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Interview with John Cochrane

by *John Cassidy*

I interviewed John Cochrane in his office at the Booth School of Business, and I began by asking him about the economics of today's Chicago, and how it differed from the strident free-market school of a bygone era—the Chicago of Milton Friedman and George Stigler.

John Cochrane: This is not an ideology factory. This is a place where we think about ideas and evidence. Gene Fama is in the next-door office. Dick Thaler is across the hall. Rob Vishny is just down the corridor. The Chicago of today is a place where all ideas are represented, thought out, argued. It's not an ideological place. The real Chicago is about thinking hard and arguing with evidence... We like good quality stuff no matter where it comes from.

And you have some banking experts who can, perhaps, claim to be among the few economists that warned us about this crisis. Raghu Rajan, and so on?

(Laughs) Well, every conference I go to lately, everybody says, "The crash proved my last paper right." But Raghu and Doug (Diamond) have a better claim to that than most people.

But there is still a Chicago view of the world, even if it is not as dominant as it once was, is there not? One that favors free markets?

Well, many of us at least view free markets as a good place to start, because of the centuries of experience and thought that it reflects. All science is, to some extent, conservative. You find one butterfly that looks weird, you don't say, "Oh, Darwin was wrong after all." We have a similar centuries-long experience that markets work tolerably well, and governments running things works pretty disastrously. We have got to think hard before we throw all of that out.

Even our behavioralists are not jumping into "the government needs to run everything." They are pretty good about (saying) well, if we're irrational, the guys who are going to regulate us are just as irrational, and they are subject to political biases too. You don't jump from "We are irrational" to "the federal government is the father who can come and make everything right again."

Did the government have to step in and save the banks, or should it have let them collapse? Isn't the free-market view that if Citigroup had been allowed to collapse, Citigroup 2 would quickly have arisen from the ashes?

Yes, this is a good debate we can have. I tend to be fairly sympathetic to that view. Though, in some sense, the government had painted itself into a corner. We did not wake up on September 24 (of 2008) with a completely free market that collapsed. We had a mortgage market that was very much run by the federal government, a very regulated banking system, and everybody expecting that the government was going to bail out the big players.

To say, "wake up on September 24, 2008 and get some spine" is a very different recommendation to saying we need to build a system in which there is less government intervention. If everybody expects you to bail them out than not doing so is much harder.

So, given the circumstances of the time, do you think the federal government did the right things?

No. I don't want to criticize personalities. If I'm the captain of the Titanic and I'm woken up and somebody says there's an iceberg two hundred yards ahead, would I have done any better? I don't know. But I've been on the record saying that the TARP policy and the TARP idea—that the key to stabilizing the system was buying up mortgage-backed securities on the secondary market—was a bad idea. Those speeches provoked the panic, probably more than the fact of Lehman going under. When you get the President going on national television and saying, "The financial markets are near collapse,"...if you weren't about to take all of your short-term debt out of Citigroup, you are going to do so now.

Do you think that what we witnessed was a government failure rather than a market failure?

I think it was a combination, a failure of both. The government set up some regulations. The banks were very quick to get around them. Lots of people did not think enough about counterparty risk, because they thought the government will take care of it. But this was hardly a libertarian paradise gone wrong.

What about today? Do we need more regulation, or should Wall Street be deregulated further, like trucking or telecoms?

Not completely, but a lot more than it is now. And the path we are headed on is allowing the great big banks to do whatever they want with a government guarantee, basically. And then future regulators are going to be so much smarter than the last ones that they'll keep the banks from getting in trouble, even though we all know we are guaranteeing their losses. This strikes me as a recipe for disaster.

The right and the left agree on that, no?

Yes. (Laughs) If you are going to guarantee them, you can't guarantee and not regulate. A central bank, a lender of last resort, deposit insurances with the supervision that comes with it—these are reasonable regulations. If you just say regulation versus no regulation that becomes an undergraduate 2 A.M. bullshit fest. Talking about "regulation" vs. "deregulation" in the abstract is pointless. We have to talk about specifics if we want to get anywhere. Stuff like, Do you think credit default swaps should be forced on to exchanges? It's all very boring to your readers, but unless you are specific you don't get anywhere... If you are vague, it sounds kind of fun: ideology, Chicago versus Harvard, and so on. But to get anywhere you have to be specific.

The banking research that was done in Chicago before the crisis, about liquidity and so on: Did it attract much internal attention here?

Goodness gracious, yes. It was central. I regard what we went through as not something special or new. We've had regular banking panics since at least about 1720. The Diamond and Dybvig paper—("Bank Runs, Deposit Insurance, and Liquidity," the *Journal of Political Economy*, 1983)—which Doug and Phil should have got the Nobel Prize for already, described the fragility of assets where you can run. I don't think we have systemically dangerous institutions. I think we have systemically dangerous contracts, and bank deposits are one of them, as Doug described. A bank can have risky assets but tell you, "We'll always pay you a dollar, first come first served." Doug described how that thing can cause problems, and I think that's basically what happened.

Doug's here for a reason. We all said, "Wow, that's great!" And he's devoted a career to deepening that analysis. He's been one of our stars ever since he came here, which must be thirty years ago now.

The two biggest ideas associated with Chicago economics over the past thirty years are the efficient markets hypothesis and the rational expectations hypothesis. At this stage, what's left of those two?

I think everything. Why not? Seriously, now, these are not ideas so superficial that you can reject them just by reading the newspaper. Rational expectations and efficient markets theories are both consistent with big price crashes. If you want to talk about this, we need to talk about specific evidence and how it does or doesn't match up with specific theories.

In the United States, we've had two massive speculative bubbles in ten years. How can that be consistent with the efficient markets hypothesis?

Great, so now you know how to define "bubbles" for me. I've been looking for that for twenty years.

So you take the Greenspan view that bubbles can't be identified except in retrospect? In 2005, you didn't think there was a housing bubble?

I think most people mean by a "bubble" just, "Prices were high and I wish I sold yesterday." The efficient markets (hypothesis) never told you that wasn't going to happen. What efficient markets says is that prices today contain the available information about the future. Why? Because there's competition. If you think it's going to go up tomorrow, you can put your money where your mouth is, and your doing it sends (the price) up today. Efficient markets are not clairvoyant markets. People say, "nobody foresaw saw the market crash." Well, that's exactly what an efficient market is—it's one in which nobody can tell you where it's going to go. Efficient markets doesn't say markets will never crash. It certainly doesn't say markets are clairvoyant. It just says that, at that moment, there are just as many people saying its undervalued as overvalued. That certainly seems to be the case.

Ok, now you know what "efficient markets" means. What is there about recent events that would lead you to say that markets are inefficient? The market crashed, to which I would say, we had the events last September in which the President gets on television and says the financial markets are near collapse. On what planet do markets not crash after that?

There are things, by the way, that I saw last year that say markets are not efficient, but not the ones you had in mind. The interesting things about efficiency are going to be more boring to your readers. There were lots of little arbitrages. For example, you could buy a corporate bond or you could write a credit default swap and buy a Treasury (bond). Those are economically the same thing, but one of those was trading about three per cent higher than the other: one was eighty-two, the other was eighty-five.

So there were arbitrage opportunities?

Well, close to arbitrage opportunities. The problem was that you need funding. You needed to be able to borrow money to buy the corporate bond, and it was hard to borrow money. Those are, strictly speaking, violations of efficiency. Two ways of getting the same thing for a different price—that smells. You've gotta rethink some part of your theory. What we saw were funding and liquidity frictions. Those were really interesting last winter.

But that's not: Why did we see house prices go up and come down? Why did we see stock prices go up and come down? Those things are not new. We saw stock prices go up and come down in the nineteen-twenties, the nineteen-fifties, the nineteen-seventies...

You appear to be saying that the efficient markets hypothesis doesn't have any implications for the absolute level of prices, just relative prices. How can that be a theory of pricing?

It does have implications for absolute pricing, and the focus of rational/irrational debate is exactly on this question. But last fall was not a particularly new and puzzling data point. The phenomenon of prices going up and coming down is something we have been chewing on for twenty years. So here are the facts:

When house prices are high relative to rents, when stock prices are high relative to earnings—that seems to signal a period of low returns. When prices are high relative to earnings, it's not going to be a great time to invest over the next seven to ten years. That's a fact. It took us ten years to figure it out, but that's what (Robert) Shiller's volatility stuff was about; it is what Gene (Fama)'s regressions in the nineteen-eighties were about. That was a stunning new fact. Before, we would have guessed that prices high relative to earnings means we are going to see great growth in earnings. It turned out to be the opposite. We all agree on the fact. If prices are high relative to earnings that means this is going to be a bad ten years for stocks. It doesn't reliably predict a crash, just a period of low returns, which sometimes includes a crash, but sometimes not.

Ok, this is the one and only fact in this debate. So what do we say about that? Well, one side says that people were irrationally optimistic. The other side says, wait a minute, the times when prices are high are good economic times, and the times when prices are low are times when the average investor is worried about his job and his business. Look at last December (2008). Lots of people saw this was the biggest buying opportunity of all time, but said, "Sorry, I'm about to lose my job, I'm about to lose my business, I can't afford to take more risk right now." So we would say, "Aha, the risk premium is higher!"

So that's now where this debate is. We're chewing out: Is it a risk premium that varies over time, or is it psychological variation? So your question is right, but it is not as obvious as: "Stocks crashed. We must all be irrational."

And if the explanation is time-varying risk premiums, it could all be consistent with rationality and market efficiency?

Yes. Now, how do you solve this debate? This is supposed to be science. You need a model. You need some quantifiable way of saying, "What is the right risk premium?" or, "What is the level of irrationality—optimism or pessimism?" And we need that not to be a catchall explanation that says, "Oh, tomorrow if prices go up it must mean there is a return to optimism." That's the challenge. That's what we all work on. Both sides say, "We don't have that model yet."

(Later in the interview, I brought up the efficient market hypothesis again. This time, Cochrane argued that in some ways what happened to the credit markets was a vindication of the theory, because it showed investors generally can't beat the market without taking on more risk. Here is what he said:)

If you listened to Eugene Fama and believed that markets are efficient, you wouldn't have invested in auction rate securities that claimed to be as good as cash, but which offered fifty extra basis points. You wouldn't have invested in a Triple A rated mortgage-backed securities pool that said this is as good as Treasuries, but offered fifty extra basis points of yield. The whole point of efficient markets theory is that you can't beat the market without taking on more risk. People (here) were saying for years, if you invest in hedge funds that make abnormally high returns there is an earthquake risk, a tail risk, that nobody is telling you about.

What about the rational expectations hypothesis? Richard Posner is a Keynesian now?

I don't want to comment on Posner. He's a nice guy. But I spend my life trying to understand this stuff. My last two papers, which took me three years, were on determinacy conditions in New-Keynesian models. It took me a lot of time and a lot of math. If Posner can keep with that and with Law and Economics, good for him. (Laughs)

Rational expectations. Again, it is good to be specific. What is rational expectations? It is the statement that you fool all the people all the time. In the nineteen-sixties, people said the government can give us a burst of inflation, and that will give us a little boom in output because people will be fooled. They'll think inflation means they are getting paid better for their work and they'll be fooled into working harder. The rational expectations guys said, "Well that may happen once or twice, but sooner or later they will catch on." The principle that you can't fool all the people all the time seems a pretty good principle to me. So, again, I say be specific. What do you see about the world that invalidates the theory of rational expectations?

O.K. The rational expectations hypothesis by itself is a technical device. But when you marry it to what is, basically, a market-clearing model, which is what Bob Lucas and others did, there is no room for involuntary unemployment, for example. Recessions are a matter of workers voluntarily substituting leisure for work. Is that realistic?

O.K. Now, we are going beyond Lucas to Ed Prescott and the real business cycle school. Today, there is no "freshwater versus saltwater." There is just macro. What most people are doing is adding frictions to it. We are playing by the (Finn) Kydland and Prescott rules but adding some frictions.

But unemployment is now ten percent. That seems to be inconsistent with a market-clearing model, no?

It's not as simple as that. Unemployment is job search. I think the rational expectations guys made incredibly valuable contributions. First, the way you do macro. You don't just write down consumption, investment, and so forth. You really write down an economy. You talk about people and what they want. You talk about their productive opportunities. You talk about market structure. That revolution in macroeconomics remains. New-Keynesians? One hundred per cent, yes: this is how we do things.

The second valuable contribution: As of the seventies, people took for granted is that the way the economy should work is that potential output always looks like this. *(Cochrane stood up at the chalk board and drew and straight line rising from left to right.)* And anything that looks like this *(Cochrane drew a line that zig-zagged as it rose from left to right)* is bad. Unemployment should always be constant. Well, wait a minute. That's not true. The upward trend comes from productivity, and where is it written on tablets that productivity grows at 3.0259 percent constantly. In the nineteen-nineties, you discover the Internet, and it makes sense for output to grow faster, and for everybody under the age of thirty to spend twenty hours a day writing websites. So the baseline of an economy working well will include some fluctuations, and the baseline of an economy well will also include some fluctuations in unemployment.

When we discover we made too many houses in Nevada some people are going to have to move to different jobs, and it is going to take them a while of looking to find the right job for them. There will be some unemployment. Not as much as we have, surely, but some. Right now, ten percent of people are unemployed. Many of them could find a job tomorrow at Wal-Mart but it is not the right job for them—and I agree, it is not the right job for them. That doesn't mean the world would be right if they took those jobs at Wal-Mart. But some component of unemployment is people searching for better fits after shifts that have to happen. The baseline shouldn't be that unemployment is always constant. So that is a big and enduring contribution—some amount of fluctuation does come out of a perfectly functioning economy. Now have to talk about how much, not just look at any unemployment and say markets are busted.

Is ten per cent the right number? Now we are talking opinions. My opinion is I agree with you. What we are seeing is the after-effects of a financial crisis that is socially not optimal—agreed one hundred per cent. But what we need is models, data, predictions to really talk about this. Not my opinion versus your opinion.

Years ago, Bob Lucas said something similar to what you are saying about the Great Depression—that many of the unemployed could have taken jobs at lower wages.

Yes, but it wasn't the right thing for them to do. Let me not even hint that this is the right thing now. We had a financial crisis last fall which was socially not optimal. This is probably where the Minnesota crowd would disagree. It seems to me pretty obvious that we had a financial crisis last fall, a freezing up of short-term credit markets, a flight to quality. As a result of that financial crisis, we saw a lot of real effects that didn't have to happen. Businesses closed and people lost their jobs. It didn't have to happen. Now in a way, this is what we saw in 1907, 1921, 1849—you can say we've seen these things before. There I would agree with you, rather than with some mythical figure from Minnesota who says finance is just totally irrelevant. That makes no sense.

Is that the lesson here—that we need to integrate finance into macroeconomics?

Well, yeah...I've been preaching that for twenty years. I do half finance and half macro. I see this as a great research opportunity. People who are trained in macro, they think about the interest rate. They don't think about variation in credit spreads or risk premiums. In my finance (research), I see risk and risk premiums as being what matters most. Macro until a couple of years ago wasn't really thinking about risk and risk premiums. It was just, oh, the Fed and the level of interest rates. So I've thought these things should marry each other for a long time. But that's an easy thought to have. Doing it is the hard part.

Has anybody got anywhere on it?

Oh yeah, but it's hard. Asking big questions, talking about fashionable ingredients is easy, it's the answers that are hard, actually cooking the soup. People also say economics needs to incorporate the insights of psychology. Great. Thanks. I've heard that from (Robert) Shiller for thirty years. Do it! And do it not just in a way that can explain anything. Let's see a measure of the psychological state of the market that could come out wrong. That's hard to do. Calling for where research should go is fun, but I think it's far too easy.

Back to John Maynard Keynes. Judge Posner is not the only who has rediscovered him and his policy prescriptions. You have been very critical of the Obama administration's stimulus package and of the Keynesian revival. Why?

Look, evaluating economic models is a lot harder than just staring out the window and saying, "This is going on. Keynes was right." Nothing in the incoming data has removed the inconsistencies that plagued Keynesian economics for forty years until it was thrown out. I mean, we threw it out for a reason. It didn't work in the data. When inflation came in the nineteen-seventies that was a major failure of Keynesian economics. It was logically incoherent.

What happened is the government wanted to spend a lot of money. They said "Keynesian stimulus" and people got excited. What event, what data says we've got to go back to Keynesianism? Again, I'm going to throw it back on you. What about it other than that Paul Krugman thinks we need another stimulus tells us that this is an idea to be rehabilitated?

You don't believe stimulus packages work. You are arguing what—every dollar the government dissaves somebody else saves with an eye to the future tax burden? The so-called "Ricardian equivalence" argument: Is that it?

I would go further. Ricardian equivalence is a theorem, a theorem whose "ifs" are false. But it is a nice background theorem. In the world of that theorem, deficit finance spending has no effect whatsoever—really, no effect different from taxing people now and spending—because, as you mentioned, people offset it by saving more. Now, we know that theorem is false. One of the ifs is "if the government raises taxes by lump sum payments." In fact, the government raises money by taxes that distort incentives, so, if anything, you are going to get a negative multiplier—a bad thing. However, government spending also changes the composition of output. You build roads. There are lots of models where you can have a positive effect, so I don't want to say exactly zero. But if you want to get a multiplier you have to say exactly which "if" is false, exactly what friction you think the government can exploit to improve things by borrowing and spending and how.

What do you think the fiscal policy multiplier is?

I think it is the wrong question. In many models with positive multipliers it is socially bad to do it. Just because you get more output doesn't mean it is a good thing. People have pointed to World War II and (said), oh, there's a case where we had lots of output. "Well, let's fight World War II again" is not socially good.

So is that your argument against the stimulus? Or you just don't think it will work?

The claim was that this would, on net, reduce unemployment, create jobs, improve the economy in some quantifiable way. I just don't think it is going to happen. My guess is (that the impact is) a lot closer to zero, and probably slightly negative, for deficit spending right now.

Why? What is the mechanism that prevents it from working?

It is even deeper than saying people will respond by saving. First of all, there's this presumption that spending is good and saving is bad—except that we also want saving to be good and consuming bad. Let me try to put it (like this): You save money. It goes into a bank, which lends it out to somebody to buy a forklift. Why is that bad, but you buying a car with the same money is good? So, presumption number one, that consuming rather than saving is good for the economy, I don't get that. The Chinese are investing fifty per cent of their income, and they seem to be booming.

Second, just on basic accounting: I'm going to be the government, I'm going to borrow from you, and I'm going to spend it. So over here, that's more output. But you were going to do something with that dollar, which is now invested in government debt. Now, what else were you going to do with it? Well, you were going to buy a mortgage backed security; you might have bought a car. You were going to do something with that money. So, on basic dollar accounting, if I take that money that's a dollar more demand, but you have a dollar less demand.

Barro's theorem is about tax vs. debt financing having no effect whatsoever. This is a deeper point. If you were going go buy a car, and I, the government, go and build a road, we have one less car and one more road, so there is an effect. But we have one less car. That money has to come from somewhere. That's what people miss out when they think about the stimulus.

What about if foreign investors are buying the government bonds, as they are in the U.S. case? Surely, they are not crowding out domestic demand?

Well, that makes it harder to explain. We have to go through the fact that trade is balanced. If they were not buying the bonds, they were going to do something with that money, and blah, blah, blah. You can shuffle resources around, but you can't create anything out of thin air.

The other reason I've been against the stimulus: it's pretty clear what the problem with the economy was. For once, we know why stock prices went down, we know why we had a recession. We had a panic. We had a freeze of short-term debt. If somebody falls down with a heart attack, you know he has a clogged artery. A shot of cappuccino is not what he needs right now. What he needs is to unclog the artery. And the Fed was doing some remarkably interesting things about unclogging arteries. Even if (the stimulus) was the solution, it's the solution to the wrong problem.

If I were Keynes, I would say we are in a recession; we are not the potential output level. There are unemployed resources out there. You're argument may be correct at full-employment, but when there are unemployed resources out there we can make something out of nothing.

Possibly, but it's not obvious how "stimulus" is going to help this recession. Think about an unemployed accountant in New Jersey, fired from a big bank. How is going to build a road in Montana going to help him? Keynes thought of a world in the nineteen-thirties where labor was more amorphous labor. If you hired people to dig ditches, that would solve the unemployment line in the car industry. We have very specialized labor, and just hiring people doesn't resolve the problem. Somebody who lost their job in a bank—building more roads is not going to help them.

It's a long logical leap from the fact of unemployed resources to the proposition that the federal government borrowing another trillion dollars and spending on pork is going to make those resources employed again.

So what should the government response have been?

Not making so many mistakes. First rule: do no harm. What we experienced was a fairly classic bank run, panic, whatever. There were good things the government did. The Fed intervened very creatively, in sort of a classic lender of the last resort way. We also did a lot of stuff—lots of bailouts—that didn't need to be done. I think the TARP was silly. The equity injections were silly. Lender of the last resort—get frozen markets going again, and get out of the way—is probably plenty.

And don't cause more panic. There was lots of confusion and uncertainty about: What's the government going to do? When is it going to do it? Who is going to get bailed out? Who isn't going to get bailed out? That doesn't help.

Where should we go from here? If you were hired as head of the White House Council of Economic Advisers, what would you tell the President?

I'd get fired in about five minutes. I'd start with a broad deregulatory approach to health care reform. There, I just got fired. Financial deregulation, yes, but going in the opposite direction to where they are going. Financial regulation based on getting out of this too-big-to-fail cycle. Setting it up so that those things that have to be protected are, but in as limited a way as possible. Simple, transparent reform.

And I think the government needs to encourage Wall Street to solve its own problems. Let's go back to Bear Stearns. Here we had a proprietary trading group married to a brokerage. We discovered you could have runs on brokerage accounts—that was the systemic thing. So what I thought would happen after that is that Wall Street would say, "Oh wow, we've got a problem!" Marrying proprietary trading to brokerage is like managing gambling to bank deposits. What I thought Wall Street would say is: "We've got to separate these things. Customers want to know that their brokerage isn't going to get dragged down by the proprietary trading desk, and we want to separate them fast so that Washington doesn't come in and regulate us." Unfortunately, that's not what happened. What happened is that everybody said, "Aha, the Fed is going to bail us all out. We can keep this game going forever."

So what I would like to see is a strong (statement): "You guys have got to set this us so it can go bankrupt next time around. And we are going to set it up so we don't even have the legal authority to bail you out, so you'd better get cracking."

You mean a new Glass-Steagall act for Wall Street? Or some version thereof?

Yeah...Glass Steagall itself had a lot of problems, but some of the basic ideas are good.

But the same principle—separating the casino from the utility?

Separating the casino from the dangerous contracts—yes. We all understand that you can't run an institution that offers bank accounts and gambling in the same place. We are trying to do that now in the hope that the regulators will watch the gamblers. That's not going to work.

It appears that there is liberal and conservative agreement on this issue.

Yes. Which brings me back to where you started. It's not about liberal or conservative, and analysis of these things doesn't have to be ideological. Let's just think through what works and look hard at the evidence.