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YPFS Lessons Learned Oral History Project: An Interview with Simon Potter

Simon Potter

Maryann Haggerty

Yale SCHOOL OF MANAGEMENT
Program on Financial Stability

Lessons Learned Oral History Project Interview

Interviewee Name and Crisis Position	Simon Potter[1] Federal Reserve Bank of New York: director of Economic Research and co-head of the Research and Statistics Group; then head of Markets Group and System Open Markets Account
Interviewer Name	Maryann Haggerty Yale Program on Financial Stability
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Introduction:

Simon Potter, an economist, worked at the Federal Reserve Bank of New York for more than two decades. Leading up to the global financial crisis, he was the New York Fed's associate director of economic research; in 2010 he became director. In 2012, he shifted to become the head of the markets group, putting him at the helm of the Fed's open markets operations, the mechanism by which the central bank steers monetary policy and interest rates. He moved to the private sector in 2019.[2]

This transcript of a Zoom interview has been edited for accuracy and clarity.

Transcript

YPFS: **In this discussion, we're going to focus on lessons that were learned from your experiences as an economist and central banker, with a focus on those lessons that could be most useful to policymakers preparing to face other crises. But first, let's back up a bit. As a Reserve System economist, where did your work focus?**

Potter: Let's split it between the research work and the policy work that I did. The research work was around forecasting and trying to model time series data. One of the first things I did for the New York Fed was trying to introduce what are called fan charts to show the uncertainty around the forecast. I built up a reasonable set of procedures to do that that got more sophisticated over time.

[1] The opinions expressed during this interview are those of Mr. Potter, and not those any of the institutions with which the interview subject is affiliated.
[2] A stylized summary of the key observations and insights gleamed from this interview with Mr. Potter is available in the Yale Program on Financial Stability's *Journal of Financial Crises*.

YPFS: **Are those similar to the ones that, for instance, you get coming out of an FOMC [Federal Open Market Committee] meeting?**

Potter: No. In fact, the FOMC meeting ones that they show you, they look back at history and they look at the errors they made in the past, and they say, let's suppose we made the average error we did over the last 20 years. What would that look like?

YPFS: **Okay. Backing up to what you were doing.**

Potter: Yes. But explicitly, the opposite was, could we say something today more about the uncertainty that we face than just, it was going to be the same as the last 20 years? So, if you're sitting there in 2007, you just had a period where the uncertainty was very low. And did you feel comfortable saying it would stay low going forward?

There's a principle in a policy-type area—you don't know how much is luck, how much is policy, and how much the world can actually change. And you'd rather be more uncertain and more responsive than very confident that you understood everything about the world.

YPFS: **Why is that?**

Potter: So, in general, in most types of policy—this is a Tim Geithner thing—you can have some marginal impact. But there were times, particularly in the central bank, when you can have a really big impact and doing well in those times has a lot more impact on social welfare than predicting whether GDP is going to be 3.6 or 3.3. [3]

YPFS: **So that's talking about your work at the New York Fed as a researcher. Just outline for us a little of what you did in your role more as a central banker.**

Potter: Well, I used techniques that were on the edge of what the academics were doing using Bayesian type methods, Markov chain, Monte Carlo. So, there was an aspect that the Fed tries to keep close to the frontier of research in these areas. The New York Fed's definitely continued doing that.

YPFS: **How did you and other economists inside and outside the Fed's system perform, in your estimation in the years leading up to 2007?**

Potter: I think there were certain metrics that were relevant at that time where we performed quite well. So, part of the criteria as a research economist is how

[3] Geithner was president of the New York Fed from 2003 to 2009, and Treasury Secretary from 2009 to 2013.

well your research goes and that's measured by peer reviewed journals. The reputation of research at the New York Fed went up over that time. In terms of the public policy aspect, I think that was a useful investment. But there's definitely an aspect of the mindset that probably wasn't very helpful. There's a story I tell—I think it was in 2011 or 2012, or maybe a little bit later—about being at a presentation where someone showed a very simple plot of what had happened to house prices going into 2007. If you stepped back and tried not to come up with very complicated explanations, it looked very unusual that real house prices had gone up that much.

So, there was an aspect of getting too much in the weeds and not being able to step back and see the big picture. That's a problem you're going to have when you use quite technical methods where it's research that's going to be in peer reviewed journals. And people are pretty much trained in a similar way. In "The Failure to Forecast the Great Recession," I talked a little bit about how a few months after each thing, we understood it quite well, but that's not very helpful unless you're a historian.[4]

YPFS: **And of course, with hindsight, which we all have plenty of now, what should you and your peers have seen or known then? Or would you liked to have been able to see or know about mortgage markets and derivatives, or the relationship between markets and the real economy?**

Potter: So, one of the weaknesses that we had is not understanding how the financial system was evolving and how it could produce risk because incentives weren't well aligned. There was an FOMC meeting in June 2005 where they discuss house prices because they'd moved up so much. There's a great debate between Dick Peach of the New York Fed, with [then Chairman] Alan Greenspan, which was all about as you move away from the center of the city, what's the gradient of how quickly house prices should fall? And it was an interesting discussion, but again, we missed the big problem that CDOs [collateralized debt obligations] had grown a lot. Andreas Lehnert, who's now the director of Financial Stability at the Fed, gave that presentation. If you look back at that, there was too much confidence that we knew exactly what we were doing. There was also confidence that the Supervision group knew what it was doing.

This is taped, so what's the diplomatic way of saying it? I think Supervision was not in a great place back in 2005, 2007. In research, I don't think we interacted with them in a way that was as productive as it could have been. So, there was a decision made in the mid-1990s to form the research group at the New York Fed. Before, that the research economists had been distributed across the main functions, such as the Markets group and the Supervision

[4] Potter, Simon. "The Failure to Forecast the Great Recession." Federal Reserve Bank of New York. *Liberty Street Economics.* November 25, 2011. https://libertystreeteconomics.newyorkfed.org/2011/11/the-failure-to-forecast-the-great-recession/.

group, and there were certain things that were lost from moving those people out, I think.

YPFS: What do you think was lost? Not having direction interaction with people who were interacting with the markets?

Potter: That, and not understanding some of the institutional changes that were happening. Obviously, this is subject to having a culture where people want to learn. But there would have been, I think, more room to learn. One of the best people to talk to is Tobias Adrian, you haven't spoken to him? He's the head of financial stability at the International Monetary Fund now.

When he left [the New York Fed], he said a very interesting thing about how excited he was to come to the New York Fed because he could go and talk to people who were actually involved in markets or involved in these large banks and get a large amount of insight. I don't think we had enough people like that. We had a lot of them, I don't think the New York Fed was, relative to other agencies, doing badly in that way. But we didn't have enough of that culture, which is going in and just asking lots of questions.

YPFS: On that thread, again looking at this period, about the economists, the researchers. What are the lessons that you would distill from that that your profession may be able to apply as we go forward?

Potter: I've got a lot of views on this. There're some immediate ones about what the incentives are and that's always going to be skewed. Academic jobs are very nice to have, you have control of your time, you're producing new ideas, you have a very organized way of thinking that's sometimes hard to explain to other people. So, you need that rigor, but you need to incent people to apply that rigor in a more public policy-oriented way. So, the number of people who can on the margin contribute to advance basic research is much less than the number of people who can help with practical policymaking. Even though the difference between them in how good they are might not be that large, it's hard to contribute in basic research.

So, some of the incentive scheme and how you train people can be reviewed. Yale does this now, you have the financial stability program, you have people who have been trained to be more practical, which might be helpful. A lot of the things that people thought of after the crisis, for example, in response to the Queen's question of why the profession missed it should be looked at. And so, take this the right way, when you went to those meetings it was a bunch of people over 70 saying economics was all screwed up. That's not helpful. You need people in their 20s and 30s who want to make the change. It's not a very diverse profession, that took a long time to come in, the diversity of new colleagues. That would have helped.

We, the New York Fed research department, in the summer of 2007, just before the crisis hit, was probably the best research group in any central bank for dynamic, stochastic general equilibrium models and we were having all these people going to come in, outside visitors. So, I was responsible for that hiring, I thought it was fantastic, it turned out that it wasn't that helpful. So, you then spend a year arguing over whether anything had actually happened.

YPFS: **Not helpful because of the models or because of the cross-pollination? Could you expand?**

Potter: People were very good with those models, those models were incredibly helpful, but they weren't taught how to be nimble in their thinking. They also have, which it's a fine intellectual position to have, but the policy response should not be a knee-jerk one. So, you can look at Randy Quarles, who's at the Board right now, he wrote in the Council on Foreign Relations [that lack of nimble thinking] was the difference between the Treasury he was at in the 2000s and the Summers-Rubin-Geithner Treasury.

It's a slightly different thing that the market will always work things out. So, there's a tension there, I remember a lot of people who wouldn't believe that things could get that bad. This is true if you go look at the FOMC in the summer of 2008, they were ready to raise rates and six weeks later Lehman Brothers collapsed. So, you can't criticize people too much because you hadn't had a crisis of that size in the U.S. You tended to do better with people who had been involved in some of the emerging market crises. The way that they tried to model that was not as easy or simple as some of the modeling that was done in the U.S.; It was asking deeper questions, but maybe not using as rigorous methods. That wasn't as much incentive to do this as there needed to be.

YPFS: **Now we're in 2007, early 2008, and things are getting bad. We look back and see Bear Stearns and some of the European operation—how did those episodes affect the thinking of the economists that you were working with? And with your peers across the New York Fed and in Supervision, Markets, etc.? Can you think about what went wrong and what went right as the crisis starts in 2007?**

Potter: Well, it was a day in August when BNP Paribas couldn't value the three or four funds. So, a lot of what happens, and again I'm doing more of the group dynamic, is that some people turn out to have been right and some people turn out to be wrong. The people who were right wanting to point out they've been right. Then there's a whole bunch of, particularly in the fall of 2007, hoping it would just go away. We all underestimated, I think, how big the shock was. One of the basic fallacies that had been around for quite some time was the banks had sufficient capital and that hadn't been really tested. There'd been a lot of work that Tim Geithner had asked for. He kept on asking questions, do banks have enough capital? And I'd say the response from Supervision which goes back to the earlier comment, "yes," here's the various ways that banks have sufficient capital.

And I remember, I think this is after Bear Stearns, so what you saw is basically a market-based system that started to unravel as 2007 went on and it got worse and worse. You have all these pauses and people want to hope for the best at that point because some of the actions that you're going to have to take are so unpopular.

The U.S. Treasury had this idea of a super SIV [structured investment vehicle], I'm not sure if you remember, where you take the special investment vehicles, you put them all together so they don't have to go onto Citi's balance sheet. Then there's all the issues of how you communicate. So, if you're a supervisor and you've been saying, the firm I'm supervising is really strong, then what do you do? Do you double down or not? I remember looking at a stress test because we were trying to integrate different views more and this was an example of these different reactions. I looked at the stress test and said, "How come this big bank is not bankrupt?" And the person said to me, "Well in the way that the bank models the stress, when a borrower doesn't make a loan payment you get fees." Because there were late payment fees and that generates lots of revenue. Which was true as long as there wasn't a big shock.

But obviously the size of the shock was such that you didn't want to make that type of assumption. And then there's a surprise, like Bear Stearns. I think maybe Tim Geithner wasn't as surprised as some other people about them, but you must know the history. They called up on the Thursday and said they didn't have enough money which in the history of the financial crisis is a classic problem. If you've run out of money, your counterparties just want to get their share and they don't really care about any other effects. There had been a long discussion between research and a guy called Chris McCurdy who was in the payments area about how vulnerable the tri-party system was, Chris turned out to be right in that. What was it in our structure and culture that meant there wasn't more progress made on that? Even after the crisis, it took years to fix some of those issues with the tri-party system.

YPFS: **As we move into 2008, can you talk about your role in the period leading up to and around and coming out of the Lehman collapse?**

Potter: So, we had done a lot of work in the spring to June on bank capital, so I'd been asked to lead a cross-disciplinary team on that. We'd done some work where we'd got the other result, that there wasn't sufficient capital, by making an assumption that the recession would be much deeper, then making another assumption that the CDOs and some of the subprime loans would have a very high loss rate, given default, and the default would be high given recession. So that was part of the framing that we had. There was very little traction in terms of getting other people to look at that and understand. But it was a version of the stress testing that was done later. One anecdote is that an earlier version of the stress test, which was before I was involved, was presented at the board of directors meeting. I remember the New York Fed was an unusual set of people. So, Dick Fuld [then chairman and CEO of Lehman] was still on at this point, Jamie Dimon [CEO of JPMorgan, later JPMorgan Chase] was there, go look at the board of directors in the spring of 2008 at the New York Fed. And Jamie Dimon had said in response to seeing this version of a stress test, that the losses would be two to three times as high.

So, we went back and tried to understand what exactly that would mean. And you could see clearly that the chance that some of the banks that had come under pressure would survive even a moderate recession was very low because they were so exposed to the housing. Later, there was a lot of work going on about the GSEs and their capital adequacy. There were two different teams analyzing that, I wasn't involved in that. One said they had plenty of capital, one said they didn't have enough capital. It turned out they didn't have enough capital because of the size of the losses.

To me the challenge was more, how do you confront people with really bad news? So even though Geithner had wanted a different analysis of the bank capital, the way I presented it was, under this condition this many banks fail, under that one, this many banks fail. Which he didn't like because he thought it was a little bit scarier. But it turned out that was more accurate, not for the reasons that we had identified, but because of how fragile the funding was with those banks. Then how much the panic in September and October made the recession deeper.

YPFS: **What was it like inside the New York Fed in August, September, October of 2008, just day to day, from your perspective? We've all read about what Tim Geithner's perspective was.**

Potter: So, part of what he's pushing against is everyone still thought he was young. Maybe he had overreacted to Bear Stearns and it was over, so there was a complacency at first. But there was an attempt, it was very good, to get people just looking at the problems, asking different questions, coming up with different solutions. There was a feeling, I think, that some of the old style would work. Could you get a deal for someone to buy Lehman Brothers? I think having Fuld on the board of directors was incredibly bad optics; remember he was a class B director. He resigned a few days before we .... Definitely more could have been done in terms of trying to think through how bad would it be if Lehman Brothers failed. Remember, it happened quickly. So, you had the big bazooka that [Treasury Secretary Hank] Paulson said he wasn't going to use for the GSEs, then he had to use it. Then things just went downhill so badly from that.

It was pretty interactive, so a lot of people who were smart were exposed to Lehman saying it had a lot of cash then calling up probably on the Wednesday or Thursday and saying it wasn't sure how much cash it had, blah, blah, blah, and there was the tri-party thing here. So that was good. There was a lot of still arguing about how bad the shock was, because remember the data that was available for the summer, the U.S. economy looked like it was doing quite well. Definitely a feeling that the moral hazard of doing more would have been a big problem.

YPFS: **What are the lessons that you take from that window as an economist, as a manager and executive, a central banker? Again, lessons that could help others.**

Potter: So, having an academic debate and doing it over many weeks is not particularly helpful when the financial system is about to tip over. There was a Minneapolis Fed paper, staff working paper 666, which got changed a lot, but it basically said nothing was wrong because they had no idea which data to look at, because they hadn't been involved in it because they didn't think it was important.[5]

So, the first thing is, don't listen to people who haven't been involved in the debate because it's going to take them a long time to catch up. How to get the right decision? There're so many different agencies involved, and personalities involved in the U.S. I saw an interview that Pat Parkinson [a former top Fed official] did on David Beckworth's podcast, *Macro Musings.*

It was great because Pat, who ran regulatory policy at the Fed for a long time, describes the way that [Fed Chairman Ben] Bernanke allowed Geithner to cut through some of the BS, which was good. But the other thing is just chaos and I think it's important to have people who have been involved in chaotic situations before. So, the New York Fed had this guy, Terry Checki, who had been involved in a lot of emerging market crises and he was aware that it would feel quite scary at times. The institution as a whole did react very well, I think, because of the connection with markets and the supervised firms. The structure was flat in sort of many ways. People were tasked with things and had quite a lot of discretion and it was very interactive and very intense. People were sleeping in the buildings, sleeping in hotels for quite a few weeks. Certainly, it was 24/7 for about four weeks, from Lehman to the Capital Purchase Program.

[5] Federal Reserve Bank of Minneapolis. 2008. "Facts and Myths about the Financial Crisis of 2008." Working Paper 666, October 2008. https://www.minneapolisfed.org/research/working-papers/facts-and-myths-about-the-financial-crisis-of-2008

YPFS: **Now as part of the effort at the time the Fed rolled out several new lending facilities. Why new facilities? How did they work? What was the thinking behind them?**

Potter: Well there were swaps, foreign exchange swaps, and the Term Auction Facility came out at the end of the 2007. It allowed banks who already had access to the discount window to borrow through auction. Remember there was this failure because they didn't want to borrow from the window and show they were weak. They felt more comfortable taking money from the Fed through the TAF. And the foreign exchange swaps were another way of giving dollars to banks. They were limited by the operating system at that time because it was a system where reserves were scarce. So, you had to control the amount of reserves, which meant you had to sell stuff off the balance sheet. Then in March there was a Term Security Lending Facility.

That was basically swapping. It expanded the existing authority that was there to take a Treasury and swap it with another Treasury to allow you to take something not open-market eligible and swap up. That was to relieve some of the balance sheet pressures that the investment banks have. That had potentially precipitated the pressure on Bear Stearns because whenever you take an action people will think that the Federal Reserve has information that you don't have, so the Primary Dealer Credit Facility was then rolled out on that Bear Stearns weekend. That was much more of an operational trick, so the primary dealers are counterparties of the New York Fed, so you already have them as counterparties, and they operate on something called the tri-party platform that we discussed. So, the decision was made basically to extend a version of the discount window to the investment banks.

YPFS: **The primary dealer investment banks.**

Potter: Well the primary dealers are not all the big investment banks, there's only five big investment banks. There's like 20 primary dealers and some of them just got lucky. So, this had been thought about, this is the [Section] 13(3) [Federal Reserve power to extend credit in certain emergency conditions]. It had been discussed for a long time. The notion was, because of moral hazard you didn't want to institutionalize that with the 13(3) facility, which is the Board's authority, but the New York Fed is operating it. So those are what was available when Lehman failed. One of the cleverest things that was done was done by the lawyers. So, the Lehman Brothers broker-dealer didn't fail until later in the week, it was allowed to use the PDCF to resolve some of the positions it had. Whereas in London, the broker-dealer there was basically closed on that Sunday and the authorities froze it. So that was a good move in the U.S.

Then there was the innovation of the Commercial Paper Funding Facility. And all of this is well described in the Yale/Brookings paper by Logan, Parkinson, and Nelson in 2018.[6] The Commercial Paper Funding Facility was a way of innovatively getting around the Reserve Bank being secured to its satisfaction. And a lot of smart people were involved in that, I was not involved in that, but a lot of smart people were. There was the money market transfer thing where you would use a non-recourse loan to the banks, so the banks wouldn't be faced with that. So that was to unload assets from the money markets. Many of the facilities at first were just designed to prevent the panic from getting worse.

YPFS: Did they work?

Potter: Not particularly, no. So, the problem that happened is this assumption that the banks had enough capital, and by banks, I mean the rest of the system, not the big investment banks. That started to be questioned by Washington Mutual, which wasn't a surprise. So, Washington Mutual, in the simulations we'd done was failing 99 out of 100 times. Unfortunately, it was so big that it took the FDIC time to staff up and they surprisingly closed out on the Thursday. And you don't want to close a bank on a Thursday, with lines outside. So that was in September, then there was Wachovia, also failed, or was close to failing. There I think that now the information you would have, given the better data collection that's available, would have told you how vulnerable Wachovia was. Wachovia's issue was partly the accounting measures we were using didn't capture how weak it was. They had the pick-pay mortgages and if a household didn't pay their mortgage, their capital went up on the accounting rules, but the markets had seen through that.

So, one of the lessons was the markets probably worked out who was more vulnerable. Then there was a lot of innovation, I think, in terms of how to arrest the panic. One change was making the facilities much bigger. So, the day after the capital was given to the banks, Bernanke agreed to take the caps off the foreign exchange swaps, and they blew out to close to $600 billion. So size is pretty important. If you can do something in size and people believe there's a backstop, then that can calm things down. We saw this in March and April (2020), even before some of the money was actually available last year, there was a calming effect.

But a lot of what worked (in 2008-09) was the FDIC guarantee and cash injection into the banks. There it was more of a combined effort across all the

[6] The paper was later published as: Logan, Lorie, Nelson, William, and Parkinson, Patrick. 2020 "The Fed's Novel Lender-of-Last Resort Programs." In *First Responders: Inside the U.S. Strategy for Fighting the 2007–2009 Global Financial Crisis*, edited by Ben S. Bernanke, Timothy F. Geithner, and Henry M. Paulson, Jr., with J. Nellie Liang, 49–81. New Haven: Yale University Press.

U.S. agencies. If you click on that blog post, "The Failure to Forecast the Great Recession," there's a section there right in the first paragraph.[7]

YPFS: **The Liberty Street?**

Potter: Yeah, if you click on it, because this is public so...

YPFS: **Yeah, I remember reading this.**

Potter: And if you click on the link that says staff material[8], and if you look at 2008-2[9] it basically describes the Fed's approach as a "time out." So, think of it as an unruly child, and how do you give a time out to an unruly child in an effective way.

YPFS: **As the peak of the crisis passes, what did the Fed do to preserve what you'd learned from that? Was there training for crisis planning? Formal postmortems?**

Potter: So, you're making an assumption that we knew when the crisis had passed.

YPFS: **Good point.**

Potter: So, I'd say by the summer of 2009, you felt more confident in that. But that was a sort of different world then, because the person who had been running the New York Fed had left and he'd gone to work at the U.S. Treasury. There was a lot of work on stress tests; the Supervisory Capital Assessment Program was one of the big lessons and that turned into the CCAR [stress tests]. There was a lot of trying to go back and understand what had happened. So Jamie McAndrews, who was the co-director of research with me, he had a project that was fantastic, where lots of papers were written by research, people in markets, people in bank supervision, detailing everything about the facilities and what was the thinking there, and those are a great resource. You know I used that back in March and April 2020 again to understand what the Fed was going to do. I think that was part of it.

I think that at the New York Fed, there was a lot of trying to understand the failure of bank supervision, how large that was, why it had happened. How much of it was culture, how much of it was the difficulty of bank supervision

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[7] Potter, Simon. "The Failure to Forecast the Great Recession." Federal Reserve Bank of New York. *Liberty Street Economics.* November 25, 2011. https://libertystreeteconomics.newyorkfed.org/2011/11/the-failure-to-forecast-the-great-recession/.

[8] Potter, Simon. "The Failure to Forecast the Great Recession." Federal Reserve Bank of New York. *Liberty Street Economics.* November 25, 2011. https://libertystreeteconomics.newyorkfed.org/2011/11/the-failure-to-forecast-the-great-recession/.

[9] "Economic Advisory Panel Meeting." 2008. Federal Reserve Bank of New York. November 21, 2008. https://www.newyorkfed.org/medialibrary/media/research/blog/potter111011/2008_2/Outlook_2008_2.pdf

in general and how much was something where you could have, given what you know, do better than that. But it's all tied up between that being a delegated authority from the Board, obviously the delegation of it didn't look so good, in terms of the success. And the New York Fed wanting to understand how the financial system worked so it didn't want to lose the insight it got from supervising those large banks. Within research, there was definitely a lot of work trying to understand how the various policies had worked.

YPFS: **Were there any shifts in the culture of the organization? For instance, in how the New York Fed or the Board, viewed their financial stability roles, how they thought about a post-Dodd-Frank world?**

Potter: The Dodd-Frank's later.

YPFS: **Yeah, that's 2010.**

Potter: July 2010. I think there was... the New York Fed was still involved, but not as involved as it was during the crisis. The New York Fed was involved during the crisis partly because the skill that you required in the instant of that battle was mainly at the New York Fed.

YPFS: **The skill was what?**

Potter: Sort of how to do the hand-to-hand combat during the crisis.

So, for example, November 21, that economic advisory panel presentation that we did, we were sitting there, and we find out that Geithner's going to be the Treasury secretary, and then that weekend Citibank almost fails again. That was a lot of the New York Fed trying to do a good job in responding in that situation. But that was, if you like, battlefield stuff. It was a different diplomatic effort after that. So that would involve more of the Board who has the authority on this; the New York Fed has very little authority on the regulation side except in Switzerland on the Basel Committee.

Bill Dudley, who became the president of the New York Fed, had been the head of the markets group. He had a lot of influence because his original work was as a regulatory economist. He was very adept at understanding some of those regulatory issues. That probably gave the New York Fed a little bit of a leg up for a while. But the institutional feature changed that. The Board was really the one, the Board's on the FSOC [Financial Stability Oversight Council], the Board had all the responsibility that came from Dodd-Frank.

YPFS: **Now let's go into your market desk; the Fed just kept putting huge amounts of money into the system.**

Potter: Where do you get the notion it was huge amounts of money?

YPFS: **Can we say unprecedented?**

Potter: I'm not sure.

YPFS: **Okay.**

Potter: So, in September 2008, they put a trillion dollars in a couple of weeks, and in March 2020 they put in three trillion dollars in two weeks or something like that. So, some of these other ones look quite small in comparison.

YPFS: **Well, compared to 2020. …**

Potter: And also, I would say to 2008, there was no QE [quantitative easing] at that time.

YPFS: **But as time goes on, there will be QE and that's where we're going to go with this.**

Potter: But just if you could do it at that time, you would have done the QE in one step, it's just you thought you'd distort the market too much. I agree that the balance sheet looked like it was growing quite quickly and that has liability to the Fed growing and that is putting money in the system.

I think the right way of thinking about this and Jamie McAndrews and Ken Garbade—gee, have you interviewed Ken Garbade for this?

He'd be a great guy. So, they did a calculation of how big the Fed's balance sheet could just lending against stuff and that was about 33 trillion. So, the metric you have would be how big are dollar assets out there. And particularly if you include all dollar assets across the globe. So, I agree that it looked unprecedented, and it was definitely very unconventional for the Fed to do the QE programs they did, but to be honest I don't think they did enough of it. I think [Federal Reserve Board member Janet] Yellen in April, 2009, I'm not sure if it's in transcript or somewhere else, said, "It looked like it had worked in March when they doubled the amount they were going to do, so why don't we double it again?" Which is similar to the current approach of taking the risk of doing too much. So, I think you want to be a little bit careful saying it was a lot of money, it was successful, but boy it would have been better if we would have been successful more quickly.

YPFS: **Throughout the period you've got interest rates near zero, which of course we have now, too. Then Simon Potter takes over the markets desk**

in 2012. At that point, what do you see as the challenges facing your team?

Potter: Well, the first one we had was the cultural one, that the LIBOR scandal was out and that made you think hard about your relationship with the financial system, what was acceptable and unacceptable behavior. In terms of the immediate thing for me was trying to deal with that, because some of the stuff you'd done in crisis fighting, that had been exposed in an email didn't look that great. So that was the immediate thing.

Then the FOMC had failed to get sufficient velocity to get the progress they wanted towards its goals. So, in September 2011 they'd done what's called an Operation Twist and that's because they were concerned about the amount of reserves that would be in the system, how much money they'd been printing. The twist was a way of not printing more money but changing the composition on the assets side to make it more powerful because you take more duration. The decision was made to start buying mortgages again. So that was what's called QE3 or LSAP 3. I was new in the job, so I was listening to what people told me on that, and that was I think successful in the sense that it was a program where the Fed said it was going to keep on doing it until it succeeded.

There were, I think, two ways of doing that, if you can do it all in one day do it. If not, say you're going to do a lot each month, the most you can do each month and just do it until you succeed. Then there's a whole bunch of stuff about what's the fastest you can do for market function. And people look at that and try and decide, there's a paper that Lorie Logan did with Ulrich Bindseil that the markets committee released in 2019, where I think Lorie was saying we were too conservative on how fast we could go.[10] Because you were worried then, you still hadn't got a good feeling for the trade-off between market functioning and success on a policy goal.

YPFS: So how do you develop that feeling? A better feeling for that.

Potter: Well you talk to other central bankers; you try and understand how your operations are having impacts on the market. There's a lot of data you can look at and part of what the Fed had done and this is Bill Dudley and Dino Kos had set up the Treasury Market Practices Group [an advisory group of market participants], so there that was to help with market function. It's a complicated set of things you're trying to do, because the Treasury market is so critical in the global financial system, you definitely don't want to break it. Then the mortgage market was sort of similar, there you might want to push that just a little bit more. So, the pace of purchases was designed to put pressure on that market a little bit more than the Treasury market; the goal there was to lower the mortgage rate that consumers got, which was successful after a few

[10] Logan, Lorie, and Bindseil, Ulrich. 2019. "Large central bank balance sheets and market functioning." *BIS Markets Committee Papers* 2019, no. 11. https://www.bis.org/publ/mktc11.pdf

months. But there's no science to this, you learn, you look at what other central banks are actually doing, you think through how transparent you should be and there's different constraints on central banks for that.

YPFS: **And now, continuing to move forward, in December 2015 the FOMC wants to raise interest rates for the first time in a long time. Can you walk through how the desk prepared for this and the tools you had, how you identified them, how you prepared to use them.**

Potter: This was called exit for a while and then it became normalizing policy. "Exit" is not a great phrase because it looks like you don't like what you're doing. Normalizing is we're getting back to the normal times. Starting in 2009, so very early, planning had started before I was there. And the goal was to find institutions in the financial system like money market funds who have a lot of cash. The goal was to drain that cash, so instead of it going to the private market it would appear on the Fed's balance sheet. So instead of the liability freely floating around like the reserves do, it would be locked up on the Fed's balance sheet. So that was the goal. The balance sheet got to a height of $2.6 trillion which is, as we just discussed, a tiny number now. But it was viewed as a pretty big number for the policy that they were going to do because how could you do an open market operation if you wanted to get reserves down, so they were scarce and scarce reserves used to mean 2 billion before the crisis. So, lots of thoughts about how to do that.

There was a lot of hope that what's called interest on excess reserves and interest on required reserves would do that, but that had failed relative to the theory in 2008. So, it was introduced in October 2008 and all the theories about it turned out to be wrong. It was a great example of learning from experience that U.S. money markets were much more complicated than people had thought.

YPFS: **And slow down a little there, that's the kind of lesson, if you could help me by expanding a little on it.**

Potter: So Jamie McAndrews who's an expert in this area, Antoine Martin, and one other guy wrote a great paper in 2008.[11] Part of the principle of the paper was, let's not worry about how much money the Fed loans out to prevent the financial crisis. If we use interest on reserves, we can separate control of interest rates from the size of the Fed's balance sheet. In theory, absolutely true. In practice, it didn't work very well. So, you ended up, at the end of 2008, the decision the FOMC made when it cut rates to zero was to have a band of zero to 25 basis points where the fed funds rate could move around. And then you put what's called the floor rate at 25 basis points, because it was so leaky

[11] Todd Keister, Antoine Martin, and James McAndrews. "Divorcing Money from Monetary Policy." Economic Policy Review, Vol. 14, No. 2, September 2008. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1195320

as a floor you had to use it as a weak magnet to pull up rates. The thought was, it's a pretty leaky floor. So, for a while, let's drain lots of reserves so there isn't so much to leak through there.

Then in early 2013 Lorie Logan, who was the person I was working with in the markets group, came up with a different approach, which was that each day you'd allow money funds and other people with lots of cash, not banks, to come to the Fed and basically give the Fed cash and the Fed would give them Treasuries at a fixed rate. So that was the thing, we worked on that quite rapidly in 2013 because it had some operational aspects. We had to sign up some more money market funds for it, government-sponsored enterprises, and then in 2014 there was extensive testing of that method.

That included, at the end of 2014, a test where interest on reserves at 25 basis points, the overnight RRP [reverse repurchase agreement] it was called, was at five. You lowered RRP to three to see what would happen, then you raised it to seven and 10. And that testing when we raised it to 10, we moved up rates by about the same amount. And that gave us pretty good confidence it would work well. Then if you go read the transcripts, there was a lot of discussion about moral hazard issues, where there were financial stability issues. If you look at the minutes of the March 2021 FOMC that came out last week, they seem to regret some of that discussion from 2014.

YPFS: Now, looking back how would you grade that response from the desk?

Potter: I'm too biased to.

YPFS: That's okay…

Potter: In terms of what we did wrong, we weren't as respectful for the FOMC participants, in terms of the counterparties they wanted, there were some tactical mistakes that were made. I gave a speech that pissed people off. There were a lot of things that were pissing people off right then. Part of the issue was, to be successful in lifting rates, everyone has to think you're going to be successful in lifting rates. The way you do that is you're more formal and technical with the way you talk about it and you show a lot of confidence. And even if you might not be that confident, you still want to talk confident. So, the way the Federal Reserve System was set up, it wasn't set up very well for that mission because there's no natural entity that's supposed to be responsible for that. It was unprecedented to do that in U.S. money markets with about $2.6, $2.7 trillion—remember, because the balance sheet was then four and a half trillion and close to three trillion of reserves when we were thinking about doing this. They dropped, they were down about 2.3, 2.4 when we raised rates. But that day that we did it, we got in early to make sure it actually worked because we didn't know. We'd done the testing, but we hadn't lifted interest on excess reserves and the overnight RRP rate at the same time.

YPFS: **So, let's talk about lessons. We're back in the zero-interest rate environment again.**

Potter: Yeah.

YPFS: **And likely to stay that way for a while if you're to believe the forward guidance. How did the lessons that we've talked about play out now in this crisis? From early 2020 until we sit here now in early 2021, spring of 2021.**

Potter: So, there's a lesson in the Logan, Nelson, Parkinson Yale/Brookings one, which, it had been contentious for a long time that one of the things that constrained the Fed in 2007, 2008, was the concern about interest rate control. It did not constrain the Fed in the last year. So, the feeling was the floor system that was instituted, as opposed to a scarce reserve regime, seamlessly allowed you to expand the balance sheet at a very fast rate. And for me, and I'm completely biased on this, I think that's the best argument for the floor system. But it just works so well, independent of how many reserves you have in the system, it will be tested over the next few months.

Then there's the whole crisis response? So, we did a lot of operational readiness work, we should have done more of it.

YPFS: **Like what? Lessons for the folks who come after you.**

Potter: So, you know I'm biased, so there's different viewpoints on moral hazard. Some people think moral hazard is going to destroy the world and a bunch of us think it's obvious you have to act, so don't play a game that you're not going to win. So, if you want... Let's go back to March 23rd [2020] when the Fed announced all of the new facilities, the really creative ones. They'd had a week before that which looked incredibly messy if you're an insider, but from the outside you probably can't tell. After the announcement, only two of those programs, the one for the money funds and the Primary Dealer Credit Facility, were up and running. It took the others a while to become operational. Particularly, the Commercial Paper Funding Facility, that took a long time. You don't want there to be a gap like that between announcement and availability. Ideally, you'd like to be operationally ready at the point that you announce. I did a Peterson post on this topic of logistics.[12]

YPFS: **I think I saw that.**

[12] Potter, Simon. "Central bank lending logistics in the war on COVID-19: A primer." Peterson Institute for International Economics. *Realtime Economic Issues Watch.* April 25, 2020. https://www.piie.com/blogs/realtime-economic-issues-watch/central-bank-lending-logistics-war-covid-19-primer.

Potter: That was, one was don't blame the Fed for using BlackRock, even though you might think BlackRock was responsible for it, because who else could you go to but BlackRock to help set up these things quickly? I did some other stuff I didn't want to publish in the end, that was, you do need to practice. This is, if you're in charge of the operation and you screw up, you have all the downside risk. Whereas the people who might be in control of whether you're allowed to practice, they don't have that downside risk because people can't see them.

YPFS: So that would be make time and organizational culture that allows for operational readiness.

Potter: Well not only that, you have to talk to private sector.

YPFS: Okay.

Potter: So, a lot of what we did in open market operations were practice. So, for example, they practiced what if the systems don't work? And then because you still want to run some of the operations. If you look at, one of the things that we did practice when I was there was a repo operation, which was big in 2019 and 2020. Something went wrong, they hadn't disclosed on September 17th when they tried to run a repo operation in 2019. So, I think it's really good that everyone knows that your systems work well, and the systems are complicated now. I was just on, I think it was a COVID website, and it was a disaster because they hadn't had the user acceptance testing, and maybe it was okay, but if you need to get money somewhere and get secured which was the principle of that blog post, then practice that, because you don't want to tell people that an institution failed because the Fed failed to send them cash.

YPFS: Ouch, yes.

Potter: Or it doesn't go to the right place. So that's one of the lessons that I take away, the ability to operate with speed and precision within the law and the law requires you to be secured in some way, is critical. I would again, talking my own book, some of how the Fed interprets being secured to its satisfaction on an individual trade-by-trade basis when it's a certain type of lending, but then through a special purpose vehicle, when it's 13(3) doesn't make any sense. So, the ECB [European Central Bank] did this very innovative thing in the crisis. When you do a discount window loan, because it's a direct loan for financial institution and they give you some collateral, there's a haircut that you take. So that ensures the central bank if the counterparty doesn't pay them back on that particular loan, then you've got a bunch of these loans. So, what's the right thing to do in a crisis? The right thing to do in a crisis might be to lower those haircuts, you know lend more against that, and that's something the ECB did.

YPFS: More money out against the same collateral.

Potter: That's right, which seems counterintuitive at first, but because you're facing a systemic one, you're not so worried about this individual person not paying you back money, you're worried about the whole system not paying you back money. If the whole system doesn't pay you back money, you've definitely gone bust. It's untested in terms of how true this is, again it's a good example that this was an idea in a central bank working paper series but had never been investigated by academics formally.

YPFS: I don't want to keep you for the whole afternoon, but I would like you if you could wrap up, think about other things you wish you had done, 10 or more years ago. Things you wish you could tell your 2007 self about this, and then any questions I should have asked you and then didn't.

Potter: So, one of the things we learned is the range of opinions you should get is high, you should respect them as much as you can. So, you need to be humbler. If you have a stretch of feeling like you're masters of the universe, you probably need someone to come in and point out that that can't possibly be true—that's the luck versus good policy thing. I think the data that we had and how we formalized it, so we had a big effort in the New York Fed to collect the reference rate data, we should have done a better job with that before 2007. In that period, we relied on a not great way of collecting it.

There's still, if you've seen some recent episodes where the official sector doesn't have sufficient data, the Office of Financial Research, the LEI [Legal Entity Identifier] stuff, has not lived up to its promise, so more work on that would be good. Then I think that within the U.S., having fewer agencies involved would be helpful if there's a way of doing that. But on the other hand, I worked at the FSOC for four months and the insight from the National Credit Union Administration, which is on the FSOC, was actually pretty good because they just came from a different place. So, I don't know how to capture that diversity of views versus you need to act. You should put weight on both things and be aware that you're doing it.

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