THIRD WAY

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What is Quantitative Easing?

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JIM KESSLER: Good morning, everybody. Thanks for coming out. Welcome again to Third Way's Capital Markets Initiative 101 series. And I know it's a very interesting week, very interesting time to be in Congress right now; lot of uncertainty, lot of uncertainty in the markets. Today we have as our special guest someone I'm really excited about for – is this not on? How about that?

MS. : Yeah, there.

MR. KESSLER: Luckily I project anyway, I'm sure. (Laughter.) Our special guest today is Greg Ip. And one of my favorite publications is The Economist. I love that magazine. And for my dad's 80th birthday, I got him a subscription, because we got to keep these magazines going. So when it helps is that when he argues with me, he now has more facts. (Laughter.) So this Thanksgiving was a pleasure thanks to it.

But Greg is the U.S. economics editor for The Economist. He covers the economy, financial markets, monetary fiscal matters, regulatory policy. He's been with the magazine since 2008. He's been in journalism for a long time, at The Wall Street Journal for – 12 years? Twelve years at The Wall Street Journal.

And his specialty really is taking very complex economic concepts and putting them into – I don't want to say simple form, but really accessible form for his readers to understand. And, you know, in our view, that is a really great gift. And one of the things that – one of the purposes of the Capital Markets Initiative is to take these concepts, put them in an accessible way for the people here who are going to be making policy.

Greg has won numerous awards in his coverage on mortgage and housing crisis, on the legacy of Alan Greenspan, the market response to 9/11, the Asian financial crisis. Your book is – and now I'm blanking on the name of your book.

GREG IP: "The Little Book of Economics."

MR. KESSLER: "The Little Book of Economics," which is an excellent read, again, very accessible, actually funny, which you rarely get in an economics book and, you know, just excellent, perfect book.

So we're looking forward to his presentation. He's going to talk for about 30 minutes on the Fed, on quantitative easing, on its role in the economy, and then we're going to open it up and have a good discussion. So Greg, thank you very much. (Applause.)

MR. IP: Thank you very much, Jim. Thanks, Jim, and thank you so much for having me. I've been covering economics and economic policy for 20, 25 years now. And most of that time, economics and politics fall in separate tracks, and folks who covered economics didn't really have to pay too much attention to politics because businesses did their thing and central banks did their thing. But unfortunately – fortunately or unfortunately, that all changed in the last four or five years where now politics essentially drives economics much more than the other way around, it seems, on issues like the debt ceiling and now the fiscal cliff. In other words, whenever you ask an investor or somebody in – running a business, what's the single biggest thing you're worrying about or thinking about in terms of your future plans, it's not, you know, what

are my customers doing; what are my competitors doing? Now it's, what are folks in Washington going to do; what are folks in Frankfurt or Brussels going to do; what are folks in Beijing going to do? So to a remarkable extent, it's the triumph of politics.

So I'm going to talk today about what is still a somewhat abstruse topic and hopefully make it a little bit clearer. But one of the reasons I'm glad to be here is I hope – hopefully we can have a conversation afterwards where you can tell me about – a bit about how you see the world, especially from the world of Capitol Hill and the political world, because the interactions and the feedback now between the markets and politics are like nothing I've ever seen before.

And monetary policy is actually a pretty good – we didn't plan it this way when set up the event, but next week the Fed's going to have a meeting where they're probably going to make another announcement about a quantitative easing. And in my time covering this, I've found that – I mean, it's a lot of fun for me as a guy who's been covering monetary policy for over a decade to be covering the Fed and going to press conferences and asking questions about quantitative easing. Most of my family and my friends think I'm a total geek – (chuckles) – and just roll their eyeballs when they hear me rave about quantitative easing and money supply and so on. But so I'm kind of – it's kind of fun to be in my element where this topic is important.

My mission today, though, isn't to get, you know, right into the weeds about how this stuff works but to try and explain to folks who don't do this for – all this on a daily basis – it's hard for me to believe there are folks who don't do this on a daily basis – but to try and explain to you some of the basics about how the Fed and monetary policy work so that you can feel like you understand what people are talking about when they talk about quantitative easing, that you can understand what the pluses and minuses are.

And the – even though – you can – getting into the – into the – really into the details about monetary policy, you can

get into some, like, really crazy Greek-letter stuff and eye-level equations and so on, but I find that economists almost deliberately make this stuff more murky and abstruse than they intend to. It's sort of like druids who like to go around mumbling in these strange incantations because they think it'll make you respect them more if you don't understand what they're talking about.

But it's really not true. Economists use a lot of fancy words for things that most folks have ordinary words for. Quantitative easing, for example – that's a fancy economics word for "printing money." So whenever you hear economists saying fancy stuff like that, you kind of got to drag them back to your level and make them explain what it is they really mean. And that's – I kind of feel like that's what I try to do for a living, is to take it down from that abstruse Greek-letter level and make it clear in terms that most folks can understand.

When I sat down to write out my notes about what I was going to tell you today, I realized that I couldn't just jump in and say, well, quantitative easing means this, and this is why it's important. I had to really go back to basics to try and explain what it is that central banks and monetary policy do. And so what I'm going to – I'm actually going to take you back, like, hundreds of years. Don't worry; this – I can still get it done in 30 minutes. (Laughter.) The first part will be like the – I'll zoom – I'll zoom all the way through the Jurassic Period in just a few seconds flat. We'll get to QE real fast. But I feel like you need to get really basic to try and explain why what's going on next week matters in the context of 300 years of economic history.

Now, at your seats you'll have, I think, a copy of my presentation. But I actually went and changed it last night, so what I'm showing you is a little bit different. So think of it that – what you got is the Senate report; what I have here is a conference report. So be very – (chuckles) – careful about thinking that you know what I'm going to say just by looking at that.

So let's start with the basics, and the very basic question is, well, what is money, and why do we have the money? And it seems like a strange thing; we don't need to think about it very much. But money has two purposes. One is it's just a store of value. If you want – if you have savings, you need to basically store your savings somehow. And we have lots of sophisticated ways of doing that. You can put it in property, you can put it in a mutual fund that holds stocks and bonds, you can put it in gold if that's your preference, but you can also just put it in money. You can take all your money out of the bank – (inaudible) – bills and stuff it under your mattress. So that's one of the things that people do with money, and they have done that since money has been invented.

But money does something else that these other types of assets do not do: It's a unit of exchange, what you actually take out into the marketplace. It's what you denominate contracts in. You don't tell – you don't go to the grocery store and you pay with $200 worth of stocks and bonds. You don't tell your daughter's college that you'll pay her tuition in property. What you do is you do it in dollars, with – and so money isn't just an asset like these other assets, a unit of exchange.

And that's why confidence is very important, because the ability of money to retain its value depends very much on the willingness of the other person to whom you're trying to pay that money to accept that money, to believe that they can eventually use it for something useful, which is to buy goods and services, whether it's college tuition or groceries, later on. So money is one of those odd things that we all take for granted, and yet the confidence in it is a very ephemeral and – thing that should never be taken for granted. It's a tremendously important part of the way society and an efficient economy works.

In the – for most of recorded human history, there were no central banks. The first central bank was founded in Sweden in 1600s. Britain's – the Bank of England was founded in

1692. But in the era before central banks, we didn't really have monetary policy. Money consisted of – usually of coins, and these were backed by gold or silver. They were either made of gold or silver or they contained some gold or some silver, and that was where their value was derived from. Later on, banknotes were invented, but banknotes – by the way, which were originally not issued by a federal reserve or a central bank; they were issued by private banks or private companies, and they were exchangeable on demand, so, like, a one pound note was exchangeable for a pound of specie – but the key was that they were always backed by something that you could sort of feel as sort of tangible, by money. And that's what gave us the gold standard.

So for most of American history, up until the creation of the Federal Reserve, we were on what was called a gold standard. Now, the gold standard sounds kind of mysterious and special and byzantine, but it's really – you would probably – if you were in a gold-standard world today, it wouldn't look that different to the naked eye from the world we actually have now, because what we had under the gold standards – we had banks just like now, and banks would issue currency and they would take deposits, and the way it would work is that if you deposited your gold with the bank, they would issue you currency or deposits in return, but then they would use that gold to make loans. And at the end of this process, they would actually take a very small amount of gold, and it would multiply into a much larger amount of deposits and loans. And a bank – the balance sheet of a bank would look something like this: You would have – you would start with perhaps a dollar of shareholder's equity. You'd end up accepting $9 in deposits. And what would happen with that $10 that the bank had raised? Well, you had to hold a dollar of it in your vault as gold to pay back people when they ask for it, and the other $9 would become loans. And that's how you make your business. And that is more or less what happened with banks all around the country.

But then there were business cycles, and so things would get, you know, really effervescent, and banks would have lots of

people asking for loans – so they would want to make lots of loans, and they take lots of deposits. And lo and behold, that $1 of gold will now support a balance sheet of $14 instead of just $10. And that's what booms look like. You had the same amount of gold, but it was supporting a much bigger expansion of money and credit, and because the supply of goods and services couldn't actually grow as fast as credit, that would result in inflation.

Now, this worked most of the time, but not all of the time, because you may notice a – sort of a flaw in the way this system works. And here's the problem. If only a few people on any given day go to the bank and say, here's your notes; I'd like my gold back, that's no problem, because the bank always had enough gold to pay you back. But what if a whole bunch of people did that at once? Well, then you have a problem because they don't have enough gold in the vault to pay you back. So what would they do? Well, they might go to another bank and ask to borrow from that bank so they can repay their own customer. They might try and quickly call in some loans, shrink the balance sheet.

But the problem is that if a whole bunch of people are doing this to a whole bunch of banks, there simply wasn't enough gold to go around to repay all of the people who had deposited money into banks. And moreover, if there's 10 people standing around looking at each other and all of them know that only one of them is going to get their money back in gold, they all have an incentive to rush to the bank first so that they're the one who gets the gold and the other guys are left standing there without – unable to get their gold back. And so that is more or less what a bank panic was.

The thing you have to remember about a panic – and this is true of all panics – is that they are highly rational events. The reason people run to the banks is because they know that if they're not the first one to get there, they may not get their money back. And so panics were a more or less regular feature of the U.S. financial system throughout all the 1800s. I've listed all the bank panics that historians have recorded. The

ones in bold, 1837 and 1873, were especially significant because they were so severe that they were followed by depressions. And indeed, the panic of 1837 was followed by multiple defaults by individual states. In fact, it looked very similar to what's going on in the eurozone right now, which is in a sort of similar situation to the 19th century United States for a variety of reasons.

So the problem with the gold standard was that because the amount of currency was – the amount of gold was highly inflexible to people's demands, it was – it was very fragile and always getting into a panic. So then we had a great big panic in 1907. It started with a run on a trust company called the Knickerbocker Trust in New York City. It spread to every bank in New York. It spread throughout the country, and it didn't stop until J.P. Morgan called all the bankers of New York together at his library – he made them stay there for, like, 24 hours until they all agreed to support, with their own money, all the runs on all the banks, and eventually the panic stopped. Now, if you're wondering how Hank Paulson got the idea to do TARP and to get everybody in a room, that's where he got the idea, because J.P. Morgan had done that 101 years before he did that.

But after 1907, Congress decided, we can't have this any longer; we cannot have these situations where panics are always bringing the economy to its knees. And they looked around the world, and they say, what do – what do smart people do? They – oh, by the way, this would be – this is, by the way, what the banking system would end up looking like at the end of the panic. As you can see, all these loans would have contracted, the gold would have disappeared, and the amount of credit in the economy would have shrunk by 40 percent, which would have produced a deflation. So you can see why the end result of this boom-bust cycle was quite painful, and we – and people wanted to stop going through it.

So in – so Congress looked around, and they said, well, how do other countries deal with this problem? They looked at England, which had the Bank of England for at least eight or

nine years, so you could have controlled the problem of panics. And they said, let's create a central bank and instruct that central bank to provide the United States with an elastic currency. So what does an elastic currency mean? It doesn't mean that the new $20 bills are made of spandex and you can do that with that. No – that's what my daughter thinks, but that's not what an elastic currency is. No, an elastic currency basically meant that the supply of currency would no longer be fixed by the amount of gold, and in fact, the Fed could actually create more currency on demand as the need arose.

So if you had one of these panics happen – you – well, you actually wouldn't have a panic because as banks ran short on cash to repay their depositors, they would go to the Federal Reserve and say, can we borrow the cash from you? And the Fed would say, yes, sign over a few notes as – take some of your loans; give them to us; that'll be our collateral, and we will print up a bunch of federal reserve notes that everybody trusts because everybody trusts the federal government, and that'll take care of the problem. And that indeed was meant to take care of the problem. In 1913, the comptroller of the currency said, we have made panics and banking crises mathematically impossible – famous last words. Never, ever say that a crisis is impossible; we will find another way to have a crisis.

But the bottom line was that the central bank solved the intrinsic problem of a currency that had a limited supply of backing. It essentially said, when everybody needs cash, we can produce the cash as needed, and when the need passes, we'll redeem that cash, it'll go out of circulation, and then the money supply will contract again.

Over the next few decades – in fact, over the next century, this ability of the fed to essentially create what we now call a fiat currency, which is a currency that's only on paper; it's not backed by anything – they're provided with two roles. One was the lender of last resort rule, which is the rule that I just gave you. If banks came to the Fed and said, we're having a temporary run on our cash, can you lend us money so that

we can meet this demand and not fail- and the Fed would say, well, are you a solvent bank or actually healthy; can I be sure that when we lend you this money, we'll get the money back? And if they were satisfied that the bank was solvent, but it was just temporarily illiquid, they would say, fine, here's the loan.

But easier said than done. It's not always obvious when a bank asking you for money is actually solvent or insolvent. You know, when your brother-in-law, when you ask him for the money that you lent him last week, and he says, oh the check is in the mail – (chuckles) – you kind of have to, like, think twice. Is the check really in the mail, or does he really not have the money? And that's what kind of question the Fed has to ask. When a bank comes and says, well, we just have a temporary shortage of cash, they have to ask, well, is it temporary, or are they really fundamentally unhealthy?

And so that was one of the problems in the 1930s. One of the question marks about why we had a great depression when the invention of the Fed was supposed to avoid this problem was that the Fed could never really be sure that banks were failing because they were – had a temporary shortage of cash or because they were genuinely insolvent, weighed down by bad loans.

The other thing that happened when the Fed took on these duties was what we now call monetary policy. And this was actually a later innovation in central banking. It's not why the central bank was created in the first place. The central bank was originally designed, as I explained, to be this lender of last resort. It was not designed to modulate the business cycle. But as time went on, the Fed and the central bankers found that if they could time the creation of additional credit and shrink it at the right time, they could smooth out the business cycle. Since recessions were usually caused – sorry, where booms were usually caused by rapid lending and busts were usually caused by rapid contraction in that lending, maybe the central bank, if they did their job right, could smooth out the business cycle. And that's more or less what it

has been doing for the last 70, 80 years – trying to use its control over the money supply to smooth out the business cycle, and that is what we call monetary policy. But again, it's easier said than done, because doing the job properly requires having a judgment about what the normal level of activity is in the economy.

If a boom is an economy that's growing too fast and a bust is an economy that's growing too slowly or falling apart, you have to some judgment about what the right level of business activity is. What is the real risk of inflation out there? And that's not easy to do, and it's why we had problems like the 1970s where the Fed consistently miscalculated, thought that the economy ought to be growing faster than it really could, and the result was inflation.

This is a good time to talk, well, what is inflation? And it seems really easy, but I find that there's a lot of confusion about this, and partly the confusion is the fault of the economics procession because they teach you in first-year economics – in fact, even if you don't take first-year economics, you've probably heard Milton Friedman's famous line that inflation is always and everywhere a monetary phenomenon. And it has a certain intuitive appeal, you know? I mean, we just print a lot of money, but there's no more stuff out there. We're just going to drive the price up of the stuff.

And there was this famous bit of research that looked at prisoner of war camps in World War II in Germany. And prisoners in these camps would actually use cigarettes as currency because they didn't have money. And so what would happen is when the Red Cross shipment would arrive with all these cigarettes, it would obviously increase the money supply, and the price of everything in these little informal marketplaces in the prisoner of war camps would go up. Suddenly, chocolates would go from 5 cigarettes to 10 cigarettes; a clean – a new shirt would go from 10 cigarettes to 30 cigarettes. But then over the next month or two, as the cigarettes wore out or got smoked or withdrawn from circulation, prices would come down again. So it's a very neat

example of how – of the Friedmanite formula working in practice.

And so the simple monetarist story was essentially a – print money – (inaudible) – there's too much money chasing too few goods, and that's inflation. But that's wrong. It's way too simplistic, and it's not really the way anybody nowadays thinks about inflation.

The first problem with that is that even though the Fed controls – the Fed does not control the money supply in the broad sense. I mean, we now think of the money supply as not being just currency and not just being banks only deposits at the Fed, but it's like a checking account. It's your certificates of deposit. It's your money market mutual fund. And it becomes pretty obvious your money supply is actually quite large, quite amorphous, and the Fed doesn't really control it. They only control a tiny little bit of it. And they only control just enough of it so they can get the short-term interest rate, which is the rate that banks charge each other, up or down on a daily basis. And this is how they control inflation. If you get the interest rate really low, then you get people to spend more and save less, and that causes demand to go up. And if demand goes up that it exceeds the economy's capacity to supply the goods and services to meet that demand, the natural result will be inflation.

The other thing that feeds into the inflation story is psychology. And if people actually come to expect higher inflation, they will behave in such a way that it becomes a self-fulfilling prophecy. So if you're a company and you're trying to decide what kind of wage raise to give to your employees, you'll – you have to have a view on what prices will do next year, and you'll say, well, we think inflation will be 2 percent. We think we can recapture that in our prices. And that will be the cost of living adjustment for all employees. So prices will go up that much. Wages will go up that much. That's not – workers will spend those additional wages. And through this self-fulfilling psychological impact, expectations themselves help drive the inflation process.

So in the modern view, there are two central determinants of inflation. There are interest rates and their impact on demand, and psychology. That is how all central banks, both in the United States and in other countries, now think about the inflation process.

What about unemployment? What causes unemployment, the other part of the Fed's job? Well, in the long run, we know that the Fed cannot cause unemployment to be permanently higher and permanently lower. Unemployment is – in the long run, the number of people who can work versus the number of people who are unemployed is a consequence of things like demographics. So if there's a lot of young people coming out of college; they tend to have trouble finding the first job. That will drive up unemployment. If there's a lot of old folks who've – whose job skills are becoming somewhat less relevant to the marketplace and they think about retiring, that will tend to reduce employment as well. And things like minimum wage rules, welfare rules, all these things will help in the long run determine what the unemployment rate is.

But in the short run, the unemployment rate is highly dependent on demand. If people want to spend more – and if they're not spending more than the economy's capacity – then that spending will create sales for businesses, businesses will hire more people and the unemployment rate will go down. If spending rises to the point that it does exceed the economy's capacity, then you're not – you're only going to put a few more people back to work. What you'll just do is drive up the wages for everybody else and you'll get inflation.

So how does the Fed influence the inflation and the unemployment process? Well, essentially, if they think demand is falling and the unemployment rate is rising, what they will do is, they will lower the short-term interest rate. And the way this is supposed to work is that, this actually ripples out to a whole variety of markets. Bond investors, even though they're lending money for 10 years, they care about what the short-term interest rate is, because it will

determine what their alternative sort – use of their money is. And so bond yields will tend to come down as well. And that's very important, because as you know, a lot of corporate loans and mortgages depend on long-term interest rates, not short-term interest rates.

The stock market will go up. That will make people feel wealthier, and they will spend more. It lowers the cost of capital so businesses will invest more. It means people who just did their first IPO think they're geniuses and they go out and spend more on private jets and they hire more people to run their websites. And the other thing that will happen is, the dollar will go down, and this will drive up exports and it will make imports less attractive, and that's good for the economy.

Now, the ultimate result is that interest rates go down, people will want to borrow more, spend more, save less. You get higher demand, you get higher employment, lower unemployment.

But – and this worked great, you know, for about 70 or 80 years, worked really well from 1948, roughly, until 2007. Every business cycle we had – Rudi Dornbusch, a famous economist, once said that no business expansion died of natural causes. They were all murdered by the Fed, which was his way of saying that business cycle is very much driven by the Federal Reserve's judgment about when the economy is overheating and had to be slowed down, and when it was slumping, needed to be perked back up. And every business cycle from 1948 through 2007 responded, sometimes with a lag but it eventually responded to higher interest rates when the Fed wanted to slow it down, and to lower interest rates when the Fed wanted to pull it back up. And so if you wanted to figure out where the economy is going, all you had to do was basically look what the Fed was doing and you would say, well, come, whatever the Fed wants, eventually the Fed gets. Twelve months from now the economy will be either recession or it will be expanding.

But that model broke down in the last three or four years, because it is possible, in theory – and this is interesting because I remember studying this stuff in textbooks, the notion that you can get to a situation where low interest rates could never actually get the economy out of its rut. I remember studying that back in the early '80s. But after I studied it, it never, ever came up again in anything I ever had to do when I was reporting because it just seemed unworldly.

I mean, like, that's 1930s stuff. That doesn't happen in modern economies. We know that. And that would never happen to us. And so I kind of like forgot all the mechanics and all the economics of what happens in that world, but that world happened to us in 2008. And it's – it's actually not hard to understand why that might happen. The theory of how low interest rates help the economy is that there is some interest rate at which savers will say, I am not going to leave all this money stuck in treasurables. I'm going to go out and buy something for crying out loud, because I'm just not getting any return here. There is some interest rate that says to borrowers, now is the time to buy that house, not next year, not the year after that. Now's the time to buy that house. And so that is why low-interest rates always work.

But what if you're in a situation where the people who want to borrow money to buy that house, they can't get the loan because nobody wants to lend them the money either because the banks have all collapsed or they've made all these stupid loans and they've decided that they're going to get religion and only lend to people who have incredibly stellar credit ratings. Or what if you could get a loan but you really don't want to because your 401(k) just got destroyed by the recession? You really now need to get savings back up, you're going to be retiring in 10 years, And so you just don't respond to low interest rates the way you normally do. It gets into a situation that's called a liquidity trap. A liquidity trap is just a fancy economist way of saying zero interest rates. It means you get interest rates down to a level that the economy just does not respond to the way it's supposed to.

What do you do in that situation? What if you're a central bank and the tool that has worked for you for 70 years no longer works, the short-term interest rate? Well, you say, well, why don't we try and do this with long-term interest rates?

Now, here's the problem. The short-term interest rate is very easy for the Fed to control, because as I was saying a minute ago, the short-term interest rate is determined by very, very small slice of the money supply which the Fed can easily push back and forth with its open market operations. But the bond market is huge. You know, like James Carville's famous line, if he died he wanted to come back as a bond market? Well, it's because a bond market is so freaking large, so freaking scary – I mean, it's global; I mean, our bond yields are driven around not just by what you and I do but by what the Chinese do and what the Germans do. There's a lot of crazy stuff that determines the bond market. I mean, it's trillions and trillions and trillions of dollars in size. So if you want to get bond yields down, you have to – very basic financial (legend ?). Yields going in the opposite direction of price. So if you want to get bond yields down, you have to get the bond price up, which means you have to go out and buy a lot of bonds.

Now, if you or I want to do this, this is really hard, because we don't have a lot of money to buy those bonds. But if you're a central bank, you get to actually print the money. That's the cool thing about being a central bank. If you want to buy something, you just print the money. And I would not try this at home because you'll get a visit from the Secret Service, but if you are the Federal Reserve, you buy trillions of dollars' worth of bonds, and if you buy enough, you push the price up and you push the yield down.

Now, that's one way of doing it. They have other ways of doing it, by the way. Instead of doing quantitative easing, they could just do what they call Operation Twist, which means instead of buying the bonds or printing money, we'll sell some Treasury bills that we already have in our portfolio.

The only problem with that is that eventually they run out of short-term Treasury bills and they can't do that any longer.

And the other thing they can do is, they can use their words. Instead of actually doing anything on the bond market, they can just say, hey, you know that we got these (straight ?) down to zero? Well, we're going to keep it at zero, not just for next month but for the next year. And – no, two years, three years, what the heck, yeah, three years. We'll keep it there for three years. And all the people out there who are thinking of buying bonds say, holy cow, I'm going to get zero, like – I mean, I'm not going to get anything on my money for three or four years, so I'm going to buy bonds, I'm going to buy stocks. I mean, surely something is going to be – give me a better return over the next three or four years than zero in my money market mutual fund.

So when the Fed has these three broad ways for trying to affect the bond market. Their words – I'm just going to promise to keep interest rates low – and their actions. And as I said, their actions can come in two ways. They can buy bonds and pay for them buy selling their Treasury bills, or they can buy bonds and do it by printing money.

They are doing both right now. They have been doing something – they call this Operation Twist. And the reason it got that name was, back in the early '60s the Kennedy administration thought that they could try and drive down long-term interest rates by changing the way they finance the government deficit. They said instead of issuing a lot of bonds, which tends to, like, increase the supply of bonds, push down the price and push up the yield, why don't we just issue Treasury bills? In fact, why don't we issue so many Treasury bills that we can actually buy back some of the bonds. The idea was that they would twist the relationship between the short-term rate and the long-term rate. And apparently the twist was a very popular dance at that time. As we like to say, the noted monetary economist Chubby Checker had made the term very popular.

So when the Fed started doing, in the last year or two, precisely what we had tried to do in the '60s, the name kind of stuck. They of course had to complicate matters. They called it their maturity extension program. But that's only for the – that's only when they're writing their memos. In real life, they say Operation Twist the way the rest of us do.

So that's the way they have of trying to deal with the fact that their conventional tool, the short-term interest rate, has run out of ammunition. And they've been doing a variety of this now for about a year and a half. They've been doing quantitative easing; they've been doing Operation Twist; they've bought something on the order of 2 (trillion dollars) to $3 trillion of long-term bonds.

And next week we'll probably get an announcement from them that they're going to continue this into the coming year. So right now what they're doing is they're buying $45 billion of Treasury bonds every month, and they're paying for those by selling shorter-term bonds. That's the Operation Twist part. And then in addition, they're buying $40 billion of mortgage-backed securities, and they're paying for those by printing money. That's the quantitative easing part.

And what we expect will happen next month is that they will say, at the end of this month, December, when we've kind of run out of almost all the Treasury bills and other stuff that we were selling to do Operation Twist, we're going to continue buying that $45 billion Treasuries, but we're going to do it by printing money. So the quantitative easing part will now be $85 billion a month.

Now, most people, when they hear the Fed is printing money – they get kind of worried, because they remember what Milton Friedman said; and they say, if the Fed is printing money, inflation absolutely has to follow. That's the way it works. You know, that's what happened in Weimar Germany. We will all soon be taking wheelbarrows full of $20 bills to the 7-Eleven to buy a slushy. So I think one of the most important things I want to – lessons I want to leave you with

is that Milton Friedman didn't tell you the whole story. Money can cause inflation only if somebody spends it.

OK, let's just do a little thought experiment, all right? The Fed prints a whole bunch of $20 bills and goes out to everybody in this room and hands them all out. And then you guys go, and you take those $20 bills, and you put them all underneath your mattresses. What happens to inflation? Well, it makes – (inaudible) – intuitive sense: Nothing happens to inflation. I mean, how can prices respond if the money's being printed and nobody's spending it? I mean, if a – if the Fed prints a $20 bill in the forest and nobody's there to spend it, does it make a – (scattered laughter) – inflationary sound? The answer is no.

And what's been happening – at least what happened all the way through 2009 to 2011 in the initial part of this operation – was the Fed was printing copious amounts of money, and it was not getting lent out. And in fact, on this chart, what you can see on the blue line that lines up with the numbers on the left is that total bank credit peaked out around $8 trillion in 2009. It actually shrank by almost a trillion dollars over the next two years. And why was it shrinking? Because banks either didn't want to make loans because their capital got destroyed by the crisis, or they couldn't find customers who wanted loans or who could qualify for loans.

So essentially all that money piled up on their balance sheets, and it was not getting lent out. So as the Fed printed more and more money, credit continued to contract. And if you go back to what I was explaining, the inflationary growth process needs that money to get out there to generate demand – generate loans and demand before it can affect either prices or unemployment.

Now, in the last year and a half, we have finally seen bank credit start to pick up. Home prices have stopped falling, so more people are interested in getting a loan. Employment is growing; more people have jobs. When people have jobs, they have money; they're more interested in getting a loan. Businesses are restocking their inventories, getting a little bit

more courage to go out and do a little bit of investing. All those things require loans. And last but not least, student loans are going through the roof. I don't – (chuckles) – probably – I expect there's a few people in this room who have personal knowledge of that phenomenon.

So finally we are seeing the banking system doing what it's supposed to do in response to lower interest rates, which is making more loans. But we're still, in level terms, below where we were three or four years ago. And don't forget, the economy is still somewhat larger than it was then. So as a share of GDP, bank credit is still nothing like what it would be before you have a problem with inflation or the economy overheating. So it's very hard to look at what the Fed's been doing and say that's created an inflation problem.

Well, recall, though, that I said there are two things that we know cause inflation. One is too much spending, and I've just explained why I don't see any sign of that. But the other is psychology. You can still get an inflation problem if all this hyperactivity by the Fed caused people's expectations of inflation to go up – because as I was explaining, there's a kind of a self-fulfilling prophecy nature to that, that if people are scared enough about inflation, they will begin to behave as if it's the real thing. And pretty soon we will have a problem.

Now, thank goodness we can actually measure what people think inflation is going to be. There's a variety of surveys that do this. But the most up-to-date one is just by looking at what's going on in the bond market. As you probably know, the Treasury issues two kinds of bonds. One is a regular bond, which might yield, just for an example, 4 percent. And the other is an inflation index bond, which will yield somewhat less – say, 2 percent. And when the bond matures, it will also get an extra payment to make up for all the inflation that happened in the time that you held that bond. And what we can do is actually compare the yields on those two different types of bonds, and we can actually extract from those

numbers what investors think inflation will be over the next 10 years.

Now, it turns out there are multiple ways of doing this, and they will often yield different answers. But the trends are largely the same. And here is just my very rough and ready estimate of what the bond market is telling us. So what it's telling us is that the real cost of borrowing, which is basically the interest rate adjusted for inflation, has been falling as the Fed drives bond yields and interest rates ever, ever lower. And – (inaudible) – the real cost of borrowing is now negative; that is to say, the cost of the money that you've borrowed, even after you pay all the interest, will have actually lost purchasing power over the time that you hold the bond or that you have borrowed the money.

Now, that is supposed to make people really interested in borrowing and investing, because when the cost of – the real cost of money is negative, I mean, surely there must be some superior alternative use of your money. But paired with that, we can see what's been happening to people's expectations of inflation. And the answer is not much. Expected inflation has been fluctuating in this broad band of 1 ½ (percent) – 3 percent – 1 ½ (percent) to a little over 2 ½ percent for the last several years – just not a lot going on there. Periodically that number perks up when the economy seems to be doing really well, and then it flops back down when the economy seems to slump.

It seems to have perked up a little bit more and stayed up in the last few months because the Fed was a bit bolder in their last announcement in September, because they essentially said, not only are we easing now because the economy's weak, but we're going to keep monetary policy easy. We're going to keep on printing money and buying bonds even once the economy takes off, because we think that's how much medicine this economy needs to get unemployment down in sustained way.

And the message some people read into that is that the Fed's going to be a little bit more tolerant if inflation goes up than

they used to be, because they're so interested in getting unemployment down. And that may explain why expected inflation has perked up a bit and not come back down. But again, when you look at this chart, it's hard to get really, really worried that what the Fed has been doing is creating a big inflation problem.

Now, a more interesting question is: Is it doing what the Fed wants it to do, which is to generate so much demand that it actually drives unemployment down? And we know in theory that it's supposed to be working. And the Fed has done a variety of models and papers saying that in theory this is supposed to be working. But the fact of the matter is we don't really know. The problem with macroeconomics – it's not like medicine, where you can have double-blind trials: You give this guy the drug, you give this guy the placebo, and then three months later we'll see if one guy died and one guy got better. You can't do that with the economy. I know some people would like to, but you can't.

And so you basically have to conduct a variety of experiments to sort of figure out if the economy's responding as predicted. And the truth is we know that long-term interest rates have probably come down because of quantitative easing. But we're less sure if the economy is responding – the real economy, employment and spending – is responding the way it's supposed to.

Why might it not? Well, for one thing, if you buy Treasury bonds, we know with some confidence that you're lowering the government's cost of borrowing. But we don't know for sure that it's lowering the cost of borrowing for corporations or for households. And they're really the people that you're really trying to get to with this policy.

Now, as we measured, it appears to be filtering through. Corporate borrowing costs have come down. But we're not sure that lower corporate borrowing costs are causing them to invest more. They may only be using the money to pay off their short-term debt. They may only be using it to pay bigger dividends or to buy back stock as opposed to investing.

And what about households? Is it getting through to households? Well, we do see strong evidence that mortgage rates have come down as a response to the Fed's policy. But one of the problems out there is that a lot of people cannot avail themselves of these very low mortgage rates because they don't qualify for loans any longer because a lot of the companies that used to make mortgages to anybody who could – (inaudible) – don't exist any longer. And the guys that are – have remained behind have decided they would like to pass – you know, they would like to actually show the judgment that they wish they'd shown in 2006, and so they're demanding higher credit scores and higher down payments. And Fannie Mae and Freddie Mac are also suing companies that originated mortgages that, in their view, contained shoddy underwriting standards.

And the following chart – let me walk you through it – is actually a very interesting chart, because when the Fed goes into the market and buys mortgage debt, they don't buy – they don't lend directly to you or me. They actually buy mortgage bonds, which are issued by the banks who are the originators. And the banks who are the originators use that money to make the loan to you or me. And what's interesting is that the yield on the bonds in the market that the Fed has bought have come down a lot. But the yields that you and I pay – the rates that you and I are quoted in the marketplace – haven't come down nearly as much. The spread between the two has actually gotten quite wide.

And nobody is really sure why, but there's a couple of theories out there. One is theories about – the market for originating mortgages has become quite concentrated in the last few years because so many lenders have gone out of business. This has given them market power, and so they're able to avoid passing on all the savings to borrowers.

Another theory is that because lenders are so afraid of being sued for making a bad mortgage that they then sell to Fannie and Freddie is that they're charging much more for loans as insurance against a possibility that one day they'll have to

buy that mortgage back. So those things could be getting in the way of all that quantitative easing medicine from the Fed getting through to where it needs to be.

Now, all that said, it does seem to be working. The housing market has been actually recovering for the last year. It's been recovering for a number of reasons. It's been recovering partly because construction was so devastated for so long that we basically ran out of – we were running out of empty houses to sell to people. It's recovering because we're slowly working our way through that mountain of foreclosures. It's recovering because jobs are being created, and finally people now have the means and the inclination to buy homes.

But finally, it's recovering because mortgage rates are extremely low. And given that housing prices have given up most of their – more than all of their overvaluation, it's actually a pretty good time to buy a house, and there are surveys that show that the number of people who think that they should buy a house in the next six months has doubled in the last four or five months. The blue line on this chart is an index of sentiment among homebuilders, and it's gone up like a rocket just in the last few months. And the way this chart is written, it's designed to show you the extent to which the sentiment of homebuilders is a leading indicator for what actually happens in construction.

Now, I've been disappointed that we haven't seen more activity on construction. It is picking up. This morning the employment data from the Bureau of Labor Statistics told us that construction employment actually declined last month, which was a disappointment. I had been hoping that it would go up. But I guess what I'm trying to say here is that bit by bit, the medicine does seem to be working, not nearly as dramatically as I wish it would, but it is there nonetheless.

So finally, I've talked to you about how quantitative easing is supposed to work and whether or not it's working, but let's do a little bit of a thought experiment on, well, what could go wrong with this scenario, because it's probably wise to consider the possibility that we don't know everything about

the world and that sometimes the unexpected happens. So let's go over a few of the risks that people talk about this quantitative easing.

Well, when the Fed says interest rates are going to be at rock bottom for several years and they buy all these bonds just to drive the point home, investors say, well, I'm not going to get much on Treasury bills, so I'm going to go buy something a little bit riskier; I'm going to buy some stocks; I'm going to buy some junk bonds; I'm going to buy some collateralized debt obligations. And that gets people's antenna up. They say, we're going to go through the cycle all over again; the Fed lowers interest rates; people start doing – taking these crazy risks; we'll have asset prices collapse, and we'll be right back in the cycle.

It's a very legitimate concern. But I don't think the right answer is therefore to raise interest rates. I think the right answer is to be much more careful with regulation, where I think we kind of fell down on the job five or six years ago. And you know, Keynes once said, if you're worried about X, Y or Z, just look out the window. Do you see any asset bubbles forming? Do you see home prices anywhere in the United States going up to crazy levels? Do you see mortgages being made with no money down? Do you see staggering amounts of risky activity on the parts of banks and so forth? And we're looking around, and so far we don't see that.

Now, I don't want to take too much comfort from that because a lot of us didn't see these signs of risk-taking five or six years ago either. But that said, I do believe that the right solution is to have the right monetary policy and to supplement it with a very smart, careful regulatory policy to make sure that we're not creating unintended consequences.

Problem number two: If you print all this money, will the Fed have trouble unprinting the money later on, taking it out of circulation when the time comes to raise interest rates and slow the economy down and contain inflation? I don't think it'll be a problem. The reason why is that, going back early – to my earlier slide, it's not the volume of money in the

system that the Fed has created that will ultimately determine inflation; it'll be spending, and spending will respond in interest rates. So as long as the Fed can still control the short-term interest rate, it should be able to control spending and therefore inflation.

And the good news is that they can control the interest rate. How can they do that? Well, Congress – thank you very much – you passed a law in 2008 that said the Fed can now actually pay interest on all the money that they have printed and that the banks have left on deposit at the Fed. For most of the history of the Fed, banks, when they left money at the Fed, didn't earn any interest on it, so they had an incentive to take that money out of the Fed and lend it out. Now the Fed can actually pay interest on that money, and therefore if there's all that money that banks have sitting at the Fed and the Fed says, I don't want you to lend it; I'll pay you 3 percent if you leave it here on our books, the banks aren't going to lend it out because they're getting a pretty good return from the Fed.

So as long as the Fed has that control over interest rates, there's no reason to believe that they do not have enough control over monetary policy to control inflation. They could lose control over inflation the way they always do in the past, which is that they just get it wrong; they just make a serious misjudgment about the state of the economy or the state of inflationary psychology. These are legitimate concerns, and we need to keep an eye on the chairman of the Fed and the Board of Governors and the rest of the Federal Open Market Committee to make sure that they're making the right judgments. But you know, it's the devil we know; it's not the devil we don't know. In other words, this – those are the kinds of risks the Fed has had 50 or 60 years of dealing with, and I'm not too worried about them meeting those risks in a timely manner.

The final risk that you hear a lot about is that the Fed is basically ratifying reckless fiscal policy on the part of the Congress and the president, that we're running these

gigantic deficits, and they're running these deficits because interest rates are so low, and they wouldn't be doing that if the – if interest rates were higher and signaling to them that that's a problem. That is a big, complicated question, and I didn't want to get tied down in a discussion of fiscal policy.

But I will simply say that Congress and the president need to fix this problem and not ask the Fed to fix their problems one way or the other. The Fed has got its hands full trying to deal with unemployment and inflation. OK, it's asking them too much to also fix our fiscal problems.

So there you. I'm going to stop now. And I think we have some time. If you have any questions, I would love to have – any questions that you have.

MR. KESSLER: (Inaudible) – thank you, Greg, so much. (Applause.)

MR. IP: OK.

MR. KESSLER: If people have questions, just – we have a – we have a microphone here. Lauren (sp), it seems like you – (cross talk) – OK.

Q: Hi, Greg. Thanks so much. Just on your last note, I just wanted to pick up on the idea of the Fed's dual mandate. Do you think that there's a need to relook at that, and should they be focused on one more than the other, inflation versus unemployment?

MR. IP: OK, that's a great question, and I've gone through a bit of evolution on my own on this. So as you may know, the Federal Reserve Act gives the Fed three responsibilities: full employment, low inflation and moderate long-term interest rates. Let's leave that long-term interest rate thing aside. Nobody thinks about that much any longer.

But there have always been question marks about whether a central bank can reasonably accomplish both full employment and moderate inflation at the same time, because as I said, over the long term what the Fed does cannot really affect where the unemployment rate ends up. It

can affect it in the short term but not the long term. Moreover, it is often the case that those two things push in opposite directions.

So you could have a situation where the economy is overheating and the unemployment rate is dropping. The Fed may be worried that inflation's going to be a problem, and so they have to tighten up and slow things down. And that might actually weaken employment for the sake of getting inflation down. And so there's always been that conflict.

And so up until this last episode, a lot of us felt that, yeah, you know, the Fed should do what, you know, the Bank of England or the European Central Bank does and focus only on one mandate, which is stable prices. And for that matter, that is kind of, de facto, what they did for the – most of the Greenspan years and the Paul Volcker years. When they were asked, well, aren't you doing more for employment, they say, well, the biggest contribution we can make to employment is to make sure that inflation is low and stable because that's our contribution to a well-functioning economy.

In the last few years it got a little bit different because what happened was inflation not only fell; it fell to a level that was so low that it almost got too low. So most economists think 2 percent is just about the right level for inflation. Two percent is not so high that it distorts anybody's decision-making, but it also is not so low that you're at risk of tipping into deflation, which can be a problem for all sorts of reasons. And we came dangerously close to that 2 percent number a few years ago.

And oddly enough, when inflation starts to get too low, suddenly trying to get – there's no more conflict between your price stability mandate and your full employment mandate because trying to get inflation back up to a more moderate level is good for employment, and it's good for maintaining price stability. We're in a bit of an odd situation now where we – the deflation scare has passed – inflation seems to be hanging at around 2 percent – but employment is still very weak.

And this is where there's been some rethinking on this process. Some people, including some members of the Federal Open Market Committee, believe that it is actually worth now being a little bit more relaxed on the inflation target in order to make more rapid progress on employment. So big, big debate going on inside the Fed now: How much should be we (sic) willing to sacrifice on inflation in order to accomplish more on employment?

Now, I actually believe – in fact, you've heard some people, like Paul Krugman, like Greg Mankiw, like Ken Rogoff, say the Fed should not only be more relaxed on inflation, they should actually raise the inflation target; they should actually raise it from 2 percent to, say, 4 percent. Now, why would you want to do that? What is a possible value of actually having higher inflation? Well, because – I said a minute ago, the Fed – it's not the interest rate that affects the economy; it's the real interest rate; it's the interest rate affected – adjusted for the purchasing power of money.

If you have a 2 percent inflation rate and a zero percent interest rate, the most negative the real rate can be is negative 2 percent. But if the economy is in really bad shape, as it is now, maybe you want a negative rate of 4 percent. Maybe you want a rate of negative 6 percent. But you can't do that with an inflation rate of 2 percent. So why not raise the inflation rate to 4 percent or even 6 percent? So you have people out there making that argument.

The Fed has rejected that argument, and I think they rejected that argument because they believe that, first of all, they have accomplished a lot of good things by getting people to expect 2 percent over the long term, and they don't want to just throw that investment away. And second of all, they don't actually have a lot of confidence that just if they raise the inflation target they can actually accomplish it because they're not convinced that merely saying they're going to get 4 percent will get people to behave in such a way that it'll be 4 percent.

But I think there is a case to be made that if they can convince the markets that they're willing to be a little bit more relaxed on inflation on the upside, they can get a little bit more rapid progress on unemployment. And this would be a harder policy to pursue if they did not have the dual mandate in the Federal Reserve Act. But it's definitely a legitimate question, and I expect to hear us talking about it more in coming years.

MR. KESSLER: Right here. And then we'll go back here.

Q: Druids are famous for being able to look into the future, so I'm going to ask you to do that.

MR. IP (?): (Chuckles.)

Q: We know that monetary policy, the lever still depends on a physical supply of currency, not with the Fed prints, but the physical supply of currency. At some point in the future the physical supply issued by the United States government is probably going to dwindle to next to zero percent of the – of the actual economy. How are they going to – how, in your view, will the Fed pursue monetary policy at that point?

MR. IP: I don't think it'll make any difference. The physical supply – maybe people actually did think 10 years ago that we would never use currency no longer, we all using debit cards, credit cards. Oddly enough, that didn't actually come to be true, partly because ATMs suddenly made currency a lot easier to get a hold of. The other thing is I think that roughly 50 percent of U.S. currency circulates inside the United States. You can allow your imaginations to run wild as to what purposes that currency is being put to. But that said, you know, rumors of the demise of the greenback have been vastly exaggerated, still be in business for a while.

Let's play this thought experiment forward. Let's say that for various reasons, people decided, because they have debit cards or bitcoins or gift cards, that they didn't need to use currency any longer. The Fed could still require banks to hold a certain amount of electronic money on its books in the form of reserves. Banks right now are not necessarily – they're not required to hold money in the form of currency – $20 bills in

coins. They can hold it in the form of electronic currency at the Fed. If for some reason they had no need, because customers weren't asking for it, to hold physical currency any longer, the Fed would simply say, instead of meeting our rules by holding onto $20 bills, we're going to make you hold that money on the books of the Fed. How do they force the banks to do that? Well, they just jack – you just rate up on those deposits till it's irresistible and the Fed and the banks want to keep that money there. So that used to be a problem that would be worried about, and I don't think it'll be a problem now.

MR. KESSLER: (Inaudible) – somebody back here. I think – was it you? Yes. And then – OK.

Q: Yeah. I was wondering, I've heard a lot of about recommendations to tie some of the Fed's monetary policies, the Fed funds rate, quantitative easing, to an economic indicator of some sort or economic data. I was wondering what you thought about this, what the likelihood is about their announcement next week and what you (think ?) the consequence is of tying some of their policy (to ?) economic indicators.

MR. IP: OK. So if you go back to this line where I said that monetary – that there – that unconventional policy can work either through words or actions – so we've talked about the actions of quantitative easing. Well, the words are basically ways of telling the public that – what the Fed plans to do and how you as a member of the public ought to respond when you hear those plans. And so one of the Fed – things that Fed has done is they have said, we'll keep the interest rate at zero till around the middle of 2015, and that is designed to make people out there who were thinking of saving money say, well, I'm not going to save money, I'm going to go out and spend it. It's got another effect, which is the Fed's trying to signal that they are so concerned about the state of the economy, they're going to work double hard, triple hard to try and get stuff up. And the mere sight of the Fed doing really aggressive stuff to get the economy back is in and of

itself meant to inspire confidence and get people out there spending and investing.

Now, there is a debate going on inside the Fed about the best way to accomplish that task. It is telling people that the interest rate will be zero through 2015, the best way to essentially lever people's expectations. A lot of people think, maybe the best way to (give ?) – instead of putting on a date, let's put on a number, like we are going to keep the rate at zero until the unemployment rate has dropped to this amount, or let's get the – keep the interest rate at zero until the inflation rate has risen to a certain amount.

And the reason this is important is, one of the problems they've grappled with in the past is that the Fed would say or do something with the interest rate; then as soon as the economic data came out, and, for example, the unemployment rate dropped a bit and inflation rose up a bit, the market would suddenly start expecting the Fed to tighten, and bond yields would go up, and this would actually undo some of the what the Fed was trying to do. So the idea that you're hearing about is, let's try and corral that problem by telling the market what we think is an OK unemployment rate. We know that 7.7 percent is not – is too high, and we're tired of the market always thinking we're going to tighten just because it went to 7.6 (percent) or 7.5 (percent). So let's tell them that we're not even going to think about tightening – at least until, say, it's 7 (percent) or 6.5 (percent) or 6 (percent) or something like that.

They could do the same thing with inflation. Every time the inflation number ticks up a little bit, the market thinks the Fed's going to tighten. So let's relieve them of the burden of trying to figure out what we're actually going to do and tell them, if the inflation rate is going to – stays below three percent, we're not going to tighten. And the whole idea is that that should motivate people to both respond in terms of their investment decisions, or let's invest now in something else, and inspire confidence. While the Fed is so concerned, they're going to, like, keep, you know, pushing on the gas

until the unemployment rate has dropped a full percentage point. I expect them to be discussing that at next week's meeting. The street is right now divided on whether the Fed will make an announcement on that. In fact, I don't expect it. I think it'll probably come in January. Here is what they're wrestling with: If we tell people that our threshold for the unemployment rate is, say, 6 ½ percent, does that mean they think that when 6 ½ percent comes, we're immediately going to start raising interest rates? We don't people – want people to think that. We just wanted to say, 6.5 percent is when the conversation gets started.

Another problem they're dealing with is the fact the unemployment rate keeps dropping, and it keeps dropping faster than they expected. Now it's down to 7.7 percent. It's now lower than they expected at the start of this year. But the funny thing is, the economy is not stronger than they expected. The unemployment rate has gone down more than they can explain by the strength of the economy. So one of the dilemmas they're dealing with is, what if we said – had said a year ago that 7.7 percent is the threshold; lo and behold, it reached the threshold, but the economy is still not behaving the satisfactory way. So that's another problem they have to deal with.

And the final problem they have to deal with is going with is, going back to Lauren's (sp) question, there's a lot of people at the Fed who still believe that they have no business telling anybody what their unemployment rate ought to be. It's not their job. They should only work on inflation. So they have to overcome some internal resistance on that factor. Those are the things that they're working through right now. We're moving in that direction, but I don't think that they're there yet.

MR. KESSLER: And – in the back?

Q: So the European Central Bank has maintained a relatively more accommodative – I'm sorry, less accommodative monetary policy than the Fed for the last few years. And some have suggested that part of the reason for that might be that

– going to your third concern there on the last slide, that they don't want to let European governments off the hook in doing the kind of – the hard – making the hard fiscal decisions that they need to make. So do you buy into that theory? And why do you think the Fed has taken a different tack?

MR. IP: Yes and no. (Chuckles.) The European situation is very, very complicated. What the ECB has been going through in the last year is very similar to what the Fed dealt with in 2008 when Lehman Brothers failed and they were facing the question of, do we bail out AIG the way we bailed out Bear Stearns earlier this year, do we bail out Citigroup, do we bail out Bank of America? And this was a very unappetizing set of choices for them to make because they didn't basically feel it was their job to be bailing out these great "too big to fail" banks. But they said the alternative is way worse. If we allow them to fail, the economy is really going to collapse, and that won't be good for anybody. And so they were stuck with this dilemma, which was, we have – we have a bad choice and an awful choice. The bad choice is to push the boundaries of our mandate and lend to banks that we never would have meant to lend to. The awful choice is to not let and then watch the economy spiral down.

The analogy for the ECB is that they were born of – they were basically the progeny of the Bundesbank and the German allergy to inflation. And it was made pretty clear in all their founding documents that their only responsibility was inflation, and that under no circumstance could they be asked to finance governments printing money to bail out government profligacy because that was bound to lead to inflation and a variety of other problems.

But then it came into this eurozone situation where the situation of Spain, for example, is very analogous to the situation of AIG five years, a "too big to fail" economy that is suffering not because it's insolvent but because it's illiquid. It's – all the cash is being drained away from that economy, and they do not have the means to finance themselves

because nobody will buy their bonds. And so the ECB looked at this situation and said, we have a bad choice, which is to bail out these "too big to fail" countries, or we have an awful choice, which is to not bail them out and watch the euro collapse, and we will be the central bank without a currency to be in charge of.

And so what they did was their own version of what Ben Bernanke did, which is try and come up with, in some sense, you know, a jury-rigged framework to try and keep the system together that remained as faithful to their own prohibition on financing governments as possible.

And so they set up the system actually – so in the last month, a year or two, they have progressively been going in – intervening in markets, buying the bonds of these weakened sovereigns, but only buying enough to prevent the system from collapsing, not buying enough to bail them out of their problems.

And it's not so much because they are trying to force those governments into a particular fiscal policy. That is, in effect, what they are doing, because they are saying, we'll only buy your bonds if you pursue a particular fiscal policy. It's because the nature of the eurozone is that if you buy Spanish bonds but not German bonds, you are enacting a transfer from German taxpayers to Spanish taxpayers, and that is a very dangerous territory for the central bank to get into.

We don't have that problem in the United States. When the Fed buys mortgage-backed securities or Treasury bonds, they're just buying paper that is basically a creature of the Congress. The Fed itself is a creature of the Congress. There are no distributional issues when they indulge this kind of policy. The – in the Fed's mind, as long as their independence is not questioned, as long as they know in their own minds that they're not being forced to do this to help the government, there's no conflict between them buying their – bonds of government and helping them on their finances, so long as it gets them closer to the goals they want, which is stable inflation and full employment.

The ECB in a different world might have been doing the same thing, but they're not – they're in a very different world. They are essentially trying to deal with a crisis that they were specifically barred from having the tools to deal with it. And we don't really know how this will end.

A lot of people think that what the ECB should be doing is more or less what it's doing in terms of buying bonds of Spain and Italy while holding their feet to the fire on the fiscal front, but then coming up with some other kind of quantitative easing that produces additional stimulus absent all that political, you know, superstructure and underbrush that comes with buying government bonds.

So a lot of people say, wouldn't it be great if the Europeans could create a bailout fund, exchange the European Stability Mechanism and have it issue bonds, and then the European Central Bank could buy those bonds without any concerns that it's transferring money from Germans to Spaniards or that it's indulging in fiscal finance. It would be in exactly the same situation the Fed is when it's buying Treasury bonds. It's buying an obligation of the government. It's buying an obligation of the Congress, and there's not really a conflict because the Fed is de facto a creature of the Congress.

We're not going to get there any time soon in the European situation. I think it's one of the reasons they're going to struggle for a while. I mean, Europe has tried to have a monetary union like the United States has without the fiscal and political union that the United States has, and they're trying to – they came to this stage and they're trying to accomplish in basically 24 months what it took the United States 200 years to do. And it's very, very challenging. And we think we have problems. (Chuckles.)

MR. KESSLER: Time for one more question. In the back.

Q: (Off mic.) (Laughter.)

MR. IP: Shout it out, yeah.

Q: I wondered if you have any observations on – you know, you have – there are lots of baby boomers. They're about to start retiring and already in retirement, and they're on fixed income, essentially, and they're a little more risk-averse, so they're not moving their money in the stock market, if you will. The rate of return is so low. And then their spending habits – I mean – (off mic).

MR. IP: Sure. So I hear this a lot. I hear this a lot. It's just kind of interesting. Thirty years ago, when Paul Volcker took interest rates up to 18 percent, home builders started sending two-by-fours to the Federal Reserve to complain about it. I don't think that the AARP is sending two-by-fours yet or the equivalent of it, but there's definitely a lot of complaining going on about retirees being robbed of their income. I hear it a lot. I hear from my mother, by the way – (chuckles) – who's a retired central banker, and she is not a fan of her – the people who are running central banks nowadays.

So I actually spent some time wading through the numbers on this question. Look, we know that interest rates – the way they're supposed to work is that they're supposed to – it's like changing the price of oil. If you push down the price of oil, people will consume more of it. Interest rates are the price of saving. If you push down the price of saving, people will save less and people will borrow more. That's the way it's supposed to work.

But they have a secondary channel, which is they're also a transfer mechanism. Just as a low oil price transfers money from producers of oil to consumers of oil, a low interest rate transfers money from savers to – from creditors to debtors.

And so it's actually an empirical question: Does this, on net, help the economy or hurt the economy? And a lot of people have been making the argument that the loss of income through retirees is now quite large and it's hurting the economy. I thought this was an interesting enough theory that I actually spent some time going through the numbers to try and figure out if that's true.

So here's what I learned. It's partly true. Most of the saving – a lot – retirees, people over 65 save a lot more, and they're much more likely to own certificates of deposit and bonds than younger people, people who are still working.

However, what's more interesting is that those people are also more likely to be wealthy. So savings – so the ownership of things like certificates of deposit and bonds tend s to be somewhat more concentrated in the upper 20 percent of households, whereas debt tends to be much more spread out. So you can argue that like mortgages and other forms of debt tend to be somewhat more egalitarian, whereas savings tend to be more concentrated at the top.

Well, we know from a variety of studies that people who have a large cushion of wealth are less – their spending habits are less affected if they take a hit to their income, because they have this cushion to fall back on, whereas middle-class people are more constrained, and if their cash flow fluctuates, their spending is more likely to have to respond to that.

So all else equal, while there is this transfer going on from retirees and – to working people and to borrowers, the effect is probably not that large on an economywide basis.

The other effect, which is that you're transferring money from people who have a lot of liquid wealth to people who don't have very much, is probably more powerful in terms of stimulating growth.

The other point that I'll make is – and a lot of people forget this – the United States is a debtor country, all right. A lot of the owners of all those bonds are in other countries. They're in China. They're in Saudi Arabia.

So in the last three or four years the bill for all the interest that we sent to all the foreign holders on our bonds has dropped dramatically. So I don't know if this makes us feel any better, but a big constituency that's taking it on the chin because of this low interest rate policy doesn't live here. (Chuckles.) And they don't vote. So – (chuckles).

MR. KESSLER: Well, Greg, thank you very much.

MR. IP: All right. (Applause.) Thank you.

MR. KESSLER: That was – thank you. Thank you.

(Next year there's – is the ?) time for coming and join us again. I don't – we don't have the next one scheduled at this point.

MS. : No.

MR. KESSLER: And thank you. What we'll have – probably in February we'll have our next – (inaudible).

MR. IP: Thank you.

(END)

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