COMMENTS BY JOHN COCHRANE

Let me start by summarizing, and cheering, Paul's important points.

The standard view says that perhaps monetary policy should follow a rule, but financial-crisis firefighting needs discretion: a big mop to clean up big messes; flexibility to "do what it takes"; "emergency" powers to fight emergencies.

I think Paul is telling us, politely, that this is rubbish. Crisis-response and lender-of-last-resort actions need rules, or "regimes," even more than monetary policy actions need rules.

Any decision is a mapping from states of the world to decisions. Rules constrain this mapping. Rules pre-commit one *ex ante* against actions that one will choose *ex post*, and regret. Monetary policy rules guard against "just this once" inflations. Lender-of-last-resort rules guard against "just this once" bailouts and loans.

But you need rules even more when the system responds to its expectations of your actions. And preventing crises is all about controlling this moral hazard.

To stop runs, our governments guarantee deposits and other loans; they bail out institutions and their creditors; they buy up assets to raise prices; and they lend like crazy. But knowing this, financial institutions take more risk than they would otherwise take and investors lend without monitoring, making crises worse. Institutions that can borrow at last resort don't set up backup lines of credit, don't watch the quality of their collateral, and don't buy expensive put options and other insurance, making crises worse. Investors who know that the Fed will stop "fire sales" don't keep some cash around for "buying opportunities," making fire sales worse. "Big banks are too complex to go through bankruptcy," the mantra repeats. But why do people lend to them, without the protections of bankruptcy? Because they know creditors, if not management and equity, will be protected.

"The world is ending. A crisis is no time to worry about moral hazard," bankers and government officials told us last time, and will tell us again. But the world does not end, and actions taken in this crisis are exactly the cause of moral hazard for the next one.

This isn't theory. When the Fed and Treasury bailed out Bear Stearns, and especially its creditors, markets learned, "Oh, Fed and Treasury won't let an investment bank broker-dealer go under." Lehman turned down capital offers, and the reserve fund put 40 percent of its assets in Lehman paper.

The severe crisis and recession coincident with Lehman's failure, together with the massive and improvised response—many flavors of TARP (Troubled Asset Relief Program), auto company bailouts, and so on—have arguably created the "rule" in participants' minds about what will happen next time.

Plans, self-imposed rules, promises, guidance, and tradition are not enough. Given the power, every one of us will bail out. We won't risk being the captain of the *Titanic*, and we'll let the next guy or gal deal with moral hazard. A central banker facing a crisis is like a father holding an ice cream cone, facing a hungry three-year-old. Sure, Mom's rule says dinner always before dessert. We know what's happening to that ice cream cone.

The central bank and Treasury must not be able to bail out what they should not bail out, to lend where they should not lend, to protect creditors who should lose money. That's the only way to stop it. More importantly, it's the only way to persuade the moral-hazarders that all the fine words in the boom will not melt quickly in the emergency.

Two central quotes summarize the Tucker view, and I entirely agree.

> Prerequisites for any such regime are that its terms should mitigate the inherent problems of adverse selection and moral hazard; be time-consistent; and provide clarity about the amount and nature

> of "fiscal risk" that the central bank is permitted to take on the state's behalf.
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> At a schematic level, a money-credit constitution for today might have five components: inflation targeting plus a reserves requirement that increased with a bank's leverage plus a liquidity-reinsurance regime plus a resolution regime for bankrupt banks plus constraints on how the central bank is free to pursue its mandate.

Now, let me offer a gentle critique.

How are we doing toward the Tucker regime? Not well.

The Dodd-Frank and Basel "regime" has no serious limits at all. Ask yourself, what institutions are not "systemic" and cannot become so designated? What institutions or creditors won't be bailed out—can't be bailed out? What are the securities the Fed or Treasury won't and can't buy or lend against? What are the asset prices that they won't and can't prop up?

Paul points out the difficulties. Yes, "constraints" are good. But just what constraints? We can channel Bagehot, "against good collateral," to "illiquid but not insolvent" institutions. Except, as Paul reminds us, what's good collateral, when no one will take anything but treasuries? How do you tell illiquid from insolvent when prices have tanked and markets are frozen? It's not so easy.

More deeply, the Bagehot rules are flawed. If it were clear who is illiquid and who is insolvent, there wouldn't be a crisis. Private lenders would happily support the clearly solvent. And runs happen at institutions that investors fear are insolvent. If you want to stop runs you have to prop up at least the creditors of potentially insolvent institutions. Bagehot's rules may constrain the central bank; they may be good rules for a prudent investor; they may address moral hazard. But they are not obviously optimal rules to stop crises or to prevent them from occurring in the first place.

Worse, when we figure all this out, how do we write binding laws or regulations that will effectively constrain bailout-hungry officials? For example, Paul Volcker proposed a fine, clear rule: "Thou shalt not finance proprietary trading with deposits." Which, six hundred pages and counting later, is utter mush.

So here we are, six years after our crisis—or eighty-two years after 1932, or one-hundred-thirteen years after 1907, or, heck, three hundred years after 1720—and as eminent a thinker and practitioner as Paul still needs to invite future thought on what these rules ought to be, let alone just what legal restrictions will actually enforce them and communicate that expectation.

I fear that the next crisis will be upon us long before Paul has figured it out, and a century before he gets the Basel committee, the Fed, European Central Bank, Financial Stability Oversight Council, Congress, Parliament, Securities and Exchange Commission, and so on to go along.

So, I agree with pretty much all Paul has to say. But I infer the opposite message. If this is what it takes to rescue the house of cards, then we need a different house, one not made of cards. We need to stop crises from happening in the first place.

To its credit, that is the other half of our contemporary policy response. This time, finally, the army of regulators and stress-testers will see the crisis coming; with their Talmudic rules and interpretations, and their great discretion, they will stop any "systemically important" financial institution from losing money, despite the moral hazard sirens, and without turning that financial system into something resembling the Italian state telephone company circa 1965. Good luck with that.

Consider an alternative: Suppose banks had to fund risky lending by issuing equity and long-term debt. Suppose mortgage-backed securities were funded by long-only, floating net-asset-value mutual funds, not overnight repurchase agreements. Suppose all fixed-value demandable assets had to be backed 100 percent by our abundant supply of short-term treasuries. Then we really would not have runs in the first place . . . and a lot of unemployed regulators.

Why do we not have such a world? Originally, because you can't do it with the financial, computational, and communications technology of the 1930s or 1960s. But now we can. More recently, I think, because moral hazard so subsidizes the current fragile system. But now we can change that.

Paul mentioned this possibility, but gave up quickly, conditioning his remarks on a view that society has decided it wants fractional-reserve banking. Well, maybe society needs to rethink that decision.

Really, just why is it so vital to save a financial system soaked in run-prone overnight debt? Even if borrowers might have to pay 50 basis points more (which I doubt), is that worth a continual series of crises, 10 percent or more down-steps in GDP, 10 million losing their jobs in the United States alone, a 40 percent rise in debt to GDP, and the strangling cost of our financial regulations?

A last point: Paul unites financial with monetary and fiscal policy. That's crucial. The last crisis raised US national debt from 60 percent to over 100 percent of GDP. The next one will require more. At some point we can't borrow that much.

But take this thought one step further. The next crisis could well be a sovereign debt crisis, not a repetition of a real estate-induced run. Crises are by definition somewhat unexpected, and come from unexpected sources.

To be concrete, suppose Chinese financial markets blow up—surprise, surprise—discovering a lot of insolvent debt. The stress is too much for the International Monetary Fund and Europe, so Greece goes, followed by Italy, Spain, and Portugal, half of Latin America, and a few American states. Pair that with war in the Middle East—ISIS explodes a dirty bomb, say—requiring several trillion dollars.

Now governments are the ones in trouble. They won't be able to borrow trillions more, bail out banks, or lend of last resort. In a global sovereign debt crisis, even Paul's regime would turn out to be a superb Maginot line. The current regime wouldn't be that strong.

A financial system deeply dependent on the government put would be finished. This is the lesson of Europe. A southern government default would have little consequences if its banks were not so embroiled in government finances.

But a financial system uncoupled from government finances would survive.

In sum, I cheer pretty much everything Paul said. But it's an outline for a plan that will take decades to fill in. And all in the service of keeping the house of overnight debt cards going.

So the lesson I take is that instead, we should finally take seriously the other, centuries-old, simple alternative: equity-funded banking, government-provided interest-paying money, mirroring that great nineteenth-century innovation—government-provided banknotes—and a purge of run-prone assets.