

# Thoughts on Two Other Potential Sources of Financial Instability: The Payments System and Public Pensions

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Key points

- Atlanta Fed President and CEO Dennis Lockhart speaks on two potential sources of financial instability to European and U.S. policymakers, economists, and analysts at the Hyman P. Minsky Conference on Financial Instability in Berlin.
- Lockhart believes vigilance is essential in monitoring potential sources of systemic financial instability, even beyond the most obvious sources of risk. In particular, he looks at two areas that have the potential to threaten financial stability: the payments system and public pension funding.
- Lockhart notes the escalating incidence and heightened magnitude of recent distributed denial of service attacks on the largest U.S. banks. He suggests that what was once classified as an unlikely but very damaging event affecting only a few institutions should now be thought of as a persistent threat with potential systemic implications.
- Lockhart says that the second area of potential threat, the underfunding of public pensions, is not likely to be the source of any immediate shock or to trigger a broad systemic crisis. However, it is an area to be monitored because public finance contributes broadly to financial and economic stability.

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Introduction

I'm delighted to be here in Berlin among so many distinguished central bankers, academics, and policy experts to offer some views on the sources and implications of financial instability.

It strikes me as wholly appropriate to give most of our attention in this conference to the debt crisis in the euro zone, public sector deficits in many advanced economies, the state of repair of banking systems, and the financial markets that link these areas together. These are the areas in which we would expect to see the severe disruption that would evidence financial instability.

In the United States, as a consequence of requirements in the Dodd-Frank Act, the Financial Stability Oversight Council, or FSOC, has geared up to monitor potential sources of financial instability. In support of Chairman Bernanke's participation in the FSOC, efforts are under way in the Federal Reserve System to monitor and more deeply understand a variety of possible sources of trouble and to evaluate how serious a threat they represent. These efforts have put focus on some of the sectors and activities you would expect—for instance, the shadow banking system.

I expect you will agree that at a global level, the span of vigilance needs to be extremely broad. The events of 2007 and 2008 brought many surprises. Markets that some thought too small to cause much trouble ultimately posed systemic-

scale problems. The pathways of contagion and the speed of development of second-, third-, and fourth-order effects surprised most of us.

So my point is our radar should scan widely—beyond the most obvious sources of risk.

Today I would like to share some observations on two instability risk areas that are not so front of mind—the payments system and public pensions. I'm going to look at these from very much an American perspective and let the Europeans and others here draw from my remarks whatever is useful and applicable in your own affairs. My interest in these two areas of concern derives from work we're doing at the Federal Reserve Bank of Atlanta to gauge the evolution of risk to the payments system and the systemic risk associated with municipal finance and fiscal problems at the state and local levels of government.

Before I get into these two topics, I must state the usual disclaimer. All the views I will express are my personal views. My colleagues on the Federal Open Market Committee and in the Federal Reserve System may not agree.

#### Working definition of financial instability

Let me start by laying out a working definition of financial instability. To my mind, an event or development that brings financial instability is one that interrupts crucial financial intermediation services, affects markets and institutions, and threatens the real economy. If the period of instability is severe and long lasting, it may cause a serious amount of wealth destruction. Such a working concept of financial instability serves as a test of the validity of payments system risk and public pension solvency as potential sources of instability.

#### Payments system risks

I'll touch on payments system risk first. The payments system in the United States processes about \$4.5 trillion of transactions daily. The system is fragmented in a variety of ways. First, to the extent that banks still enjoy a significant franchise in payments services, the banking system is quite fragmented. We have more than 7,000 banks operating in the United States. Also, in recent years, we've seen tremendous growth in the nonbank sector of payments services providers. Nonbank providers participate in markets for remittances, prepaid cards, transaction processing, and online payments. And, as you well know, payments are moving to mobile devices, and there are a number of nonbank entrepreneurial ventures in this space.

It's important to point out that there is no single, comprehensive supervisor overseeing the payments arena. Bank supervision and regulation is divided among a collection of federal entities, and the nonbank providers are lightly regulated by comparison.

The fragmented nature of the payments industry and its rapid evolution are creating many points of vulnerability. Fraud is one such vulnerability. Certainly the public is quite aware of credit and debit card fraud and identity theft involving account takeovers. This activity erodes trust in the financial system, but I don't see these problems as imperiling financial stability at a systemic level.

A real financial stability concern, however, is the potential for malicious disruptions to the payments system in the form of broadly targeted cyberattacks. Just in the last few months, the United States has experienced an escalating incidence of distributed denial of service attacks aimed at our largest banks. The attacks came simultaneously or in rapid succession. They appear to have been executed by sophisticated, well-organized hacking groups who flood bank web servers with junk data, allowing the hackers to target certain web applications and disrupt online services. Nearly all the perpetrators are external to the targeted organizations, and they appear to be operating from all over the globe. Their

motives are not always clear. Some are in it for money, while others are in it for what you might call ideological or political reasons.

Unlike other cybercrime activity, which aims to steal customer data for the purpose of unauthorized transactions, distributed denial of service attacks do not necessarily result in stolen data. Rather, the intent appears to be to disable essential systems of financial institutions and cause them financial loss and reputational damage. The intent may be mischief on a grand scale, but also retaliation for matters not directly associated with the financial sector.

Banks have been defending themselves against cyberattacks for a while, but the recent attacks involved unprecedented volumes of traffic—up to 20 times more than in previous attacks. Banks and other participants in the payments system will need to reevaluate defense strategies. The increasing incidence and heightened magnitude of attacks suggests to me the need to update our thinking. What was previously classified as an unlikely but very damaging event affecting one or a few institutions should now probably be thought of as a persistent threat with potential systemic implications.

I'm drawing your attention to this area of risk because of recent events and because of the obvious reliance of our societies on electronic networks and commerce. But I feel the need to be measured about the potential for severe financial instability from this source. In my judgment, cyberattacks on payments systems are not likely to have as deep or long lasting an impact on financial system stability as fiscal crises or bank runs, for example. Nonetheless, there is real justification for a call to action. The deputy undersecretary for cyber security at the U.S. Department of Homeland Security recently suggested that "companies in the same industry could pool infrastructure resources to help each other mitigate the effects of cyberattacks and work together on security issues."

Even broad adoption of preventive measures may not thwart all attacks. Collaborative efforts should be oriented to building industry resilience. Resilience measures would be similar to those put in place in the banking industry to maintain operations in a natural disaster—multiple backup sites and redundant computer systems, for example.

#### Public pension funding

Now I'd like to turn to another possible source of financial instability in the United States: public pensions. At a systemic level, this area of concern is more likely to be manifested as a gradually accreting threat to growth than a single event shock.

The traditional public pension model we find in U.S. states and municipalities is a defined-benefit model that, to be deemed solvent, relies on expected returns on a portfolio of investments to fund future benefits. All together, these pension funds provide retirement benefits for approximately 23 million current and retired public employees and control roughly \$3 trillion in invested assets.

Public pensions are evaluated on the basis of each plan's funding ratio. A pension's funding ratio is defined as the current market value of the invested portfolio as a percentage of the present value of promised future benefits.

Losses on investment portfolios during the financial crisis lowered the aggregate funding ratio from 88 percent in 2007 to 75 percent in 2011. Several large state plans—those in Illinois and Connecticut, for example—currently have funding ratios below 60 percent.

But these calculations may underestimate the true magnitude of the problem. A funding ratio of 75 percent equates to an assumption of an 8 percent average annual return on the portfolio of investments. It's fair to ask whether this is a realistic assumption given current forecasts of the economic and financial environment. Arguably not.

Using this optimistic 8 percent return assumption, public state and municipal pension funds have an \$800 billion funding gap to fill. Using a lower, more realistic return assumption (such as the longer-term rate on U.S. Treasuries) implies a \$3 trillion to \$4 trillion funding gap. You might call this "the other debt problem" in the United States.

What are the options available to deal with these funding gaps?

One option is to delay action or apply low-pain palliatives and, at some later date, force what amounts to a confrontation between taxpayers and pension fund beneficiaries. To the extent that taxpayers believe this will be the chosen path and the likely outcome, there may be emigration from the worst states and cities—only hastening the day of reckoning.

If inclined to deal with a funding gap now, fund sponsors have three strategies they can employ: increase contributions, decrease promised future benefits, or take more investment risk in an attempt to outgrow the problem.

Many states and municipalities have begun to pursue reforms that include all of these strategies in combination. Examples include increasing the required contribution of current employees and expanding allowable investments to include alternative assets such as hedge funds and private equity. Several plan sponsors have also attempted to lower benefits that will be paid to future beneficiaries by lowering cost-of-living adjustments. However, decreasing even future benefits may be subject to legal challenge in the United States. A majority of states have laws that treat pension benefits as part of a labor contract between the state and employees with, in some cases, even constitutional protections.

The underfunding of public pension plans is an implicit form of state and municipal debt with no direct market discipline. Hyman Minsky warned of the dangers of the buildup of private debt, but certainly under some conditions, government debt poses similar risks to economic growth.

As a financial stability consideration, the problem of pension underfunding is not likely to be the source of any immediate shock or trigger a broader systemic crisis. However, the situation needs to be monitored, as public finance does contribute to financial and economic stability more broadly. The public pension funding problem, as it grows, has the potential to sap the resilience we wish for to withstand a future spell of financial instability.

Closing thoughts

I will close on a lighter note, but make a serious point. Many of you will remember the scene at the end of the film "Casablanca." Rick Blaine (Humphrey Bogart) has just shot Major Strasser, and a sympathetic Captain Louis Renault (played by Claude Rains) says, "Round up the usual suspects." Just as the world was surprised when the subprime mortgage-backed securities market in the United States triggered a deep financial crisis that affected the whole world, we may be surprised at the source, or sources in combination, of the next episode of financial instability. A modest suggestion: as central banks and other authorities systematically scan for potential sources of financial instability, let's keep an eye on the usual suspects, of course, and on the unusual suspects as well.