

---

## **Toward a More Resilient Financial System**

---

**Charles L. Evans**  
**President and Chief Executive Officer**  
**Federal Reserve Bank of Chicago**

Symposium on OTC Derivatives — 58<sup>th</sup> Shanghai Clearing House  
Forum on Policy and Practice-Default Management  
Shanghai, China  
May 23, 2017

---

FEDERAL RESERVE BANK OF CHICAGO

The views expressed today are my own and not necessarily  
Those of the Federal Reserve System or the FOMC.

**Toward a More Resilient Financial System**  
**Charles L. Evans**  
**President and Chief Executive Officer**  
**Federal Reserve Bank of Chicago**

Vice Governor Pan (PAHN), Chairman Xu, Chairman Betsill and distinguished panelists and guests, welcome to the OTC Derivatives Symposium. I am delighted to be here with such distinguished company. The organizers have brought together many of the leading authorities on systemic issues in financial markets and, in particular, on central counterparty clearing (CCP).

We've hosted a number of similar events at the Federal Reserve Bank of Chicago. Our goal is to provide a forum for informed and sincere discussion among key members of the academic, regulatory, CCP, clearing member and user communities.

We are honored to cosponsor today's event with the People's Bank of China. We share with the People's Bank a vision that, together, we can develop a better understanding of the issues presented by the use of over-the-counter (OTC) derivatives and we can foster a deeper understanding of the role that clearing can play in the management of systemic risk. We hope that we can make this an annual event that will come to be viewed as the premier derivatives risk-management conference in the Asia-Pacific region.

More generally, this collaboration between the People's Bank of China and the Federal Reserve Bank of Chicago exemplifies the importance of close international communication and coordination on financial regulation and systemic stability issues. The main theme of today's event is risk management for the clearing process. But there are many other financial stability issues that could benefit from joint inquiry and discussion between our two institutions. I look forward to our continued collaboration in the years to come.

And before I continue, I need to remind you that my comments here today are my own and not those of the Federal Reserve System or the Federal Open Market Committee.

In my remarks today, I'll be focusing on the topic of resilience — resilience of financial institutions, markets and infrastructures. (This is the theme of the first panel this morning.)

Any discussion of financial market resilience in 2017 is likely to start with this question: Are global markets more stable now than they were in 2006? Not to keep you in suspense, I think the answer is yes — global markets are more stable. And one reason is the expanded use of central counterparty clearing. But there are still notable areas of concern, to which I will return later in my remarks.

When I think about financial crises, I find it useful to distinguish between “shocks” and “amplification mechanisms.”

A shock is something unforeseen that disrupts the normal functioning of markets. Usually the shock involves an abrupt decline in the value of a class of assets. Examples might include the stock market crashes in 1929 and 1987; sovereign debt defaults, such as those that happened in Mexico in 1982 and Russia in 1998; the bursting of the so-called dot-com bubble in 2001; and, of course, the abrupt decline of U.S. housing prices in 2006.

But it’s interesting that not all shocks result in debilitating declines in economic activity. And often the value lost in the aftermath of a crisis far exceeds the magnitude of the shock that triggered the crisis in the first place. So shocks only represent part of the story.

And that’s where amplification becomes crucial. An amplification mechanism is a process that magnifies the impact of the shock, potentially creating a financial crisis with systemic consequences. Most of the damage to economic well-being appears to result not so much from the initial shock as from the way the shock is amplified through the system.

To give an example, the triggering shock for the recent crisis was the dramatic fall in value of subprime mortgages in the U.S. A conservative estimate of the value lost in the subprime mortgage market is around a half-trillion dollars. That’s a big number. But it’s generally recognized that the loss in economic output due to the crisis, just for the U.S., was several times the direct losses due to the initial shock.<sup>1</sup>

So, in thinking about how to mitigate the destructive consequences of financial instability, we clearly should focus first and foremost on blocking the amplification mechanism.

I’d like to examine this amplification process in a bit more detail. And I’ll do so from the perspective of monetary policy. When shocks hit the financial system, uncertainty increases across the board. In response, lenders become reluctant to provide credit; investors shift into safe assets; and households and businesses start to save more and spend less. The results are that credit spreads widen dramatically; short-term risk-free interest rates fall; and the pervasive reluctance to spend and invest leads consumer price inflation to fall as well.

In the case of a severe crisis, the huge demand for safe assets could drive the market-clearing short-term interest rate negative. This presents a major challenge for monetary policymakers trying to stabilize the economy.

Although a central bank can take its policy rates a little below zero, it may not be able to reduce them as far negative as would be needed to restore equilibrium.

---

<sup>1</sup> See, for example, Atkinson, Luttrell and Rosenblum (2013) and Hall (2014).

The central bank could turn to unconventional policies — such as quantitative easing<sup>2</sup> — in order to provide accommodation. But, while somewhat effective, these alternatives are, at best, imperfect substitutes for conventional policy. Accordingly, it may be a long and difficult process to pull the economy out of such a situation. The experiences across the world of severe recessions and slow recoveries following the financial crisis speak to this point quite vividly.

The effective lower bound on monetary policy rates is a serious impediment to countering large financial shocks. So an important step toward ensuring a resilient economic and financial system is to make sure that nominal interest rates stay well above their effective lower bound.

The most important way to do so is for the central bank to be clear that it will undertake whatever policies are necessary to achieve its mandated goals. In the U.S., the Federal Reserve's mandates are to achieve maximum employment and a symmetric inflation target of 2 percent.

A credible commitment to these goals can generate positive self-reinforcing linkages between private sector expectations and economic outcomes, limiting the unhelpful precautionary saving behavior and attenuating the shock amplification process that characterizes financial crises.

I would note here that the symmetry of our inflation target is important — the central bank should be equally concerned about undershooting the target as overshooting. If instead the public viewed our target as a ceiling, they likely would lower their expectations for average inflation over the longer run. These lower expectations would get built into lower nominal interest rates, and thus increase the risks of hitting the effective lower bound.

While a credible inflation target is a key element for a robust economic and financial system, there are other steps that can be taken to attenuate the amplification of shocks.

When a shock hits a market, it is known that investors have taken major losses. But it is often unclear *who* bears the losses. So the natural response of potential lenders is to withhold liquidity from *any* counterparty that might have been affected by the shock. In other words, those that have liquidity, hoard liquidity. And those that need liquidity can't get sufficient liquidity.

Policy actions that increase public confidence in the ability of institutions to withstand financial shocks will tend to offset this destructive liquidity-hoarding behavior. The international community has taken a number of such actions since the crisis. Particularly noteworthy are changes in bank capital regulation, including higher capital

---

<sup>2</sup> For more about the quantitative easing, or large-scale asset purchases, programs and the rationale behind them, see Board of Governors of the Federal Reserve System (2015).

requirements; the beginnings of a truly countercyclical capital regime; regular stress testing; and minimum standards for balance sheet liquidity. All of these developments make it less likely that a large systemically important bank will be as vulnerable to the next shocks that hit the financial system.

Other recent reforms increase the resilience of critical nonbank institutions. A noteworthy example in the U.S. is the new regulations for money market funds. In particular, prime institutional funds are now required to mark their net asset value to market, rather than maintaining the fiction of a constant one-dollar value per share. These new rules make it less likely that a prime institutional fund would be subject to the sort of run that followed the Lehman Brothers bankruptcy in 2008.

Another salutary reform is the reduced dependence on intraday credit in the triparty repo market.

But, arguably, one of the biggest reasons that markets are more stable today is the 2009 commitment by the G20 (Group of Twenty) that led to the swaps clearing mandate. This mandate requires that the vast majority of standardized swaps be centrally cleared.

Central clearing promotes financial stability in a number of ways. First, central clearing takes a huge amount of gross exposure out of the market through multilateral netting. For example, one major CCP reported that when it started clearing swaps contracts, it achieved notional compressions of 14-to-one, largely because of the netting of gross exposures.

Second, central counterparties have no direct exposure to market risk because they run a matched book: Their short positions exactly match their long positions, contract by contract. Market gyrations, fire-sale pricing, fluctuations in risk spreads do not affect the financial position of the CCP, as long as no clearing members default.

Third, CCPs are fairly transparent entities: Clearing members have a good deal of information about the risk-management resources available to the CCPs. And the CCPs are fairly transparent about their rules and requirements for members to remain in good standing.

In addition, while CCPs manage the risks associated with their members, they do not originate risky positions. For example, they don't have proprietary trading operations that could generate hidden losses unseen by their members.

As a result of all of these characteristics, market participants are likely to have a good deal of confidence in their ability to assess a central counterparty's resilience to financial shocks. In contrast, bilateral counterparties in the OTC market present a greater array of risks to assess.

So perhaps it is no surprise that centrally cleared markets tended to perform fairly well in the recent crisis. Bid–ask spreads did widen somewhat, and market depth decreased.

But throughout the crisis, it was possible to trade sizable positions on centrally cleared markets without undue price concessions. In contrast, non-centrally cleared OTC markets often experienced episodes of widespread illiquidity and dysfunction.

The benefit of central clearing is perhaps best exemplified by the quick unwinding of Lehman Brothers' cleared positions, as compared with the long uncertain process of sorting through and unwinding AIG's and Lehman's uncleared swap books.

But mandated central clearing is not a “free lunch.” There are issues related to the clearing mandate that still need to be fully addressed.

Most importantly, the clearing mandate concentrates risk at a single node, the CCP. This makes the CCP a single point of failure for the entire market that it clears. As such, it is an institution that is highly systemic. Resolution of a CCP, should it become necessary, must be done in an orderly fashion. However, an essential principle of financial regulation in the post-crisis world is that no taxpayer funds may be used to resolve an insolvent institution.

It is therefore essential that procedures be established to rapidly restore a stressed CCP to matched-book status using only private funds. The burden must fall on the shareholders and members of the CCP — and preferably not on the nonfinancial household and business participants in the markets that the CCP ultimately serves. Operationalizing this essential principle is a matter of intense study and debate within the CCP policy community. Many of the key voices in this debate are in this room today. It is a matter that must be addressed conclusively on a global basis.

Another issue that needs attention is CCP liquidity. Access to adequate liquidity is essential for CCPs to function. There should never be any doubts about whether a CCP's liquidity resources are sufficient.

To achieve this level of confidence, regulators must rigorously apply the liquidity standards in the *Principles for Financial Market Infrastructures*.<sup>3</sup> A central counterparty must arrange, ex ante, sufficient liquidity provision from private sources to enable it to withstand an extreme market event.

In addition, systemically important CCPs would benefit from having access to reserve accounts at the central bank. By depositing their cash with the central bank, CCPs can have ready access to the safest and most liquid monetary instrument — central bank funds.

---

<sup>3</sup> Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commissions (2012).

And I believe that in times of significant stress, a central bank can play a strong financial stability role when authorized to act as liquidity provider of last resort to systemically important CCPs. Of course, in such a situation, central bank liquidity provision should be the last alternative that a CCP might utilize. CCPs should strongly rely on commercial sources of liquidity before turning to the central bank. And any liquidity loans from the central bank must be secured with sufficient collateral — as the Federal Reserve does with all of its discount window lending to depository institutions — so that the taxpayers are never at risk.

Finally, we still have work to do to harmonize the clearing mandate with recent developments in bank capital regulation. Specifically, the supplemental leverage ratio can have the unintended consequence of limiting the capacity of bank-affiliated clearing members to receive cash margin from their customers. This is ironic because increasing the provision of cash margin makes both the CCP and the clearing member *more* stable and should be encouraged, not discouraged. In addition, the capital rules as currently proposed could discourage bank-affiliated clearing members from accepting transfers of open customer positions in default scenarios. These issues should be kept in mind as we move forward.

These issues related to CCP risk management will require diligent global coordination. Today's conference represents an opportunity to further this international process. It brings together one of the newest, most innovative of global CCPs, the Shanghai Clearing House, with the Reserve Bank of the city that was the global pioneer of central clearing, the city of Chicago. In addition, it is an opportunity for two great central banks, the People's Bank of China and the Federal Reserve, to continue our important dialogue. We look forward to the next two days of productive engagement and hard work on these critical issues for global financial stability.

## References

Atkinson, Tyler, David Luttrell and Harvey Rosenblum, 2013, "How bad was it? The costs and consequences of the 2007–09 financial crisis," Federal Reserve Bank of Dallas, staff paper, No. 20, July, <https://www.dallasfed.org/~media/Documents/research/staff/staff1301.ashx>.

Board of Governors of the Federal Reserve System, 2015, "What were the Federal Reserve's large-scale asset purchases?," *Current FAQs*, December 22, <https://www.federalreserve.gov/faqs/what-were-the-federal-reserves-large-scale-asset-purchases.htm>.

Committee on Payment and Settlement Systems and Technical Committee of the International Organization of Securities Commissions, 2012, *Principles for Financial Market Infrastructures*, Basel, Switzerland: Bank for International Settlements, April, <http://www.bis.org/cpmi/publ/d101a.pdf>.

Hall, Robert E., 2014, "Quantifying the lasting harm to the U.S. economy from the financial crisis," National Bureau of Economic Research, working paper, No. 20183, May, <http://www.nber.org/papers/w20183>