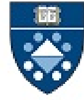

Yale SCHOOL OF MANAGEMENT
*Program on Financial Stability*

# Lessons Learned Oral History Project Interview

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| **Interviewee Name and Crisis Position** | Andreas Lehnert[1]<br>Chief, Household and Real Estate Finance Section, Board of Governors of the Federal Reserve System |
| **Interviewer Name** | Mercedes Cardona (Contractor)<br>Yale Program on Financial Stability |
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## Introduction:

The Yale Program on Financial Stability (YPFS) contacted Andreas Lehnert by email to request an interview regarding his time at the Fed during the global financial crisis. Lehnert was chief of the Fed's Household and Real Estate Finance Section at the onset of the crisis and played a key role in implementing the Fed's research and policy agenda on financial stability.[2]

Lehnert developed and helped run the Fed's first regulatory stress tests in 2009 and in 2010 played a role in launching the Office of Financial Stability Policy and Research, which became the Division of Financial Stability. Lehnert became deputy director of the division and was appointed director in 2016.

***[This transcript of a telephone interview has been edited for accuracy and clarity.]***

## Transcript

**YPFS:** **Could you start by giving us some background of your experience working at the Federal Reserve Board of Governors?**

Alvarez: I received a job at the Federal Reserve Board in Washington right after law school in 1981. I never expected to be there for 36 years, but I really enjoyed the work, the people, the atmosphere, and the challenges. I became the General Counsel in 2004, well before the crisis. Early in my career in the 1980s and 90s, I got a taste of what it was like to work in crises with the Thrift Crisis and Penn failure and Continental Illinois rescue, also during the downturn in the 90s when banks were struggling. Of course, 2007 to 2009 was a whole different level; but my prior experience in the smaller crises allowed me to learn a little bit about the speed and the creativity that's

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[1] The opinions expressed during this interview are those of Mr. Lehnert, and not those any of the institutions for which the interview subject is affiliated.

[2] A stylized summary of the key observations and insights gleamed from this interview with Mr. Lehnert is available in the Yale Program on Financial Stability's Journal of Financial Crises.

required in a crisis. So I was at the Board in 2007 when the crisis began and I guess when you say, "When did we become aware that the crisis had begun?," it's sort of like there's a little bit of fog in the water as it's heating up kind of experience. It's not like one day you wake up and the sky has turned red and a plague has hit. Things change slowly, but by the fall of 2007, we were all aware that the economy was struggling, and the markets were starting to react in an unfavorable way. It wasn't exactly crisis yet, but it was the beginning, and everyone knew it. The FOMC talked about it and they started lowering interest rates. We started having discussions about how to get folks to use the discount window, so it was warm by then, not super-hot. We all understood it at that point. The question was how deep of a crisis it would become and would providing liquidity to banks and lowering interest rates be enough? Things got worse through the fall of 2007 and by the wintertime of 2008, that's when our attention turned, at least for me. I noticed others at the Fed paying a lot more attention to the broker dealers. There was a lot of monitoring of tri-party repo markets and other markets that the primary dealers are involved in. We began to talk more regularly to Bear Stearns, to Goldman Sachs, to Merrill Lynch, and Lehman Brothers. But we didn't have legal supervisory authority over them, so our ability to get information was entirely based on the banks' willingness to provide information to us. We were talking a lot with the FCC as well.

**YPFS:** **We are recording so if you have any kind of a caveat that you need to share regarding your position or the statements you're about to make, be my guest.**

Lehnert: The views that I'm going to express are my own and don't necessarily represent those of my employer. First disclaimer, and then second is that I think memories in general are notoriously fallible and that I in particular am infamous for having a terrible memory. So, any mistakes I make in my recollections here are purely mistakes and I'm sorry in advance.

**YPFS:** **Since this is an oral history why don't we start with a little bit of narrative. I believe you were Chief of the Fed's Household and Real Estate Finance section back in 2008. Can you tell me just a little bit about what you were doing?**

Lehnert: I was in the Fed's economics research group and the group that I was in charge of at the time, the smaller group, was called Household and Real Estate Finance. We were clearly at the leading edge of the distress as it started to evolve. You mentioned 2008 but for me, this really begins in late 2006. We were going into the fall of 2006, focused on the riskier parts of the residential mortgage market, sub-prime mortgages, what's sometimes called Alt-A or near-prime mortgages. We were focused on those elements in the

market and the mortgage finance companies that were particularly prominent in that market. In December of 2006 the first really big mortgage finance company, New Century, failed and that was kind of the warning bell, or the opening bell for the crisis.

Over the course of 2007 we watched distress spread to other parts of the mortgage market, not just sub-prime and near-prime--to auto loans--to credit card loans, student loans-and so, while delinquency rates weren't at extremely high levels, it was clear that the markets and institutions that were intermediating the credit were under increasing stress.

By early 2008 it was clear that house prices were falling, for certain regions, dramatically. In addition to staying on top of distress in other sectors we were increasingly focused on the foreclosure crisis and the issue of mortgage modification. Over the course of 2008, my group and I took a deep dive into the mortgage servicing industry and we published some of our findings in a paper that appeared in 2008 called The Incentives of Mortgage Servicers: Myths and Realities. Then obviously by the end of the summer of 2008 the really acute phase of the crisis had begun.

**YPFS:** **What were the discussions at the time? Were there any discussions about using any of those macroprudential and economic stability tools to try to avert the crisis that happened when the global finally came undone?**

Lehnert: Using the framework that we have in place now, from that kind of macroprudential policy-making perspective, you would really have wanted to put in place measures to increase resilience in the financial system by 2004-2005. The housing bubble was evident in real time, in the form of residential house prices to residential rents, the kind of ratio that was seriously above historical norms. This was something that a lot of people were looking at the time. Even real time, the June 2005 FOMC meeting, is one of the examples of this.

The conventional wisdom at the time was that house prices would, in a phrase that was very common at the time, house prices are going to rust, not bust. In other words, house prices had never really fallen in any serious magnitude at the national level. So, people were anticipating kind of a long period of very subdued, nominal house price growth and probably some localized declines.

All that said, there was a lot of focus on interest-only, option ARM, all these kind of new mortgage products that were being originated at the time and which today we might say might have been the focus of macroprudential policy making. Subprime mortgages were seen as a potential serious problem for the borrower, but not a systemic risk. I recall Ned Gramlich making

remarks, (then-governor Edward Gramlich) making remarks specifically to this point. They would generally see it as, a small part of the mortgage universe. It's a niche product. Nonetheless, this was the highest risk end, and it was sort of the end of market that we were watching very closely.

Subprime mortgage delinquency rates spiked after Hurricane Katrina, which was in September 2005. But then actually began trending down, so over the course of 2006 they were falling. I spent a few months in the summer of 2006 visiting the Tax Policy Center, thinking about fiscal policy. When I got back to the office in September 2006 that was if you will, all the pre-history to the crisis.

Macroprudential tools, generally speaking, we think of as being good at trying to tamp down, or potentially good at building resilience in the system when this sort of financial imbalance is underway. It's sort of less clear that you can use them to protect credit supply. My 2013 paper on macroprudential policy finds that historically attempts to kind of ease financial regulation in a way to protect credit supply don't necessarily work and sometimes it was pushing on a string.

By 2006-2007 it was effectively too late to try to push against the imbalance and it was really about crisis management. I think we're probably going to talk a lot about some of the crisis management stuff that we did, but just in the narrow world of residential mortgages, the very first crisis management macroprudential tool that I remember working on was a plan that was referred to as the Teaser Freezer.

I remember Ted Gayer (who was on the Council of Economic Advisers at the time) and I discussed this extensively and he called and explained the plan to me. This was to address what we viewed as one of the problems at the time, which is that subprime mortgages often had this feature that, two or three years after origination their interest rates, which had been set to a lower teaser rate, would jump up. But once the subprime market collapsed, these borrowers couldn't refinance and they were stuck in the loans at the high rates, the rates after the teaser. Something that the lenders and borrowers and hadn't really contemplated and that was contributing to elevated default rates. The administration's plan encouraged services to maintain these sorts of lower initial rates, hence the term Teaser Freezer.

**YPFS:** **When did it become clear that the financial crisis was not your average economic cycle and that more significant measures were going to be necessary? What were the discussions that were going on in, say, the summer of 2008?**

Lehnert: I think that August 2007 liquidity crisis, which I recall happening the day after the August 2007 FOMC, was for me, my first real inkling that the

financial system wasn't going to handle the fallout from the decline in house prices well. The fall of 2007 and into 2008 I got increasingly involved in some of the discussions around the distress of specific firms, so I wasn't involved in the ultimate decision about whether and how to support Bear Sterns or whoever. My job was helping principals understand, often these firms would have large portfolios of mortgage assets, so they rely on me for my mortgage expertise.

I want to say that it was, in fall of '07 or maybe very early 2008 that I had my kind of first real crisis experience, where I got called to come into the office on a Saturday to help make some policy decisions. I mean, I remember sitting around a table in Brian Madigan's office with our general counsel at the time, Scott Alvarez, Coryann Stefansson, and other staff and everybody was wearing shorts. It must have been the summer; it was sort of a hot day. I had a pretty narrow role, by far the most junior person at that table. The policy debate was pretty wide ranging and I think actually this was the first time that I met Coryann, who would go on to have such an important role in the SCAP (Supervisory Capital Assessment Program). Obviously, the events around Lehman Brothers failure, that was kind of a real watershed moment.

After the passage of the TARP legislation in October, Fed and Treasury staff formed teams to work through all the different approaches to stopping the crisis and restarting the financial system. I got assigned the job of figuring out how to buy junior liens. These are residential mortgages that are junior to the main loan, for example, a HELOC. Sometimes people, if they don't have a traditional 20% down payment, will use two mortgages to buy a house, so they'll have one mortgage with an LTV (loan-to-value ratio) of 80% and a second for whatever wasn't covered by the down payment that they did have--usually like 10% of the purchase price. Those were sometimes known as an 80-10-10; it's actually how I bought my first house in 2004. Those junior liens, those second pieces, were viewed as being potentially a problem; my assignment was to figure out how to use some of this TARP money to go buy those loans.

This was really just an incredible learning opportunity. Working on this project really opened my eyes to whole dimensions of how policymaking works, how financial markets and institutions work. My treasury partner in that was Seth Wheeler who had left Morgan Stanley where he'd been an investment banker to come work for Secretary Paulson. Seth was an investment banker and he showed me essentially by example how to organize a big sprawling mess of a complicated project that requires you to juggle accounting issues, finance issues, operational details, legal problems. For some parts of this project we were relying on Fed or Treasury staff for their expertise but for others we contemplated hiring vendors and we went through that whole process of thinking about what vendors to use and were in constant communication outside the government: academics, policy

experts of course, but market participants. People with real sort of stakes in the game.

Ultimately, as I'm sure you know, somewhat famously TARP wound up not being used to purchase distressed assets like second liens, but instead to recapitalize the banking system and to support mortgage modification programs. I often think that experience, those six weeks or so that I spent just absolutely going 24 x 7 on a kind of investment banking-style project really taught me the value of excellent project management skills, lots of corners of the system that I hadn't otherwise come into contact with.

**YPFS:** **Interesting you mention that because many of our interviews have touched on the difficulty of having good oversight and good regulations when there are so many different agencies as well. Were there lines of communication between all these different agencies and does that have to change to manage the fallout from this crisis?**

Lehnert: Let me give you my perspective as the relatively low position in my organization at the time. I think the regulatory system works okay. It worked fine during normal times when interaction among agencies were constrained to well-defined channels and questions and there were fairly clear goals and responsibilities to the different agencies. But once the crisis got underway, really it was just a case of, all of us were working just very closely together.

Other agencies are a little bit like other countries. They have their own distinct culture, in certain cases their own distinct language, (and) conventions. The key people in the organizations are people that you need to get to know. I distinctly remember in Fall of 2008 figuring out, okay, who are these guys at the FDIC, at Treasury? The Treasury team was Neel Kashkari, Seth Wheeler, and these people were less from an academic background.

There was a lot of confusion because all agencies were ultimately relying either on the same set of not very granular data that were available from commercial vendors, or the banks' own reports of their exposures. There just wasn't, at least in the early days, an agreed-upon set of just basic facts. People would say: "This large bank holds zero subprime exposure," Really? Zero subprime? You sort of dig into it and maybe (there's) mortgages to borrowers with credit scores in the 500s but they have a relationship with these borrowers, they really believe in them and they don't think that they're really subprime, you know? They just happen to have missed several payments on lots of different loans over the last few years. That is the kind of thing that can delay coordination and policymaking.

**YPFS:** **There was a lot of talk about shadow banking and lack of regulation over some portions of the housing lending area, but the Fed had some authority to make some regulations about things like predatory**

**lending. It chose to take a more hands-off approach. What was the reasoning about it?**

Lehnert: I can't really speak to the rationale to the pre-crisis regulatory posture. It was definitely the case that there wasn't an appreciation of the systemic nature of the riskier end of the residential mortgage market. The focus really seemed to be on protecting consumers from unfair or deceptive practices by lenders. I did work closely with the folks who worked in what's called the Division of Consumer and Community Affairs starting in 2007. Sandy Braunstein and her team, staff in the division. They had first-hand experience with the challenges faced by borrowers and by the frontline people trying to help the borrowers, people in the foreclosure waves. In many cases we're talking about state employees or city government employees and just like us, they're struggling with basic facts: Where in the city are troubled mortgages concentrated? How many delinquent mortgages are in this neighborhood?

By then, fortunately, we'd acquired some data and were able to help. It was a challenge to assemble our data in a way that could be useful to local officials. I think it was one of these emergency situations where it was just fantastic to have the channels of communication open, to have those relationships in place. Then of course, when we transitioned into thinking more about mortgage modifications, this was a group of people that had a lot of experience with the issues around helping troubled borrowers. The Feds, predatory lending/subprime mortgages, all of that stuff was run out of DCCA. You would probably have to go talk to Alan Greenspan to find out exactly what people were thinking, but that group was just absolutely first-rate when it came to actually managing the fallout of the crisis.

**YPFS: A lot of the public perceptions that linger with the crisis is the government bailed out the banks but not the homeowners. There was a lot written at the time about loan modification programs that didn't quite work as advertised. Why was it so difficult to come up with a relief program directly for homeowners?**

Lehnert: This is something I spent a lot of time on. You need to go back and put yourselves in our shoes, starting in 2006 and 2007. In real time it wasn't clear what the best modification program was for the crisis that we were facing or even that modifications would help at all. We debated: Could a modification help a family that's suffered a very severe decline in income because one of the breadwinners had lost their jobs?

Second (and again this was all kind of evolving in real time), particularly in the early days of the foreclosure crisis, it was pretty clear that the borrowers who had the most speculative motives for their home purchase were defaulting. There were all these anecdotes about borrowers that got caught. They'd used Option ARMs, where you can choose not to make a payment for

the first early period of the mortgage and they'd use that to buy eight houses, They were flipping them and the market collapsed underneath them as they were thinking to flip these. We didn't know how prevalent such practices were. I do think that those stories, in addition to confronting policy makers with a really difficult issue—just how many real families are at the end of this thing in real trouble?--they definitely also sapped public support for widespread borrower relief.

Third, I think it's natural when you're making policy in a crisis, you kind of skate to where the puck is, you don't skate to where the puck is going to be. This was a fast-moving crisis. By the time you figured out how to handle the exploding ARM problem, that Teaser Freezer issue, several other segments of the mortgage universe were flashing red. So, kind of in retrospect it would have been better to go big early. The policy response kind of lagged the problem.

I think fourth, most important (and it's an issue that has been addressed deeply in the literature and is well-known, but it is worth reiterating), just the incredibly operational problems faced by mortgage servicers. These were the companies whose job it was to collect payments and to follow up on delinquent borrowers. These people were not set up. They had spent multiple decades of cost savings where they would grind down the cost of servicing a mortgage, but they would do that by eliminating excess capacity. Mortgage modifications are a very high-touch person-intensive business. You need to get a sympathetic, well-trained specialist on the phone or in person at a borrower's house. To get them to even answer the phone or answer the mail is difficult, especially once they've gone delinquent.

**YPFS:** **A lot of this sounds very familiar to what's going on now with the COVID pandemic. Is there anything prescriptive that can be said about this, actions that policy makers can take?**

Lehnert: I'm not going to comment on the specifics of the current situation. It is too soon to write the retrospective on the way we responded to the pandemic. But let me take this question that gets at the FSOC (Financial Stability Oversight Council): What about these regulatory gaps? What about the shadow banking system?

The FSOC was part of the solution to the problem that got identified in the crisis. One of its missions is to act as a clearinghouse for information and as a discussion forum where agencies can talk about what they're seeing. It's not an incredibly visible or high profile part of the FSOC's mission but if you wind back the clock 12 years, if the Lehnert of 2006-2007 had been plugged into an FSOC process, that guy would have known his counterparts at all the other relevant agencies. They would have hashed through all the data limitations

that they were dealing with and we would have overcome a lot of the initial friction.

I can say during the current pandemic the FSOC's key staff group, which is called the Systemic Risk Committee has been meeting every week since the current crisis began. It is a really important forum for information sharing and real-time analysis. It doesn't quite have the same headline-grabbing appeal, but from my perspective as a foot soldier in the last crisis, it would have been great to have had something like this in place back then.

**YPFS:** **Going back in time to 2008, what was the situation like then in September when the market crashed? What was that experience like?**

Lehnert: I'm not going to repeat newspaper headlines or facts that everybody knows. The way I saw this, summer of 2008 was a weird kind of calm time. The big focus in my world was, we talked extensively about figuring out what the deal was with mortgage modifications and the mortgage giants, Fannie (Mae) and Freddie (Mac). The Treasury had been very focused on getting the tools that they needed to be able to put Fannie and Freddie into conservatorship if they needed to: How big was the capital hole at Fannie and Freddie? These were very thinly capitalized, very leveraged, very scary organizations.

Leading into that Lehman Brothers week, at the beginning of that week the Treasury had put Fannie and Freddie into conservatorship. That was seen as a big win and the first step on the road to repairing the system. That exercise of how much capital the GSE's (government-sponsored enterprises) were going to need was difficult. It's actually a little bit of a foretaste of the bank stress test.

Speaking personally, probably something that doesn't get a lot of attention is the fact that the Lehman Brothers weekend coincided with the Brookings Papers on Economic Activity Conference. I actually had a paper on the program joint with Kris Gerardi, Paul Willen, and Shane Sherlund.[3] That was sort of relevant to the whole mortgage crisis. The tradition of Brookings is that you present your paper and then there's a panel of eminent economists who discuss your paper and their discussion goes in the final printed document.

One of my discussions was with Larry Summers. So frankly I was kind of terrified about all of that and that was looming much larger in my mind. With the Fannie, Freddie thing over I felt that week was like "thank God, I can finally focus on getting my presentation ready for this."

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[3] Gerardi, Kristopher S. and Lehnert, Andreas and Sherlund, Shane M. and Willen, Paul S., Making Sense of the Subprime Crisis (2009). Available at SSRN: https://ssrn.com/abstract=3877775

That Friday was a gathering of people that would later occupy various appointed positions in the Obama administration. Larry Summers was there, Debbie Lucas was there, others. But none of them were in government at the time. They were completely oblivious to the gathering storm, whereas I had this newfangled device called a Blackberry. So, over the course of the conference, I'm looking at this Blackberry, just watching the emails starting to fill up.

Maybe Lehman wasn't my problem. I hadn't really been involved with all of that, but it was still, nonetheless, a fairly unpleasant weekend. Then of course, the following week was really the beginning. That Monday was really the beginning of the acute phase of the financial crisis.

**YPFS:** **Moving forward from there you were part of the team that ran the first bank stress test. What was that experience like?**

Lehnert: I am again going to exercise my privilege to talk about myself and make this personal. Here's how I found out I was part of the stress test. All I knew about the stress test was what I'd seen on TV or read in the newspapers. It wasn't something I was initially, intimately involved in, but one day I walked into my office and I discovered that there was an envelope sitting on my chair. A big, thick, manila envelope. I opened it up and there were these 19 (certificates), they looked like high school diplomas. They were on fancy paper and each had a seal and it had very impressive signatures. They were examiner credentials. Each one of them was certifying that I was officially credentialed to examine one of each of the 19 bank holding companies that were involved in SCAP.

You asked what the experience was like, it was sort of like touching a moving conveyor belt and getting dragged into the machine. I mean, it was totally all-consuming.

I remember one day just coming to work early in the morning, thinking it was going to be a normal day. I wound up that night at the New York Fed, having to try to find a hotel room but then not really going there because we just worked all night anyway. I wandered into a conference room; they had a bunch of cots, but no one got any sleep, so I don't know whether the idea was that you would sleep there or what. I mean, it was a true sort of 24 x 7 experience.

SCAP, the stress test, I came into it really as an economist. I definitely had a sense that the Fed was trying out a kind of new mode of supervision with the stress test. One of the innovations of this new mode or this new approach was bringing in cross-disciplinary staff to work on it. I think it took them a little while to get it organized. Then they brought in economists and supervisors and financial market experts working on these issues, so there

was that cross-disciplinary nature to it. That was far too much for the existing supervisor and staff to get done, so they needed to sort of pull in folks from all over the organization to work on it.

A really fun part of the experience was getting to know and understand the culture of bank supervision. I'd never really been that deep into it. I'd been talking to bank supervisors pretty regularly since the onset of the crisis, but I didn't really understand some basic facts about how supervision worked. For example, like back in those days supervisors would work at the banks. Big chunks of the supervisory workforce were actually located inside the banks and they would be very focused, obviously, on that specific bank. One of the innovations of the stress test was: let's consider all the banks together.

There was a real sense of camaraderie. There was a sense that we were racing the clock and that, generally speaking, the outside world was highly skeptical about what we were doing. Secretary Geithner's original plan was met with deep, deep skepticism, is one way of putting it. I actually collected a series of quotes towards the end the SCAP where everybody that they quoted--like the New York Times-- said this is becoming a quagmire. "Saturday Night Live" had a sketch spoofing our efforts. It obviously turned out great and there's nothing like working on a project like that that is ultimately a success to really bond a group. I'm friends with all those people to this day.

SCAP was about comparing banks to each other, making results comparable across banks. For residential mortgages, it became quickly clear that the banks themselves were struggling with their own internal data and models, so we worked with them on their loss projections using their data and models. It became pretty clear that many of their models just weren't able to predict losses in the kind of macro environment that was envisioned by the SCAP. We talked to banks about their assumptions inherent in their models. We'd say: well, project losses under these alternative assumptions and the results just barely changed despite big changes in key assumptions. We weren't able to predict the large losses we were already seeing.

One of the things that I worked on there was ultimately developing a very stripped-down and simple model that projected defaults over a two-year planning horizon based on just a handful of key risk indicators. Just fairly simply, having that kind of independent benchmark developed by the supervisor was incredibly useful. It really proved to be a very, very useful way to understand risks across banks. That was, in some sense, a key innovation that we built on into the CCAR (Comprehensive Capital and Analysis Review) Program.

**YPFS:** **It sounds like everything before was very compartmentalized—the ability to get information, regulation, all these different aspects of the**

**financial system. As you got to know these other people running all these different functions, has that compartmentalization been remedied? Is that a lesson that was drawn from the management of this crisis?**

Lehnert: Yes. That was, I think, the guiding spirit behind several innovations, most importantly my division at the Fed. The idea was: look, let's build on the strengths that were demonstrated during the financial crisis so that we don't have on the fly reinvent the processes, to organize data analysis, people, to address financial stability issues.

Nellie Liang and I left our division in November of 2010 to form a little group that was supposed to act as a kind of clearing house and coordinating function. We've evolved over the years, but we continue to essentially be, in part, a kind of cultural exchange program. We bring in people from all over the Federal Reserve, from all different parts of the Federal Reserve, to work jointly on kind of financial stability assessment project. And of course, now that we've moved into more crisis management mode, obviously for that as well. I think that has been a key difference.

**YPFS: Were any specific lessons during that global financial crisis been vital since in managing other economic responses to other crises, other situations that have needed attention?**

Lehnert: The 2007-2009 episode obviously is just incredibly salient. First and most important we learned the importance of having strong and resilient banks at the center of the financial system. When you had banks and quasi-banks like Lehman that were fragile, that was a problem. The system was totally unable to cope with the credit losses from the house price decline. That's ultimately why Congress had to pass TARP, why we needed to do the first stress test, the SCAP. I think that lesson appears so far in 2020 to have paid off.

Second, we've talked about the FSOC's Systemic Risk Committee, my division inside the Fed, the importance of just constantly monitoring and understanding the evolving financial system. The ecosystem today is really different from the ecosystem that existed in 2007: different players, different institutions, different markets. I think it's important not to be caught scrambling to understand and to update your understanding of the financial system.

Third, one of the lessons of the last crisis was really the constant sense that the public just didn't understand what we were doing, or that Congress at times seemed not to understand what the Fed was doing. We have made communicating our view on financial stability to be a priority. We started publishing a Financial Stability Report in November of 2018 and we got out three before the pandemic. Then we got our fourth out in mid-May which

was really quite an accomplishment. As much as I love Darren, press release, no matter how well crafted, is really going to be able to get into the weeds and explain in depth our view of the system and thinking behind the actions that have been taken today.

**YPFS:** **If you were to sum up, if you were to write a memo to your younger self listing what you learned from the crisis, what would be the top line point or points you would want to leave yourself with?**

Lehnert: That the Cubs were going to win the World Series in 2016; that and I would be able to retire.

One is the financial ecosystem is complicated and it's all too easy to think about it piece by piece, institution by institution. You really do need to think about how it's going to behave as a whole under stress and interact with the macro economy. Now we call that macroprudential stress testing and there's a whole discipline around it, but boy, it sure would have been valuable to have had that 12-15 years ago.

Second and probably more important and timelier, something we all need to remind ourselves constantly about is the value of basic economic research. Really understanding the deep underlying parameters that drive the decisions of households and businesses is incredibly valuable and its value appears most during stress periods.

In 2007, 2008, 2009 we spent a lot of time debating whether households were strategic in their defaults or not. We didn't have a lot of good research to fall back on. We had a lot of reduced form analysis, a lot of practitioner papers, but we didn't have papers that really got at the stigma that households would face. How serious was that? How much did households value continued access to credit?

We do know the answer to that question now. There have been several excellent papers written that were in fact stimulated by the crisis. We know that homeowners are very attached to their homes and will endure deep and prolonged periods of negative equity so long as they can afford the payments, and that strategic defaults ultimately just weren't as big a deal as we thought at the time.

Then more broadly, when the economy gets pushed away from its steady state, all the normal statistical relationships, they just go out the window. You can only rely on understanding in a kind of serious, structural way the decisions of economic agents under truly extreme circumstances.

Project. August 20, 2020. Transcript. https://ypfs.som.yale.edu/library/ypfs-lesson-learned-oral-history-project-interview-andreas- lehnert

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