it was a great idea. The caller said, "Why are you so dead set against closing the New York Stock Exchange?" You can't imagine the pressures at 11:30 that morning. Without even thinking, I said to the caller, "Because if you close the stock exchange, you're going to have to figure out how to open it." In retrospect, I said to myself, "Did I really say that?" [Laughter] Of course, I had. The caller said, "You're there on the front lines. I've always believed that you have to go with the judgment of the people who are on the front line. But if you're wrong, you're dead." That's a true story. I didn't know if Greenspan knew about this call. About two

hours later, he and I were talking on the phone. I wasn't trying to hide anything, but I was reluctant to volunteer to him the conversation I had, and I didn't. [Laughter] He never asked, but I always felt he knew.

MR. SMALL. What authority does the Fed have to close the New York Stock Exchange?

MR. CORRIGAN. We didn't have the authority. The authority was with the SEC (Securities and Exchange Commission). This wasn't a question of authority. I was just one of the very few people who were saying that it was a crazy idea. I think the SEC technically had emergency authority, but I think, as a practical matter, it was the board of the Exchange that probably had the authority. This had nothing to do with authority. So that's how Greenspan and I got to know each other.

MR. SMALL. Do you think it was a meshing of the minds, in the sense that he learned a lot about the plumbing?

MR. CORRIGAN. He certainly did learn a lot. You have to give him credit for that, because even before he took office—not just with me, but with the Fed people in Washington, the staff people—he spent a lot of time on this kind of stuff. As I said, in that time frame, I enjoyed the relationship that he and I had because I knew that he could run circles around me in some stuff, and I think he knew that there was some stuff where I could run circles around him.

It was the Tuesday and the several days after the stock market crash that we resorted to the unabashed massive effort to liquefy the financial markets. Not only that, we coordinated a lot of it with the other major central banks. And for the first time, for these purposes, we did a few swap transactions, so those central banks would have dollars that they could use to meet dollar shortages in other jurisdictions.

MR. SMALL. You provided the liquidity mainly through buying Treasuries?

MR. CORRIGAN. We did it by buying Treasuries through the primary dealers, yes. We didn't have to resort to some of the instruments that the Fed has been using in the last 15 to 18 months—and rightly so, by the way. But that was the model. And the model was used a couple of other times. In the past two years, it's been used—rightly so, I might add—in ways that none of us would've ever imagined. That was the prototype of the massive use of central bank liquidity to help stabilize a dire set of financial market conditions.

MR. SMALL. You brought up the comparison of today versus then. Was it just a pure liquidity crisis back? Interest rates on Treasuries were well above zero—you had plenty of room to buy Treasuries and lower interest rates.

MR. CORRIGAN. No, I wish it had been just that. But between that Monday afternoon and Tuesday, there were major credit issues throughout the system.

Let me give you the credit side of this, first of all. At the center of this was First Options of Chicago, which was a large clearinghouse for options. By Monday night, everyone knew that the First Options [clearinghouse] was in deep trouble. The incoming payments through the clearing system and the outgoing just didn't match. First Options, which was technically owned by the new Continental Illinois Bank, was probably bust. Market participants also suspected that the losses experienced on Monday by many of the specialists on the New York Stock Exchange were such that these firms were also in trouble. The market also knew that one or more of the major securities firms had acute liquidity problems. The specialists, First Options, the securities firms, and the big securities lenders—such as the major insurance companies—all were seen as question marks in creditworthiness.

So the problem that we faced, come Tuesday morning, was obvious. There was a big scramble for liquidity. Everybody wanted cash in those circumstances. That's just the way things are. That's human nature, and human nature produces peculiar results. In that environment, it was perfectly rational for creditors and others to say, "We're going to hoard cash." But, if everybody says they're going to hoard cash, you've got a problem. By the way, for most analysts, that was the common denominator of what the worst of the recent crisis was in September, October, and November 2008.

That Tuesday morning, the Fed decided to flood the market with liquidity primarily by means of large repurchase agreements where the collateral was government securities. What mattered to the Fed was, how much counterparty risk was the Fed itself willing to take? If the Fed put out cash for government securities with a haircut, the threat that the Federal Reserve could actually lose money—by the declining value of the Treasury securities that it had just taken onto its balance sheet—was *de minimis*. So the choice of the instrument is really a credit decision. You're buying instruments—Treasury securities—where their risk of loss to the Fed is *de minimis*, but you're providing the marketplace with gobs and gobs of good, old-fashioned cash.

So that Tuesday morning we started providing liquidity generously, and, on a few occasions, we also undertook actions, such as entering the market earlier than usual, to help assure the markets.⁷ Other central banks were acting in a similar fashion—in what was a virtually unprecedented exercise—in a truly extraordinary example of central bank intervention.

⁷ For a more detailed discussion of the Federal Reserve's response to the stock market crash of October 19, 1987, see Federal Reserve Bank of New York (1988), "Monetary Policy and Open Market Operations during 1987," FRBNY, *Quarterly Review*, Spring, pp. 41–58.

This approach to the crisis was the prototype for responses to future crises. Whether it was the stock market crash, the Bank of New York computer failure, or the Herstatt failure, it all comes back to the fact that extraordinary central bank intervention requires that central banks be well informed about the workings of the plumbing of the financial system.

Monetary Policy after the Stock Market Crash

MR. CORRIGAN. It wasn't long after that that things got dicey. The next event after the stock market crashed was a difficult call for the Fed as [to] when to tighten monetary policy. I can't tell you how scary that was. You had to have been there. By December, to the astonishment of most everybody, it appeared that not only had the stock market stabilized much faster than people thought it could have, but the economy itself hardly had a hiccup as a result of the stock market crash. This was really pretty remarkable. By December, and certainly into January, there was a lot of discussion about monetary policy again—now in the traditional sense of the word.

MR. SMALL. Taking back the easing?

MR. CORRIGAN. Well, we had already taken back most of the monetary easing. The larger question wasn't just about the speed of withdrawing all that liquidity, but whether the outlook for the economy and, ultimately, the outlook for inflation had become more worrisome. There was a lengthy discussion—but I don't think there were any votes here—of both the winding down of all the liquidity and the larger question of the economic outlook, the inflation outlook, and all the rest of it, which finally came to a head in FOMC discussions, certainly by February 1988.

I don't remember off the top of my head the exact way this played out, but I don't think there was any overt increase in interest rates for a while after that. I remember that I was one of

the ones who said that we had to go faster rather than slower in taking all the excess liquidity out, and we had to be prepared to increase interest rates at some point. It turned out—and people forget this—that during 1989, on a quarterly basis, the consumer price index peaked at about a 6 percent annual rate of increase. That was one of the toughest calls for monetary policy that I can recall. We snuck by a train wreck by a whisker.

MR. SMALL. In September 1987, the federal funds rate target was 7.25. By late March, it was already headed back up. The funds rate target was around 7.5 in June of 1988.

MR. CORRIGAN. When was the first increase in the federal funds rate after the stock market crashing?

MR. SMALL. Starting in late March. But by December of 1988, you're up to a target range of around 9 percent or more.

MR. CORRIGAN. Anyway, people forget how close we came to a major policy mistake in 1988, 1989. Even though we did tighten the funds rate and so on, the CPI inflation rate got up to about 6 percent, so we kind of squeaked by there.

MR. SMALL. This was not only a concern about a 6 percent inflation rate per se, but there was a question of whether you were going to squander the legacy of Paul Volcker?

MR. CORRIGAN. Exactly. Oh, yes, absolutely. I felt strongly about that at the time. I'm sure there are records of FOMC meetings from that time frame.

Greenspan, Treasury Secretary Brady, and the Bush Tax Increase

MR. CORRIGAN. We had a fairly short, shallow recession in 1990 and 1991. And during that time, a controversy developed between Nick Brady, who was Secretary of the Treasury, and Alan Greenspan. Brady was always an instinctive guy, and his instincts were good. He was a trader, and he had been very courageous as Secretary of the Treasury. He got

people to focus on the S&L problem. He got people to focus on a permanent solution for the LDC debt crisis, the Brady bonds. And he got President George Herbert Walker Bush to focus on a deficit that was, by those standards, getting out of bounds—you remember the Bush pledge about “no new taxes.” I don’t know the details of all of this, and I’m happy I don’t. Brady and Greenspan were good friends, but they spoke a different language. Alan was always—God love him for this—almost professorial and very detailed. Nick was an instinctive guy and didn’t speak the same language.

There was a big dispute because President Bush finally agreed not only to some serious actions on the budget, but he also agreed to what turned out to be the best example in recent years of a budget discipline, because he agreed to a package in the budget framework that included “pay as you go.” In other words, if you raise spending or reduce taxes, you had to finance it somewhere in the budget. That was a big breakthrough in those days. We could certainly use it today!

I don’t know where the truth lies here, but Brady has always maintained that Greenspan promised him that if Bush delivered on the budget, Greenspan would lower interest rates. And the rest is history. Both of them steadfastly stick to their guns on that question. Neither one of them talked to me, so I don’t know what happened.

Problems in the Financial System (1989–91)

MR. CORRIGAN. Then we got into the next banking crisis. We had a hell of a scare in the banking system starting in 1989, 1990, and 1991. We had most major banks, a handful of securities firms, and several major insurance companies that were all in dire straits. There was a series of acute asset quality problems across the financial system that were largely concentrated in the major banks and which came to a head roughly in 1991. They were a combination of—

today we call it “leveraged finance,” in those days it was called HLT (highly leveraged transactions). We had an unbelievable bubble in commercial real estate. We had the hangover of the Latin American debt crisis. And all of the major banks, a couple of the major investment banks, and a couple of major insurance companies were in very serious straits. Citibank’s share price at one point went down to \$7.00 or \$8.00 a share. Its credit spreads had blown out.

Among other things, I had to—with support from Alan—talk most of the big banks into voluntarily cutting or eliminating their dividends. In that time frame, the thought of “money center banks,” as they were called, cutting or eliminating dividends was unthinkable, but we orchestrated it. It came across in the marketplace as voluntary initiatives by the banks, but those voluntary initiatives were not exactly voluntary, I can tell you that!

Then there was Drexel, then we had the scandals with BCCI, and we had the scandal with BNL (Banca Nazionale del Lavoro), the Italian bank in Atlanta, Georgia. That period through 1992, which coincidentally was associated with Greenspan coming into the Fed, was a thrill a moment. As it turned out, it wasn’t as bad, thank God, as the last two years, but it’s also true that we were pretty aggressive about what was going on at the time as well.

Junk Bonds

MR. SMALL. Was one way of looking at the junk bond crisis to say—

MR. CORRIGAN. That was part of this whole thing.

MR. SMALL. —that was a new kind of crisis and was a harbinger of future crises, at least on the surface? The exotic derivatives, lack of transparency, and high leverage didn’t happen in a commercial bank. But was it at least an early, if not the first, example of this new type of financial crisis?

MR. CORRIGAN. Don't kid yourself. The innovators were Drexel, but it didn't take the commercial banks long to get into that business as well. By the time Drexel hit the soap, the commercial banks were quite active in the junk bond market as well.

MR. SMALL. What was the financial innovation?

MR. CORRIGAN. The financial innovation was to structure these bonds, which had no credit rating in the beginning, in such a way and at sufficiently high yields that there were large-scale buyers interested in a high yield and who would buy bonds that didn't even have credit ratings.

The conventional wisdom up until then was that there was no interest rate that would compensate investors sufficiently to buy a bond without a credit rating. In that sense, it was similar to one of the traits of the recent crisis, this whole "reach for yield" phenomenon, which is not unrelated to this very controversial point of whether the Fed kept interest rates too low for too long in 2004, 2005, and 2006. That was what prompted the latest version of reach-for-yield.

MR. SMALL. Hindsight is 20/20, but should the junk bond crisis have been a clear warning for the subprime crisis? Were there enough similarities there?

Leveraged Buyouts

MR. CORRIGAN. It's hard to say that. Let me use a better example: One of the triggers of the crisis in 1990, 1991 was leveraged buyouts—as I said, we had a different name for them then—that clearly was a big part of the problem. In that marketplace then, credit terms went out the window; covenants on bank loans went out the window. There were these great transactions. What was the name of the cookie company? It was RJR Nabisco. That was the poster child of that time period. People stood in line, fought with each other, brawled with each other about who was going to lead that transaction. I think it ended up at a \$27 billion purchase

price for Oreo Cookies, or whatever RJR Nabisco made at the time. A third-grader could have looked at the terms and conditions for those credit facilities and said, “You’re not going to get your money back here.” But people were brawling with each other to be the lead banks in that thing. You’re talking about instant replays—in 2006, 2007, what we now call leverage finance stuff, same thing. That’s a much closer parallel than junk bonds to subprime mortgages. We don’t learn!

Citibank

MR. CORRIGAN. When you look at what happened in the late 1980s and early 1990s, Citibank was in the front row then. Bill Taylor was at the FDIC. I think it was on the Wednesday before Thanksgiving in 1989. Bill Taylor and I sat down with John Reed, the head of Citibank. I told Reed that I had my third army next to me in the form of Bill Taylor. I told John Reed that I thought Citibank was heading for serious trouble.

MR. SMALL. This was before the merger with Travelers?

MR. CORRIGAN. Yes. I told him that the situation was alarming to me. I said to Reed, “You have a choice. You either raise \$5 billion of equity or I’m going to do it for you. Let me know what your decision is.” It was 1989.

MR. SMALL. How would you have raised that equity for him?

MR. CORRIGAN. I would have gotten him fired. That conversation actually happened. John Reed has made that story public, not me.

MR. SMALL. Then he went out and got the equity?

MR. CORRIGAN. Yes. He started with Prince Al-Waleed bin Talal, a Saudi prince.

MR. SMALL. Did you put a ton of restrictions on that raising of capital?

MR. CORRIGAN. About Prince Al-Waleed?

MR. SMALL. Yes.

MR. CORRIGAN. Oh, yes. Reed called me about a month later and said, "I thought you were wrong, but you were right. We have to do this." He said that Citi had the first billion and a half dollars from the Saudi prince. I called the guys in Washington and told them that, and these guys went berserk. I was told in no uncertain terms that I had to get over to Saudi Arabia to sit down with this prince and read him the riot act about what was going to happen. So I went to Saudi Arabia. I was met at the airport and driven off into the desert, literally. I didn't know where we were. I ended up in this tent out in the desert, with all the rugs and pillows, and the prince and I had a little heart-to-heart talk.

March 24, 2010 (Third Day of Interview)

The third day of the interview continued the discussion between Mr. Small and Mr. Corrigan regarding problems in the financial system.

Drexel

MR. CORRIGAN. Then we had to deal with Drexel (Drexel Burnham Lambert failed in February 1990). I hate to tell these stories because they sound self-serving to me, and I don't want them to sound self-serving. I had become concerned about Drexel as the financial correction and economic correction gained momentum. Every now and then, even though I was not the regulator, I talked to Fred Joseph in particular, who was the chief executive, and reminded him that he had to keep the ball on the fairway. I used those conversations to gain as much insight as I possibly could about what the company really looked like. I knew what the financial statement said, but I wanted to feel I knew something more. I had a couple of people at the Fed who were using the primary dealer hook to find out things.

As is often the case, there's a straw that breaks the camel's back. In this case, the straw was that because of the cumulative weight of the pressure on the financial system, which was pretty severe, Drexel began to run into liquidity problems. In response to those liquidity problems, Drexel upstreamed—I may not remember the exact numbers here—about \$200 million from the operating company—the broker-dealer—to the holding company to pay compensation. Sound familiar?

MR. SMALL. To compensate the employees or to counterparties?

MR. CORRIGAN. For in-house compensation—surprise, surprise. When word got out that Drexel had upstreamed the money from the operating company to the holding company—at this point, I'm not sure it came out that it was compensation related—the creditors got really

angry. Drexel was trying to raise fresh liquidity because it had been losing liquidity anyway, even without the \$200 million. On a Sunday afternoon, I got a call basically saying that I should get in touch with the banks and tell the banks that they should lend some money to Drexel to solve its liquidity problems. I said that I wasn't about to do that.

What mattered was that Drexel was in a position not wildly different from where Bear Stearns was in the second week of March 2008. The liquidity was going out the door, and I said I wasn't about to make those calls. As I remember, I didn't get around to talking to Greenspan about that until the next day either. I probably should have.

So the next day, this is Monday, I remember having a conversation with Greenspan. He was at the dentist, and they roused him—I think Catherine Mallardi was still his assistant then—at the dentist's office. And, as the day went on, things got worse. Because a number of us—including the SEC, to be fair—had been thinking about this case, we had to make a decision that Monday night about what we were going to do. Collectively, we came up with a Rube Goldberg, and the Rube Goldberg was—great lesson here—that if Drexel was willing to voluntarily put its nonregulated subsidiaries in the holding company into bankruptcy on Tuesday morning, we would say that the broker-dealer was adequately capitalized in order to buy a couple of weeks to engineer the orderly wind-down of the broker-dealer. Think about this again, in retrospect: “orderly wind-down.” Have you heard that phrase recently? This is the great political solution to too-big-to-fail—

MR. SMALL. Resolution authority?

MR. CORRIGAN. Yes. It's all about how to do an orderly wind-down of an important financial institution. Greenspan was terrific. He supported this the whole nine yards. The Drexel people weren't being terribly responsive. I figured we had until 7:30 in the morning on

Tuesday, then it's either fish or cut bait. I called Fred Joseph, and I used pretty strong language—lots of f's. I said, "You have until 7:30." Finally, they agreed to that. They put the holding company and the nonregulated subsidiaries into bankruptcy. The SEC and the Federal Reserve Board issued a press release—this was another 10-word statement—and on Tuesday said the broker-dealer was adequately capitalized. The combination of those actions gave us the breathing room to wind down the broker-dealer.

Current Regulatory Issues

MR. SMALL. Is it possible, in view of that resolution, that it turned out better than if the Fed had broad resolution authority for all systematically important institutions?

MR. CORRIGAN. It's not just the authority, it's how you use the authority that's so important. Right now, the political backlash from the crisis and the too-big-to-fail is that, if you have a big sick institution, you throw it into bankruptcy. You go home and say your rosary and hope it works out. That's not going to work in the future. If you want this doctrine of orderly resolution or orderly wind-down to work, you have to figure out a way to buy a limited amount of time. In the Drexel case, it took us about two and a half weeks. By today's standards, Drexel was a pipsqueak of an institution; it was a very simple institution by today's standards.

MR. SMALL. Isn't the point behind the broad resolution authority being proposed that that's exactly what it does?

MR. CORRIGAN. Well, no, it doesn't! That's the problem. We don't have it right yet, trust me. There is, in some political circles and some regulatory circles, a naiveté about how difficult it is to make this work.

MR. SMALL. So resolution authority isn't about just going in and declaring everything's on hold, everything's frozen, no one can get money in or out?

MR. CORRIGAN. No, it's not. It's much more complicated than that. If you put something in bankruptcy on a Monday morning or a Friday night at midnight or whenever, the minute you put it into bankruptcy, just to give you one example, almost every single counterparty has the right to close out their positions once that financial institution is in bankruptcy. That's absolute chaos.

So part of what I'm trying to convince these politicians—I've had extensive discussions with people in the government, people in the Federal Reserve—is that you have to buy a little time. One of the reasons you don't want to go into bankruptcy on day one is that you want to have the time to have an orderly wind-down of all those counterparty arrangements. Once you're in bankruptcy, all the underlying contractual documents—every place in the world says the same thing: Once it's in bankruptcy, the counterparty has the right to close out. That's not an orderly wind-down. That's one example, I could give.

MR. SMALL. I believe that George Schultz made the comment: "If they're too big to fail, make them smaller." Maybe that's a response.

MR. CORRIGAN. There are a number of suggestions along those lines. There is one large problem, though. If you make them smaller, and all of them are smaller, how are you going to finance governments? How are you going to finance global corporations? I don't see how you could do it. I don't know what the threshold is. Goldman Sachs has a balance sheet of \$850 billion. Citibank, Bank of America, and J.P. Morgan all have balance sheets close to \$2 trillion. So where is the line?

I think that there is an issue here, but one of the reasons we got out of the crisis as well as we have, relatively speaking, is that in the past 18 months, banks in the United States and elsewhere have successfully raised in excess of half a trillion dollars of fresh capital in the capital

markets. The way that was done was that private financial institutions had to step up as the underwriters for all this capital, and the underwriting risks in that environment for this stuff were absolutely enormous. Now, you're not going to get a couple of \$50 billion banks to be able to step up and go into the international capital markets and raise \$500 billion in equity. You just can't do it. They don't have the scale. They don't have the personnel. They don't have the expertise. They don't have the risk-management systems. It can't be done.

In retrospect, I think that you probably could make a case—pick your case—that the Fed should have gotten tougher earlier with Bank X and forced Bank X, much earlier, to either shrink its balance sheet, raise capital, or whatever. You'll get no argument from me on that. But the idea that you can live with a world in which there are no large integrated financial intermediaries, I think, is a fiction, even though I agree that they need to be regulated much more aggressively, they need to have more capital, they need to completely rethink the way they think about liquidity, et cetera, et cetera, et cetera. But I'm hard pressed to see what the world would look like if we didn't have some pretty large integrated financial institutions.

MR. SMALL. The Volcker rule says, "On this side of the line, where you have government protections such as deposit insurance and access to the discount window, you'll be regulated. On the other side of the line, you're free to take risk and play."

MR. CORRIGAN. Yes, Paul says that, but that is simply not correct. Paul and I talk about this all the time, and we disagree about some of it. The pupil can disagree with the master sometimes; it happens. It doesn't mean that I don't love the guy today as much as I ever have, but we do disagree on some of this. The reason why Paul's wrong is that, in this environment, that distinction will not be made, because if an institution is deemed—as will be the case under

the law—to be systemically important, then it's going to be subject to full-blown, consolidated supervision by the Fed and all the rest of it.

This is where this argument about banks and bank holding companies comes up—it has nothing to do with bank holding companies anymore. Take Goldman Sachs: Goldman Sachs would be deemed a systemically important financial institution whether it was a bank holding company or not—it just wouldn't matter. If you look at J.P. Morgan Chase, it books 75 to 80 percent of all of its activities in its bank. That's what I think really gets Volcker's goat, that this stuff is being done not in the holding company, but right in the bank.

MR. SMALL. The concept of the bank holding company as a structure to impose financial regulation—is it still relevant?

MR. CORRIGAN. Yes, I think it is. The reason for it is this: The bank holding company doctrine from day one was always based on the central hypothesis that the holding company should be the source of strength to the bank, not the other way around. Because the bank had insured deposits, et cetera, there should be limitations and restrictions on the activities that can take place between the bank and the holding company or between the bank and the nonbank affiliates of the holding company. This is the whole idea of preserving the sanctity of the bank as a legal entity.

MR. SMALL. Keeping the capital in the bank and the strength in the bank.

MR. CORRIGAN. Right. And I still think that's a valid concept. As I said, Volcker and I disagree on some of the details on the so-called Volcker rule, but we do not disagree at all on the central hypothesis: Are banks special? The answer is "yes." That's what the holding company structure does for you.

For as long as I can remember, it has been true that, although Japan has bank holding companies, Europe and the United Kingdom don't have bank holding companies—they have “universal banks.” That's the standard model across all of those jurisdictions. In those jurisdictions, in the universal bank model, there is no effort whatsoever to segregate activities into subsidiaries of a holding company as opposed to right in the bank. Everything is in the bank. That's not to say that they don't have branches or they don't have off-shore subsidiaries and things, but there is no effort at all to limit transactions between the bank and other parts of the company or anything else. It's a single entity.

The Europeans will argue, as they do, that “this has worked fine for us.” And it creates a great problem of regulatory arbitrage, because one of the problems, if we put the Volcker rule in place in the United States, is that there is no question that it would work to the competitive disadvantage of U.S. financial institutions. Barclays and Deutsche Bank and the rest would love it if we imposed the Volcker rule, because they know that their own governments aren't going to do a Volcker rule. It's unthinkable that the Germans would tell Deutsche Bank to follow a version of the Volcker rule. Come on, it's just not going to happen! It's not an incidental issue.

FOMC Governance

MR. SMALL. Could we turn back to the Fed and its governance? When you were the president of the Federal Reserve Bank of New York, you were the Vice Chairman of the FOMC. Is there an assumption that it would not be good if the Chairman and the Vice Chair of the FOMC disagreed?

MR. CORRIGAN. If I was helping to get policy where I thought it should be in the first place, I felt that was more effective. It was more responsible to the public image of the Federal Reserve as a collegial place where people work together and where you had the common interest.

In most of my days when I was president of the Federal Reserve Bank of New York, Volcker and I always met privately with Steve Axilrod during the coffee break during FOMC meetings. We had a little tête-à-tête about stuff while everybody else was out in the corridor drinking coffee, and there were a couple of occasions where I came really close to [a] dissent.

MR. SMALL. On monetary policy?

MR. CORRIGAN. Yes. Volcker knew that, and Committee members knew it, too. Finally I decided, in the interest of harmony, not to dissent, but there were at least two occasions where I was right on the razor's edge.

MR. SMALL. On this general issue of governance and the ability to work together, whether on the FOMC or on the Board, you've probably seen a lot of different pairs of Chairman and Vice Chair, some that worked better than others. How crucial is it that the Chairman and Vice Chair get along? How badly can things run off the track? There's a famous episode in 1986 involving Board members.

MR. CORRIGAN. The discount rate vote.

MR. SMALL. Yes. Are there political science and governance issues of how—

MR. CORRIGAN. Sure! I'm really old fashioned, so I'm probably the last guy in the world you should be talking to about some of this stuff.

MR. SMALL. The people there in 1986 were about your age!

MR. CORRIGAN. Yes. They were central bankers, but, to an extent, some of them were not as sensitive to the culture of central banking as were others.

Let me put it this way: The chemistry of the Committee as a whole was [as] important then as it is now. Part of that chemistry is a high level of collegiality. As a staff person and as a principal, first as president of the Minneapolis Fed and then as president of the New York Fed, I

attended a large number of FOMC meetings. I can never ever recall a situation where, in advance of an FOMC meeting, anybody would dare say to you, “What do you think we should do?” It just never happened. It was the unwritten code that the respect for each other, the respect for the process, and the respect for the collegiality was of such a high order of magnitude it was unthinkable that anybody would ever ask somebody else that question. I don’t know what it’s like these days, but certainly, in those days, that was the case. And, to me, that said something special about both the individuals and the process.

That’s one of the reasons why you think long and hard about using the dissent, especially as the FOMC Vice Chairman. To me, projecting harmony in the policymaking process was a high priority. But on a couple of occasions, when I was pretty darn close to dissenting, I suspect that everyone in the room knew where I was and why I was there. I didn’t have to draw pictures for them, and that, in and of itself, had an impact in its own right. Personalities are important, there’s no doubt about that.

There had been only a handful of Fed Chairmen in the post–Great Depression era. I have gotten to know five Fed Chairmen reasonably well, including Chairman Martin. On the whole, we and our country have been very fortunate to have people of such ability and character in that job.

MR. SMALL. Thank you.

Appendix: Are Banks Special?

Absent a satisfactory understanding of what it is—or was—that makes banks special in a functional sense, it is very difficult, with any degree of consistency, to answer questions about the separation of banking from other lines of business, the scope of banking powers, the ownership and control of banks, and banking structure more generally.⁸

This essay seeks to shed light on these issues by stepping back from current institutional, regulatory, and legal arrangements and attempting to identify the essential functions of banks.

The essay suggests that banks perform three essential functions: (1) they issue transaction accounts (i.e., they hold liabilities that are payable on demand at par and that are readily transferable to third parties); (2) they are the backup source of liquidity to all other institutions, financial and nonfinancial; and (3) they are the transmission belt for monetary policy.

On close inspection, it becomes evident that these essential functions are highly interdependent and that banks' ability to perform such functions dictates the need for a high degree of public confidence in the overall financial condition of banks—and especially the quality of banks' assets.

This dictate has been reinforced by a public safety net—deposit insurance and access to the lender of last resort—which is uniquely available to “banks.” The presence of that public safety net implies unique public responsibilities on the part of banks and would further seem to imply that if we are no longer willing or able to segregate essential banking functions into an identifiable class of institutions, then the public safety net should be made universally available to any institution that provides a banking function, or it should be eliminated altogether.

⁸ Note: The material in this appendix is the summary in the article “Are Banks Special?” by E. Gerald Corrigan (1983), Federal Reserve Bank of Minneapolis, *1982 Annual Report*.

Against this background, the essay goes on to suggest a definition of a bank. The definition is deceptively simple: A bank is any institution that is eligible to issue transaction accounts. If an institution meets this definition, it would (1) be eligible for government deposit insurance; (2) have direct access to the discount window; (3) be subject to reserve requirements; and (4) have direct access to Federal Reserve payment services, particularly the wire transfer system.

Four important implications emerge from the essay's analysis of essential bank functions and the associated definition of a bank.

First, if preserving essential bank functions really does matter, it follows that banks must be competitively viable.

Second, there is room for broader bank powers. The expansion of those powers must, however, take place within a context that guards against excessive risk-taking by banks and insures the impartiality of the credit decision making process.

Third, once agreement has been reached on appropriate banking powers, questions about bank ownership and control become easier to answer. Certainly logic would suggest that particular powers be vested in banks only to the extent that there is a willingness to permit another institution engaging in those same activities to own banks. By the same token, nonbanking organizations would be permitted to own banks only insofar as their activities match permitted banking activities. And if they own a bank, they would become a bank holding company.

Fourth, while there is a powerful case for placing some subsidiary banking activities into affiliates of bank holding companies on the grounds of segregating capital and providing greater

protection against self-dealing, the bank holding company is not a substitute for prudent management nor is it a fail-safe device for containing risk.