

# Federal Reserve Board Oral History Project

Interview with

**Susan M. Phillips**

Former Member, Board of Governors of the Federal Reserve System

Date: June 30, 2011

Location: Washington, D.C.

Interviewers: David H. Small, Alice Patricia White, and Patrick M. Parkinson

## 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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MR. SMALL. Today is June 30, 2011. I am David H. Small from the FOMC (Federal Open Market Committee) Secretariat in the Federal Reserve Board's Division of Monetary Affairs. As part of the Board's Oral History Project, we are interviewing Susan Phillips, who was a Governor from December 2, 1991, to June 30, 1998. I am joined by Pat White, recently retired from the Division of Research and Statistics, and Pat Parkinson, the director of the Division of Banking Supervision and Regulation [BS&R]. They worked closely with Susan Phillips on derivative issues.

Thank you very much for being here. It's wonderful to have you back.

MS. PHILLIPS. My pleasure.

### **Educational and Professional Background**

MR. SMALL. Let's start with some background on your years prior to coming to the Fed: your educational experience, your professional experience, and how that led you to have certain human capital or expertise [on] Day 1 at the Board.

MS. PHILLIPS. I went to undergraduate school and graduated in mathematics and chemistry, of all things, and went to work for John Hancock in Boston for a couple [of] years. Then I went to graduate school at LSU (Louisiana State University) and started out in statistics. While I was there, I became interested in finance and economics. I ended up staying to get my Ph.D., and I stayed to teach one year there. My first real teaching job was at the University of Iowa. I taught finance in Iowa for several years. I took two leaves of absence from Iowa to take appointments in Washington. The first one was from 1976 to 1978. I was a Brookings Economic Policy Fellow for one year, and then I was an SEC (Securities and Exchange Commission) fellow the second year. I was assigned to work at the SEC. I mostly worked on equity options, market structure, and national market system questions. I went back to Iowa to

teach, then was asked to join the Commodity Futures Trading Commission (CFTC). I joined the CFTC in 1981 as a commissioner, and then I became chairman. During my second term at the CFTC, I went back to Iowa as finance vice president and professor of finance. So I was both in administration and teaching at the University of Iowa, all still related to finance. After I was back at Iowa as finance VP for four years, I joined the Federal Reserve Board in 1991.

### **Commodity Futures Trading Commission**

MR. SMALL. So, during your career, you saw a huge development in the financial derivatives industry—the Chicago Mercantile Exchange, the opening and expansion of several exchanges.

MS. PHILLIPS. Yes. When I started at the CFTC, over 50 percent of the volume was still agricultural, but by the time I left, that had shifted considerably. Financial futures were just taking off, and it was the research I had done in equity options that, I guess, got me to the top of the list for the CFTC.

MR. SMALL. What issues were at the forefront at the CFTC?

MS. PHILLIPS. Well, financial futures had started. They had the Ginnie Mae contract, currency futures, and they had started trading Treasuries, both bills and bonds, but they were not trading stock index contracts. The first contract that I voted on when I went to the CFTC was sunflower seeds for Minneapolis. The second contract that I voted on was the Value Line index for the Kansas City Board of Trade. Right after that, there was a whole ream of financial products. So a lot of the issues that arose related to the introduction of a new set of players to futures markets, which involved all of the bond traders, the equity traders, the pension funds, and financial institutions. Also during that time, currency futures were then under the CFTC, but

there were certain over-the-counter contracts that were exempted. So issues that came up certainly involved the definition and growth of the markets.

We also created a new self-regulatory organization while I was there: The NFA (National Futures Association) came into existence. Separately, there were always allegations, depending on what was going on in various markets, of manipulation in the futures markets. We conducted research on the cattle market, the soybean market, and frozen concentrated orange juice during my tenure. Different markets would have flare-ups periodically.

There had been many problems with the trading of over-the-counter commodity options in the United States. The Congress had banned them completely when the CFTC was formed. While I was at the CFTC, I worked on lifting the ban. We started a pilot project in commodity options with U.S. exchanges, and then some of the foreign exchanges were able to offer their products in the United States.

So it was certainly a growth period for the markets. Also during this time, oil was being deregulated. There were no oil futures trading when I started except soybean oil. Prices of oil were controlled by the government, and when they lifted the price restrictions in various kinds of oil, futures contracts were developed so that companies would be able to manage oil-price risk.

MS. WHITE. What were your earliest experiences of the tensions between the CFTC and the SEC over whether products belonged in one regulatory bucket or another?

MS. PHILLIPS. The SEC thought that it should have jurisdiction over any futures contracts having an underlying security. Somehow the SEC had missed the Ginnie Mae contract, which set a precedent for CFTC jurisdiction. Although the SEC wanted to take over securities-related futures market jurisdiction, futures markets trade so very differently from the way stocks or bonds trade.

Shortly after I got to the CFTC, an agreement was reached between the CFTC and the SEC, called the Shad–Johnson Accord. It specified that the CFTC could have jurisdiction over futures and options on broad-based indexes but not narrow-based indexes or futures on individual stocks. The SEC’s concern was that, if you get too narrow-based an index, it trades just like the individual security, and the SEC would lose control or jurisdiction over the security trading. Specifically, the SEC was concerned there could be insider trading that could go on outside of its jurisdiction.

The Shad–Johnson Accord held for a while, but the exchanges kept wanting to do more and more narrow-based indexes. During the time that I was chairman, we felt we didn’t have a basis to turn down some of the indexes that were pretty broadly based, so we went ahead and started approving futures on those indexes. There was a provision within the Shad–Johnson Accord that the SEC could come over and testify before the CFTC about its objections. If the CFTC still went ahead and approved the contract and the SEC still was concerned about that contract, the SEC could sue the CFTC—that is, take it to court. We got to the point where we were close to being on the courthouse steps with one of the contracts. I thought it was ridiculous to have one federal agency suing another federal agency. So I called John Shad, who was the SEC chairman (1981–87). He and I got together and did another accord, which described how broadly based a broad-based index had to be. This would allow us to approve contracts on some of the more broad-based indexes, but the narrow-based indexes were not going to pass muster, and some of the exchanges got pretty annoyed about that compromise.

There were areas of contention between the SEC and the CFTC, but when things got to the precipice, I guess, we found a way to get things worked out. Our relations were not great, but they were not terrible. The CFTC was used to working with other government agencies for

underlying commodities such as Treasury, Energy, or Agriculture. Quite frankly, on a day-to-day basis, for the CFTC, our big problems were agricultural products and the problems of delivery. That's when you're going to have the opportunity for manipulation.

MR. SMALL. Aside from the turf war between the SEC and the CFTC, were there substantive public policy issues related to capital or margins or disclosures that relate to financial stability and market function?

MS. PHILLIPS. Well, securities and futures trade somewhat differently, and their margining systems are quite different. If you're on the securities side, you'd like to have some of the attributes of the Commodity Exchange Act, and if you're on the CFTC side, you might like to have some of the powers granted to the SEC.<sup>1</sup> So, yes, there were turf issues, and margining was one of the major areas. I don't remember capital being quite as much of a problem, although the requirements of the SEC and the CFTC were different. The way the margining system works [is], you settle every day in futures markets, and so you have money on hand to meet customer obligations, whereas on the securities side, there's more leverage involved in individual security trading. The securities people would have liked to have been able to have a margining system more like futures.

So, yes, there were substantive issues, and there were a number of times that the CFTC and the SEC put together joint recommendations to the Congress to address some of these issues. In addition, we did joint studies together. In fact, we did a joint study on margining that also involved the Federal Reserve, because the Fed had oversight of security margins.

MR. PARKINSON. After the 1987 crash, there were jurisdictional disputes between the CFTC and the SEC. The congressional securities committees were supportive of the SEC, and

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<sup>1</sup> The Commodity Exchange Act provides for federal regulation of transactions in commodity futures and options on commodity futures and requires these futures and options to be traded on organized exchanges.

the agriculture committee was supportive of the CFTC. There was an agreement that you needed to have consistent margins across the various stock products, stock indices, but the Congress resolved the disagreement about who would have the jurisdiction of setting the levels of margins by giving the authority for levels of margins on stock index futures to the Fed and then giving the Fed the authority to delegate that authority to the CFTC, which it promptly did.

MS. PHILLIPS. That was one of the first issues I faced when I joined the Federal Reserve Board.

MR. PARKINSON. Right. The issue was whether to delegate, which the Fed did. Then the Fed would get involved every time there was another periodic dispute about margins. Every time a new product would come along, whether it was single-stock futures or whatever, the Congress tended to resolve the CFTC–SEC jurisdictional dispute by giving the Fed the authority and, again, turning to the Fed’s authority to delegate that responsibility.

### **Derivatives Issues at the Fed**

MS. PHILLIPS. When I first came to the Fed, I was assigned to work with the research units, so I chaired the Board’s Committee on Research and Statistics, and the issue of the CFTC’s reauthorization came up. When the margin question came up about stock index margins coming to us, I said, “What other policy issues is the Fed going to be facing in the area of derivatives?”

At that point, the staff put together a 15-page document identifying various issues, and I think Mike Prell would have gotten you involved. There were a whole range of issues that touched on CFTC jurisdiction. I shared that memo with the full Board. Then Alan Greenspan and Mike Kelly got together and decided that the Fed needed to get prepared to face more derivatives issues. So they set up the derivatives committee in 1992 and asked me to chair it.

We pulled staff from six divisions—from all over the Board. You were the coordinator of that group.

MR. PARKINSON. I was technically the secretary.

MS. PHILLIPS. You were the secretary, yes. I would have given you a better title, Pat, but that was what you wanted. [Laughter] We operated that committee almost in an academic way. Governor Larry Lindsey and the Vice Chairman, David Mullins, were on the committee initially. We prepared papers on various issues. Part of our challenge had to do with building some research capability within the Board to address some of these policy issues that were foreseen by the staff memorandum.

The Board's Committee on Derivative Instruments was an ad hoc committee; it wasn't a permanent Board committee. I reported back periodically to the full Board. John LaWare was busy with BS&R issues because he was implementing FDICIA (Federal Deposit Insurance Corporation Improvement Act of 1991) and FIRREA (Financial Institutions Reform, Recovery, and Enforcement Act of 1989). He didn't have time to deal with some of the futures issues. So we split what needed to be done, and the derivatives committee worked on a lot of issues. We were in existence, I think, for about three years.

MR. PARKINSON. Right. The derivatives committee was one of the first that wasn't overseeing a particular division like you mentioned, either the research division or BS&R, but was overseeing staff from half a dozen derivative divisions. They were working on various derivatives issues.

MS. PHILLIPS. Yes, there were six divisions. The issues included payments and settlements. And there were legal issues handled by Ollie Ireland from the Board's Legal Division.

MR. PARKINSON. Larry Promisel was involved on international issues. The Euro-Currency Standing Committee [of the Bank for International Settlements] was sponsoring work on the implications of derivatives for what we today would call financial stability, although I don't think we used those words at the time. So it was providing oversight to that market as well.

MS. PHILLIPS. When we started, we weren't calling contracts derivatives; we were calling them futures, options, or swaps. As time went on, new contractual varieties were developing, and so the Committee's work morphed into a more generic term, "derivative."

There were lots of Pat White's papers, but also other white papers were written on different policy issues to develop some understanding and to do some good research in this area in preparation for related bank supervision of derivatives. I thoroughly enjoyed that period of time. After a point, we accomplished what we had set out to do: We had created more research interest and awareness of derivatives issues within the full Board and more expertise within the Board and its staff. Derivatives became seen as an area in which to do research.

MR. SMALL. Were there any financial crises in which a clearinghouse was threatening to go under?

MS. PHILLIPS. There was an instance when I was at the CFTC. A metals firm went under, and it was threatening the Comex clearinghouse. To be a member of an exchange clearinghouse, you pretty much had to pledge all your capital. So an exchange clearinghouse was good to the last drop of the capital of every member of the clearinghouse. There was enough financial backing that the demise of the one clearinghouse member didn't cause a problem. I called Paul Volcker, who was then the Fed Chairman. I didn't talk to him, but I talked to his assistant and gave him a detailed message: The firm was Volume Investors. At the

time, we were not expecting the clearinghouse to go under—there was not going to be a problem, it was going to settle out, and we were moving the customer positions. That's the procedure for commodities firms; the customer positions are moved to another firm, and then the equity partners in the firm would have to deal with the trading offices and personnel.

MR. SMALL. So they [are] organized like partnerships?

MS. PHILLIPS. A lot of them were. Some were corporations. This happened to be a smaller firm, but it sounds like a lot of money when you're dealing in futures contracts, because the nominal values are so big. In the United States, that's been the only one. I think there was a clearinghouse in New Zealand that failed.

MS. WHITE. The one I was thinking of that I believe happened during your tenure at the Board was the Barings incident.

MR. PARKINSON. It was in 1995, wasn't it, in Singapore?

MS. WHITE. Rogue trading at Barings created questions about the solvency of the Singapore exchange. It wasn't a U.S. issue except in the global sense.

MS. PHILLIPS. When I was at the CFTC, the other one that got into real trouble was the London Metals Exchange on the trading of tin. There was a mysterious "M" who was allegedly trying to corner the market in tin, and it was close to bringing that exchange down. But all the partners got together and pitched in, and it did not go under. In the United States, we've never even gotten as close as the tin one did or as the Baring's situation did. This was a major point of pride in the futures industry.

**Vice President Bush Task Group on the Regulation of Financial Services**

MR. SMALL. Prior to coming to the Board, you also worked on the Bush task force on the regulation of financial services.<sup>2</sup>

MS. PHILLIPS. Yes. That was when I was at the CFTC.

MR. SMALL. Did you think it was natural that the CFTC should be on the task force?

MS. PHILLIPS. Well, the way they framed the task force involved the heads of all financial regulatory agencies, so I was there, as well as the SEC, all the bank regulators, and other Executive Branch people from Treasury and the CEA (Council of Economic Advisers). It was then—Vice President Bush who chaired the task force. Richard Breeden was the lead staff person. He worked for Bush. It was Bush, Boyden Gray, and Richard leading and organizing the agenda.

Richard came over and talked with me individually before we started into this process. I asked him about the goals of the task force. All he talked about was bank regulation. We were coming out of the S&L [savings and loan] crisis. There were separate deposit insurance funds for the S&Ls and the banks. One goal was to merge the funds. They wanted to get more capital adequacy built into, particularly, the S&L structure. The goals all were related to banking. And I said to him, “Well, Richard, if you really want to focus on bank regulation, and if that’s your goal out of this”—they called it a Blue Ribbon Task Force—“then you probably don’t want to get into futures issues, because futures markets have completely different sets of issues, and they come under a different committee on the Hill. You could get yourself tied up in futures if you try to do both futures and banking. The futures industry is very active on the Hill lobbying, and

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<sup>2</sup> The Bush Task Group on the Regulation of Financial Services was formed to make recommendations to simplify the regulatory structures of the financial services industry. The task force consisted of the heads of the federal regulatory agencies, the Attorney General, the director of OMB, and others.

you will get diverted from your main task.” And I said, “Obviously, we are part of the overall financial system, but a small part of it, and our issues are somewhat separate.” He seemed to take that to heart.

We were all asked to come up with some recommendations on various things we could do. I sent in my recommendations just like everybody. One thing that was different about the CFTC is, we were a “sunset” agency. Because we came up for reauthorization every so many years, we had a regular way to get changes to the Commodity Exchange Act. I hadn’t thought about it, but it takes special legislation on the banking side. So I think once Richard looked into the politics of what committees the task force was going to have to go before, the recommendations that came out of the task force focused on banking. They didn’t focus on futures-related issues, because we could keep those separate, and then the task force wouldn’t have to get tangled up with either SEC–CFTC issues or agriculture issues. If you get the farm lobby up in arms about something, they have a lot of time in the winter, once their crops are in [laughter], to come and lobby.

I was very much a part of the task force. We worked on everything. We met periodically. We would have discussions, and then the staff would draft things in between. The final proposal was drafted, and Richard came by to talk with me about it. I said, “Yes, I can support this.” There was nothing that was going to affect the CFTC, so Richard Breeden knew he had a vote from me. My guess is that he did the same thing with everybody else. He went and visited them. But he may not have, I don’t know.

We went for the final vote. It was in the wintertime. We met at the Vice President’s house. We were sitting around the dining room table—ironically, given by former Vice President Nelson Rockefeller—out at the Observatory. I have a picture of this, because this was

supposed to be the grand signing of the final set of recommendations. There was a Christmas tree, and the photographer was there. The vote, or poll, came in, and it was 11–1. Paul Volcker was against the proposal that had been developed and drafted. The Vice President was fit to be tied; he was furious. He disbanded the meeting, and they went back and rewrote the recommendations so that they did not affect the banking supervision authority of the Fed.

The Administration and task force participants knew that they could not get it approved on the Hill unless they had the Fed on board. So I got a different perspective of the Fed during that period. [Laughter] I was on the committee, but I was not a major contributor to the final product, because it just didn't cover futures.

MR. SMALL. You didn't gain a sense of what it was like to go up against the Fed staff and wrangle for months over time on issues?

MS. PHILLIPS. No. But at one point, the CFTC participated in a study involving the Fed. This precedes all the stock index futures debate. We did a study of margining. It was a joint study between the SEC, the CFTC, and the Fed. At that time, the CFTC had no authority over any margins, the Fed had authority over stock margins, and the SEC didn't have any authority, but there was concern with these new instruments coming about appropriate design of margins. The results of the study were that margins were not an effective economic tool, and there were many ways to circumvent margin requirements—that is, other sources of leverage. You didn't have to just borrow from your broker; you could borrow with your house as collateral to buy stocks. That was the basic result of that study.

Separately, I had worked with the Fed staff on other things. Because of Treasury issues, often we would bump up against either Treasury staff or Fed staff. There was definitely a lot of communication. The Bush task force on the regulation of financial services wasn't the first time

I had worked with Fed and Treasury staff. I was really surprised at the interest in bank regulatory reform. I thought when Richard came to visit me that the Fed had decided that it would be willing to live with a change in its jurisdiction, that there were enough problems in the system that it needed some fundamental change, but apparently differences in views remained.

### **Difference in Governance Structure of the CFTC and the Fed**

MR. SMALL. Please explain the governance structure of the CFTC.

MS. PHILLIPS. At the CFTC—and at most of the other regulatory agencies—the chairman is the administrative officer for the agency. The other commissioners vote on policy issues, but they don't have responsibility for any of the staff or the direction of research. If you were a commissioner at one of those agencies, at least at the time I was there, you had one legal assistant. For me, that was Mary Schapiro. And I had a secretary or administrative assistant. That was all the staff I had as a commissioner. The full commission votes on policy issues and directives, but then it's up to the chairman to see that they're carried out. All of the staff report directly to the chairman of the CFTC.

MR. SMALL. It sounds very powerful, in the sense of which issues are studied and which are not.

MS. PHILLIPS. Yes. The chairman is really quite powerful at those agencies. The chairman sets the agenda. But, bear in mind, commissioners vote just like any other agency. Different chairmen run those agencies differently. Some are more heavy handed than others. Some communicate more with their fellow commissioners than others. I gave some assignments to individual commissioners. For example, I created some advisory committees and asked commissioners to run the advisory committees. Those committees would focus on certain areas and develop recommendations on how we needed to revise regulations, contracts, procedures,

et cetera. I think I had a fairly collegial group while I was at the CFTC, but not all chairmen have operated that way. I think some commissioners believe that issues they feel strongly about don't get the attention they should.

MS. WHITE. Could you contrast how things work at the CFTC, where the individual commissioners represent particular party affiliations and there are specific allocations of positions, versus the Fed, where people might be political when they come in, but there isn't that explicit designation that you are the Democratic or the Republican seat, so to speak?

MS. PHILLIPS. Both the CFTC and the SEC have a requirement that there can be no more than three commissioners from one political party, so you always have a balance. The CFTC has five-year terms, with one seat coming open every year. The chairman is named [from] among the five commissioners as the head of the agency. So under normal circumstances, if the Republicans were in power, for example, you'd have three Republicans and two Democrats. Or if one is an independent, you could have two Republicans and two Democrats.

There's much more emphasis on the independence of the Fed. The regulatory agencies are seen as independent, but they do have to get their funding from the Congress. The Fed has independence in a number of ways. There is not as much focus on the political party of the Governors. There are seven Governors. If, for example, there has been a Republican Administration for a while, as you can imagine, when replacements were made, often they were Republicans, but that is not always the case.

There's more cross-fertilization and consistency of viewpoints across the Federal Reserve Board, partially because the emphasis and issues considered relate to economics and markets. There is often a commonality of educational background among Governors, whereas, for

example, at the CFTC, we had a wide range of backgrounds of the five people who were on the CFTC. In addition to budget independence, there are other sources of independence of the Fed. No more than one Federal Reserve Governor can come from any District. That forces geographical diversification on the Board of Governors. And then, for the FOMC, you have the 12 Reserve Bank presidents, and there's no constraint there on their political party. I couldn't tell you the political party of any Bank president when I was here.

MR. SMALL. Do you think the Reserve Bank presidents and each of the Reserve Banks' board of directors give the Fed its own constituency?

MS. PHILLIPS. Absolutely. Not only its own constituency, but its own information network. And, believe me, those members of the Reserve Banks' boards of directors are a natural connection to the banking community and to the industrial base of the region. So it's a natural constituency, but also it's a natural source of information for the Fed to feed into its huge information processing system.

MR. SMALL. Do you think that's a feature whose time has come and gone?

MS. PHILLIPS. I don't think so, but, obviously, information is more easily accessible these days.

MR. SMALL. Does it give the Fed political cover that the Fed can call on its directors at Reserve Banks to—

MS. PHILLIPS. Gosh, I never felt that. [Laughter] For example, during my tenure on the Board, there was a lot of concern that the Fed didn't have to go to the Congress for its budget. We were very cognizant in setting the budget as to what else was going on in the government. If you look at the budget of the Fed over the years, it doesn't vary much from what is budgeted for the rest of the government. We felt that responsible administration of the Board

would keep some of the political interests at bay. But Representative Gonzalez, who was in charge of the House Banking Committee at the time, hauled the whole FOMC up to testify one day. I think two of the Reserve Bank presidents had to get permission to be absent, because they couldn't be there that day, but otherwise, I think there were 15 of us lined up to testify.<sup>3</sup> The Federal Reserve was created by an act of Congress, and it can be changed by an act of Congress. So I think we were always cognizant of the responsibility to report to the Congress. When I was here, the FOMC started releasing the full transcription of FOMC meetings with a five-year lag. The transcripts were redacted to take out particular countries or companies. We also started issuing press releases after FOMC meetings to announce and clarify the decision of the Committee. The markets no longer had to guess what the FOMC decided.

MR. SMALL. Did it come as a surprise to you when you heard that, in fact, the meetings had been recorded for years?

MS. PHILLIPS. I was surprised. I did not know that they were being recorded.

### **Nomination to the Board**

MR. SMALL. What was the Board nomination process like?

MS. PHILLIPS. I was first considered when Martha Seger was appointed. She was from Michigan, which is in the same Federal Reserve District as Iowa. At the time, I was at the CFTC, and I had just been reappointed for a second term as chairman of the CFTC.

My congressman was Jim Leach, who is very involved in banking affairs. Unbeknownst to me, he floated my name to come to the Fed. Paul Volcker was the Fed Chairman at the time, and Leach floated his proposal in a public hearing. Then I guess he thought he better tell me

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<sup>3</sup> Editor's note: *The Federal Reserve Accountability Act of 1993, Hearing before the Committee on Banking Finance and Urban Affairs, House of Representatives, Oct. 19, 1993, H.R. 28, 103 Cong. (Washington: Government Printing Office).*

about this, so he called me. I was up on the Hill getting ready for some CFTC hearings the next day. My assistant tracked me down and got me to call Mr. Leach back. He said, "Susan, I guess I'd better tell you what I've done." He told me that he had floated my name, and something might come of it. I thought, "Oh my goodness." I was worried that it was going to get out the next day and I was going to hear about it in the agriculture committee meetings. It didn't come up the next day; however, I did get a call from Paul Volcker, and I recall coming to meet with him. The White House told me that they didn't want to nominate me for the Federal Reserve Board because, as they told me, it was harder to find a chairman of the CFTC than it was a member of the Board of Governors of the Federal Reserve. [Laughter] They wanted me to stay at the CFTC, so they didn't nominate me. That was when Martha Seger was appointed, and I went back to Iowa.

When Martha Seger stepped down, my name surfaced again. I was a known entity in some circles, but not the broad range of circles in economics and banking. I suspect the bankers couldn't imagine where this person was coming from. At that time, Nick Brady, who was the Treasury Secretary, was doing the vetting for economic appointments on behalf of the White House. Every Administration does it differently. When I was going through the CFTC nomination processes, I dealt with the Reagan White House, but when I was going through under President Bush for the Fed, Nick Brady was the contact for the financial appointments. I will say, I thought that I wouldn't be nominated, because Mr. Brady had led a study of futures markets after the 1987 stock market crash, called the Brady Report, in which futures markets were accorded some blame for the crash. So I was very surprised when I went and had an interview with Secretary Brady. He was very gracious, and he told me that he thought I'd make a great appointment to the Federal Reserve Board. At that time, I was finance vice president at

the University of Iowa. He said, "It's important to have the academic credentials, because you're going to have to rub elbows with a lot of economists over there." Further, he said, "You've got the credentials, you've hired and fired people, and you've met a budget before." So he thought I had more practical experience than a lot of other academic macroeconomists.

MR. SMALL. Did he or Alan Greenspan want to know your views on monetary policy?

MS. PHILLIPS. No, he didn't ask my views. David Mullins had worked with him, and David had just been appointed the Fed's Vice Chairman. David knew of me from my futures days. David and Bob Glauber had both worked with him on the Brady Report. They both knew of me and the research I had done and saw me as a financial academic. So my guess is that they probably supported my nomination. But there were no litmus tests.

I heard from Alan Greenspan, but I didn't know him. He called me and asked if I would send him some of my writings. I said, "I'm happy to do that, but it's futures market stuff. It doesn't have anything to do with monetary policy." I thought, "What does he care about futures margins or stock index contracts?" [Laughter] And a lot of my writing had been in the pension area. I said, "I'm happy to send it to you, but it's not going to help you much." And I said, "I'm a financial market person. I'm not a macroeconomist. I got a minor in economics when I was in graduate school, but I'm not a known macro person." I did not send him any material but did go to meet with him the next time I was in Washington.

Another undersecretary that I interviewed with over at Treasury told me, "You have footprints around town, so we can find out about you." [Laughter] In certain quarters I was known, and I'm sure if they'd gone up and talked to people at the agriculture committee or the staff there, they would have gotten a rundown on me. But there were no litmus tests. I was very

busy back at the University of Iowa while most of this vetting was going on, and I wasn't too involved in it.

Then I got kind of caught up in Larry Lindsey's problems. Larry had been nominated well before my name even was floated. He had had his hearing and had cleared the Senate committee, but there was a hold on his nomination, and he hadn't gone to the floor for a vote. So I figured that nothing was going to happen until Larry Lindsey's nomination went through. My first conversations with the Treasury and the White House were in, I guess, April or May. Then all the summer went by, and I heard nothing from anybody. I thought maybe the whole thing had fallen apart. As the summer wore on, the White House contacted me and told me that they had not wanted to send up my nomination for fear I would get caught up in Larry's problems. I thought that made sense, but when it came fall and there didn't seem to be much movement, I told them, "Look, if you're going to do it, go ahead and send it up. I don't want to come as a recess appointment. I'll take my chances and let the chips fall where they may." So they went ahead and sent my name up.

Once my name went up, I got a call from the Fed staff wanting me to come to Washington for a week of briefings at the Fed. So I came in October. Don Winn met me the first morning. He was pacing up and down, and he said, "Susan, there's good news and there's bad news." I said, "What's the good news?" He said, "Your hearings have been scheduled." I said, "What's the bad news?" He said, "They're this Friday." [Laughter] So all of a sudden my briefings got very intense, because I hadn't done much preparation before that.

My former CFTC legal assistant, Mary Schapiro, was then at the SEC. As an SEC commissioner, she was a policy person. The summer before my nomination, she did some research on the Fed and sent a box of stuff for me to read. Nobody else had sent me anything. I

had nothing except what I'd read in the newspaper. The material Mary sent included *Secrets of the Temple*, that kind of thing. [Laughter] I leafed through Mary's materials, and then, all of a sudden, I had to start studying pretty hard.

My hearing came up on that Friday. I was on a panel with two people who were being considered for the Council of Economic Advisers. They were delighted that I was there because I was getting all of the questions; they weren't getting as many questions. It went reasonably well. Then I got on an airplane that night to head back to Iowa [laughter], because I had a full-time job that I was dealing with. Nothing much happened.

The next Friday, just a week later, I got a call from Don Winn, who said, "The committee has some follow-up questions that they want you to answer by Monday. We're going to fax them to you." There was no email at that time. At the hearings they had asked me all kinds of questions about how I was involved in Iowa and the region's economy. As finance vice president at a major state research university, I had gotten involved in the economic development of the state. I had met with the governor and his staff to relate how the kind of research going on at the university can support and develop industry in the state. And I had been on some corporate boards by this time, so I could point to that as my involvement in the state's economy. All of this demonstrated how I was involved in the economic development of my region. One or more members of the Senate Banking Committee contrasted my activities to those of another nominee who was being considered for the Fed from the state of Virginia who had no economic relationship to Virginia.

MR. SMALL. That was Larry's problem.

MS. PHILLIPS. That was ostensibly why he was being held up. I think it was more political, but they were saying that he really wasn't from Virginia, he was really from Massachusetts, and the Board already had somebody from Massachusetts.

In any case, my hearing seemed to go pretty well, at least from what I could tell, and then that Friday they sent me this list of questions. Oh, before I left the hearings, Senator Riegle told me he wanted me to do an analysis of the auto industry and the economic outlook for the auto industry. Well, I will admit, I didn't know much about that industry except for what I had read in the newspapers. I called Bill Miller, whom I knew from the CFTC. He was in charge of investments for the pension fund for General Motors. He knew I was being considered for the Fed. When I called him up, I explained that this question had been asked. I said, "Can you send me any information?" He said, "I'll do better than that," and he set me up to talk with the chief economist of each of the Big Three. So during that week I talked to the chief economists of the Big Three auto companies. They told me enough so that I could write a good complete answer. I was planning to write that up over the weekend, along with these other questions that were coming in Friday.

Well, that Friday afternoon all hell broke loose at the University of Iowa. A graduate student shot six people and then shot himself. It was a nightmare. The university president and the academic vice president were out of town. I was the top-ranking official left in town, along with the communications vice president. In short, I had to oversee dealing with this issue Friday night.

I got on the phone to get the president back on a plane to Iowa City. He was in Columbus, because Iowa was playing Ohio State in football the next day. He got back sometime during the night, and I met with him Saturday morning. You just can't imagine all the decisions

that have to be dealt with immediately. I stayed on campus late Friday night. I went in Saturday morning to meet with the president to turn over the gavel to him so he could take charge of things, because there were families to meet, student issues, et cetera. Then I went home.

One of the decisions I had to make Friday night was whether or not to cancel the football game in Columbus. We'd canceled all the athletic events that were on campus, but I made the decision that the game in Columbus should go forward. I got the athletic director on the phone. They were just getting CNN reports at the time. He said, "Susan, what happened? Do you want me to cancel the game?" I said, "No. You're already there. There are too many other interests at hand, but get some black bands for the players to wear." He handled it beautifully. I went home to watch the game, because I was really nervous about how this was going to come out. He had gotten black armbands for the players. They wore black helmets for away games, black helmets with gold hawk emblems on the sides. They were the Hawkeyes. Somehow during the night they got all those hawks taken off, and they were playing just with their black helmets and their armbands. They said a prayer at the beginning of the game. It was handled really well. And they won, although I fell asleep during the game. [Laughter]

I was also so relieved that the president was back. I got up early Sunday morning and started writing answers to Senate committee questions. I didn't have a computer at home, so I wrote them out by hand, brought them in Monday morning, and got my secretary to type them up. She faxed them back to Don Winn, and Board staff got them to the Hill.

That Thursday evening, the university had a campus-wide service in memory of the people who were killed. I went to the service. I got home about 10 o'clock, and the phone rang. It was a reporter. She said, "How does it feel to be a Governor of the Federal Reserve?" [Laughter] That was the last thing on my mind at that point, and I said, "I think you've made a

mistake. I think the committee might have just voted my nomination out.” She said, “Wait a minute. I just got this off the wire.” She read it to me, and it sounded like I had been approved. So I said, “Well, I really have no comment. I don’t know anything about it at this point. If it’s happened, I’m delighted.” And that was about it.

The next morning, I called Don Winn, and he didn’t know anything about it. I told him what happened, and he said, “I’ll get back to you.” When he got back to me, he said, “Yes, it has been confirmed.” A little later, Alan Greenspan called wanting to know if I was going to be there the next Monday for the Board meeting. I was trying to deal with lots of legal and other issues related to the shooting. I said, “I can’t get away right away. I just can’t. I’ve got to at least have two weeks.” So, two weeks later, I came. I just flew to Washington. I didn’t bring anything. I had a brother who was living in the area, so I stayed with my brother for a while. But I arrived, was sworn in Monday morning, and got started. So, for me, it was sort of a rough opening, a rough introduction. But it all worked out.

MR. SMALL. You were briefed by Board staff prior to your nomination hearing. Were those briefings germane to any questions you got on the Hill?

MS. PHILLIPS. Yes, they were. But bear in mind the timing. It was 1991. We were coming out of the S&L crisis, so there were banking issues. And, obviously, I started reading more about what was coming before the Fed. From my conversations with Paul Volcker, I had focused on getting hold of inflation, which was still a major issue. The economy was still in a bit of a swoon coming out of the S&L crisis. Also, the first Gulf War was ending. The Fed had been easing, but in small increments before I got there; it had been fairly gradual [looking at charts].

I mentioned to you that when I had my hearing, they had not approved Larry Lindsey. During my hearing, I think it was Senator Sarbanes who got the points across about Larry that we talked about earlier. But then that apparently opened the doors, and Larry was approved during the weeks after my hearing. Larry came over and was sworn in right away while I was finishing up at Iowa. Thus, Larry Lindsey would be seen on the list as being senior to me because he was sworn in a week or two before me.

MR. SMALL. He got to sit closer to the Chairman at the Board table. [Laughter]

MS. PHILLIPS. He did. And he didn't have to have the pink office. [Laughter]

### **Early FOMC Meetings**

MS. PHILLIPS. We had an FOMC meeting in December, shortly after I arrived, and there was a small change in the rate. I don't remember what that vote was, but it was not controversial. The Board met after the FOMC meeting, and that was when we voted on a 100 basis point move in the discount rate. Then Alan called a meeting of the FOMC by conference call, and the recommendation was for 50 basis points to show through. Some of the Reserve Bank presidents were outraged. I remember one president saying he thought it was a typo when he saw the recommendation. But they did go ahead and vote in the 50 basis point ease. So that's where you see that steeper rate decline. I think there had been sentiment before to lower the discount rate, but not by as much as could be done after Larry and I came on board.

In the economy generally, there seemed to be a crisis of confidence; consumer confidence was weak. Yet, if you looked at the numbers, it was not as bad as it felt. We had come out of the recession at that point; we just weren't seeing strong growth. This larger ease after the regular FOMC meeting was sort of a bell-ringing to wake up the banks to start lending more money. That was the plan or hope for the large discount rate move. In fact, when Dave Mullins

came down to my office to propose the move, he said, “What would you think about 100 basis points?” He and I talked about it, and I was for it. I thought that there needed to be something to get us off what seemed like plodding on a tired path.

MR. SMALL. Did you draw on your finance background?

MS. PHILLIPS. Oh, sure. I drew from both my teaching and research. My dissertation in school was on pension funds. I also taught corporate finance—leveraging and deleveraging. I brought more to the table from the user side. Incidentally, Larry brought a lot of the consumer-side perspectives to the discussion. Particularly through his tax work, he had done a lot of study of household wealth, household spending, and so on. He had a real household perspective. I brought more of a corporate and markets perspective.

MR. SMALL. Did you think the staff forecast, for example, or expertise was lacking in those dimensions, that it was too model based or too macro?

MS. PHILLIPS. I continued to have enormous respect for the staff. For a finance person to be in with all these macroeconomists was wonderful. I take a forecast as a person’s opinion, whereas I might look at the markets as an amalgamation of a lot of people’s opinions. So I tend to put a lot of weight on what the market is telling me. I’ll look at spreads within and across lots of markets.

MR. SMALL. Could you look at spreads back then?

MS. PHILLIPS. Oh, yes—futures and options provide some insights, but spreads within interest rate classes across various maturities as well as spreads within different grades of securities can provide lots of insight.

MR. SMALL. Do you remember looking at risk spreads and thinking at the time [that] they were part of the reason you were easing?

MS. PHILLIPS. Sure. Also, another thing that I looked at was confidence: banks not lending or individuals and businesses not borrowing. The first round of the HMDA (Home Mortgage Disclosure Act) data came out a week before my hearings.<sup>4</sup> It was the first time that HMDA data had been produced. Some results that came out of that data indicated that banks weren't lending in some areas. Also, market interest rates were high enough that many banks were focusing on investing and not lending. These were areas to which I paid particular attention. The industrial economy wasn't that strong, but it was growing slowly, so you didn't see as much stress in that sector at that time. The emphasis was more on supply and demand for loans. And, of course, the Fed was hearing a lot from small business[es] that they couldn't get loans. We also knew that a lot of it was disruption lingering from the S&L crisis. During my early months at the Fed, we were meeting every Friday to review the 3[-rated], 4[-rated], and 5[-rated] banks.

MR. SMALL. The CAMEL ratings.

MS. PHILLIPS. Yes. I remember, one afternoon, considering one very large bank. We must have met three or four times that afternoon, as more questions were asked and the people from supervision were going back to talk to the bank officials. There were some real concerns about several major banks at that point. There was concern about the banking system, and yet there were complaints that the banks weren't lending. But the fact was, there were still a lot of sick banks.

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<sup>4</sup> HMDA requires most mortgage lending institutions with offices in metropolitan areas to report data on mortgage loan originations, applications, and purchases, as well as requests under a preapproval program if the preapproval request is denied or results in the origination of a home purchase loan. Institutions must also report the ethnicity, race, gender, and gross income of mortgage applicants and borrowers. The disclosures are used to help the public determine whether institutions are adequately serving their communities' housing finance needs, to facilitate enforcement of the nation's fair lending laws, and to inform investment in both the public and private sectors.

MR. SMALL. Do you remember listening to Alan Greenspan the first few times in the economic go-round when he was laying out his view? Do you remember your first impressions of his worldview as it was presented to you?

MS. PHILLIPS. I remember, before my first FOMC meeting, getting a very careful briefing from Don Kohn. I really had no idea how FOMC meetings went. I think a lot of macroeconomists joining the Fed know more about the mechanics of FOMC meetings. Larry Meyer seemed to know the ropes when he arrived. He was much more knowledgeable when he came in on how an FOMC meeting was going to be conducted. Well, I had no idea.

I was advised to hang back and wait for the presidents to talk first, but I was supposed to have my own set of comments prepared. In February, Mike Prell called and told me I had to do my own forecast. I said, "What do you mean, 'do my own forecast'?" [Laughter] I was sort of shocked. I had never done a forecast before. But you get in the swing of it. Joe Coyne and Don Kohn briefed me on how the meeting would go. I hung back for the Reserve Bank presidents to speak.

Alan listened to everybody's views, and then he would try to pull a consensus view together. We'd have a break, and Alan, Jerry Corrigan, and David Mullins would go off to compare notes on where they thought a consensus could be developed. They'd come up with a proposal, and then Alan would make the presentation. In many ways, his presentations drew on a lot of the comments that had been made around the table. And, obviously, they reflected his own views, too. I could see Corrigan keeping score on where different people were, because I sat on that side of the table. So by the time a recommendation was made, it was broadly based enough to fly.

In addition, there were other ways to accommodate people by changing some words, for example, to indicate a tilt to the FOMC [domestic policy] directive. There were also interesting communication devices, which I thought were a little silly. But I also knew, in the markets, the [domestic policy] directive was actually transmitted very quickly. Corrigan said that they didn't do anything for two days before an FOMC meeting, up in New York. That is, they weren't buying or selling, so that when the [Trading] Desk did come into the market after an FOMC meeting, it would be a clear signal. So I don't think there was too much doubt about what was going on in the markets.

But, yes, I thought that Alan summarized and pulled the consensus together. It was a very consensus-building approach. Most of the time I was in agreement with Alan Greenspan on monetary policy issues. There were times on regulatory issues that we didn't agree. If I were ready to ease or tighten, whatever it was, usually it was just a question of, do we do it this time, or do we wait one more meeting and give lots of warning to the markets?

Over the period of time I was there, I noticed markets appeared to be lulled into thinking that the status quo would continue. It is true that the FOMC kept the fed funds rate low for quite a while in the early 1990s. I was ready to raise rates in December 1993. I had convinced myself that the time had come, and we had to get moving. At the December meeting, the discussion all centered on possible year-end disruptions and current market expectations. The markets at that point believed we were on hold for a long time. Thus, a move was going to be a big surprise, and we needed time to alert the markets. Greenspan was going to alert the markets in some speeches before the next meeting. Some members also made the argument that December was not a good time to initiate a tightening move, because all the banks have to close their books at year-end. Those arguments swayed me, but there was a tilt in the final [domestic policy]

directive, and it was clear—at least, within that room at the time—that we were going to move the next time. So I refrained from dissenting, but it was only because there was a tilt, and the emphasis was on getting ready for a move.

MR. SMALL. In his book, Alan Greenspan says that the January 1994 FOMC meeting was pivotal for him, in that he tried to warn the markets.<sup>5</sup> Then, he came into the FOMC meeting thinking he needed a 25 basis point increase, and a lot of the members of the FOMC were prepared to go 50 basis points. He says that he was caught off guard.

MS. PHILLIPS. Well, yes, I'm not surprised he was caught off guard. He realized more people were ready earlier to make the move than he was. A lot of people in the room had been cooperating by delaying to get ready for the move. Alan made the speeches, but many market participants didn't listen. People hear what they want to hear. And many were on the wrong side in currencies and on the wrong side in interest rates.

### **Committee and Other Assignments**

MR. SMALL. In those first two years, as you mentioned, interest rates were flat, so monetary policy wasn't terribly much in play. What were you doing? Were you just bothering Pat White on derivatives and making her life miserable? [Laughter]

MS. PHILLIPS. Yes, I guess I was. [Laughter] For my early assignments, I had [the area of] research, and I set up the derivatives committee. Quite frankly, during my early tenure, I was learning the real economy. I think Alan Greenspan used to delight when I didn't know things like the differences between the two unemployment reports—the household report and the employer report. I didn't know all the fine details of the macro data, and he would give me a lecture in the Board Room. [Laughter]

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<sup>5</sup> Editor's note: Mr. Small is referring to the February 1994 FOMC meeting.

MR. SMALL. Pat, do you remember meeting Governor Phillips for the first time?

MS. WHITE. I think we met when you were at [the] CFTC. But from my position at that time, I was buried within the Federal Reserve, so there was a big gulf between Board members and me when you arrived at the Board.

MS. PHILLIPS. And I think both Pat Parkinson and you were off in an area that wasn't mainstream Board research. By setting up the derivatives committee, all of that stuff became much more central to the Board's agenda.

MR. SMALL. Were you pleased with your access to Board staff?

MS. PHILLIPS. Oh, yes. I loved that.

MR. SMALL. Did you actually call on the Pat Whites and the Pat Parkinsons?

MS. PHILLIPS. Oh, yes. I loved working with the staff.

I used a lot of this period trying to understand the banking community better. I gave speeches to the state bankers associations and others. I wasn't on the Committee on Banking Supervision and Regulation at that point. John LaWare was running it.

Also, Alan Greenspan asked me to head up a staff study. George Bush's reelection was coming up, and there were a lot of complaints about bank regulations and recommendations that they needed to be streamlined. Well, here you have John LaWare, who is putting into place all these new regulations for FIRREA and FDICIA, and Bush is getting complaints about banks being overregulated. Throughout the government, Bush wanted to streamline regulation. All the agencies were participating in this initiative, and Alan Greenspan decided the Fed should participate. But the directive for this initiative was that there could be no legislative recommendations. So working with people from a lot of the divisions, we went through all of the regulations, trying to find areas we could streamline. We came up with a big report that I

presented to the Board. Alan Greenspan was happy as a lark. John LaWare was not happy, because he wanted to be on my task force, deregulating, whereas he had to put into place new regulations.

Also during that period of time I was involved with derivatives—trying to find out how they used derivatives, what bankers were most concerned about, were they lending, and identifying the clogs in the system of bank supervision. I would go out and give speeches and try to hone some skills on bank regulation and also the economy. I realized that U.S. banks were at a huge disadvantage relative to international banks. If you looked at the top 25 international banks at that time, I don't think there was even one U.S. bank in the top 25 because of interstate banking and also Glass-Steagall constraints.

In sum, my early years at the Fed involved deregulating, derivatives, and learning more about the real macroeconomy. Then, in 1994, Ed [Mike] Kelley wanted to step down from being the Administrative Governor, and I became the Administrative Governor. Also, I got off the Committee on Consumer and Community Affairs in 1994.

By 1996, the ad hoc committee on derivatives regulation had gone out of business, having completed its work. After the review of bank supervision and regulation and the derivatives work, Alan Greenspan must have thought I was trained to move to banking supervision and regulation.

MS. WHITE. You probably made the segue to chairing the Committee on Supervisory and Regulatory Affairs when a lot of derivatives issues started transitioning into the OTC [over-the-counter] derivatives issues, and how what the banks wanted to do in the over-the-counter market was going to relate to and interact with what was happening on the exchanges, and the

various legal arguments on whether or not the OTC derivatives were illegal futures because they were not traded on an exchange.

MS. PHILLIPS. Right, right. There was lots of committee work. In 1996, I took over banking supervision and regulation.<sup>6</sup> In the meantime, I also went on the Committee on Federal Reserve Bank Activities. Mike Kelly was the chair. For a while, Mike and I were the only members. And I was on the Payments System Policy Advisory Committee. So I had a lot of committee assignments. I seemed to have gotten switched around more than some other Governors. And when Bill Clinton came into office, there was another review of all bank regulation; this time, both legislative and regulatory proposals were allowed. So I oversaw a second study with staff. I think Alan Greenspan envisioned me as the dean with faculty members that would do all this research. [Laughter] That is how the regulatory reviews worked. The reviews were not through a committee; those were special assignments.

MR. SMALL. Did Chairman Greenspan closely oversee Board committees?

MS. PHILLIPS. It worked differently with different Governors and different staff. Generally, from what I could tell, the staff would keep him informed about what was going on in the committees. He never came to committee meetings. Mike Kelly was sort of his personal personnel manager, and Mike made the committee assignments. Mike would give Alan a proposal, and they would work that out as to who was going to do what on the committees. Greenspan delegated the assignment process to Mike Kelly, and Mike weighed who did what and the workloads of different committees and Governors.

When I was Administrative Governor, I used to meet with the Chairman directly about every other week. I would go into his office with maybe 10 things I thought he ought to know.

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<sup>6</sup> In August 1996, a new Committee on Supervisory and Regulatory Affairs assumed the function of the former Committee on Banking Supervision and the Committee on Market and Regulatory Affairs.

He's such a smart man. I would tell him about an issue, and I would tell him what we were doing about it. He would give a nod, and then I would go to the next issue. We could cover as many as 10 items in less than five minutes.

*Restoration of the Board Room*

MS. PHILLIPS. When I was the Administrative Governor, I worked on a project to renovate the Board Room. Mike Kelly had started it but didn't finish it due to budget pressures. By the time I came to the Board, the Board Room was in pretty bad shape. There were some things that were just plain broken. The sound system wasn't working. Mike had worked with a designer. I reviewed what Mike had come up with. They were going to change the whole color scheme in the Board Room to light blue, shades of blue all around. And I thought, "Oh my gosh." I could just see reporters coming in and looking around. [Laughter]

Anyway, we hired a small firm to start over. We switched concepts: from a renovation to a restoration of the Board Room. We found out what company had done the original wall covering, and we found the company that did the rug. We got a new rug just like the old one, we used the existing furniture but had it re-covered, [and] we got the same pattern and color for the silk wall covering that was in the Board Room originally. It's the same pattern that's at Mount Vernon—George Washington used it, but he used it in red; we had it in gold. Then there were these old economic charts hanging around the room, but you could never read them. The staff came to me and suggested that we replace the charts with framed money. And I see those currency exhibits are still hanging in the Board Room.

The restoration was going to take place over the summer. We also brought in somebody who could clean the chandelier and someone else to clean the map. You couldn't see any gold or red on the map, it was so dirty. They put in equipment for PowerPoint presentations in the Board

Room. There was a control panel to raise and lower the chandelier. Previously, the maintenance staff had to get on the top of the table with ladders to change light bulbs. We got a new table top, but we kept the same base. The restoration brought the room back to where it was.

During the restoration, we moved to the terrace level of the Martin Building to have FOMC meetings and Board meetings. The chairs in that room rolled around, which the Governors loved. In the Board Room, the chairs didn't roll and were cumbersome to move on the carpet. So we added rolling capacities to the chairs in the Board Room. [Laughter] They still had the same design on the top, but they just rolled on the bottom.

As the plans proceeded by the designer and the contractor, we had three sets of materials from which to choose. They had to key off the wallpaper, because we were going to keep the original wallpaper color but change the materials for the chairs. I went in to see Alan Greenspan beforehand to see if he would be willing to come in and meet with the contractor and the designer so he could see what was happening, and he said, "Okay."

When I first told him that it was going to be a restoration, I was going on, and he stopped me about three sentences later and said, "Wait a minute. Restoration, that's important." He caught on immediately to the implications and knew that I was trying to keep us out of the newspaper. At the University of Iowa, as the fiscal officer, I oversaw new building construction. But being the operating officer for the Fed was much easier than the job I'd had back in Iowa. Universities have many types of complicated buildings. In both places, I was always very sensitive to negative publicity about public spending.

Anyway, Alan agreed to come in, and I said, "All you have to do is take a look at it, and if you've got a preference, you can pick one. We can go back to the drawing board." He came in, looked at everything, and said, "Well, looks like you're not doing much damage here," and he

turned around and walked out. [Laughter] He was very quick to assess the situation and to make decisions. He just didn't clutter his brain with a lot of that kind of stuff.<sup>7</sup>

Once Alan worked with you for a while, he knew what you could and couldn't do. As I say, I would argue with him in some regulatory areas, but in monetary policy, most of the time he and I were in agreement. A couple of times he'd come to my office to try out some idea on me. I remember he came down and was trying some idea out on me, and I said, "Alan, if you can't get it past me, it's not going anywhere." He said, "Yes, I know," and he got up and walked out. [Laughter] He liked the banter on monetary policy and on economics, but he didn't spend as much time on administrative or regulatory matters.

### **Relationships among Governors**

MR. SMALL. Was there much regular interaction between Governors?

MS. PHILLIPS. Yes, but you work with some more than you do others, depending on common interests. I always worked a lot with Mike Kelly. I was out of a business area, and he had an M.B.A. and had been a businessman all his life. He wasn't a macroeconomist, I wasn't a macroeconomist, and the rest of the Governors were all macroeconomists. I also worked a lot with David Mullins when he was here. Of course, he was a finance type, too. I also worked a lot with Roger Ferguson after he joined the Board.

MR. SMALL. Sometimes the Board is characterized as having this powerful Chairman and that the power goes down through the division directors—"the Barons," as they're sometimes called—to the staff, and that the Governors themselves feel a little shunted aside.

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<sup>7</sup> See Jaret Seiberg (1995), "\$1M Fed Boardroom Makeover Gets Warm Reception," *American Banker*, vol. 160 (September).

MS. PHILLIPS. Well, I didn't feel that way, because I was so involved in the staff studies of regulations and then the derivatives committee. Staff members must have been in my office multiple times a week on one thing or another, getting ready for the next meeting or speech.

Jerry Corrigan once made a very strong speech warning against futures and derivatives. That upset David Mullins. He believed that policy was made at the Board, not by the Reserve Banks. Mullins talked to me about the speech, and I remember talking to Pat about it. I decided I should start making some speeches on derivatives. So I did. We were doing a lot of research. Coming out of the derivatives committee, we were developing positions that we could take and defend. We knew the positions that we were probably going to take but needed to flesh them out: What was the reasoning behind them, were they supported by credible research, how did it relate to the rest of the markets, and so on.

So I started giving speeches on derivatives and banking. About this time, Greenspan got more interested in derivatives. Every once in a while I'd have a lunch with him. One time he asked me who I thought were the smartest staff members that I was working with. I remember telling him Pat Parkinson and Don Kohn. I don't remember who else I named. The next thing I knew, Pat Parkinson was up there writing speeches for the Chairman. And I thought that this backfired against me. [Laughter] But it was a good thing.

I didn't work as much with Larry Lindsey. He tended to be more on the consumer side. And some of his issues were just, I guess, more political. I just didn't share the same issues with some of the other Governors. I never quite knew where Wayne Angell was going to be on issues, and Ned Gramlich was off on other issues. I'd say that I worked the most with David Mullins, Roger Ferguson, the Chairman, and Mike Kelly.

**Board Legacy on Derivatives**

MR. SMALL. Do you have a sense of your legacy at the Board on derivatives?

MS. PHILLIPS. I hope that we developed more of an appreciation within the Board and its staff of the importance of derivatives and built more expertise within the staff. I don't think the new people being hired were generally derivatives or even financial types. My hope was that there would be much more expertise developed in that area. And from what I can tell, that's the case. At first, Pat Parkinson was not in a really visible role, but he's now running the regulation division. That's a huge change.

Any market can be misused, there's no doubt in my mind about that, and derivatives are no exception. In rereading some of the materials that you provided, in some of the speeches that I gave, I was always very worried that accounting and transparency weren't keeping up with the securities and derivatives volume, which could cause problems down the line. I got involved in accounting issues while I was at the Board, and it brought me into a bit of a clash with the FASB (Financial Accounting Standards Board), but that was part of the role I carved out.

When I came to the Fed, I expected that it was going to be a new world for me. All of my jobs up to that point had been in markets or financial administration. Coming to the Board, I knew I needed to learn more about real markets and how the macroeconomy operated.

I had gotten involved in international financial issues through the CFTC, so that part wasn't new to me. The last three years that I was at the Board, I was the representative to Central Banks of the American Continent and Spain. So I started doing more international travel and work. One interesting observation came out of those international connections: Any central bank whose country has had bank troubles or a banking crisis believes that they need to be involved in bank regulation.

There are arguments made that the Fed should only be focused on monetary policy and there should be a separate bank regulatory structure. All the time I was at the Board, I argued the importance of the Fed's being involved in bank regulation in some form or format. When I first came, most banks weren't focusing on the derivatives area and weren't using derivatives. The big banks were. But if you talked to the mid-sized banks or the country banks, they thought derivatives were gambling; it was the next S&L crisis that was going to hit them. They were slow to use derivatives to manage their balance sheet risks.

I was always worried whether bankers really knew enough to use derivatives properly. Derivatives can be complicated instruments. They can be simple instruments, but you can also get very convoluted ones, and then you worry about whether or not banks have their arms around the instruments in which they are dealing. On the one hand, I was pro derivatives, in the sense that I thoroughly believed in their economic use and function. On the other hand, I was worried whether or not people had enough information about derivatives, whether they were using them properly, and whether accounting was keeping track.

### **Glass-Steagall**

MR. SMALL. What were your views on Glass-Steagall and the appropriateness of derivatives used by investment banks versus commercial banks? Did that differ at all?

MS. PHILLIPS. Well, those are two different questions. Banks syndicate large commercial loans. I didn't see that as a major difference from underwriting. At first, we debated too about what kinds of securities can be securitized. Residential mortgages could be securitized most easily. Then we started to say, "Well, if they could ever get commercial mortgages securitized, that might help banks get some of that risk off of their balance sheets." So we could see the potential use of various kinds of derivatives for risk-management purposes. But the

question is, will they be used properly? And then, do we know if risk is even being properly identified and measured? So another big push during my time period was to switch from what I would call a “checklist supervision audit function” to a “risk-management approach” to bank supervision. That seems to be continuing. There are different problems now, but the focus on risk seems to have continued.

You asked about my legacy. I would look to some of our efforts related to risk management, use of derivatives, and derivatives expertise at the Board. On regulation, sometimes people think of me as just focusing on deregulation. To me, what is important is not just deregulating, it’s getting rid of unnecessary regulations and instead having in place the right regulations—regulations that take into account how markets work.

MR. SMALL. Pat, earlier you mentioned a question about the increased use of derivatives in Glass-Steagall.

MS. PHILLIPS. Well, the Glass-Steagall thing was more the underwriting question, but often the people who are underwriting do use derivatives for their own risk-management purposes.

MR. SMALL. Were you in favor of rescinding Glass-Steagall?

MS. PHILLIPS. Oh, yes. I testified, urging the Congress to get rid of Glass-Steagall. It seemed like the legislation to rescind Glass-Steagall was taking forever. We ended up revamping some of the section 20 regulations that eased some burdens that were within the power of the Board. I went up and testified on that. I was very much involved on the Glass-Steagall issue.

MR. SMALL. Do you think the Volcker rule is a step backward?

MS. PHILLIPS. I would not have been in favor of that. But the problem is, people were misusing some of these markets. Many banks had portfolios of investments, and they really did not know what was in them or what kind of risk they faced. There were just a lot of poorly conceived and poorly executed derivatives. The temptation is to legislate away banks' abilities to participate in trading activities instead of permitting the activity but assuring it is properly managed.

MR. SMALL. Part of the argument is that, if you have FDIC deposit insurance, people can use that to leverage up beyond all reasonableness. So if you're going to play the high-leverage game, we're not going to subsidize and magnify it with FDIC insurance.

MS. PHILLIPS. That is a fair argument, and I agree that some markets were simply misused. But if properly used and managed, investments and derivatives can be productive. Towards that end, I would have liked to have seen both leverage and capital standards, not just capital. As I was leaving the Board, Basel II was in the works, and I was getting worried that it was getting so complex that many bankers wouldn't be able to get their arms around it. Then mistakes can be made, because you don't know what kind and level of risks your organization is taking on. But, overall, capital and leverage were two areas that I thought were important, and that address and contain investment bankers who leverage up.

MR. SMALL. It gets to the issue of "too big to fail."

MS. PHILLIPS. From my perspective, many banks and investment banks have taken on unacceptably large leverage positions. As they did so and became larger and larger, the collateral risks of their potential failure can become so great that regulators and central bankers are called upon to bail them out. The risk of too-big-to-fail is particularly acute when markets are fragile.

MS. WHITE. One of the developments that occurred during Governor Phillips's tenure at the Board—it's not directly Glass-Steagall, but it's somewhat related—is the shift in banking business toward a more trading-oriented way of doing business. In the Volcker rule, you can see the reaction to this quite huge shift in the business models of the banks towards more trading. The Volcker rule says no proprietary trading [is allowed], but you're still allowed to intermediate. As an economist, it's not hard to see that it can be difficult to discern the difference between position-taking and intermediating, because you might say, "Oh, well, you've had that position for so many days," and the banker would come back to you and say, "That's because this is not a very liquid market, and so I'm trying to get rid of my position as quickly as possible. I'm not really holding it. This isn't really a proprietary position." This is the challenge that the Volcker rule is presenting in a regulatory context.

MS. PHILLIPS. Yes. I was always for more standards—if you have more general standards, and then allow people to come under those standards in different ways. We seem to be moving towards a more rule-specific approach now. Having said that, I have to agree that some of these markets were misused, and so maybe the pendulum has to swing back some while education catches up with people, then maybe it can be loosened later on. Right now, I think a lot of the banks are dabbling in things that they're not fully aware of what they're taking on.

With Glass-Steagall, you could see what kind of competitive position U.S. banks were in relative to, particularly, European banks. And it's so easy to take financial business offshore that it seemed to me that we would be better off getting rid of Glass-Steagall and allowing some mixture of commercial and investment banking. I wasn't convinced this was going to work for all firms. I always thought that it was only going to be some of the larger banks that would

really get into it. But, substantively, even for small banks who participate in syndicated loan arrangements, it doesn't seem to be that much different than underwriting securities.

MR. SMALL. Do you remember the debate at the Board table over these issues?

MS. PHILLIPS. As a general matter, I wouldn't say there was a lot of debate. At the time, most everybody around the table agreed that Glass-Steagall should go. There was wide concern about the competitive position of U.S. banks and business moving offshore.

### **Futures Contracts**

MR. SMALL. Could you talk about futures contracts—their historical development, their regulation, et cetera?

MS. PHILLIPS. Futures contracts have been around for hundreds of years. The first futures contracts that we know of traded in Japan in the 1600s, and they started trading in this country in the 1800s. Particularly for the agriculture community, farmers have a need to know what kind of price they are going to receive at harvest time when they take on the costs of putting in their crops. And on the other side, grain exporters want to know how much it's going to cost them to make future contractual deliveries to their customers. So there was a real economic purpose for these contracts.

But because they are contracts for future delivery, which are naturally susceptible to fraud, market users often ran into state gambling laws. That became such a problem—participants couldn't be sure of the legality of futures contracts, and, eventually, federal regulation came into being over a period of time. The first federal regulation had to do with cotton futures, and then over the years they added different commodities. By the 1930s, the Commodity Exchange Act of 1936 replaced the Grain Futures Act of 1922, and it brought more and more commodities under federal regulation. By the late 1960s, it was becoming clear that

futures contracts were useful for other kinds of price risk—for example, currencies, precious metals, hides, silk. All of these things weren't among the enumerated contracts in the futures legislation.

MR. SMALL. Before then, the futures legislation would say that you may establish futures contracts in these 15 commodities but no others?

MS. PHILLIPS. Yes. And literally reading the more current versions of the definition of “commodity” in the Commodity Exchange Act is a bit of a trip. It names off a series of allowable commodities but excepts onions. There is a prohibition on trading onion futures. Onions were approved to be traded, I think, in 1955. Then, in 1958, they were banned, and that ban is still in existence.

MR. SMALL. What is the reason for that?

MS. PHILLIPS. The onion farmers felt that there was too much manipulation in that contract. Futures contracts on perishable commodities tend to have more problems, because there are delivery challenges with the commodity. There are big spoilage problems in onions. Potatoes are another often-problematic commodity.

Previously, all of the commodity regulation had been overseen by [the] USDA (the U.S. Department of Agriculture). Futures oversight was literally a department within the USDA that administered the old Commodity Exchange Act. It was pulled out of [the] USDA in 1974, when the CFTC was created. The definition of “commodity” was expanded to anything that has price risk, which covers a lot of things, including financial instruments, any rights, interests, or services. In the Dodd–Frank bill, they also have now added in a ban on futures contracts on movie receipts, the purpose of which was to hedge volatility in movie receipts. That's now in the definition. So, along with onions [laughter], movie receipts are a banned commodity.

But there was recognition that there could be price-risk management for financial institutions—for example, utilizing financial futures to manage interest rate risk, currency risk, credit risk, and different kinds of interest rate risk. While we started out with fairly simple financial futures contracts, just on the Treasuries, over a period of time, other kinds of contracts were added—for example, securitized pools of mortgages, and so on.

Thus, futures markets have expanded over the years, but one of the things that remains central to commodities trading and regulation is the creation of price-risk management tools. There has to be an economic purpose for these contracts based in commerce. In other words, they're either used for price discovery or hedging purposes, and the CFTC focuses on protection of the integrity of the markets—and, thereby, users are also a focus of their protection. Market integrity is a major focus of CFTC regulation and remains so today for different kinds of commodities, including metals, oil, so on.

MR. SMALL. So where do commodities go wrong when they go wrong? Is it a thin market, so it can be manipulated?

MS. PHILLIPS. Think of the delivery of wheat in Chicago. There are only so many grain elevators in Chicago, so if there are more contracts or more open interest than there is delivery capacity, you can have futures delivery problems or even manipulation. What you want to see, as you come to that delivery date, are contracts closed out so that you end up with the number of contracts that will fit through the delivery capacity.

Further, different markets are going to have different delivery challenges—for example, freezer space for pork bellies or cattle delivery points. It just goes on and on. Each market is somewhat different. For financial products, because settlement can be in cash, you have less of a

delivery problem. So with financial futures, it's much harder to think about manipulation, corners, or squeezes.

MR. SMALL. Do you agree with some of the Dodd-Frank restrictions? As I understand it, they're trying to get more of it on organized exchanges.

MS. PHILLIPS. Yes. I agree that what are called "more standardized commodities" should be traded more on organized exchanges or some similar facility. Very often in the development of a futures contract, usually what you'll have first is over-the-counter forward contracting activity. For example, a grain elevator makes a deal with the local farmer, then the grain elevator makes a deal with an exporter of grains. This is simple contracting through an intermediary; it's an over-the-counter market. Once you get enough of this kind of activity—enough grain elevators wanting to do this kind of thing—then the OTC contracting is a candidate for exchange trading. Ordinarily, you're going to have some kind of forward or over-the-counter market before exchange trading develops. Once it gets big enough and standardized enough, it moves to an exchange.

In financial futures, I think that a lot of the contracts were so individualized, market participants never thought that the contracts belonged on exchanges. If you think about what a bank does with loans, normal lending activity often involves different covenants to protect against price risk. But to the extent there are more standardized kinds of contracts and there's enough volume, I think they should be on exchanges. So I would agree that it's appropriate to move them to exchanges.

But I think you have to recognize that there's not a black-and-white line between when should the over-the-counter market disappear and a futures market take over. In fact, you're always probably going to have, even with an active futures market, some over-the-counter

activity for specialized situations. And that's always been one of the challenges in futures markets.

Someone had to help arbitrate what must trade on exchanges. The CFTC performs that function now, but there was exchange oversight before there was CFTC or USDA oversight. Now there is oversight by federal authorities of the exchanges that preempts state legislation and thus regulation. This is very different from securities markets, where securities markets don't have the same preemption arrangement. There are still state blue sky laws for securities, so there's a very active state securities bar.

MR. SMALL. Because the CFTC preempts the—

MS. PHILLIPS. Preempts state regulation, yes. Most of the activity in futures markets has been commercial; that is to say, it's for a commercial purpose—hedging. There is commercial interest on both sides of the contract. It's not generally designed for individual or retail investors. Public customers aren't planting crops. So if they take a position in a wheat contract, they're speculating, they're not hedging. It's useful to have speculators; they provide liquidity.

Also, because you settle daily in futures markets, most retail investors don't play in these markets, don't invest in these markets. Futures commission merchants or commodities brokers usually require that hefty retainers be held at the brokers. Speculators have to watch their positions every day and may have to meet daily margin calls. This is something best managed by businesses engaged in professional speculation or commercial purposes. The bread and butter of this industry are commercial players, not public players. The basis of the Commodity Exchange Act is protection of commerce, not protection of public customers or investors.

**Monetary Policy**

MR. SMALL. As long as the futures and options markets are functioning well, should the Fed care that there are futures markets? Does it make any difference, as far as the implementation or the transmission of monetary policy, that there are or are not well-functioning futures markets?

MS. PHILLIPS. From my perspective, as long as the markets are functioning well, then the Fed can implement monetary policy as appropriate, but more efficiently. If futures markets aren't working, the markets generally become dysfunctional, and it is hard to execute monetary policy. In extremely dysfunctional markets, then you essentially don't have adequate liquidity to get trades through. Thus, yes, you can have problems.

MR. SMALL. But if you had a world without futures markets or one with well-functioning futures markets, is monetary policy easier in one or the other?

MS. PHILLIPS. I think it's easier with well-functioning futures markets. It makes the markets deeper and more efficient. The Fed can buy and sell [government] securities through multiple forums. Generally, market futures add liquidity. From that perspective, we're definitely better off with than without derivative markets.

When I was at the CFTC in the 1980s, financial futures markets worked well. I never heard from Treasury or the Fed. I couldn't even get them interested in the markets at that time. But as the financial markets became more important and bigger, central banks and bank regulators did have to start paying attention, because they or their regulated banks probably would be involved either in the over-the-counter market or on the organized markets.

MR. SMALL. Monetary policy in your early years [at the Board] looked like a pretty easy job. At least through 1994, either you lower interest rates or you keep them constant.<sup>8</sup>

MS. PHILLIPS. But given what inflation and GDP (gross domestic product) growth were doing at the time, by the end of that period we were looking at negative real rates. History told us that when the Fed left rates in negative territory for a period of time, inflation was likely to come behind.

MR. SMALL. That seems to be a clear lesson from the 1970s.

MS. PHILLIPS. Yes, that was a clear lesson from the 1970s. So we started tightening in early 1994.

MR. SMALL. In 1994, the Fed raised interest rates, and nothing happens to inflation and nothing happens to the unemployment rate. This was the famous soft landing, preemptive—

MS. PHILLIPS. [Laughter] We simply wanted to get to a more normal situation. We thought negative real rates would cause problems down the pike. We wanted to be preemptive.

MR. SMALL. Inflation stayed flat because you raised rates?

MS. PHILLIPS. We believed that. We believed that was building more confidence into the markets, and we did start to see an upward-sloping yield curve develop at that time. This felt like a more normal, productive situation. Once you're in a more normal yield curve situation where risk is being properly evaluated and compensated, people are more willing to make investments and supply money to the markets for additional investment. I can remember arguments during this period about the rate of productivity. I can remember some of the staff saying, "It's been 1 percent for a number of years. It's going to stay 1 percent." But we started seeing that we were getting stronger productivity during this period of time. So it's part of the

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<sup>8</sup> Editor's note: Mr. Small intended to say "until 1994."

virtuous cycle with inflation not rising. Inflation may not have been as low as some people wanted, but I also don't think that we knew how low we wanted it to go. In any case, inflation was more predictable, and thus people could make decisions about investment and feel more confident because there was less price risk. There was more willingness to invest, improve technology, improve various kinds of manufacturing—make the manufacturing improvements and expansions. In short, we were seeing the virtuous cycle.

MR. SMALL. Was the ghost of Paul Volcker looking over your shoulders, in the sense that the Board, the FOMC, and he had brought the U.S. economy through this wrenching experience to bring inflation down, and we're not going to squander that on our watch?

MS. PHILLIPS. Yes. And we wanted to be preemptive.

MR. SMALL. That might be more forecast based, which also is a little dicier.

MS. PHILLIPS. Right, but forecasting that we thought there might be inflation building in the pipeline. We didn't want to see inflation start to turn up. There was a lot of argument about inflation. Specifically, have we got even the right measure of inflation?

At the time I was at the Fed, they were using core CPI (consumer price index) as the measure. And the more we looked into how CPI was calculated, some thought we should be using some kind of deflator. We had a whole series of discussions about what measure we should be using. A lot of Fed watchers were pushing us to say what our inflation target was and questioning how we knew if we're doing the right thing. While I was at the Fed, we really hadn't settled on what the target should be. I saw commodities being important in lots of economic processes—for example, in manufacturing. The staff generally pointed out that only about 10 percent of the producer price index shows through to the CPI. They had done studies

on that relationship. I kept feeling that we should be looking at not one inflation measure, but several indexes.

In addition, there was uncertainty about how low the inflation rate should go. We also realized how much we didn't know about deflation. We knew a lot about inflation. We knew how wrenching and how difficult inflation is—once the genie is out of the bottle it's hard to get it back in. But we didn't know as much about how to deal with deflation. That led to the concern about how low inflation should be allowed to go.

MR. SMALL. Was it difficult to explain publicly, in testimony or speeches, for example, why the Fed was raising interest rates when no one had seen inflation yet?

MS. PHILLIPS. Yes, it was hard. We knew before we raised rates in 1994 that a lot of people were not expecting the increase. We had gone along for quite a while on the notion that as long as you're not exacerbating inflation, it's okay to leave rates low.

But we became increasingly concerned about a buildup within the economy of inflationary pressures. We were looking at a variety of different possible influences. Moreover, a lot of things were changing during this time—for example, inventory patterns. During this period, supply-chain management became much more of a factor particularly within manufacturing, but also in retail businesses. Inventory capabilities also became much more sophisticated. It seemed like there were a lot of things changing, but I guess that's always true. In any case, we were trying to get to that proverbial soft landing to lower real growth even as we were tightening.

MR. SMALL. This was a period also when you were moving from monetary aggregates to a [federal] funds rate [target] and becoming progressively more explicit in what and when you

were telling the market. Do you remember that process or some of the debates or the concerns? Could you tell the market too much?

MS. PHILLIPS. Well, I remember making arguments during FOMC meetings: Disclosure's a wonderful thing, but you've got to have something meaningful to disclose. I was always worried about disclosure when we really didn't know where the economy was going. Oftentimes in monetary policy, it seems like you take a step. It's a testing of the waters in a way to see if you're right and if markets interpret things correctly. Are you on the right path, or is there something that you missed?

I don't think people realize that monetary policy is not perfectly cut and dried with formulas, largely because the variables in the formulas or models were not known with certainty. We did regularly look at the Taylor rule. We started looking at a lot of models and recognizing that the monetary aggregates weren't helping us out much; they simply weren't explaining things very well.

We also recognized that there were a lot of ways that people could buy and sell without necessarily being reflected in the monetary aggregates, the M's. In short, the M's were becoming less useful. We tried looking at a number of indicators and models to use as a way to track whether we were on the right path. I found the Taylor rule enormously useful. I think it helps more explaining what has happened than as a forecasting tool. Nevertheless, I've always thought there is some use in looking in the rearview mirror. Even if you're looking at economic statistics, which is effectively looking in the rearview mirror, it can tell you whether or not you've hit a giant pothole, whether you're on an upward or downward trajectory, and whether you need to make some adjustments.

There's a lot of modeling, a lot of different discussion about models, a lot of discussion about which ones made sense. The Reserve Banks were also trying some new things, trying even some different inflation measures. I think a lot of people would have liked the Fed to identify just one indicator that everybody could hang their hat on, a basis to judge Fed performance. But at least I was in the camp that thought that there were too many moving pieces to hang your hat on one measure.

MR. SMALL. This was the time of the productivity gains and the new economy. That brought questions about sustainable rates of growth and the NAIRU [non-accelerating inflation rate of unemployment], and that became a big debate around the Board table.

MS. PHILLIPS. Yes. For a long time, sustainable growth was thought to be 2.5 percent, and productivity was 1 percent. Well, we began busting out of those parameters and not seeing what you would normally expect as the danger signs (for example, inflation). Moreover, because we were in this virtuous growth cycle, we started seeing that the deficit was going down. I remember thinking when I first came to the Fed that if we could see a flat trajectory, that would be a major advance. We knew things were changing a lot, and I think monetary policy was seen as helping. Making that soft landing [in the] mid-1990s strengthened the reputation of the Fed. When I first came to the Fed in the early part of the decade, there was a lot of Fed bashing going on. The Bundesbank was seen as the most credible central bank. By the time I left, the Fed was a premier central bank.

MR. SMALL. In 1991, why wasn't the Fed adored because the great Paul Volcker had slayed inflation? Was it that the recession was too costly?

MS. PHILLIPS. I think it was, yes. There was a lot of suffering that went on trying to bring inflation down. Those were major hardships. A lot of banks went under. There was also

the S&L crisis. Yes, that was costly. Interest rates were 20 percent. You couldn't get a home mortgage loan. The American Dream was out of sight during that period. So it was very costly in a variety of ways.

MR. SMALL. A lesson learned from the 1970s was that policy was tricky. You could let inflation slide up and maybe get a little less unemployment, but to bring inflation back down was tough.

MS. PHILLIPS. Yes, inflation control was painful, and many people thought a little inflation could actually be helpful. There was tension between the goals of inflation control and growth. If the economy weakened some, I certainly felt you could ease as long as there was room to do so without setting off inflation, and that was the situation when I came to the Fed.

MR. SMALL. Do you remember the term "opportunistic disinflation"—that you would not proactively tighten to bring inflation down, but if events gave you a little lower inflation, you'd lock it in and then wait for the next fortuitous decline? Do you think that was how policymakers looked at bringing inflation down?

MS. PHILLIPS. Yes, yes. I think it was useful at the time, but the economy has to have enough slack to be able to operate that way without laying the groundwork for more inflation. As we went further into the decade of the 1990s, there seemed to be more room to maneuver—keeping rates low without affecting inflation. Also, technology was helping to ramp up productivity, and the stock market was cooperating.

MR. SMALL. I have a chart here of the stock market.

MS. PHILLIPS. The stock market was strong, but there was the risk related to the year 2000. That was a bit of a flap. There was generally a lot of concern that the stock market was

getting a bit on the “frothy” side. That seemed to be the popular term for the market as we approached the century’s end.

MR. SMALL. Alan Greenspan was starting to discuss the new economy and the stock market.

MS. PHILLIPS. Well, both seemed to be having enormous impacts on productivity, which was key to the favorable economic environment for growth and employment.

MR. SMALL. And Greenspan made his famous “irrational exuberance” statement in 1996.

MS. PHILLIPS. [Laughter] He actually circulated the draft of that speech to the other Governors, or at least I saw it. He asked for comments. I remember writing him a note. I gave him, I think, a corn example [laughter] to use to make his point. I was always nervous talking about the stock market, but then, I was very conservative in that area. But he went ahead and did it anyway.

MR. SMALL. Do you remember some of his give-and-take with the staff about whether productivity had shifted up? The staff was somewhat late to buy onto the “new economy.”

MS. PHILLIPS. Alan Greenspan actually worked directly with some staff people and directed the calculations to be made so he could really explore productivity. And what you just said is true. He discovered that productivity had shifted up, although we had been feeling it, and you could see it in his numbers and calculations. The only thing that would explain what was happening was improved productivity. You simply could not have the combination of such strong growth, low unemployment, and benign inflation without strong productivity improvement.

MR. SMALL. Profits and wages and—

MS. PHILLIPS. Yes. You couldn't put that combination together and come out with the profits that were occurring without improved productivity. I don't remember the specifics, but Alan did a number of calculations, or he directed the staff to do some econometric work. He also looked at different industry sectors to prove his argument.

MR. SMALL. It was Larry Slifman, I think, and Carol Corrado.

MS. PHILLIPS. Yes. They worked directly with Alan. I don't remember if Alan showed it to the Governors first, but he brought it into an FOMC meeting. It was very persuasive, and it helped to explain some of the inconsistencies that we felt we were seeing.

MR. SMALL. So the staff should have believed him sooner, and the markets on irrational exuberance should have believed him sooner, and we'd have all been better off.

[Laughter]

MS. PHILLIPS. I think that's right, in hindsight. I'd have to say, at the time, I wasn't enthusiastic about his talking about the stock market. I thought he should let the market do what the market was going to do.

MR. SMALL. But the market didn't listen, because it kept right on going, right?

MS. PHILLIPS. It listened for a day or so [laughter], and then it bounced back. You're right, you're right. But I was a great believer in markets and did not like jawboning the markets.

MR. SMALL. I know it was after your tenure here, but did it surprise you when the market crashed? If you look back now, does it surprise you that the market could have gotten so far out of line with fundamentals? Do you think they can be frothier for longer than you would have ever thought?

MS. PHILLIPS. I think among traders that there is a certain amount of herd instinct, and people believe what they want to believe. Sometimes they take positions, not really looking

skeptically at the fundamentals of their portfolios. So, yes, I think it can happen. In fact, it has happened a number of times, and the market can get out [of] alignment in the short run. But it's certainly what people believed at that time. Usually, eventually there is a correction.

MR. SMALL. During your Board tenure, there wasn't a big flare-up or crisis until we started getting into the Asian crisis?

MS. PHILLIPS. Yes, that's right. There were more disruptions in the debt markets when I was at the Board than there were in the stock market. During my tenure, there was pretty much of a buildup in the stock market, although it did fall back some in 1992. After mid-1992, the market pretty much went straight up. I like to point out that the market was in good shape when I left the Board in 1998.

MR. SMALL. [Referring to chart on inflation] Inflation and employment are steady. People say, "The business cycle is gone. We're past it. We've got Greenspan at the helm. He'll stabilize everything. If the economy's stabilized, maybe I can leverage up some more here."

MS. PHILLIPS. That was the attitude. I think we got complacent coming out of the decade of the 1990s. There was said to be a Greenspan "put." That term was bandied about as if the Fed would step in and supply liquidity whenever it's needed. That works in some situations where liquidity is the issue. But if it is really a credit problem in the cycle, I don't think the Fed can deal as effectively with that kind of issue by injecting liquidity.

I've always felt that there are limits to what monetary policy can do. But we had such a long period of strong economic times. A lot of people didn't remember the bad times. The last hard times we had were in the 1970s. The decade of the 1980s was getting out of problems. Greenspan used to characterize it as getting rid of the headwinds. By the end of the decade of the 1980s, we were getting past the S&L problems, getting the Iraq war behind us, and

solidifying control of inflation. People were getting used to making decisions without having to factor in inflation.

MR. SMALL. The combination of the 1987 stock market crash, which did not leave much of a macro imprint, the removal of the Berlin Wall, and the fall of the Soviet Union and the triumph of free markets were very resilient, as 1987 showed us. We thought we were in a period of sustained growth, flexible markets; we'd figured out a lot of the stability stuff.

MS. PHILLIPS. Yes, we thought that. There were a lot of people who thought that. And derivatives helped to provide some of the tools of stability.

MR. SMALL. Derivatives more efficiently spread risk out and let the people who could bear it bear it the most. Nobel Prizes were being handed out. People were studying it. I wouldn't say it was exactly the same overconfidence as in the early 1960s with Keynesianism, but at times, even policymakers can get a little overconfident.

MS. PHILLIPS. And the deficit was going down. Much in the economic environment in the late 1990s helped build confidence.

MR. SMALL. During our generation, some 30 years ago on a map of Europe, the Ukraine and Lithuania were independent countries. There was a period where the federal government was in line for a surplus, and inflation in the United States was 2 percent. The Bundesbank was the central bank with credibility, and they were a little weird, almost, at 2 percent inflation.

MS. PHILLIPS. Well, and I do think that your history colors your view of what's important. Germany and the Bundesbank had such a terrible situation after World War II. Their experience with hyperinflation made Germans really focus on inflation, whereas in the United States, the Depression is the big economic event that influenced us. We have an economy that

produces lots of different kinds of goods. We have lots of commodities. In contrast to other countries, we don't have to import that much relative to our GDP. We have a large domestic GDP and we don't have to do as much trading. But we have a real Achilles heel with oil—that's one area that's a problem for us. We supply a lot of the world with grain, so we have surplus food. So there are a lot of strengths in the U.S. system. If you can get inflation down, the economy can work most efficiently and with confidence. The economy can do what it does best—create jobs and access to capital and so on.

Ironically, over the years, having Glass-Steagall in place allowed us to create strong stock markets and public markets for the issuance of debt, whereas other countries that don't have this required separation of commercial and investment banking rely on their banks for most of their capital formation. But we have multiple sources of capital formation. We don't have to rely just on the banks. We have capital markets, which contribute to capital formation.

Down business cycles or the government throwing sand into the gears of the economic system can cause disruptions, but as long as banks and markets are functional, we have an opportunity to be in that virtuous cycle. And I think that's what characterized the 1990s. Even the dot-com crash in the early part of this decade didn't cause systemic problems. It didn't get all the way to the banking system. It was more confined. But going further in the first decade of the century, I think that's where some of the excesses became evident.

### **Financial Crises**

MR. SMALL. The financial crises you saw then were, first, largely the Mexican financial crisis in 1995 and the Asian crisis starting in 1997.

MS. PHILLIPS. Right. Particularly in the Asian crisis, you could see there was not adequate bank supervision and too much leverage. Banks gave loans more to friends or

businesses with which they had relationships as opposed to basing loans on arm's length analysis of the merits of the business venture. The need for adequate capital, leverage, and transparency standards was evident. In addition, the buddy system for lending was in need of reform. In some of the Asian countries, banks were owned by an industrial complex, and they were pretty much forced to finance that industry. This system is likely not going to produce efficient allocation of resources. There were a lot of lessons to be learned from the Asian crisis. From what I can tell, since I left the Fed, many of those Asian countries learned a lot from that crisis, and it has held them in good stead.

The Latin American crisis was a little bit before my time. But during my tenure at the Board, I was assigned to work with the Latin American countries, and they recognized the importance of bank regulation and supervision. They were having a hard time implementing it, but during the last couple of decades, they've been getting their bank supervision systems in order. Both Asia (maybe with the exception of Japan) and Latin America came through the financial problems in the latter part of the decade in much better shape.

MR. SMALL. In managing a financial crisis, about 30 years ago, a lot of the credit was in the banks, and the crises were there, so you could go to [a] Citibank or [a] First Continental and deal with them and get capital put into them. Now some of the crises are more outside the banks, in the markets. So, is it much more difficult to deal with crises? In particular, how do you feel mark-to-market accounting might play into how crises propagate themselves? Do you have a view on whether you believe in mark-to-market—whether it exacerbates downturns, because everyone's selling into a declining market? But if you don't have that, it's false pricing, false values leading to the crash in the first place?

MS. PHILLIPS. This is a hard area. Fundamentally, I think accounting should reflect the economic reality of the business. For certain kinds of businesses, certain kinds of situations, I think mark-to-market is the right thing. But in other kinds of businesses, particularly involving long-term investments, maybe mark-to-market's not the right approach.

MR. SMALL. So a Citibank could have a long-term portfolio, a medium-term, a short-term, and have to mark their trading portfolio to market, but not their long-term?

MS. PHILLIPS. Yes. This accounting question reminds me of my days when I was at the University of Iowa. I was a finance officer during the 1970s and 1980s, when interest rates were volatile. Every month when I met with the banking committee of the Board of Regents, I'd have to explain the volatility in the value of our portfolio.

We were going to hold onto those bonds until they matured and had no plans to sell the stock. But when interest rates are rising, the value of stocks and bonds is generally going down, and marking those securities to market meant our portfolio was going all over the place. Since we did not need cash, and thus were not planning to liquidate the bonds, market valuation of the bonds was not relevant. But the state had restrictions on what we could buy and sell. For example, if we were given stock, we could sell it, but we could never buy stock. We could never add stock to our portfolio unless it was given to us. Thus, we generally held securities for income. We were generally long-term holders of stock unless we really saw a stock was a dog and wanted to [laughter] get out.

Marking to market meant the value of our portfolio would get whiplashed around. I would spend half the meeting trying to explain this to the Board of Regents. This experience led me to believe that because marking to market did not reflect the economic reality of what we were doing, it was not appropriate accounting for what we were doing. So I have a hard time

endorsing mark-to-market across the board. Buy-side investors are much more supportive of marking to market—they want to know the cost and liquidation value of securities.

MR. SMALL. Let me give you another example. Suppose you have a big commercial bank funding itself only through short-term paper. You could say it's not their decision whether to hold this stuff long term. The money is hot money, it could all leave, and therefore it's not management's decision so much to hold this long-term bond for 30 years.

MS. PHILLIPS. That's also a question of risk management. In other words, the bank has to assess how much of its asset base is going to be turning over to try to match the duration of its assets and liabilities. But the short-term assets matching up against short-term obligations, sure, I think those should be marked to market. But one size doesn't fit all here. Risk management is the more important element. If you're really in a situation where you can guarantee that you're going to be able to hold onto those bonds for 30 years, you shouldn't have to suffer the earnings whiplash of marking to market.

MR. SMALL. Is there any part of the regulatory structure that you think needs to be fixed?

MS. PHILLIPS. We need to have more of the over-the-counter derivatives brought onto exchanges. There is a lot of risk management that can be done with standardized commodities. Having that liquidity at the exchanges, the credit oversight that occurs through the clearinghouses and the daily mark-to-market, can take some of the risk out of the overall market system. I think that's important. At the same time, I hope that there would be some discretion given to regulators to recognize that some specialized or developing derivatives should be exempted and allowed to continue over the counter. For derivatives, that is an area that needs to be fixed.

Separately, we've got to get certainty into derivatives accounting so that income and balance sheet accounting is more accurate. I was always concerned that if you couldn't value something, it would just be described in a footnote and never fully reflected on balance sheets. That's not helpful to the investment community. You've got to have transparency, but you've got to have meaningful transparency that reflects the economic realities of the underlying business.

Derivatives accounting has improved since I left the Fed. We're not quite as behind the eight ball anymore. I'm certainly a strong believer in private-sector accounting standard-setting, and I hope that there can be some détente within that sector, but folks need to come together, because there are strongly held views on both the buy and sell sides. There are some people who want everything marked to market. For some portfolio managers, marking to market is in their interest. They'd like to be able to get in and get out of the market all the time. But that needs to be weighed against the cost put on the companies that are issuing or holding those securities. And there's got to be the right amount of marking to market and transparency.

MR. SMALL. Should a young person now go into finance, or is that just making money off other people's money and not making real things?

MS. PHILLIPS. Finance continues to be an important area. It is part of the capital formation process that supports the making of real things. I also think that strong accounting fundamentals are important. It's amazing when you're dealing with young people, trying to get them to understand what a balance sheet means. It takes a while for all of it to sink in. You can just take those numbers for granted, but you also need to know what's underneath the numbers and how much certainty there is. If you finance something long term, you need to have the

certainty that the assets or business underlying it is stable enough to support the long-term obligation.

MR. SMALL. What are the dream jobs for a regulator?

MS. PHILLIPS. Oh, my goodness. I'm not sure I could name a dream job. Public service generally is one of the most rewarding jobs you could ever have. The Fed has a certain amount of regulation, but there are other parts to a Fed appointment than just regulation or just monetary policy. Regulation in and of itself is always going to be a fairly focused area. If you have good communication and cooperation working with the regulated industry, the regulatory process is probably going to be a more productive kind of regulation. But there's a lot of unnecessary regulation out there still. The trick is going after the meaningful regulation.

### **Structure of the Federal Reserve**

MR. SMALL. Do you think the Fed is too academic in its regulation, too "ivory tower"? Are there enough staff or Governors who have been out in the markets or have been out in financial institutions?

MS. PHILLIPS. I think that there are incredible built-in checks and balances in the Federal Reserve System. First of all, there are the seven Governors plus the Reserve Bank presidents and all of their resources. There's a good deal of diversity within the Federal Reserve System. And you have 250 Ph.D. economists at the Board looking at what everybody else is doing and being questioned by Board members and peers. One of the strengths of the Fed is the analytical capabilities. The Fed is one of the largest economic think tanks in the world. Most regulatory agencies don't have those kinds of resources, which is a real challenge. It certainly was a challenge for the two that I was affiliated with over the years.

*Fed Chairman*

MR. SMALL. Some would say the Chairman himself is not terribly powerful, because he has seven Governors and he has to work with the Reserve Bank presidents. Others would say that the Chairman is like the CEO of a corporation: He comes in, sets the rules, and runs the shop. From your perspective, how does the Chairman manage or gain influence?

MS. PHILLIPS. I only worked under one Chairman, and that Chairman was very collegial. He gave us all assignments. He'd see how things were going. If things were going well, he'd give you more assignments. I had a wide variety of responsibilities while I was at the Fed. I felt like I was always contributing.

The Chairman kept track of what everybody was up to. But at the end of the day, he's got to get enough votes if he wants to get something done. There has to be enough collegiality and enough transparency to make that kind of system work. There are ways the Chairman can force an outcome. For example, when we dropped the discount rate 100 basis points, that forced the FOMC to follow through with a steeper decline in fed funds rates than they might have wanted. That was a power play, but he had the support at the Board level.

One of the checks and balances is different roles and authorities for Board members versus Reserve Bank presidents. The Board has seven members, and the FOMC can contribute another five votes to set the fed funds rate. There are a variety of ways in which to work the system, but there are constraints in the form of checks and balances. The Chairman has his own challenges. If there's not trust of the Chairman, or if you feel as a member that the Chairman has betrayed you in some way, he's going to have a hard time getting your vote back.

It's not an easy job, but that's leadership. The most important thing about leadership is having the support of your team—in this case, the Board. A Chairman has to find ways to earn

the support of the Board and FOMC. There are a variety of ways to do it, and I think good Chairmen exercise those prerogatives in different ways, depending on the people with whom they're working and the issue.

Chairman Greenspan certainly did that during the period I was there. There were times I was ready to move faster in monetary policy or a bit more slowly. But if we were going in the right direction—and, bearing in mind, most of the time we were talking ¼ point—a month's difference in execution time, in the grand scheme of things, doesn't make that much difference. I was always amazed at the projections when the staff would run their economic models. If you raise interest rates this much or if you lower interest rates this much, often you'd not see that much effect on the various economic aggregates in the short run. The question is getting the trend going in the right direction. The Chairman had a lot of tools that he could utilize to garner consensus.

The Congress, in its wisdom when it set up the Federal Reserve, placed such checks and balances within the System as rotating [the] presidents voting and members of the Board being from different geographic regions. This forced diversity within the Federal Reserve System creates a good deal of strength at the top, because the Fed can exercise authority in a lot of different areas. If the Chairman has people well placed and can assign things to Governors or give them the staff, that multiplies the effectiveness of the agency. The particularly strong Chairmen that we've had have taken advantage of the diversity and resources of the Fed.

#### *Composition of the Board*

MR. SMALL. If you received a call from the Secretary of the Treasury about the appropriate type of person for an opening at the Federal Reserve Board, what would you say?

MS. PHILLIPS. I've gotten those calls before. For example, I received a call from the CEA at one point. The CEA was getting a lot of pressure to appoint a banker to the Board. Bankers wanted a banker on the Board. The person who called me was an economist. I said, "From my perspective, you've got to get the best person you can. Make sure they're smart, they're willing to listen, and they're willing to be open. If they come with an agenda, that's probably not a healthy thing."

I think the bankers are wrong on this. They want a banker on the Board because they think he or she will understand their problems. Well, they may understand their problems, but that banker is probably not going to be effective in making changes, because it would be seen as pandering to the banks. Whereas if you have somebody who comes in who's completely open, who doesn't have an agenda, if they see the banks have a point, they're probably going to be more effective in getting changes made.

What you want is a smart person with enough educational background to be able to take advantage of the resources that are here. If you are going to help direct a study, you've got to know enough to tell people what kind of analysis to do. [The] staff can make a lot of suggestions, but effective Board members are going to work collectively with the staff on a project or study. In short, you've got to have enough educational horsepower to be able to play in their sandbox, so to speak, and to be able to adequately utilize the resources of the Fed. Also, you don't want somebody that's got a lot of baggage.

I'd also look at the current composition of the Board. If you've got mostly macroeconomists, it might be useful to throw somebody in either from industry, finance, or from banking, but well educated so that they can start raising questions and get some other perspectives inserted into the discussion. Some of it has to do with who's already there, what

you're complementing, but the primary goal is to get a smart, well-educated person there.

Having said that, I don't think education is always a panacea, but I think people who don't have the degrees feel a bit intimidated. Some of it's imagined on their part, because new people who bring new perspectives may find as they get involved [that] the staff will rally around.

MR. SMALL. The staff economists, me included, probably at times use the technical language as barriers to entry.

MS. PHILLIPS. Yes, and so the person has to have enough nerve to come back and say, "What are you talking about?" and force them to put it into language they can understand. They might understand supply and demand curves a bit differently. If you asked them, "Which direction do supply curves slope?" they'll have to think about it. But if they think of it in their terms, invariably they'll come up with the right substantive response.

MR. SMALL. The chairmanship aside, do you think a Governor's job is a good job for someone who wants to come and make a difference and play the big policy games? It's often claimed that former Chairman Bill Miller, who came out of private industry, was a brilliant person in industry, but when he came to the Board and the more collective [structure], he couldn't direct the Governors like he'd direct his vice presidents. Is this just a different world? If a CEO comes in as a Governor, does he have to change a lot or he'll be frustrated that there's not a simple bottom line of profits, there's not the command and control?

MS. PHILLIPS. I've seen a lot of industry people who have a hard time making the transition to government. In industry, you are used to giving orders and having people follow them. At the Federal Reserve Board, I worked with a lot of staff. We would come up with the agenda together, and then they'd go off and work on it. In a way, I was directing them, but it was a little bit more of a collegial process. I came out of the same world many of them did, out

of the academic world. Yes, sometimes business people have a hard time. But even CEOs are faced with people they don't directly control—for example, the composition of their boards. CEOs going into any kind of merger negotiation are not in charge; they're going to have to present the case, persuade, and get a lot of people on board to make something happen.

So I think that there may be more in the business skill set that can be utilized if it's just tweaked slightly and people recognize the different backgrounds. A lot of businesses are run as collegial organizations. They're trying to have people throughout the organization become more productive, have more ideas, contribute, and take ownership of projects. Some companies are truly what we would call "learning organizations." It's not as if corporate CEOs can't fit in, but they might not know all of the economic jargon. Someone may have to explain what that graph means to them: Why are you putting these two concepts or processes together on the same chart? What am I supposed to learn from this? They'll get the hang of it. If they are open, willing to listen, and willing to learn, they'll soon find what they have to contribute and how to make a difference.

I came to the Federal Reserve thinking I didn't know much about the real economy. Clearly, markets are a huge part of this, so I was not totally ignorant. About that time, derivatives were coming down the pike for bankers, and bank regulators needed to get ready. Capital should reflect derivatives. I knew this was going to get complicated. We can't just assume one ratio will handle derivatives. I think once you get to the Board, you realize where you can contribute. And there are some areas that you naturally like more than others. I saw one Governor who came out of industry who liked the management side of the Fed job—for example, working with the Reserve Banks. But for another Governor, working on the

administrative side at the Reserve Banks was tedious. That person didn't want to take the time to learn that world.

I think anybody who has the credentials and gets through all the Washington vetting process will have something to contribute. They might not know what it is, and it may take the Chairman to help draw them out a bit. Also, generally members of the staff are there to help most of the time. They want the agency to do well. They don't want to see their bosses getting shredded on the Hill. Thus, by and large, joining the Board can be collegial, if you try to make it work for you.

MR. SMALL. Well, it worked for you. You survived the Fed staff [laughter] and our endless number of memos.

MS. PHILLIPS. I'm still alive, yes. Reading is a major part of your time at the Fed. Academics are probably a little bit more forgiving of doing a lot of reading and analysis. That's one of the reasons that I think you tend to get people from the academic world coming here as Governors. But there's certainly room for a variety of different backgrounds. Some of the Board members I worked with most closely didn't have academic backgrounds. The academics often would go off and work in their own areas of research interest.

MR. SMALL. Yes, tweak the models. That's what I would have done [laughter]. Thank you very much.

MS. PHILLIPS. My pleasure.