Federal Reserve Board Oral History Project

Interview with

Robert Solomon

Former Director, Division of International Finance

Date: March 26, 2008

Location: Washington, D.C.

Interviewers: David H. Small, Dale Henderson, and Ralph Bryant

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 Wednesday, March 26, 2008. This interview is part of the Oral History Project of the Board of Governors of the Federal Reserve System. I am David H. Small from the FOMC (Federal Open Market Committee) Secretariat in the Board's Division of Monetary Affairs. I am joined by Dale Henderson, a former associate director in the Board's Division of International Finance (IF), and by Ralph Bryant, a former IF director. We are conducting an interview with Robert Solomon, also a former director of the IF Division and adviser to the Board. This interview is taking place at the Board. Mr. Solomon worked at the Board from 1947 to 1976.

Mr. Solomon, thank you for participating in this project. Before talking about your career, explain your relationship with Ralph Bryant.

MR. SOLOMON. Ralph and I worked together in the IF Division. He was a senior official and an important member of that division in the substance of its work. He filled in for me often when I was away, or even when I wasn't away and needed to be filled in for. And he succeeded me as director of that division.

Personal, Educational, and Professional Background

MR. SMALL. Let's start with your earliest years and some of your family background.

MR. SOLOMON. My parents were educated, cultured, sensible people, and that influenced me. We had a lot of books in our home. My father spoke French as well as English. Both parents were born in Romania. I was an only child.

MR. SMALL. Were you a good student as a child?

MR. SOLOMON. I did well in school, on the whole. In high school, I wasn't summa cum laude, but I was number four in my high school graduating class, as I recall. In addition to being a reasonably good student, I played on the football team and the track team. That was in

Rye, New York, a suburb of New York City. Rye is a nice town and special in many ways. We lived in an area with a lot of woods around the house. Being outdoors, walking in the woods, bicycling, playing tennis, and so on has always been an important part of my life.

I graduated from high school in 1938 during the Great Depression when my parents, who had been quite affluent in the 1920s, were broke. My father's business went under, and his investments in the stock market disappeared. It was doubtful whether or not they could afford to send me to college.

Memories are coming back to me as I speak. One afternoon, the principal of our high school came to my house. I was close to him, and I had been tutoring him in math, because he was working on his Ph.D. How many people have had the experience of tutoring their high school principal in mathematics? He said, "I have a scholarship for you from a wealthy gentleman who lives in this town." I went off to the University of Michigan on scholarship for four years.

MR. SMALL. What impact did living through the Great Depression and watching the financial problems of your parents and your friends have on your thinking about fiscal frugality, discipline, or policy?

MR. SOLOMON. Being a child of the Depression, regardless of what happened to my parents, influenced my views about the economy. But I don't think my own personal experience had much to do with how I felt about broad economic policy.

MR. HENDERSON. What business was your father in?

MR. SOLOMON. He was in the wholesale milk business. The company imported milk from Canada. In those days, all the grocery stores had their own cans of milk, and that was where people came with containers to get their milk. This was the 1920s and early 1930s. My father's business delivered those large cans of milk to the stores around New York City.

MR. HENDERSON. Did you work in the business at all?

MR. SOLOMON. I didn't work. I was there with my dad a few times. In the early days, milk was delivered by horse-drawn carriages. Later, truck drivers delivered the milk. I remember hearing these guys talk. I heard words that I had never heard before—swear words.

MR. SMALL. Did you have summer jobs?

MR. SOLOMON. Yes, I had summer jobs. I worked as a counselor in a camp. Also, a friend of my parents had a business of some sort making something metal, and I worked in that factory for a couple of summers.

MR. SMALL. Did that convince you that you wanted to go to college?

MR. SOLOMON. No, I was already in college. I don't think I worked in the summers when I was in high school. Like a lot of people, I had a newspaper route in town. I delivered the evening paper.

MR. BRYANT. Did your interest in economics grow when you were at Michigan, or did that come later when you were in graduate school?

MR. SOLOMON. I was quite good at math in high school. At the University of Michigan, I started out as a math major. There I was admitted to a freshman math course in which you had to get special permission to enter, because it covered three semesters in two. There were a lot of bright guys in that course. That's when I learned I wasn't a top-dog mathematician, and I was bothered that I wasn't one of the top ones. Anyway, I majored in math. I took an economics class. I found it interesting, and the concepts were easy to understand because of my math background. I took a course with Arthur Smithies. He got me into Keynesian economics.[1] I took every course I could and had a double major: math and economics. Smithies was an important part of my life, even later on.

MR. HENDERSON. Was mathematics used at all in your economics training? Did you take econometrics courses?

MR. SOLOMON. I did not take any econometrics courses as an undergraduate. I don't think we got into very much math. I took statistics, I guess, but that's different. Smithies was not an econometrician. He was mainly a macroeconomist.

MR. SMALL. Were you exposed to paradigms other than Keynesian at Michigan?

MR. SOLOMON. I'm getting confused between graduate and undergraduate school. We had an expert in what was called "location economics": Why were certain stores or factories located here rather than there? Math wasn't explicitly used, but understanding mathematical concepts helped with the economic concepts.

MR. SMALL. What was the time period?

MR. SOLOMON. 1938 to 1942.

MR. SMALL. Keynesian economics was really just coming out, right?

MR. SOLOMON. Smithies was one of the early Keynesians.

MR. SMALL. That was the cutting edge.

MR. SOLOMON. Right.

MR. SMALL. What did you do after being an undergraduate?

MR. SOLOMON. World War II started on December 7, 1941, during my senior year. That was a shock. I knew I was going to be drafted. I was in good health. I graduated from

[1] Keynesian economics suggests that private-sector decisions sometimes lead to inefficient macroeconomic outcomes, and, therefore, active policy responses by the public sector—including monetary policy actions by the central bank and fiscal policy actions by the government to stabilize output over the business cycle—are warranted.

college, passed a civil service exam, and came to Washington thinking it would be a good idea to work for a while before going into the military. I was interviewed at various agencies, but I was still draftable, and therefore nobody hired me.

I went to work for the Ballantine Beer Company with a friend who came to Washington with me. We loaded trucks with beer cases and earned more money than we had earned before—$20 a week or something. Anyway, that was brief. I wasn't hireable, and I started applying to what was then called the Air Corps. I wanted to fly. Airplanes had always appealed to me. When we were kids and planes flew over, we used to look up in the air and say, "There goes Lindy" (Charles Lindbergh, a famous American aviator). Once I was riding around Westchester County with my parents. We were near Armonk, New York, where there was an airport. I said, "For $5, I could go up in an airplane," but my parents wouldn't let me. So I didn't get to fly even though I wanted to. Anyway, I applied to the Air Corps and was admitted to the aviation cadets.

MR. SMALL. Without ever having flown anything?

MR. SOLOMON. Oh, yes. I graduated from college in 1942, and by the fall of 1942, I was in the Air Corps. My parents were living in Mt. Vernon, New York, at that point. They had moved and given up our lovely home in Rye. They were living in an apartment in Mt. Vernon. The draft board had a quota to meet, and even though I had been admitted to the Air Corps, I couldn't go until my draft board could use me to meet its quota of draftees. I went in with that group and then shifted to the aviation cadets, which is a little bit like West Point.

MR. SMALL. Where did your training take place?

MR. SOLOMON. Training was in many different places. I wound up as a navigator in the Air Corps. My math background helped me to qualify for that. But I had a lot of other training, including gunnery school. I started out in pilot training, but I failed as a pilot. I was too tense because I had never flown before. Eventually, I shifted over into navigation and flew 35 combat missions over Japan in World War II and survived.

MR. SMALL. What type of planes did you fly?

MR. SOLOMON. The B-29, which was then the Superfortress, the most modern plane of its time. The navigator sat next to a turret with four 50-caliber machine guns in it. That's one reason I have hearing aids. Nobody was aware that sitting right next to that thing was going to affect one's hearing, but it sure did. Anyway, I survived 35 missions.

We were attacked by antiaircraft fire. The Zeroes, the Japanese fighter planes, attacked us in our daylight missions. I saw planes next to us get hit and go down. We were extremely lucky to make it. That experience has affected my attitude toward life ever since. I'm lucky to be alive.

After the war, I went back to see Smithies. He was then in Washington working at the Budget Bureau and meeting with John Maynard Keynes. Keynes was in Washington at that point to get the Americans to agree to a loan to Britain since it was in trouble economically and financially after World War II. Smithies took time to meet with me. I was trying to decide what to do with myself at that point. We chatted for a while, and then he finally said, "Go to Harvard and get a Ph.D." And he took me over to the Fed. I saw Jim Duesenberry, who I think was working here at that time, and Evsey Domar, who later became a professor at MIT. He had been at the University of Michigan on the same course path with me with the name Joseph Domecheviski. That's the guy I knew.

At the University of Michigan, there were about seven or eight cooperative houses on the campus. I moved into a co-op house in the second semester of my sophomore year. It was a nice group. We bought our own food and cooked our own meals. I became president of my house and then president of the Inter-cooperative Council of the whole group. I had a lot of friends whom I met that way, including Evsey Domar.

MR. BRYANT. When did Smithies meet Keynes?

MR. SOLOMON. I think he was a student at Cambridge. Smithies was born in Tasmania. He had that accent. He was a professor at Harvard in his later years.

MR. HENDERSON. Did he ever talk about the other Keynesians, like John Robinson and Henry Roy Forbes Harrod?

MR. SOLOMON. I wouldn't remember, but he might have. I think he knew them.

MR. BRYANT. How about Walter S. Salant, who also went to study with Keynes?

MR. SOLOMON. I got to know Walter here in Washington. I guess I knew him even before I went to Brookings. I had a lot of contact. He had a brother, Bill Salant.

MR. BRYANT. So Smithies walked you to the Federal Reserve, and you met Dusenberry and Domar. Did the prospect of working for the Federal Reserve come up?

MR. SOLOMON. I don't know if it was explicit, but my interest in the Federal Reserve was stimulated. It was my first indication of what a special institution this is. That became a well-known view of mine as the years went on.

MR. SMALL. At that time, people here were not working on personal computers or mainframes?

MR. SOLOMON. No, they didn't exist. People had their own—whatever those things were called that we worked on to do statistical calculations. I remember when the first computers started here. They took up the whole room.

MR. SMALL. It was quite difficult to do a regression in 1939.

MR. BRYANT. So Smithies told you to go to Harvard and get a Ph.D., and you followed that advice fairly promptly then. Is that the sequence?

MR. SOLOMON. Yes. I went off to Cambridge and was there from the fall [of] 1945. If we completed 35 missions, we got out of the military early. The big discharge came sometime in the middle of the first semester of that school year, so there were very few students at Harvard in that first semester. The big influx came in the second semester. After two years of graduate work, I got a master's degree automatically. I was also teaching at Simmons College and stayed on doing that for part of the year after I finished the graduate work. I hadn't started the dissertation. I had come to Washington and was interviewed here at the Fed and was offered a job.

MR. HENDERSON. During this time of undergraduate and graduate studies of economics, you graduated from Harvard in 1952.

MR. SOLOMON. I got my Ph.D. in 1952. No, I graduated from the University of Michigan in 1942.

MR. HENDERSON. From the end of the war to getting your master's degree, two of the big developments were Bretton Woods and the Fed–Treasury Accord. Did you study any of those in school? Were they big issues?

MR. SOLOMON. I didn't study them in any detail. Those events were not terribly important to me at that time. The accord was 1951. My studies came before the accord. I was already at the Board in 1951. The Fed wasn't as important as it became later.

MR. HENDERSON. How did you support yourself through graduate school?

MR. SOLOMON. I was a first lieutenant when I got out of the Air Force. Lieutenants were paid reasonably well, and people who flew were paid 50 percent more than those of the same rank who weren't flying. So I had a pretty good salary, and I saved. I've forgotten how much per month I sent off to my parents to put in a bank for me. I financed myself that way.

MR. HENDERSON. Who were some of your professors at Harvard?

MR. SOLOMON. They included Gottfried Harberler, who had written this famous book, *Prosperity and Depression*, and Alvin Hansen, who was the foremost Keynesian at Harvard. Hansen had been a professor at the University of Minnesota, I think, before coming to Harvard. He wrote several books popularizing Keynesian economics. Also, Edward Chamberlain was an expert on something more micro.

MR. BRYANT. Monopolistic competition was his big thing.

MR. SOLOMON. Exactly. Sumner Schlichter taught labor economics, I think, and maybe general introductory economics. Wassily Leontief, who taught economic theory, was a good professor. Joseph Schumpeter, who then took over the more advanced theory course, was a famous and interesting character.

MR. HENDERSON. Did you become interested in flexible exchange rates from Harberler?

MR. SOLOMON. Not strongly, but possibly.

MR. HENDERSON. Harberler later became quite a proponent of flexible exchange rates, as I remember.

MR. SOLOMON. He did, indeed. I got very close to him when I was in Washington.

MR. BRYANT. Your focus and your studies at Harvard, and maybe immediately after, was more on domestic issues than on international. Then gradually, in your career, you moved more and more into the international. Is that right?

MR. SOLOMON. Yes. I was interested in business cycles. Hansen's field was the one I was most interested in.

MR. BRYANT. What was the topic of your dissertation?

MR. SOLOMON. I left Harvard in 1947 and came to the Board. You had to write your dissertation within five years of the time you took your generals and got your master's degree if you wanted a Ph.D. I had to finish my dissertation by 1952. While working here at the Fed, I stayed downtown every weeknight working on the dissertation to get it written. Since I had been working on Belgium and the Marshall Plan, my dissertation was about the postwar business cycle in Belgium, which Harvard accepted, and I got a Ph.D.

MR. SMALL. Who was your thesis adviser?

MR. SOLOMON. Alvin Hansen. I had to take an exam at the end. At the end of that oral exam, one of the professors was John Williams, who had a connection with the New York Fed. He offered me a job at the New York Fed, which I turned down. I was already at the Board.

MR. SMALL. So your oral exam was with Hansen?

MR. SOLOMON. Hansen, Williams, and I've forgotten who else. Three or four others sat around the table. Leontiff was there and, I think, Harberler.

MR. BRYANT. Was it pro forma?

MR. SOLOMON. Almost, I think. They had read the dissertation, and they were very nice to me. It was easy, as I recall.

MR. BRYANT. There was a distinguished group of economists at the Board when you arrived—people like Albert Hirshman.

MR. SOLOMON. When I first got here, I think the senior people were Woodlief Thomas, Winfield Riefler, and Ralph Young. These were all pre-Keynesians. I'll never forget a conversation I had with Woodlief Thomas. He was a tall man. He said, "Why is it that, whenever we go into a recession, the budget deficit gets bigger?" He didn't understand! That's an indication of the transition from pre-Keynesian to Keynesian. A few years later, you'd ask a senior person at the Fed, and he'd understand it immediately. Not terribly long after that, Dan Brill, Bob Holland, and I were all promoted to higher positions and took over as the senior guys. We all had this different background, this Keynesian background.

MR. HENDERSON. Do you remember notable fellow students at Harvard?

MR. SOLOMON. Bob Solow was an undergraduate, but he was taking a graduate course. Anthony "Tony" Solomon was a student who became president of the New York Fed [1980–85] and an important man in the Treasury.

MR. SMALL. Did you overlap with Jim Tobin?

MR. SOLOMON. I think I did briefly, because I got to know him early. Maybe he was there during my first year. I'm not sure now. I have enormous respect for him.

MR. SMALL. What kind of role was Paul Samuelson playing in Cambridge at that point?

MR. SOLOMON. No direct role. He was over at MIT. Jim Duesenberry, whom I had known at the University of Michigan, was a graduate student when I was an undergraduate. When I got to Cambridge, within the first week I was there, I went out of the rooming house I was in and bumped into Jim Duesenberry, who was already at MIT. I don't think I met Paul Samuelson that early, but his textbook came out in 1948, if I'm not mistaken.

MR. BRYANT. *Foundations of Economic Analysis*?

MR. HENDERSON. *Foundations* was 1947.

MR. SOLOMON. There were other fellow students who were not as well known as those I've already mentioned but who were good friends. Frank Holzman became a well-known expert on Russia.

MR. SMALL. Who was your favorite professor?

MR. SOLOMON. Dewey Daane was there. My favorite professor was Alvin Hansen, but so many of them were first rate. Leontief was a great teacher and a fine person. There are different people you appreciate for different reasons. I have no reason to mention just one.

MR. HENDERSON. Was Leontief teaching a fairly mathematical course?

MR. SOLOMON. He could have been, but I don't think he did. He was also working on input–output analysis at that point. He had his own special study program and some students working with him, but he didn't go into it much in the course. Whether he was teaching a separate course on input–output, I don't remember now.

Early Years at the Board

MR. BRYANT. When Bob Holland, Dan Brill, and you were moving up into positions of leadership here, there were many other people.

MR. SOLOMON. Oh my goodness, yes. Arthur Hersey was an expert on Japan, and maybe other Asian countries. He was a brother of John.

MR. HENDERSON. Was Alexander Gerschenkron still here?

MR. SOLOMON. We overlapped in my early years, definitely. He was off to Harvard.

MR. SMALL. Was Albert Hirshman here?

MR. SOLOMON. Hirshman headed the European section, which I was shifted into. I started off in—I don't even remember the name of the section I worked on then. It was Lewis

Dembitz's section working on what the United States was doing with the Export–Import Bank and other activities like that.

MR. SMALL. This was all within the Division of Research.

MR. SOLOMON. This was before the Division of International Finance was created.

MR. BRYANT. Was Randall Hinshaw here?

MR. SOLOMON. Randall was here. Randall and I became good friends. When the Marshall Plan started, Randall went off to Paris and arranged for me to come and spend three months there in 1952, I think it was. It was a very special experience for me to spend time in France for the first time. It was the first of many, many times later on.

MR. SMALL. Did you talk economics with Hinshaw?

MR. SOLOMON. I think we did. I had a long experience with Randall. He wound up at Claremont Graduate School and brought together a group of well-known international economists. Once a year, I think, they all went out to Claremont. I have a picture of myself sitting next to Paul Samuelson at one of those meetings. I saw a lot of Randall.

Creation of the Division of International Finance

MR. BRYANT. How was the Division of International Finance created?

MR. SOLOMON. We were all in the Division of Research and Statistics. I don't remember now how it was brought about, but Arthur Marget was invited to come here in 1950. He was in Austria. He had some high position in Austria, and he was invited to come to the Fed to preside over this new Division of International Finance. Arthur Marget had a lot of experience. He was rather self-involved. He had a staff meeting once a week that went on all morning, and during which he talked all morning. That led me to go to Ralph Young, who was still head of the Division of Research and Statistics. He offered me a job, and I shifted out of Arthur Marget's division to Research and Statistics. I couldn't take Marget any longer.

MR. BRYANT. You were in the Division of Research and Statistics. You joined the new Division of International Finance, but then you went back to Research and Statistics for a while.

MR. SOLOMON. I shifted back to working on domestic matters. I was in the Banking Section, and then I headed the Capital Markets Section.

MR. BRYANT. Was it Marget's views or his manner that were problematic to you?

MR. SOLOMON. Both. [Laughter] He just turned me off.

MR. BRYANT. Arthur Marget had a huge book, *The Theory of Prices.*

MR. SOLOMON. That's right. It was enormous. I've lost track of it completely. I had a valuable experience working on domestic matters under Ralph Young. Then Guy E. Noyes took over for Ralph at some point.

MR. SMALL. Was there a change in culture or methodology with the switch from Ralph Young to Guy Noyes?

MR. SOLOMON. I don't think so. I'm not absolutely positive about what I'm about to say. I talked about the pre-Keynesians at the Board. Ralph was between them and us, so to speak. Guy Noyes—Jack Noyes, as we called him—was a little further in our direction, if I'm not mistaken.

MR. SMALL. By the time Dan Brill became the director of the Division of Research and Statistics—

MR. SOLOMON. We had definitely moved into modern economics.

MR. HENDERSON. So Ralph Young must not have been the director of [the] International Finance [Division] very long, because you became director in 1966 or 1967. Did he retire when you became division director?

MR. SOLOMON. I think Ralph retired.

MR. HENDERSON. He was still writing in the early 1970s. I think he might have gone to the International Monetary Fund (IMF).

MR. BRYANT. He was a consultant of the IMF.

MR. SMALL. Do you remember any of your early encounters with Chairman Martin?

MR. SOLOMON. Well, there were so many of them. I'm not sure I can distinguish any particular ones. He was always open and welcoming. He would take a memo, read it, and then call you back and discuss it with you. He had a sense of humor.

MR. HENDERSON. Did you guys have time to read a lot of the academic literature?

MR. SOLOMON. Not as much as I would have liked to. Life was pretty busy. The job was busy. We had three young kids. I was teaching a course at American University once a week. I was an adjunct professor there for quite a few years. I also started doing a lot of traveling to meetings abroad. I didn't keep up as much as I would have liked to, but I tried, I guess. I can't remember specifically now.

MR. HENDERSON. When you switched, how did you learn your international economics? Did you remember a lot from Gottfried Harberler, or did you teach yourself?

MR. SOLOMON. I was also tutored by people like Ralph Bryant who were very important to me.

MR. HENDERSON. When did you become interested in floating exchange rates?

MR. SOLOMON. When, I don't know. But many of us in the division became advocates of flexibility, so you had a mixture of views.

Fixed versus Flexible Exchange Rates

MR. BRYANT. Talk about the views on exchange rates in the early period after you became director. Nowadays, flexibility in rates is well accepted. I remember many conversations with you about how hard it was to get the idea across—here, within the Federal Reserve System, within the Treasury, and then within the U.S. government—that we needed to get exchange rates to move more.

MR. SOLOMON. I'm having trouble remembering who believed what.

MR. HENDERSON. You didn't feel like you were a voice in the wilderness. You had a lot of support.

MR. SOLOMON. Yes, but there were mixed views then. There were people on the other side, as you know.

MR. HENDERSON. Did you keep in touch with Harberler?

MR. SOLOMON. Yes. He came to AEI (the American Enterprise Institute) here in Washington, and I used to meet him for lunch when I was at the Board and I think even later, not just at the Board. He died in 1995.

MR. SMALL. The move from fixed to flexible exchange rates was a long and torturous event. There were many steps along the way where there were remedies for the trade imbalances and the exchange rate fluctuations. There were periods of exchange rates crises and attempts to put in fixes. You were heavily into structuring some of the international—

MR. SOLOMON. The New York Fed was very much involved in the market at the time of the crisis, or the near-crisis. We had a lot of sometimes strained relations with Charlie

Coombs. And the officers of the Fed didn't always agree, but they needed the authority of the FOMC to undertake those operations.

MR. BRYANT. That's an example of what Dale was asking about—the views on exchange rates early on. Charlie Coombs was not agreeable to the idea of having exchange rates move more.

MR. SOLOMON. That's right.

MR. BRYANT. He was adamantly against that, hence the whole New York bit. I think the Treasury, too, had that line.

MR. SOLOMON. Paul Volcker was not an enthusiast, to say the least. When he was undersecretary of the Treasury, whenever he had a serious intellectual economic financial problem to deal with, he would get in touch with me and ask us in IF to write something for him. And we did. We had a lot of briefings with him, and he used our input.

MR. HENDERSON. How did that come about? Was it because he had worked in the Federal Reserve System?

MR. SOLOMON. That's probably a good part of the explanation. He had worked at the New York Fed. When he came to the Treasury, I got to know him, we hit it off, and he found it useful. So I was over there quite a bit, walking back and forth between the Treasury and here numerous times. Paul was pretty straightforward. He was open with me, and maybe he trusted me. We became good personal friends.

MR. HENDERSON. He would read what you had written, and when you walked into the room, he wouldn't ask for a brief summary. He would say, "Why do you think that?" and "Isn't the opposite true?" You didn't have that experience?

MR. SOLOMON. I might have. I don't remember it in that sort of detail. I could well have had that experience.

MR. HENDERSON. Did you talk about economic issues in person, or was it mostly what you wrote?

MR. SOLOMON. Both.

MR. SMALL. Was this Volcker's later years, as undersecretary, or was this also his earlier years, in the early 1960s, when he was deputy undersecretary for monetary affairs?

MR. SOLOMON. We may have first met when he was deputy undersecretary.

MR. HENDERSON. Did you think of him as an unusual person with unusual ability?

MR. SOLOMON. Oh, I always did. I still do. He is very special. What's special about him is, he never seemed interested in pushing himself forward. He was interested in issues, policy, and what was important. That's what he focused on. There is no ego-driven person there in that tall guy, as is true of so many other people.

MR. SMALL. On the international front, the major players would have been the United States, Britain, and Germany.

MR. SOLOMON. And France. French President Charles De Gaulle was very active and had very strong views about gold and about keeping the fixed exchange rate.

MR. SMALL. England had continuing problems.

MR. SOLOMON. The British tried to maintain their exchange rate in the early years, but finally they had to give up and went to floating. We did a lot to help them in the early times.

MR. BRYANT. During the 1960s, there was a sequence of off- and on-exchange crises. The Dutch and the Germans revalued in 1961. In 1964, there was a crisis in Britain all the way through 1967, when the British finally revalued.

MR. SOLOMON. They finally floated. And then we did in 1971.[2]

MR. BRYANT. Things kept getting into crises, tangling up, and crumbling further until we finally got to 1971 and 1973.

MR. HENDERSON. Along the way there were capital outflow restrictions, the interest equalization tax.

MR. SMALL. Was the Board staff generally involved in the debate of all that with the Treasury?

MR. SOLOMON. Oh, yes.

MR. HENDERSON. Do you remember the positions and counter-positions in those debates?

MR. SOLOMON. I don't remember the details, but we were very much involved. The Germans met with the Secretary of the Treasury for a long time, and there was a National Advisory Council (NAC).

MR. BRYANT. I don't think the NAC was the place. That got more into the assistance of developing countries and things.

MR. SOLOMON. That's right.

MR. BRYANT. Do you remember the issue of an allowable deficit for the United States? You got me to write a paper about that. White House and Treasury prompting sparked that, but they were relying on you, again, to generate papers. You called me in and said, "This is hush-hush." I think Ed Fried in the White House wanted this paper. There were many things like that. Could another loan go forward to the British or not? What was going to go on with the

[2] In 1971, President Nixon unilaterally suspended the U.S. dollar's convertibility to gold, thereby leading to the demise of the Bretton Woods fixed-rate system of currency convertibility. Bretton Woods was replaced with a system of floating exchange rates.

French? It was a constant series of exchange crises, and you had us do a lot of contingency planning. What would happen if the pound sterling had to be devalued? Would there be a big crisis? What should the Federal Reserve do? Don't you remember those fat contingency planning books that you would have us prepare?

MR. SOLOMON. Thank you for reminding me. I'm glad Ralph is here, because I'm not remembering all of this, but he is. That's right.

The Role of Gold

MR. SMALL. The issue of how fast the U.S. gold stock was being run down, and how much was left, concerned policymakers.

MR. SOLOMON. That was a big issue.

MR. BRYANT. Talk about not only gold, but the whole effort to establish another reserve asset, special drawing rights (SDRs), the Ossola Group Report—you played a key role in all of that.

MR. SOLOMON. That's right. The view started out that we needed some supplement. Gold was not sufficient, but it can't just be a dollar standard. The world was not going to accept a dollar standard. That's when the G-10 deputies set up the study group on the Creation of Reserve Assets, headed by Renalto Ossola. I was a member.

MR. BRYANT. You were a very influential member of that group.

MR. SOLOMON. We did come up with a recommendation for a reserve asset that was one of the forces that led to the SDRs later on.

MR. BRYANT. Talk about the gold pool. Do you remember that meeting in 1968 here in the Board building? Chairman Martin was involved in that, too.

MR. SOLOMON. The price of gold had gone up and Chairman Martin called together in the Board building a meeting of central bank governors. It was a Sunday meeting.

MR. BRYANT. March 1968. I was in the corner trying to backstop you. What would happen was very uncertain. Would they close the gold pool down or keep it open? The compromise that eventually resulted was to create two kinds of gold. They called it "green-stripe gold," the official gold that exchanged among central banks at the still-fixed price, and then other gold that could have a market price determined in the London pool.

At that March 1968 meeting, you and I had been hoping that we could use that as a lever to make progress on the SDR negotiations and other things, but that was too radical an idea for its time.

MR. HENDERSON. Did you feel any sympathy for the French view, that somehow the United States had [an] "exorbitant privilege," being the only one that was able to run deficits because of this de facto dollar standard?

MR. SOLOMON. It was understandable, yes. Some of the other views didn't make sense to me, but that one I understood.

Council of Economic Advisers

MR. SMALL. You went to the Council of Economic Advisers.

MR. SOLOMON. I spent some time with them. I've forgotten how long now, but a year or more, when Walter Heller was chairman of the CEA. Gardiner Ackley was also a member at that point.

MR. BRYANT. And Jim Tobin and Art Okun were members.

MR. SMALL. Was it a culture shock, coming from the Federal Reserve and more of an academic approach to the give-and-take of the policy analysis, and—

MR. SOLOMON. I don't think so.

MR. HENDERSON. Walter Heller seemed to have a particular gift for metaphor, when he gave testimony and when he wrote. Was that something that you wanted to emulate?

MR. SOLOMON. I could well have been inspired by him. I worked closely with him and helped him with a lot of those speeches while I was there, as I recall. He was a fine person to work with. In those days, the TV program *Meet the Press* was more important than it is these days, I think. And he appeared more than once.

MR. HENDERSON. Heller wrote a book called *New Dimensions of Political Economy.* There was this view that came from Lionel Robins that somehow economists should do scientific analysis and present options to policymakers. They shouldn't get involved in politics. Heller wrote that you just can't do that. You have to take the politics into account. Did you ever discuss matters like that?

MR. SOLOMON. I don't know if we discussed them, but they made sense to me.

MR. HENDERSON. Did anybody ever try to take the opposite point of view, saying, look, this is right, and these are the options we should present?

MR. SOLOMON. Of course. There are always people like that. Charlie Coombs comes to my mind immediately, but maybe Arthur Marget.

MR. HENDERSON. Did Coombs come from a market background?

MR. SOLOMON. I think his career was at the Fed, probably, but I'm not sure of that. He was there for a long time. He was supported by the president of the Reserve Bank, Al Hayes. Of course, he wasn't all by himself.

MR. HENDERSON. A series of exchange rate crises occurred in the 1960s and 1970s. There was a period of a dozen years when the old Bretton Woods pegged exchange regime gradually came apart and eventually led into the 1973 crisis. You were involved in the Committee of 20 after that.

MR. SOLOMON. There were a series of events as you just mentioned. One of our purposes was not so much to prevent changes in exchange rates, but to prevent crises from occurring when these problems arose.

MR. HENDERSON. Do you remember when the United States officially started to worry about the value of the dollar and protecting it? As I recall, President Kennedy made it a priority.

MR. BRYANT. The question came up about the United States exchange rate and gold throughout the period that Walter Heller was at the CEA. There was the interest equalization tax, and we gradually did more little fixes like that.[3]

MR. HENDERSON. Bob Roosa was the magician of the equalization tax and these other types of fixes, wasn't he?

MR. SOLOMON. He wanted to keep that fixed rate. He wanted to keep that system going no matter what. Not that he was alone.

MR. HENDERSON. Did the Federal Reserve have a position on capital controls? It was asked to administer at least some of them.

MR. SOLOMON. Banking ones.

MR. BRYANT. Was the Federal Reserve reluctant to be participating in that or just neutral?

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[3] The interest equalization tax was a domestic tax measure implemented by President John F. Kennedy in July 1963. It was meant to make it less profitable for U.S. investors to invest abroad by taxing the purchase of foreign securities. The purpose of the tax was to decrease the balance of payments deficit. By increasing the price of foreign securities, investors would buy fewer of them. With fewer domestic investors purchasing foreign securities, capital outflows would be lower, thereby reducing the balance of payments deficit. Although it was originally intended to be a temporary tax, the interest equalization tax lasted until 1974.

MR. SOLOMON. I wouldn't have thought that. It was something we had to do. It was needed if our underlying policies were going to be maintained.

MR. BRYANT. But there was restiveness, don't you think?

MR. SOLOMON. Probably. We had to be doing it, but it made us look too much like the French to be controlling capital that stringently.

MR. BRYANT. Along with the interest equalization tax, the voluntary foreign credit restraint (VFCR) program was another measure introduced in 1963 to affect the size and direction of the outflow of private U.S. capital.[4]

MR. SOLOMON. Yes.

MR. BRYANT. Andy Brimmer administered the program for the Federal Reserve, and Bernard "Bernie" Norwood,was the principal staff person responsible for administration of the VFCR program.

Chairmen Burns and Martin

MR. HENDERSON. What about pressure from the White House on the Federal Reserve?

MR. SOLOMON. During the Nixon Administration, when Arthur Burns was Chairman, the FOMC wanted to raise the federal funds rate. Arthur Burns turned handsprings to prevent it. I was at that FOMC meeting. At one point—this had never happened before—the Chairman walked out of the room and left the Committee alone for a while. He then came back in hoping that he could somehow hold the Committee members off from doing what they intended to do. He thought a rise in interest rates would somehow hurt Nixon, and he didn't want that to happen.

[4] Under the VFCR, the Federal Reserve Board sought to limit the increase of foreign loans and investments of U.S. financial institutions.

MR. HENDERSON. After the meeting, do you remember talking to other people who were in the meeting about what had happened?

MR. SOLOMON. I don't think so. It was so obvious, we didn't have to talk about it. His purpose was clear. Burns was being loyal politically to Richard Nixon and acting against all the traditions and rules of the Federal Reserve.

MR. BRYANT. At the staff end of the table, Chuck Partee, Lyle Gramley, and I were writing notes to each other about how horrible this was.

MR. HENDERSON. We all thought it was badly mistaken policy.

MR. SOLOMON. That was Arthur Burns. I didn't have great respect for him. He had done some good things academically in his life. When he was Chairman, he used to use me a lot as an adviser and get me to take walks with him. In those days, we'd go out without security and walk around the building. Can you imagine that happening today? [Laughter] Anyway, I would take walks with Arthur. He would smoke his pipe, and we would chat. It was clear to me that this guy did not understand monetary policy very well.

MR. SMALL. Do you have any comments on the different operating styles of Chairmen Burns and Martin?

MR. SOLOMON. Martin was special in so many ways. I had enormous respect for him. He did his job. We sent him papers and memos that he studied and absorbed. He treated people well. He understood his job well. I have nothing but praise for him. He had a sense of humor. I traveled with him. I went with him to Basel, Rio, and various other parts of the world. He was just a nice person to be with, as was his wife, who sometimes came along. I thought he had a good reputation as a central banker. Look over that whole period when he was Chairman, and what would you criticize?

MR. SMALL. There is a biography about Martin, *Chairman of the Fed: William McChesney Martin Jr. and the Creation of the Modern American Financial System*, written by Robert P. Bremner. In that book, Bremner says that when Martin left the Board, he either said at his farewell announcement or to the staff or something, "I think I failed," because inflation ended up considerably higher and more firmly entrenched than when he came in. And people were saying that he shouldn't feel that way. It was beyond his control. Do you have a sense of how that happened? Here was a guy who was strongly against inflation, and yet it increased during his term.

MR. BRYANT. It was especially the Vietnam War. The Greenbook had to have the forecast for the Administration for fiscal things, and we put a footnote on the forecast page of the Greenbook that said, for internal use only, but harmful if swallowed.[5] There was a real tension between the Administration and the Board then, because the Board was very worried about the effects of the Vietnam War.

MR. SOLOMON. Yes. That's something that Martin couldn't do much about. He didn't want to depress the economy too much.

MR. SMALL. Statements have been made that Martin's policy was the "tone and the feel" of the market in conducting monetary policy and that he wasn't really firmly grounded in economics. Do you have any reflections on how good the basis of Burns' and Martin's economics was or how well they followed through to their policy decisions?

MR. SOLOMON. My impression is that Bill Martin may not have been a student of economics in the sense you mean it, but he understood what was going on. He read everything

[5] Board of Governors of the Federal Reserve System (1966), *Current Economic and Financial Conditions (Greenbook)* (Washington: Board of Governors, December), p. II-5, second footnote, available on the Board's webpage "Federal Open Market Committee: Transcripts and Other Historical Materials."

that was put in front of him and absorbed it and had, I think, a pretty good understanding of the broad economic issues he had to deal with. He also understood the mechanics of monetary policy and what went on with reserves and money supply and all the rest, which Burns never understood well, in my opinion.

MR. HENDERSON. Is it your sense that Martin learned all that after he came to the Fed?

MR. SOLOMON. His father had been president of the Federal Reserve Bank back in St. Louis. He had a history of connecting with the Federal Reserve. He was president of the New York Stock Exchange (at age 31), and he must have had some connection there, too. I have nothing but positive things to say about him.

MR. SMALL. So where did things go wrong? Because inflation ended up higher, and Martin came in as what we call now an "inflation hawk"? And I guess the same could be said about Burns. He came in with a reputation of being very much against inflation, and inflation was higher when he left.

MR. SOLOMON. Except for Burns, Nixon could do no wrong. That wouldn't have been true of Martin. Burns was influenced by the politics.

MR. SMALL. Did they use their staffs differently?

MR. SOLOMON. I really don't know. I know when you put something in front of Bill Martin, he read it carefully, and he absorbed it. Whether Burns was that thorough, I just can't answer that.

MR. BRYANT. The 1970s was a difficult time in a way that the 1960s hadn't been, with the oil crisis and that sort of thing, so there were different shocks, I guess. I'm not straining to make excuses for Arthur Burns, because I think inflation was higher and shouldn't have been.

The kinds of shocks the FOMC had to deal with were different, and there was a time when people were trying to sort out how to think about oil price shocks and their consequences.

MR. SOLOMON. It was a very different period.

MR. HENDERSON. At one point in the 1960s, people were writing things like "The business cycle is dead," and it looked like—they had this 1961 *Economic Report of the President* that described this system of full employment and how you would go about it. Did you have a sense that the business cycle was dead, or did you think that people had a false sense of optimism?

MR. SOLOMON. I thought it was optimism. I don't remember precisely what I thought, but knowing myself, I would have never thought it was dead. I don't know if Walter Heller did for that matter, either. I doubt it.

MR. HENDERSON. It was also a time of great optimism about the usefulness of econometric models. Do you remember that and how it played out?

MR. SOLOMON. I never had a chance to get into that field very much. I was too busy with other things.

MR. HENDERSON. Did you regret not being able to do that?

MR. SOLOMON. I can't say I regretted it. I was having a pretty good time with what I was doing.

Econometric Modeling

MR. HENDERSON. Do you remember how it came about that the Federal Reserve decided to have a model? Were you in on those discussions at all?

MR. SOLOMON. In one way or another, I would have never been opposed to it, but I don't think I ever had much involvement.

MR. HENDERSON. There were discussions then about whether there was a long-run tradeoff between inflation and unemployment. Do you remember having a view about that at the time or hearing any discussions about that?

MR. SOLOMON. I'm sure there were discussions. I'm sure I tried to be pragmatic about it.

MR. HENDERSON. People are still debating, not so much about a long-run tradeoff—

MR. SOLOMON. I was aware of the connection to tradeoffs in Europe as well as here.

MR. HENDERSON. Did the model output—did you have a sense that it was influencing the way the Greenbook got written, or the way the Board members were thinking at all?

MR. SOLOMON. Whether the model did? Ralph would know better about that than I.

MR. BRYANT. I think, gradually, interest in and reliance on modeling techniques did grow. But early on, during the development period, most of the Greenbook–Bluebook process was not closely based on models.

Bretton Woods Agreement

MR. SMALL. In your book, you talk about the United States and Western Europe coming out of World War II, how everything was in play, and whether or not those countries would develop closely with us. Your reflections on Bretton Woods is a political economic development strategy for improving trade and interconnectedness. It wasn't just pure exchange rates.[6]

[6] Because of the poor state of the European and Japanese economies after WWII, the U.S. dollar came to the forefront of the world economic stage to become the world's premiere reserve currency. Before the end of World War II, the U.N.'s Monetary and Financial Conference was held in Bretton Woods, New Hampshire, in 1944. The meeting brought together delegates from all of the allied nations that then worked out and signed the Bretton Woods Accord. The accord pegged the price of gold to U.S. dollars and all other currencies to the dollar. The accord also established the IMF.

MR. SOLOMON. Oh, sure. At the IMF, they were dealing with short-term fluctuations in economic activity, not just exchange rates, on the one hand, and long-term development at the World Bank on the other.

MR. SMALL. The exchange rate was also a budgetary discipline process on the countries.

MR. SOLOMON. Those that were trying to stick to it and not overvalue. It was a constraint on their domestic policies.

MR. SMALL. And this was considered a big improvement over the inter–World War period, where we had competitive devaluations and return to gold prices.

MR. SOLOMON. I think that was one of the reasons the system of exchange rates was adopted.

MR. SMALL. When the Bretton Woods system was abandoned in 1971, there could be a mixture of reasons. Certainly, one reason was, Bretton Woods worked fixing exchange rates. Another part could be the pro-development aspect of, the Bretton Woods Accord had worked, and it had served its purpose.

MR. SOLOMON. I do not think John Maynard Keynes, from the United Kingdom, and Harry Dexter White, from the United States, wanted to have fixed exchange rates. They wanted to avoid the instability of it in [the] 1930s, but there were provisions for these exchange rates to be altered.

MR. HENDERSON. Fixed, but adjustable.

MR. SMALL. Looking back, were fixed exchange rates a bad idea? Do you think Bretton Woods served a valuable purpose while it lasted?

MR. SOLOMON. I think the IMF performed important functions, and I think it still does, for that matter, and the World Bank as well. Maybe they're being outlived, to some degree. The World Bank is. I haven't followed it that closely.

MR. BRYANT. Maybe you would want to tie what Dave has asked you about the Bretton Woods institutions and systems with the Marshall Plan and other postwar operations. In one sense, it was a big package of things, where the idea was to avoid the antagonism the countries had had in the 1930s.

MR. SOLOMON. That's right. And the Marshall Plan helped countries recover from what happened from 1939 to 1945.

MR. SMALL. In August 1971, when the United States went off the gold standard, was it scary that the United States was giving up this nominal anchor, or was it [a] relief that we got away from this archaic system?

MR. SOLOMON. I thought both. We weren't quite sure where it would go, but we knew it was archaic, as you said. There needed to be more flexibility in the system.

MR. SMALL. Paul Volcker was running around trying to cobble together a new system.

MR. SOLOMON. He was much less happy than I was about the floating exchange rates, as I recall. He has never really liked that idea.

MR. SMALL. Where do you think that came from, in the end?

MR. SOLOMON. I can't answer that question. It was somewhere in his psyche.

MR. BRYANT. But that was the predominant view.

MR. SOLOMON. Yes.

MR. BRYANT. So it was Bob Solomon who was out of step.

MR. SOLOMON. I was the revolutionary.

The Fed and the Treasury

MR. HENDERSON. For international matters, there is a division of responsibility that puts the Treasury before the Fed. Did you feel as though you were working easily in cooperation with the Treasury, or were there frictions?

MR. SOLOMON. Well, it depends on who was the Chairman. When Paul Volcker was Fed Chairman, it was very cooperational. When Volcker worked at Treasury, he used the Fed a lot for whatever purposes. We wrote many papers. And [the] staff was part of the policy discussions at our level before they went up to the Chairman's level.

MR. HENDERSON. Do you think he was giving you credit in these discussions?

MR. SOLOMON. I don't know. I didn't go around demanding it, as I recall. I think he did in his book, actually—in the book he wrote with our Japanese friend.

MR. SMALL. Toyoo Gyohten.[7]

MR. HENDERSON. Do you think it's a good arrangement, having the Treasury rely on the Fed for analytical work?

MR. SOLOMON. Well, we had a better staff. It's as simple as that.

MR. BRYANT. But should the Treasury have had a better staff?

MR. SOLOMON. Sure. It wouldn't hurt. But I don't think it hurt the Fed for us to be spending our time and energy improving U.S. policies.

MR. HENDERSON. It was a blessing from the Fed's point of view, because it made it more interesting for you guys.

[7] Paul Volcker and Toyoo Gyohten (1992) cowrote a book about international monetary affairs over the past four decades called *Changing Fortunes: The World's Money and the Threat to American Leadership* (New York: Random House).

MR. SOLOMON. Right. It was nice to be involved. Of course, the Chairman was always involved at the policy level.

MR. SMALL. Do you have opinions about the various Secretaries of the Treasury over your long span and what direction they took? Do some stand out as particularly positive?

MR. SOLOMON. C. Douglas Dillion (1961–65) became active in the international field. Henry Fowler (1965–68) was not spectacular and not dramatic, but he was very sound, as I recall. I spent a lot of time with John Connolly (1971–72), but I'm not sure what I remember. There must have been meetings with him. George Shultz (1972–74) wasn't dramatic. I think he was a Freidmanite. After I left the Fed, William Simon (1974–77) would call on me now and then—maybe when he was back on Wall Street, I'm not sure. But that's the last one I had anything to do with.

MR. SMALL. In Europe, a lot of the prime ministers came up through the government and often were finance ministers. But in the United States, it's much less so.

MR. SOLOMON. I can't think of one Secretary of the Treasury who became President in our time. Can you think of examples of people who moved up from being chancellor of the exchequer?

MR. BRYANT. Former British Prime Ministers Harold Wilson (1974–76) and James Callaghan (1976–79) both were.

MR. SOLOMON. They both had been, and they both moved up and became prime minister. What about on the continent?

MR. BRYANT. Former West Germany Chancellor Helmut Schmidt (1974–82) was the minister of finance.

MR. SOLOMON. Former French President Giscard d'Estaing was a finance minister. He was an effective person, as I recall.

Economic Research at the Board

MR. HENDERSON. What are your thoughts about what role economic research has had at the Fed?

MR. SOLOMON. During my tenure, we presented the Board with policymaking papers. Those papers were certainly taken seriously by Chairman Martin. I'm not so sure about his successors as much as his case. Among the Governors, I guess it varied.

I believe I encouraged staff writing of academic papers, read them carefully, and benefitted from them.

MR. HENDERSON. Did you spend time thinking about what questions the staff ought to be addressing?

MR. SOLOMON. I hope I did. It was part of my job to come up with issues that needed to be worked on.

Changes in the Composition of the Board and Its Workforce

MR. SMALL. How have the roles of African Americans, women, and other minorities working at the Board changed during your tenure?

MR. SOLOMON. When I first came to the Board, the only African Americans we saw were messengers. We didn't have computers. We had messengers who brought papers to your office and dropped them in your inbox. That's how papers circulated. Those were the only people of color in this building that I knew about.

When LBJ appointed Andy Brimmer to the Board in 1966, that was important. But I don't remember many staff people of color in those days, professionals or nonprofessionals. That must have changed among the nonprofessionals.

MR. BRYANT. You endorsed my efforts to hire women and African Americans. The role of women on the staff became more and more important.

MR. SOLOMON. We had women on [the] staff in our division.

MR. SMALL. What about in the late 1940s and early 1950s, your first couple of years here?

MR. SOLOMON. When I first came, I shared an office with a female economist in the research division.

MR. SMALL. Do you remember any particular Chairman or Governor who took an active interest?

MR. SOLOMON. Not to my knowledge. They might have. Whether it came to my attention then, I don't know, but it certainly doesn't stick. I doubt that it did come to my attention. Ralph clearly was involved early on in that, on the color issue, and that's good.

MR. BRYANT. The culture was changing. I wish it were true that the Federal Reserve could be described as out in front, but I doubt that's the case. I don't think it was lagging far behind, in the average sense, that much more gender and racial diversity was needed on the staff.

MR. SOLOMON. Did we ever have a female Governor during our time?

MR. HENDERSON. Nancy Teeters (1978–84). She had been a Federal Reserve staff person earlier in her career. There have certainly been others since then.[8]

[8] Nancy Teeters was the first female member of the Board of Governors. She has been followed by Martha Seger (Governor, 1984–91), Susan Phillips (Governor, 1991–98), Janet Yellen (Governor, 1994–97; Vice Chair, 2010–14; and Chair 2014–18), Alice Rivlin (Vice Chair, 1996–99), Susan Bies (Governor, 2001–07), Elizabeth Duke

MR. SMALL. There have also been a number of female Reserve Bank presidents. The composition of the Board in another way has changed toward professional economists versus businessmen and bankers. George Mitchell (1961–76) was an economist.

MR. SOLOMON. Sherman Maisel (1965–72) was an economist.

MR. BRYANT. This went up and down quite a lot. During Burns's tenure as Chairman (1970–78), he wasn't comfortable with the idea of other people with economic backgrounds on the Board. But, subsequently, it has gone strongly in the other direction.

MR. HENDERSON. Do you have any views about whether members of Board staff should become Governors?

MR. SOLOMON. I can't see any reason to be opposed to it.

MR. SMALL. Are there any Governors that stand out as being unsung heroes?

MR. SOLOMON. My general impression is that Vice Chairman J.L. Robertson was an effective person who really cared about how this institution operated and worked to improve it. I spent a lot of time with George Mitchell. It was a personal relationship. I think of him being involved in current economic developments.

MR. SMALL. Did the relationship between the Chairman and the Vice Chairman vary a lot?

MR. SOLOMON. I couldn't observe it. I assume that Robertson and Martin got along well together, just knowing what I know about both of them, but I don't know how they interacted.

MR. HENDERSON. At times, division directors have been referred to as "barons." What is your perspective on how powerful the staff is relative to the Board or to the FOMC?

(Governor, 2008–13), Sarah Bloom Raskin (Governor, 2010–14), and Lael Brainard (Governor, 2014–[term ending 2026]).

MR. SOLOMON. I was aware of it. There were seven of them and one of me, but I didn't have competition to do my job. I don't mean that to be egotistical. It's something I didn't think of very often, but now and then, I couldn't help being aware of it. We were involved when important international policy issues came up. I had a fairly important role with the Board or with the Committee. I didn't have any competition except now and then with Charlie Coombs in New York, but not very often with the Committee. The Board members had each other to compete with for influence.

MR. HENDERSON. Did a Chairman or a Board member ever try to accomplish something that was thwarted by the staff, either advisedly or ill advisedly?

MR. SOLOMON. I can't think of an example offhand, but it might have happened. I could imagine writing a memo to the Chairman for his eyes only on some issue that came up.

MR. BRYANT. The relationships among the Governors had the potential for competition or friction, and especially between the Chairman and the other six. As a division director who was marshaling resources, in principle, to help the whole Board, sometimes you could get pulled in contrary directions. Then you had to make delicate judgments about how to proceed, sometimes with and sometimes without the benefit of advice of the Chairman.

MR. SOLOMON. Well, I had advice from my colleagues.

MR. SMALL. Over time, was at least one Board member deemed the international expert and expected to take on the international portfolio?

MR. SOLOMON. Dewey Daane (1963–74) represented the Board in some of the international meetings, along with Bob Roosa. I went to a number of meetings with Dewey. After Dewey, Henry Wallich (1974–86) assumed that role. They would talk about international matters at Board meetings when issues arose.

MR. SMALL. You were heavily involved in international finance and exchange rates. Were you also involved in international financial institutions and stability and capital standards—almost the bank regulation side of international stability issues of financial institutions?

MR. SOLOMON. No, not directly.

MR. HENDERSON. The Basel Accords have resulted in uniform capital standards across countries. Were there precursors to that?

MR. BRYANT. German regulators forced Herstatt Bank to liquidate in 1974. Responding to the implications of that (the Herstatt settlement risk in international finance), the G-10 countries formed the Basel Committee on Supervision. There were times when you got pulled in a little.

MR. HENDERSON. Do you remember when Eurodollars were first instituted? The story is that they were started by Russians wanting to have dollars, but not wanting to have dollars in the United States. There were questions about whether they should or shouldn't be in the money supply, and whether they were creating a problem for stability. Did you ever have to deal with that?

That was one of the first analytical challenges. In other countries, there were always foreign currency deposits. We didn't have many of them. That was when you would have a foreign currency deposit of a bank in your country having a liability. And then there is this question about banks in other countries having liabilities in your currency that Eurodollars might have accentuated.

MR. SOLOMON. We must have done a lot of analysis about that.

MR. BRYANT. Milton Friedman had a bunch of articles about this. We thought a lot of it was overblown, but there were real issues, and I remember the guy at the Federal Reserve Bank in New York, or Arthur Hersey did. I wrote lots of memos. Yes, it was very much in the air.

MR. HENDERSON. You've talked some to Professor Russell Boyer about Robert Mundell and his various views.[9] Do you have any comments on Mundell's role in international financial analysis?

MR. SOLOMON. We never saw things eye-to-eye analytically. He attended those Hinshaw meetings, and I saw a lot of him.

MR. HENDERSON. You were included in a lot of academic conferences.

MR. SOLOMON. Oh, I don't know how widely I was in the academic conferences. I was invited to academic institutions now and then to speak. I've become much more academic with my Brookings connection.

MR. BRYANT. You were perceived as one of the people in government who had communication lines open to the academic community and were interested in those issues, so you were pulled in to things like that. That's one reason why I wanted to work with you.

MR. HENDERSON. Do you think you ever got much help from academics on the problems you were facing?

MR. SOLOMON. I suppose now and then.

MR. HENDERSON. Did you feel that you could discuss those problems, or that they were too sensitive?

MR. SOLOMON. It depended on the problem.

[9] Robert Mundell is a professor and Nobel prize–winning economist for his pioneering work in monetary dynamics and optimum currency areas. He laid the groundwork for the introduction of the euro through that work.

MR. HENDERSON. Suppose we take the example of making fixed but adjustable exchange rates more adjustable. Would you have had extended conversations with some academics about that question?

MR. SOLOMON. During the period of fixed rates, probably not.

MR. BRYANT. But in the abstract, there was a lot. You got involved in discussions about crawling pigs, wider bands—not for a particular country at a particular time, but the merits, pros and cons. There was lots of that.

MR. HENDERSON. Would you ever discuss the SDR with, say, Robert Triffin?

MR. SOLOMON. I don't see why not, offhand. Exchange rates were more delicate topics. I could talk about the SDR freely with him.

MR. SMALL. Would you review the Triffin paradox, the Triffin dilemma?

MR. BRYANT. Well, the Triffin dilemma—that if there was a reserve currency system with gold in it, and then the substitution between reserve currencies and gold could lead to potential instability.[10] But Triffin was arguing that you needed a more stable system. He wasn't as strong a proponent as you were of the SDRs.

MR. HENDERSON. I don't know whether he was a fan of the solution of raising the price of gold.

MR. BRYANT. I think he was against it.

MR. HENDERSON. How about your view on that?

MR. SOLOMON. I was never in favor of raising the price of gold. We certainly argued strongly against the French view and others on that.

[10] The Triffin dilemma, or the Triffin paradox, is a theory that when a national currency also serves as an international reserve currency, conflicts of interest could arise between short-term domestic and long-term international economic objectives.

MR. HENDERSON. Had you studied Keynes's plan? And was the SDR, to some extent, modeled on the Bancor, or modeled after that, or was it just a vague similarity?

MR. SOLOMON. I think the latter, but I don't remember studying the Bancor.

MR. BRYANT. I suspect you did. There were all sorts of variants of the idea around—about new reserve assets—and what emerged was a compromise. Some people said it was the zebra—

MR. SOLOMON. We thought we were doing something important and historic to improve the system. Anyway, I'm not sure we answered your question about the Triffin dilemma.

MR. HENDERSON. One feature of the Bretton Woods system was there seemed to be a lot of interest in free trade in goods, but nowhere near the presumption that there should be free movement of capital, especially short-term capital. Did you subscribe to that view, or did you feel as though that view should be abandoned over time as these countries recovered from World War II?

MR. SOLOMON. Well, during the period when we were trying to maintain exchange rates, we weren't worried about too much capital movement. We had some restrictions on short-term capital flows for that reason. But that system, as you know, wasn't sustainable.

MR. HENDERSON. Why was it that the negative aspects of capital flows were emphasized so much, as opposed to the capital being able to go where it was needed the most? It didn't seem like that was a high priority.

MR. SOLOMON. I'm not sure. Weren't there some forms of capital flows to developing countries that were being encouraged in this period?

MR. HENDERSON. Yes, there were.

MR. SOLOMON. There were. And, of course, there was the World Bank as well. We had capital controls. Did we have any distinction between the short and the long term?

MR. BRYANT. I think the way Dale put it was right, that even the Articles of Agreement in the IMF initially said capital wouldn't flow so freely, but goods would. Then, gradually, the restrictions on capital flows were reduced and even, eventually, for a short term, there was convertibility for the European currencies and then for others. So gradually we moved into a world where people were making the argument that capital would flow freely, and that was good. But there was always the hangover from the 1930s that capital flows might produce bad results, too.

MR. SOLOMON. Concerned about potential instability.

MR. BRYANT. And maybe that's come back again in the recent past.

MR. HENDERSON. There were various definitions of the balance of payments and a lot of heated debate. One was the liquidity balance, and one was the official settlements balance.

MR. SMALL. Did you become engaged in that debate at all?

MR. SOLOMON. I was definitely involved. It seems archaic to me at the moment, but we were certainly involved. There was a lot that was written.

MR. BRYANT. I wrote a Ph.D. dissertation about that.

MR. SMALL. A lot of these international things were associated in one way or another with Walter Lederer, the former chief of the balance of payments division at the Department of Commerce (1954–69), and his protégés. Not least was this notion of one way to define the balance of payments. Do you have a sense of how those Lederer protégés spread out through Washington and what good they did? Samuel Pizer was one.[11]

MR. BRYANT. A little bit, although he was never totally—then we had John Reynolds on your staff. He was staff director of the Bernstein committee on the balance of payments. Edward "Eddie" Bernstein was a proponent of the official settlements balance, so there were lots of tussles going on. I think you were in the middle of that debate—probably an agnostic, which was a sensible place to be.

MR. SOLOMON. Eddie was no longer at the IMF at that point.

MR. BRYANT. No, he was a private consultant.

MR. HENDERSON. What are your memories of him?

MR. SOLOMON. I remember him early on as the chief economist of the IMF going way back. I would see him on and off in my early years in that function. But the main memories have nothing to do with the Federal Reserve. In his later years, he published a monthly letter over a period of years, and when he decided to stop, he considered having somebody take it over. He talked to Paul Volcker, he talked to me, and presumably other people, then he decided that nobody could replace him and he just dropped it. That gave me the idea, and I started mine in 1980. I did it for 25 years once a month, thanks to him, so to speak.

MR. SMALL. What makes the Board work well or not so well?

MR. SOLOMON. I have said extremely often that this is the institution in Washington with the highest respect for professionalism. That's my sense about this institution compared to the rest of the U.S. government. That's one of the reasons this is a special institution.

[11] Sam Pizer was an economist specializing in international trade and finance for the Department of Commerce and a senior adviser to the Federal Reserve Board. He was the author of numerous articles on international investments, the U.S. balance of payments, and related subjects.

MR. SMALL. Several years ago, a new European Central Bank was set up. Central banks in the former Soviet Republic were set up. If you were brought in as an adviser on constructing a central bank, and the question was, what attributes of the Board should a newly created central bank adopt, what would your view be?

MR. SOLOMON. I actually had that experience. Jim Dusenberry, a couple of other people, and I were invited by the Palestine Authority. It was planning to establish a central bank in Palestine, although it hasn't been done yet. This was about four or five years ago. We met with them in Cairo. Representatives from other Middle East countries all showed up. The three of us gave talks about the central bank and what should be involved. I gave advice based on my experience at the Federal Reserve. I talked about how important the professionalism and independence of [the] staff is among the many aspects of central banks.

MR. BRYANT. What about the size of the Board? Are seven Governors optimal, or would the Board work better if there were more or less?

MR. SOLOMON. I think there is something to be said about seven. You get a variety of views, depending on the quality of people.

MR. HENDERSON. Some argue that the Federal Reserve System is particularly disadvantaged by so many people on the FOMC. Do you think we would be better off with a system that had fewer decisionmakers?

MR. SOLOMON. It has worked pretty well over the years. Whether there is a disadvantage to have this many, I can't judge. I wouldn't put that at the top of my priority list, but maybe it's important.

MR. BRYANT. The European Central Bank passed some new procedures about voting arrangements on the governing council, which they haven't yet implemented. Like you, I'm agnostic about what the answer is. What's right for the European Union probably is not the same thing that would be right for us here, or what would be right in India or China or whatever.

MR. HENDERSON. Have you interacted with Jacques Polak? Do you have any thoughts about his role in the last 50 years of economic history?

MR. SOLOMON. He is a very important person at the IMF. He's a good friend. He's ill at the moment. He fell at a meeting at the Fund [IMF], hit his head, and was taken to the hospital. I visited him at Suburban Hospital, and then he was in Manor Care Recovery area for a while. He's now home, but he's not back to normal yet. He's over 90. So that's his present condition, unfortunately. But he was a very important person. He was at the Bretton Woods conference. He was at the Fund from the beginning, and he still had an office there until his illness.[12]

MR. HENDERSON. He is credited with the "Fund model" for stabilization—or some people call it the monetary approach to the balance of payments—where he relied heavily on the quantity equation, and then domestic credit versus foreign credit, and so on. The particular thing that he was concerned about, because he was analyzing smaller countries, was how much domestic credit creation you would have, as opposed to foreign reserve accumulation. He wanted a certain amount of monetary growth. And it was kind of an analytical framework that the Fund used. Did the Division of International Finance or did you have a view about whether or not that was a good way to think about economic stimulation?

MR. SOLOMON. Not that I recall.

[12] Jacques Polak, a Dutch economist, was a member of the Dutch delegation to Bretton Woods in 1944. He spent decades as an IMF official and strongly influenced the evolution of the international finance system. He was born in 1914 and died in 2010.

Current Role of the International Monetary Fund

MR. HENDERSON. What are your thoughts about IMF programs? Has the Fund been a constructive force in helping countries manage their economies better?

MR. SOLOMON. My view is positive about that. I don't follow it in enormous detail, but I try to keep up, as I have over the years. I have a lot of friends there. I have a positive view on what the Fund does. The world is better off with it than without it.

MR. HENDERSON. Do you think the Fund's role is now diminished relative to what it was?

MR. SOLOMON. It's diminished in the sense that there seems to be less need for countries to borrow from the Fund. That could change.

MR. BRYANT. What about other functions becoming important, instead of just, say, borrowing and lending or surveillance?

MR. SOLOMON. I've always thought it was useful, but I haven't kept close to it.

Coordinated Policy

MR. HENDERSON. Some people argue that there is a need for coordination of policy among countries. Other people argue that, if each country keeps its own house in order, everything would be fine. What are your thoughts?

MR. SOLOMON. I have written about coordination. I've always thought it was important. Over the years, there were periods where there seemed to be a need for it, when we were all going up together or down together or whatever.

MR. HENDERSON. Sometimes people point to the 1978 G-7 summit in Bonn, Germany, as an example of a miscarriage of economic policy coordination, because some countries were urged to expand at a time when, as it turned out, it wasn't called for.

MR. BRYANT. Jimmy Carter was President. The Germans agreed to a fiscal expansion, and we supposedly agreed to increasing the domestic oil price and some other—

MR. HENDERSON. Does anything stick in your mind?

MR. SOLOMON. Specific examples don't stick in my mind, but it was something I've always been in favor of, and, as a general principle—it just seemed, in this world of interconnectedness and mutual influence, that it was important for countries to coordinate, at least major countries.

MR. SMALL. Do you think that is a lost art nowadays?

MR. SOLOMON. I hope not. I'm not happy at the moment, I guess. It could be revived.

MR. BRYANT. Well, maybe it has happened in the last two to three weeks.

MR. SOLOMON. In the last few weeks, exactly. And I can imagine Jean-Claude Trichet reacting positively to the proposal that it be done, and maybe other people around, such as our friend who is now finance minister of Italy.[13]

MR. BRYANT. The October 1987 stock market crash is often cited as an example of coordinated action being more effective than if each had done it on their own. Central banks talked with each other, liquefied the market, and then shortly thereafter took all liquidity out. The fact that they talked to each other was considered beneficial.

MR. HENDERSON. Sometimes it's argued that it's important to have coordination between monetary and fiscal policy within an economy so that we don't have a situation, say, where fiscal policy gets very expansionary, and then monetary policy has to tighten in order to keep it from causing a bad situation. Maybe the Vietnam War example is one. Did you ever

[13] Jean-Claude Trichet was president of the ECB from 2003 to 2011.

think much about those issues, coordinating with the Treasury and whether we should be trying to or not trying to?

MR. SOLOMON. Absolutely. I've always been in favor of that. I don't know if I have written about it. It's so obvious to me that it should be done, but sometimes when they're not coordinating, but, say, when fiscal policy goes off in one way, monetary policy has to react. It's not "coordination," it's "reaction to." I'm not sure if fiscal policy has ever reacted to monetary policy but the other way it has happened from time to time.

MR. HENDERSON. Sometimes Chairmen have given advice on how fiscal policy should be conducted. What is your take on that? Would the Federal Reserve want advice on how monetary policy should be conducted?

MR. SOLOMON. Why not? They don't have to listen to us, and we don't have to listen to them, but it doesn't hurt to get advice.

MR. BRYANT. How about Alan Greenspan's discussion of President Bush's tax cut proposals in early 2001?

MR. SOLOMON. Oh, that's not the Federal Reserve, that's Alan Greenspan. Are you talking about the Fed, or are you talking about one person at the Fed? I have known Alan for many, many years and have often disapproved.

MR. SMALL. If a Secretary of the Treasury were to call you and say there are some openings on the Board or even a chairmanship, what's your advice on what to look for?

MR. SOLOMON. I'm not sure it's easy to judge ex ante how good a job a Chairman will do. I suppose if someone looked at Bill Martin when he was president of the New York Stock Exchange and then in the military during World War II and asked whether this guy is an appropriate Chairman of the Federal Reserve, I'm not sure many people would have said, "Yes."

But he turned out to be very good. Ben Bernanke was a professor who studied this field for a long time. It's obvious that he's well qualified. Most Fed Chairmen don't have that sort of background, and it's hard to know what kind of criteria to look at in their behavior or their background to judge how good they're going to be as Chairs. I'm not sure Bill Martin was predictable, if you had looked at him way back then.

MR. SMALL. Were there things about the Board that frustrated you or that you would have liked to have seen changed?

MR. SOLOMON. I think it's an institution that worked pretty well, on the whole.

MR. SMALL. There is the sense of "mission creep" of the Fed over the years. First there was just monetary policy. Then the Fed was given more supervision policy, and then financial stability generally for markets. There is this chase going on between the private sector getting just outside of our regulatory purview and getting in trouble, and then we have to go out and regulate, and then they move further out. Is this a problem?

MR. SOLOMON. With what has happened in the last few months, it makes it pretty obvious that we need broader regulation than we've had so far. It gets back to what we're saying about Ned Gramlich and so on. It's just crazy what these financial institutions did in recent years with home mortgage loans.

MR. BRYANT. Do you want the Federal Reserve to get involved in all that detail, or is that the responsibility of some other governmental office?

MR. SOLOMON. The Federal Reserve should want to see it happen. Not necessarily do it itself, but have somebody regulate these institutions for sure, so we don't have a problem like this arise again.

MR. HENDERSON. There has been this debate about whether or not the monetary authority should be involved in supervision and lender-of-last-resort activities. For example, the ECB was explicitly set up so that it doesn't have any explicit supervisory responsibility. It was left to the states, and they were separated in Britain. One question would be, did you have a feeling that that was a good thing when it happened, or—putting current events aside, which seemed to suggest maybe it wasn't so great—do you see a tension between lender of last resorts, stability, financial stability, and correct monetary policy, or, rather, complementary?

People keep saying, on the one hand, the Fed is creating a lot of liquidity, and it could be inflationary. The monetarist seems to always be afraid that, if you're concerned about financial stability, you're going to cause too much inflation. On the other hand, you are the lender of last resort, and if you don't know what's going on at the other banks and the other financial institutions, how are you going to tell when you should lend? So there is a tension between being involved in the supervision of regulation and being involved in monetary policy. Do you think that's just the nature of the beast for central banking, or there is a good way to handle that, or—did you ever feel that tension?

MR. SOLOMON. I would have thought that, even if you're not being a lender of last resort to these other institutions, you could be aware of what's going on in their other activities, and that should be able to solve the problem.

MR. SMALL. Let's suppose you believe that, in this present situation, the Fed should have expanded supervisory responsibility. Among the Chairmen that you've worked with as an adviser, how would they individually react? Who would be more receptive to the idea of regulation?

MR. SOLOMON. I'm inclined to think that both Paul Volcker and Bill Martin, while they wouldn't be anxious for the Fed to get involved more than it needs to be in supervision, they would think that supervision is very much necessary. And if nobody else was doing it, they would try to see that it gets done.

MR. SMALL. Thank you.

MR. SOLOMON. Well, thank you. I have to apologize for my inefficient memory.