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YPFS Lessons Learned Oral History Project: An Interview with Zoltan Pozsar

Zoltan Pozsar

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Lessons Learned Oral History Project Interview

Interviewee Name and Crisis Position	Zoltan Pozsar[1] Senior Trader Analyst, New York Federal Reserve Bank, Markets Group.
Interviewer Name	Sandra Ward (Contractor), Yale Program on Financial Stability
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Introduction:

The Yale Program on Financial Stability (YPFS) interviewed Zoltan Pozsar regarding his time as senior trader/analyst in the Federal Reserve Bank of New York's Markets Group from 2008–2011—the height of the Global Financial Crisis—during which he developed an expertise in what was coming to be known as the "shadow banking system" and provided market intelligence on securitized credit markets.[2]

Pozsar dedicated himself to learning about the then obscure and overlooked asset-backed securities market and the role it played in liquidity and market functions. He became the point man at the New York Fed for this market and established an extensive network of contacts with market participants. His dispatches on developments in the asset-backed securities (ABS) arena were much sought after and distributed widely throughout the regulatory agencies, including the Federal Reserve Board, the US Treasury, and the White House.

Pozsar's work laid the groundwork for the Term Asset-Backed Securities Loan Facility, or TALF, that was instrumental in getting credit flowing again in this critical channel. His detailed research and mapping of the shadow banking system provided a way for the Financial Stability Board (FSB) to more closely track risks presented by nonbanks.

As the crisis wound down, Pozsar moved to the International Monetary Fund as a visiting fellow and continued his focus on understanding the origins and workings of the shadow banking system, publishing several papers on the topic explaining how it grew to be a market force. Later, he joined the US Treasury as a senior adviser where, among other roles, he served as a liaison to the FSB on financial innovation. In 2015, Pozsar joined investment bank Credit Suisse as global head of short-term interest rate strategy. In 2023, Pozsar became

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

founder and CEO of Ex Uno Plures, a macroeconomic advisory firm specializing in global funding and interest rate markets.

This transcript has been edited for accuracy and clarity.

Transcript

YPFS: Tell us about your role at the Federal Reserve.

Pozsar: At the New York Fed I was a senior trader/analyst, the lowliest of roles in the Markets Group, where young staffers start. I went from the New York Fed to the International Monetary Fund as a visiting scholar, and from the IMF, I ended up at the Treasury as a senior advisor. That's the progression.

I'll tell you a little bit of a background about how I ended up at the Fed, because it's not the usual story and it's related to the crisis.

Before I got to the Fed, I was a macroeconomist at a firm called Economy.com. It's now a part of Moody's Analytics, and Mark Zandi was and is the chief economist there. I was Mark's right-hand man for the first six years of my career. The time period is 2007 and 2008 and the crisis is just starting to unfold. At the 2007 annual Jackson Hole Symposium sponsored by the Kansas City Fed, then German Bundesbank chief Axel Weber gave a speech that was quoted by the Financial Times saying the crisis had all the hallmarks of a run on the banking system, except it was happening at unregulated financial institutions, or nonbanks. This was very interesting to me and I started reading about these nonbanks, or as Paul McCulley coined the phrase, the shadow banking system. Until that time, I typically looked at high frequency macroeconomic indicators, but I had been interested in the banking system since I read Raghuram Rajan's paper called "Has Financial Development Made the World Riskier." When I read about Weber's remarks in the Financial Times I said to myself, "I need to look into this."

Then it so happened that Mark Zandi was asked to write a book about the mortgage crisis. The book was titled *Financial Shock* and published in 2008. He asked me to help him write two chapters for the book, one on structured investment vehicles, SIVs, and the other on collateralized debt obligations, or CDOs, the instruments that blew up the financial system.

It became very, very detailed, all because I was so inspired by Weber's remarks about the shadow banking system. I gave Mark a very detailed this-is-where-the-bodies-are-buried take on the issue. Mark said, 'This is great, but the book is for a mainstream audience, so I won't be able to use all of it.' And so, I asked him if it was okay for me to shop around what he didn't want to people who might care about the detail. He said, "go for it."

I was at the point of my career as an economist where I also was looking to change jobs because I was a bit bored doing what I'd been doing. I sent my paper on the shadow banking system to three people. The first was Bill Dudley, who then was the head of the New York Fed's Markets Group. He had left Goldman Sachs as chief economist to take the Fed job. I also sent it to Bill Ackman who had already came to fame because of shorting subprime mortgage bonds. Lastly, I sent it to John Paulson who also famously shorted subprime mortgages by using credit default swaps. My paper detailed what had happened and what was yet to happen and included a little map of how the whole system worked. I asked to have meetings with all three.

YPFS: And then what?

Pozsar: Dudley was the last to answer. Ackman took the request to meet and we did but it didn't lead anywhere because he had done that trade already. John Paulson, the same thing. He said, okay, well, this is interesting, these are good ideas. Why don't you work on your ideas a little more, and then that's your second job interview. After the meeting with Paulson, I did start thinking more about an aspect that was interesting to Paulson, and all of a sudden, I get an email from Dudley, which said, "This is an interesting paper. I have no one at my desk who knows anything about these markets. Do you want to come work for me?"

YPFS: Excellent.

Pozsar: The crisis is happening. I'm bored at my job. I am looking for a challenge. And I get asked to go to the central bank to work. This was great. I take the train up to New York. I meet Bill and there's good chemistry. He says, "Okay, let's have some follow up meetings and you can meet some of the people in the Markets Group." Basically, within two or three weeks, I get a job at the New York Fed. I pack up in West Chester, PA, where Mark's operation is based and I go to New York. The Fed is at 33 Liberty Street. I rent an apartment at 20 Pine Street, a block from the Fed. And it's crisis time. My three years at the Fed started in August 2008, two weeks before Lehman Brothers collapsed.

YPFS: Great story. Did you consider yourself an expert on the shadow banking system at this point? Or did you still have a lot to learn about this?

Pozsar: Was I an expert? I wouldn't say I was an expert. I started to dig deep into the topic and I think I was reading about this earlier and on a broader scale. I had a bit more interest than anyone certainly in the public sector where I ended up with this knowledge. The people that shorted the instruments that caused the crisis or the people that manufactured them, some of them certainly knew more about them than I did—specific instruments, not necessarily the whole system—but in the circles that I targeted and the central banking community in particular, I was the expert at that time.

I was 30 years old. I get hired to the Markets Group as a senior trader/analyst, which is the lowliest role when you come in. That's where everybody starts. I had a supervisor so I wasn't directly reporting to Bill, but Bill pushed to hire me. I don't think I had a title but I basically became the de facto “head of market intelligence for securitized funding markets,” if we have to put a label on it.

YPFS: **Was there a breakthrough moment when your colleagues declared you to be a boy wonder?**

Pozsar: Bill liked me from the get-go. One of the guys that interviewed me, Eric Stein, did so on his last day at the Fed. He was going to work at Eaton Vance Asset Management. He's now chief investment officer for fixed income there. He’s around my age. He said, “Dude, after that interview, I went into Dudley's office and I told him 'Zoltan is great, you need to hire him.’"

YPFS: **Then Lehman blows up.**

Pozsar: Then Lehman blows up and everything is happening fast and I get thrown in the deep water—we all got thrown into deep water. Everything freezes up and money doesn't flow, credit doesn't flow. It's the depth of the crisis. What do I do? My job is basically to talk to the issuers of asset-backed securities. These were auto companies and banks that issue securities backed by auto loans, credit card debt and student loans. You talk to the issuers, you talk to the syndicate desks at the banks that buy the underlying receivables and slice them and package them and sell them. You talk to the investors that would normally buy these ABS securities. And then you listen to all three parties about what their issues: ‘I can’t sell my receivables because syndicates are not buying and the syndicates are not buying because they can't sell to these traditional buyers and the traditional buyers are not buying because they can't fund the purchases.’ I mentioned the paper that I sent to Bill based on which he hired me. It included a map of the Shadow Banking System and I was now in a position where I could talk to the actual participants that I had plotted on this map. It was a privileged position to be able to call back market participants and learn from them directly. Maybe I had a better understanding of the underlying issues because I had an understanding of how the “sausage factory worked” and perhaps this helped me translate and highlight the issues to those who understood only a slice of the problem. And with this privilege came responsibility. What do you do in this role? You talk to the entire market, the ecosystem around asset-backed securities, and you write up what you hear from them, and then you email it to the leadership at the New York Fed.

Then the market “color” that I wrote up for the decision makers as daily dispatches gets forwarded on to the Treasury, to the White House to Larry Summers—director of the National Economic Council under Obama—and suddenly very senior people in government start asking ‘Hey, can I get on your distribution list?’ If there's one thing I learned from Zandi, it's when you write,

write in plain English, because much of what gets written is full of jargon and people don't understand it. It's okay to use numbers to drive a point home, as a piece of fine jewelry might rely on a gemstone, but clear prose is essential to telling a powerful story.

And so my dispatches were wildly successful. Everybody wanted to read them. Everybody wanted to get on my distribution list. People reach out from the Federal Reserve Board, people reach out from the Treasury, I get to know more and more people. Then I wrote an internal memo called "The Orphaned Asset Class." The Orphaned Asset Class is the asset class of ABS.

YPFS: What's the significance of that?

Pozsar: At this time, we already have the Primary Dealer Credit Facility (PDCF), the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) as well as many other facilities and the swap lines. But the ABS market is still not backstopped. It was an orphaned asset class. That's the asset class that I'm covering. The Orphaned Asset Class piece basically made the case that there's an asset class that is contributing to the real economy, that funds credit-card balances, auto loans and student loans. The securities weren't being issued because the end investors couldn't get funding, so we needed to come up with a funding mechanism for the end investors. If the funding is in place, the "sausage factory" can restart, credit would start to flow again.

I'd say the Orphaned Asset Class paper was the genesis for the idea of the Term Asset-Backed Securities Loan Facility, the TALF, which is the facility that I was the most involved in rationalizing, justifying. Once the go-ahead came from the Treasury (in the form of a check that provided the capital), we had to figure out how it would work, the terms, and who should have access. We needed to "shop it around" to market participants – the originators and sellers of the receivables on the syndicate desks, and the buyer base – to make sure the design and the idea would work.

That was basically contribution No. 1 from me, being a key part of the team that ultimately designed and got the TALF facility up and running. You have to understand, this is not the Treasury market, this is not agency MBS (mortgage-backed securities). This is not the repo market. This is not money funds. This is something the Fed and the Markets Group weren't even thinking about as a system that broke and needed fixing. It wasn't obvious. The case had to be made.

YPFS: Put the TALF in context in that time period. You mentioned there were other facilities that had preceded it.

Pozsar: The swap lines had been enacted. Timeline-wise, the key thing to emphasize is that you needed to create facilities to back up the Eurodollar market, like the FX swap market. The foreign banks need to get their dollar funding. So banks are key institutions. Then you have the dealers. You needed to create the primary dealer credit facility. Key institutions. Then the money funds blew up. You needed to do something that backs up money funds and the commercial paper market because the money funds are the biggest buyer of commercial paper. A lot of these facilities were pretty obvious, because you were looking out the window, literally, at some big banks and insurers across the street. When it comes to the ABS market, it's kind of amorphous. There's a lot of issuers, and they're not always obvious. Among them, Ford Motor Credit and Chrysler Credit financing cars and trucks, for instance, and the Credit Card Trust of JPMorgan and Citibank to name a few credit card issuers. There's John Deere that sells construction equipment and then provides the financing to the farmers and contractors that need that construction equipment.

The structured investment vehicles and asset-backed commercial paper conduits were the most important buyers of asset-backed securities and both those markets had blown up. The issue was that the buyer base that traditionally bought these instruments before the crisis didn't exist anymore, so there was nobody to sell to. You needed to create a facility that would bring in capital from different places. Then the Fed would provide funding. Once the capital and funding are in place, then the market can restart. TALF did that—pulling public and private capital together and turning that capital into balance sheet capacity to buy credit with funding provided by the Fed.

Why was it so late in the game that this TALF facility came? Half of the market that you needed to have a well-functioning asset-backed securities market was already gone. The other half didn't involve systemically important financial institutions as issuers that are easy to identify, so this is not as obvious as backstopping Goldman or JPMorgan or whichever company needed to be backstopped. So it took time. But getting the narrative right that many small nonsystemic parts add up to one systemic system that needs to be backstopped was key. You needed to tell a simple story.

YPFS: **Wasn't it and isn't it still a bit of an area that has no real oversight? Was there pushback on your plan or your approach to focusing on this area and committing resources?**

Pozsar: We are talking about special ops. It's wartime, we need to do something to get things moving forward. I wrote my dispatches and knew the decision makers are reading them and there was no pushback really. Everyone was focused on unclogging things and making sure the system works.

YPFS: **Was there a challenge in stabilizing this part of the financial system?**

Pozsar: No, because this was a crisis. Things were pretty bad and oxygen was needed. The aim was to get credit flowing to the smallest mouse holes in the system. The type of conversations we were having revolved around issues like why is credit still not flowing to certain places, when we already backstopped the banks, the primary dealers, and the money funds. Keep in mind, the problems came in large part from the breakdown of the shadow banking system, but policymakers still didn't yet have that big, nice mental map of how this whole system fits together.

YPFS: **There were and still are great debates about Lehman and what ultimately occurred with Lehman. There were debates over AIG. They were, as it turns out, systemically important companies. So I would think there would be some back and forth and debate about the shadow banking system.**

Pozsar: We are not talking about the shadow banking system yet. This is pre-shadow banking system as we now understand it— "pre-map" if you will. There were big intellectual debates about Lehman and AIG. Those were big institutions. Mistakes were made at these institutions. There was the moral hazard element. The asset-backed securities market we're talking about here is collateral damage in comparison. Auto loan, credit-card loan and student-loan issuers did not cause the crisis, yet the collapse of the system impacted them and also everyone who relied on them for credit.

It was Main Street who we needed to fund. We needed to do something to create a new buyer base out of nothing. There was no moral hazard discussion when it came to this because it was a completely different set of issues, set of beneficiaries. This is not AIG shareholders or Lehman shareholders. It's just a finance company funding someone on Main Street.

YPFS: **So TALF was a success?**

Pozsar: Yes, TALF was a success. And then a weird thing happened: the crisis ended. I went from the deep water, being in the office every weekend, attending midnight meetings, just wanting to absorb and learn, and then the crisis is over. And I realized, I'm in a bureaucracy. In a crisis, bureaucracy flattens. Then it reasserts itself post-crisis. You probably can tell, I'm not the kind of person who thrives in a bureaucracy. I'm more entrepreneurial. Now they're telling me what to do and it was not interesting. It wasn't fun anymore. That's number one.

Number two, the Fed seemed overstaffed. During the crisis, the Fed starts to hire all these hands from the private sector. The private sector was laying people off and they had expertise. The staffing of the Markets Group grew tremendously during the crisis, but all of a sudden, there's nothing to do. Things got boring. You go to meetings but you talk about nothing because nothing's happening. Everything is calm. People don't know what to do so you end up with free time. So what do I do?

My girlfriend at the time, now my wife (Elena Liapkova), attended the IMF (International Monetary Fund) spring meeting in Istanbul and I had a week to myself. I took that little map I had sent to Bill Dudley back in the day and spiced it up because for the past year I had been talking to every single one of those companies in the financial system and I knew a lot more about how they fit together and how they worked. Also, the version I sent to Bill didn't have all the emergency facilities as they weren't yet in existence; the new version showed how the facilities backstop the system.

In a week, I produced this big map of the shadow banking system. A 3-foot-by-4-foot poster. Everything on that map I did by myself on an Excel spreadsheet, again, just expanding on the baby version of the original map. The next question was how to print it out. I went to the basement of the Fed which had a printing department, and brought the Excel spreadsheet, a PDF version of it, and asked if they could print it. They said they had a poster printing machine and would give it a try. The printer said they hadn't printed anything that big since the AIG organizational chart. I brought it back up to the Markets Group, put it on my desk, looked at it from afar and it looked pretty and kind of cool I thought. I thought I nailed it, visually and conceptually. It caught people's attention when they walked by and they would ask what it was. I would tell them: "This is the map of the shadow banking system."

Then I took the map and went to the Markets Group briefing room. It had a padded wall, soundproof. This is a situation room where staffers brief the FOMC daily. I decided to pin the poster on the wall of the briefing room, and then I sent an email to everybody on the 10th floor, where the president and the EVPs have offices, inviting them to study the map, saying "this is the US financial system as I think of it; day-to-day we follow only one-tenth of this system. We need to think about that and expand our analysis"' Two days go by and there is no response. I felt a bit like Jerry Maguire.

Then Bill emails me, "I looked at your map. It looks interesting. Come up and explain it to me." That's the Bill Dudley I know and that's the Bill Dudley who hired me. I go up to his office and I explain it to him. He says, "Great. Can you explain this to people in Supervision?" The next day, I went to Supervision with 10 copies of the map and people sit and listen and they are interested. Then Mark Carney, who was then governor of the Bank of Canada, came to visit Dudley. During his visit he sees the map on Bill's desk and asks, "What is this?" Bill tells him: "One of my guys did this and I can send him up to explain it to you." The next week I am on a plane to Ottawa with a copy of the map to explain it to Carney. So it was a success. Bill Dudley was crucial. His leadership was crucial. Without his sponsorship, it could have ended very differently. But we'll come back to leadership later. The map ultimately ended up on walls at the Federal Reserve Board in Washington, the US Treasury, and the White House. Some suggested a copy should also be at the Museum of Modern Art.

The map spread like wildfire. Then the head of research, Jamie McAndrews, asked me to write it up as a monograph. I started writing up the map and got some co-authors who, as trained economists, helped round out parts of the paper. The paper is called "Shadow Banking," and it came out in July 2010. It became the most downloaded paper in New York Fed history.[3] I think it had 20,000 or 30,000 downloads. Later, the paper was used by the FSB (Financial Stability Board), by other central banks and regulators to figure how to regulate the shadow banking system.

YPFS: Then what?

Pozsar: After the initial success of the paper, I kept thinking about the shadow banking system and about the question of why it existed, and how it was funded and why the market was buying all this short-term asset-backed commercial paper and forms of short-term debt in general. Why is it that spreads were so thin? Why was there so much money in the system?

If you don't have the funding, the system could not have grown. The funding is basically the "chicken." The egg comes before the chicken so let's think about the egg here. Where did this funding come from and why was there so much demand for short-term paper? Out of this thinking came another paper, which ultimately got published by the IMF: "Institutional Cash Pools and the Triffin Dilemma of the US Banking System."[4]

This paper looked at the funding market and how large institutional investors—corporations, asset managers, foreign central banks—with hundreds of billions of dollars of cash needed a secure place to put their deposits. Back then, deposits were insured only up to $100,000. There's no way you will put a billion dollars at a bank because it would be an unsecured deposit and you need collateral to make you feel safer, and you need asset-backed commercial paper to make you feel safer.

That's how we morphed into a system where instead of money sitting at banks, it was in the wholesale market and it was in money funds. This system grew organically as the institutional cash investors that were not a part of the system 20 years ago gradually became a very big part of the system. The private sector catered to their demand for collateral-backed short-term paper. Demand created its own supply. By the way, if the U.S government issued more Treasury bills, that would have made these investors just as happy. It's just that the Treasury did not issue bills on a sufficient scale. One reason why the

[3] https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr458.pdf

[4]The Triffin Dilemma is named for Belgian-American economist Robert Triffin and denotes the conflict that arises between short-term domestic and long-term international goals for countries whose currencies hold global reserve currency status. https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Institutional-Cash-Pools-and-the-Triffin-Dilemma-of-the-U-S-25155

shadow banking system got as big as it did was because the public sector wasn’t issuing enough of bills and the private sector picked up the slack.

I wrote all this up as a paper. I had just written the most popular paper in New York Fed history, so I figured I’d do another. I sent this draft around and the response was: "You're not a PhD economist. You're not supposed to write this stuff. As a central banker, you can’t say that the US Treasury ought to do X, Y, and Z, because there's a separation of church and state. You should burn this paper." I said to myself, "No way am I going to burn this paper." I went home, told this to my girlfriend, now wife, who said, "You feel strongly about this paper and so you need to get this paper out. If you want to quit and go someplace else, I'll have your back. It's a risk worth taking." I knew some people at the IMF. Back then, Olivier Blanchard was the chief economist there. He was setting up a new group within the IMF research department, the Macro-Financial Linkages unit, whose sole mandate was to write these types of papers, things that explore the linkages within the financial system and the macroeconomy.

And so I told him, "I think I have a great paper." He knew who I was and he said, "Okay, well if you can't get it out from there and if you want to leave, we can hire you as a visiting scholar on some three-month contract, or something like that." So I quit the New York Fed and went to the IMF.

YPFS: **Dudley had been a huge supporter of yours and brought you in. What was his response to this paper?**

Pozsar: I'm not sure. In 2009, he's a champion of the map and very happy about the paper. He became president of the New York Fed in the interim probably got more removed from the day-to-day. He knew I was impatient. He knew I was hoping to climb the ranks faster than it was possible. He knew I was able, he knew I was doing all these interesting things, but at some point you are left to figure out things on your own. Bill’s sponsorship of my earlier endeavors is what I’ll remember for life.

I was on a mission, I needed to get the message out. For the annals of financial history, if it weren’t for my wife, that paper wouldn’t exist today— I actually mention Elena in the acknowledgements on the front page .

YPFS: **We will give her full credit. The IMF’s response was very different from the Fed’s correct?**

Pozsar: Yes, because Blanchard brought me in, and I reported to Stijn Claessens, a very nice guy and Dutch economist who was the chief of the IMF’s Financial Studies Division. He is now the head of Financial Stability Policy at the Bank for International Settlements. They gave me carte blanche to write about the topic of shadow banking, saying ‘There’s no literature about any of this, so you might as well start somewhere.' They wanted blue-sky thinkers and the topic wasn't sensitive to them.

YPFS: **When the paper was published by the IMF, did it receive attention?**

Pozsar: It was a very big success. The way the world now thinks about shadow banking was influenced by this paper. The shadow banking system was understood as some kind of excrement of the financial system. But you're talking trillions of dollars of assets that were funded. The market participants that funded these assets were professional risk takers. They thought they knew what they were doing/buying. Rationally, they didn't want to be in unsecured bank deposits.

YPFS: **This is an area of the market that has only grown exponentially since the financial crisis. How do you explain that? Is that of concern to you?**

Pozsar: The system has grown, yes. But the system we have today is much cleaner and much better regulated. These markets still live on the balance sheets of large financial institutions that are now subject to Basel III. You have more capital, less leverage, and more stable funding. In this COVID-19 crisis, not a single bank failed anywhere in the world, so that's a testament to the success of Basel III as a framework that fortified the system.

YPFS: **You were a visiting scholar at the IMF and wrote a second well-received paper. What happened next?**

Pozsar: It was a three-month contract, under which I had to write a paper and I got paid a certain stipend. Then the contract was extended by another three months. I then had to permanently join the IMF or find another job. For a time, I was an advisor to a merchant bank in Hungary. And then Paul McCulley, former chief economist at bond manager Pimco, was looking for someone to write a paper with about fiscal-monetary cooperation and the separation of church and state and how it makes no sense when you have a de-leveraging cycle. He heard I was no longer at the IMF and asked if I were interested in working with him and we wrote two papers together.

I did these odd jobs, and then the Office of Financial Research at the Treasury, created under Dodd-Frank, gets set up. They need content because they are a new organization and they need to say interesting things. The group was the US Treasury's equivalent of the Macro-Financial Linkages Unit that Blanchard set up at the IMF. I got hired there as a senior advisor. I wrote a few papers there about shadow banking and money markets, and that's my career in the public sector.

YPFS: **Did you feel a great deal of success in helping to resolve the financial crisis? Did you see your role as central? How do you see it?**

Pozsar: After Dudley made me the job offer at the New York Fed, I emailed Paulson again and told him I had been thinking about the questions he asked me to follow up on and was getting ready for my second job interview with him, but Dudley offered me a job at the Fed. Then Paulson asked one of his deputies to call me and tell me 'John wants you to come work for him. You can name your price.' I told him that, 'No, this is a crisis. This is an invitation from Dudley at the Markets Group at the New York Fed. I want to serve the public. I'm going to go to the central bank.'

I chose public service in the summer of 2008, knowing this was something big, and I haven't regretted it once since. It was an immense sense of satisfaction to be able to do these things. Back then, it was as if we were walking in the wilderness in the dark and animals were jumping at us. Nothing is ever going to be like that again in my career. It was immensely satisfying. I was a private in the army but I blew up a bridge or two and the enemy didn't cross the river. I think back at the crisis days fondly because the institution really came together. It didn't matter if you were a president or a private, you got to talk to the decision makers. The risk taking paid off. The post-crisis hierarchy was a different experience.

YPFS: You have said that the government's response to the March 2020 pandemic amounted to dusting off old playbooks. Was it just that? Weren't there more innovations that occurred? Everybody seems to agree if there was one thing learned it was that the response had to be quicker than during the Global Financial Crisis. Can you compare and contrast?

Pozsar: We had a primary and secondary credit market facility this time around. That was something new. But the rest of the response was really just dusting off the old playbook. Things were much faster this time around because it was no one's fault and you didn't need to teach a moral lesson. This was a pandemic, an act of God, and had nothing to do with large financial institutions making bad decisions. You didn't have to teach a lesson. The banks were fine. They were strong and well capitalized, and very liquid. The government did what was right, and they did it quickly. And on a much bigger scale. But again, they knew what to do. In 2008, they didn't even have a name for it. Now we call it "dealer of last resort." Markets freeze, you step in, and you start making markets in a central bank's balance sheet. Back then, the response was, "Market making? What?" It was very different. It was never done before because there was only the discount window. I remember the conversations with people that ran the discount window. They'd ask, "How are we going to do this? This is not what we were set up for." This was the old school.

YPFS: You've lately gotten renewed attention because of your prescient calls about the repo market and the turmoil in that market in 2019. It seems

you still have concerns about distortions in that market. Can you address those concerns?

Pozsar: I was hired at Credit Suisse because the chief economist was familiar with my work and knew that the financial system and the way banks fund themselves was changing. He said, "Let's try to commercialize this." This was a different task than I had in the public sector. Now it's about market participants who want to profit from trade ideas. It's about understanding faster than others how something is going to shape how markets trade. We need to come up with ideas for clients and monetize these ideas.

As for the repo market you were talking about in September 2019, I don't know why I saw it and nobody else did, including the Fed, but basically the writing was all over the wall that the banking system was set up for something like this. It's not like it used to be. There is X amount of money in the system. There are the market participants that need the money, there are the market participants that have the money. The banks are always the ones that lend the money on the margin. And then when the banks are out of money, no one is going to lend the money, and then the market has an "air pocket" – prices react wildly.

My call in September 2019 was that the repo market was going to break any day now. And then it did. The Fed was still looking for indicators such as banks taking intraday credit to know when the money runs out. I thought there's no way they are ever going to tap intraday credit, because then that would mean that they are in breach of their liquidity rules. Basel III is important. Like the Ten Commandments, Thou Shall Not Take Intraday Credit is the equivalent of Thou Shall Not Kill. I thought they won't take intraday credit and when the money runs out, it's going to be ugly. And it was ugly. The repo facility the Fed launched in September saved that day.

YPFS: I remember people in the markets were mystified. Some blamed it on management changes at the New York Fed.

Pozsar: The Fed defended the overall amount of reserves in the system but questioned the distribution of reserves in the system. They were going to push for a more equal distribution of reserves in the system to get the rate even lower, thinking that the banks would lend more. But they have a fixed amount of reserves they need for intraday liquidity purposes so even if you got interest on reserves to minus 100%, banks would still hold reserves at the Fed. Somehow the Fed and the market didn't get that.

YPFS: Has Dodd-Frank affected responses?

Pozsar: No, I think COVID-19 is a good example of that. For years we had the conversation about how the 13-3 authority is limited by Dodd-Frank and so we wouldn't be able to do this and we wouldn't be able to do that. Yet, we could do anything we wanted, really. So, no, it's not the prettiest sounding observation for the annals, but I think the history of central banks is that of a janitor in a crisis. Because someone always needs to clean up. And the guy that cleans up is the guy with the money. When you look at the history of the Fed, the institution was founded in 1913. It was founded on the principles of the real bills doctrine. They were only supposed to discount commercial paper that serves trade, and manufacturing, and commerce. The First World War came along, and they had to buy T-bills, because they needed to fund the war. That activity was nowhere in the founding document. The mortgage crisis came along, and they were never supposed to buy mortgages. But then they did. Then the Covid-19 crisis came along, and they were never supposed to buy LQD, the exchange-traded fund that has investment-grade credit, but they did.

Whatever the problem is, and whatever sector needs to be cleaned up, and re-liquified, and unplugged, that's what the Fed will do, because they are the provider of elastic currency in the corner where it's most needed. If some part of the system needs fixing, you'll fix it. Because that's what the central bank is there for. This is not romanticized, and this is not what they write books about, but it's as simple as that. That's exactly what we learned in 2008. That's what a dealer of last resort is going to be about.

YPFS: **What for you is that the biggest lesson or lessons from the 2007–09 period?**

Pozsar: My biggest lesson was in leadership. Having two leaders, Tim Geithner as president of the New York Fed and Bill Dudley as head of the Markets Group—the two of them were an extremely powerful duo. I'm sure Bernanke was as important as others, but I didn't see him up close in action.

Geithner is extremely charismatic. He would walk the floor of the Markets Group like a general. He would show up in offices and ask people to explain things that he didn't understand. He never asked me, but he asked others. He wanted to understand things. He's not a trained economist. I think he has a degree in international relations. But he has common sense. He speaks plainly. And he boils things down to one, two, three. That's key.

He knew he was taking risks. He was always thinking about staying within the law and explaining things to Congress, always two steps ahead in the chess game, understanding not only liquidity provisions, but the optics and political and economic ramifications of it.

He could have been some tough-money-justice-kind-of-guy and let Rome burn, and let the people have a lesson. And we would have had a completely different course of history. I was fortunate to have seen him in action. I have learned so much from watching him operate. He inspired.

Having the right people in the right seat at the right time is very important. Having Churchill and Roosevelt back in the day, with their chemistry and getting stuff done, makes history. So my biggest lesson, big picture, is having Geithner and Dudley as leaders. Whatever technical ideas and facilities came out of the Fed from staffers like me, they were the ones who championed it at the board, at the Treasury, in front of Congress.

YPFS: **There seemed to be tensions, though, between some of the agencies, including the Fed, FDIC and the Treasury.**

Pozsar: Oh yeah. It's territorial. It's bureaucracy. Bureaucracies are, by their nature, territorial.

It's probably the case that the US regulatory framework is a bit more Balkanized than it is elsewhere. That definitely contributes to it. And it hasn't really been fixed. But again, in situations like that, you needed to have the right kind of leaders that can create consensus.

And Geithner, even when he became Treasury Secretary, and implemented the stress tests, and recapitalized the banks, and dealt with the FDIC, and the OCC, he is the kind of operator that's going to herd the sheep and get stuff done.

YPFS: **What about the current state of the markets? How do you view the stability of global financial markets at this point in time?**

Pozsar: Everything is fine. Look, we just came through a big crisis. Things are in place. Things are liquid. There's money getting pumped in, interest rates are low, equities are high.

Let me tell you this, another 2008 is not going to happen for another 100 years. I told a colleague of mine: 'You don't realize this, but things will be boring for the next 100 years. We can talk about the repo market popping up for a day, a flash rally, a flash crash in the Treasury market, but in the grand scheme of things this is nothing. Eventually, the institutional memory that got burned into us in 2008 is going to fade.' When the old hands leave and the new hands come in the institutional memory will be lost. We were all re-discovering Kindleberger (Charles Kindleberger, an economic historian and author of Manias, Panics, and Crashes) in 2008. In science, knowledge is cumulative. In finance, it's cyclical.

There will be a financial crisis, at some point, but only once rules have been eased up. That's why a 100-year crisis is a 100-year crisis because it takes a hundred years for things to fade from memory, and for things that were put in place as a response to an old crisis to get removed (because we haven't had crises for a long time). Things are fine now. What could go wrong? Rates are low. We'll see how inflation will behave.

Maybe we will have a political crisis?

YPFS: **What do you think of Elizabeth Warren calling Fed Chairman Jay Powell a dangerous man?**

Pozsar: Things that happen on Capitol Hill stay on Capitol Hill. It's politics.

YPFS: **Thanks, Zoltan.**

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