Transcript of Conversation with the Chairman: A Teacher Town Hall Meeting
November 13, 2013

ROSE PIANALTO. Thank you for joining us here in Washington, D.C., this evening for a conversation with Federal Reserve Chairman Ben Bernanke as he takes questions from teachers about the Federal Reserve and the economy. My name Rose Pianalto, and I work at the Board of Governors, and I am looking forward to moderating tonight's session.

Here in the Board room of the Federal Reserve we are pleased to host 60 educators who teach economics and history to young adults. We are also joined via video conference by educators from all over the country who are participating in local events at their regional Reserve Banks and branch offices, and we also have many who are viewing this exchange via webcast.

Through this session, we seek to promote teaching and learning about the Federal Reserve as we approach the 100-year anniversary of the Fed. We also hope to provide insights into the Federal Reserve's goals and activities so we can support the work that you do as students as you teach them how the decisions made by the Central Bank affect them and their families. Throughout our event this evening, Twitter users can follow the Federal Reserve Board's feed @FederalReserve and join the discussion about the event by using the hashtags #FedTownHall and #FedHistory.

Today, we are honored to bring you Federal Reserve Chairman Ben Bernanke. Before coming to the Board of Governors, Chairman Bernanke worked as a Professor of Economics and Public Affairs at Princeton University, where he then chaired the Department of Economics. Chairman Bernanke left Princeton in 2002 to serve as a Governor of the Federal Reserve System. In 2005, he became Chair of the President's Council of Economic Advisers. He returned to the Federal Reserve as the Chairman of the Board of Governors in 2006. Chairman Bernanke grew up in Dillon, South Carolina, and he and his wife, Anna, and also an educator, have two children.

Thank you for joining us today, Mr. Chairman.

[Applause]

CHAIRMAN BEN S. BERNANKE. Hi. How do you like my living room? Thank you. Thank you, Rose, for that introduction.

Tonight marks the third time in just a little over three years that the Federal Reserve System is hosted at Teacher Town Hall, and I'm very pleased to have the opportunity to speak with educators, both those of you here in Washington, D.C., and those who are watching at Reserve Bank gatherings around the country. I look forward to your questions in a few moments. But let me begin by briefly discussing an important milestone for the Federal Reserve--its centennial--and the opportunity that this occasion affords to teach and learn about the Fed's origins, history, and role, and about how this institution has helped shape the nation's economy and financial system.

President Woodrow Wilson signed the Federal Reserve Act, which established the Federal Reserve System, on December 23, 1913. As the 100th anniversary of that event approaches, we have several reasons to look back at an eventful century. One important reason is to better understand what historical experience can teach us about how best to respond to current challenges. For example, as many of you know, the bold measures the Fed took in response to the recent financial crisis reflected in part its determination to avoid repeating the sorts of mistakes it made before and during the Great Depression of the 1930s. Similarly, our commitment to safeguarding price stability is reinforced by memories of the costs of high inflation during the 1970s and the Federal Reserve's subsequent restoration of price stability under Chairman Volcker during the 1980s.

Beyond the insights that the study of the Federal Reserve's first 100 years offer to economists, historians, and policymakers about how the Fed can best meet its objectives today and in the future, a second reason to mark the centennial is the opportunity it affords to educate young people about the Federal Reserve and its important role in promoting a healthy economy and stable financial system. When I was an educator, I quickly came to understand that students are most motivated to learn when they can see the connection of the lesson to their own lives. The Fed and its activities, and economics in general, can seem remote from daily concerns. But as teachers, you can show students how the Federal Reserve's decisions concretely affect them and their families. The Fed's actions influence the overall strength and stability of the economy, as you know, but they also affect the cost of a mortgage, the prices of goods and services, and the health of the job market that your students are part of or will soon be entering.

Economics also complements and enriches the study of history. When I took history classes in high school, we spent much of our time memorizing dates and important events--revolutions, wars, elections, the passage of laws, and so on. While I appreciated the need to be familiar with such milestones, I remember feeling that I would like to know more about the lives of ordinary people at those times, not just about kings and queens and presidents. In college and graduate school, I studied economic history and found what I was looking for. For me, economic history added critical context by zooming in on the conditions of ordinary life--how people earned their livings, what their wages would buy, the extent to which they felt economically secure, the pace of economic change that they faced. Appreciating what the lives of ordinary people were like at various times and places helped explain the larger events--the wars, revolutions, and elections--as well.

By the same token, understanding history also requires an appreciation of the role of key economic institutions, including central banks like the Federal Reserve. When I was in graduate school, my teacher, Stanley Fischer, introduced me to the work of Milton Friedman and Anna Schwartz, which demonstrated that monetary policy can have enormous effects on how the economy performs, for good or for ill. That realization helped motivate me to specialize, in graduate school and after, in monetary economics and related fields. Similarly, for your students, it's impossible to understand the Great Depression, America's strong economic performance after World War II, or the recent financial crisis without learning about the Federal Reserve and the debates that have surrounded it.

Learning about the Federal Reserve and about economics more generally will help students in their daily lives, by helping them make better financial or career decisions, for example, and by helping them become more informed citizens and voters. Learning about the Federal Reserve and its economic context will also give students a deeper understanding of history, as I noted. Yet there is one more reason why we at the Fed hope to use this centennial as an educational opportunity--to maintain and strengthen the democratic accountability and effectiveness of this institution.

Traditionally, like other central banks, the Fed was reluctant to explain its policy decisions or otherwise engage with the public, partly based on a belief that this approach increased the effectiveness of monetary policy. However, this lack of openness became increasingly out of step with other institutions in our democratic society; it also reduced the effectiveness of Fed policies by inhibiting public understanding and discussion of policy goals and strategies. This approach began to change in the 1990s, when the Federal Reserve began to regularly provide more information about how it saw the economic situation and how it would respond. Increasing the Fed's transparency, openness, and accountability has been one of my top priorities as Chairman. A more open Fed, in my view, is both a more effective and more democratically legitimate institution. Indeed, the complex challenges we face as a nation are best addressed in an environment of informed public discourse, which is only possible when policy decisions are made in as transparent a way as possible. The centennial may be just an accident of the calendar, but any time is a good time to help more people learn about the Fed and what it does to enhance the economic well-being of Americans.

It is often said--alas, accurately--that teaching is a thankless profession, so let me close by thanking you for what you give to your students. Our country and our economy need informed citizens who can think independently and critically. More pertinent to today's meeting, let me also thank you for your interest in teaching your students about the history and role of the Federal Reserve. As many of you have discovered, the Federal Reserve has a variety of classroom tools available through our education portal, FederalReserveEducation.org. Notably, the System's economic and financial education staff is introducing today a set of three lesson plans that examine the past 100 years of central banking. I hope they will provide practical help in your classes. Thank you for participating in today's event. I look forward to your questions and to an interesting discussion of the Federal Reserve's past, present, and future. Thank you.

[Applause]

ROSE PIANALTO. Thank you, Mr. Chairman. And now we're going to go for our first--for our first question, we'll go to teacher in the room. I have one over here.

RANDY MARTINSON. Good evening, sir. My name is Randy Martinson. I’m a Social Studies and German Teacher at Parkdale High School in Prince George's County.

I just want to say it feels like I'm at Disneyland. However, how would you explain monetary policy in an exciting way through 11th grader?

[Laughter.]

CHAIRMAN BEN S. BERNANKE. It's a great question. I'd start--I'd start with making sure the 11th grader understood about interest rates: short-term interest rates, which are interest rates on short-terms loans of various kinds; long-term interest rates like mortgage rates, which affect the cost of buying home. And then, I'd also help them first again understand how interest rates are important in the economy. In particular, how interest rates affect the incentives that people have to make purchases, to borrow, to spend, and to engage in economic activity. For example, if mortgage interest rates are low and the student ought to understand that that makes cost of owning a house lower, cheaper, and it makes them more likely to buy a house or to rent a house, and to put people to work building or furnishing those houses. Likewise, if the interest rate on auto loans is lower, the person is more likely to go out and buy a car, again, putting auto workers to work.

So you can think of interest rates as being a kind of fuel for the economy. When interest rates are low, more people would buy houses, cars. Businesses, they're more likely to invest new equipment. That's going to put people to work. That's going to create more energy in the economy so to speak. And likewise, when you have high interest rates, all else being equal, that means fewer people would buy houses, fewer people would buy cars, and so on. So interest rates are essentially a lever for moving the economy.

Now the Federal Reserve, which is the central bank of the United States, makes monetary policy, which for practical purposes means controlling in short-term interest rates and influencing other interest rates in the economy. When the economy is moving too slowly like it is today, growing at a pace below its potential with unemployment too high, inflation very low, the Fed tries to heat up the economy, tries to make it go more quickly by lowering the interest rates. This is what we've done. We've held short-term interest rates close to zero, and we've taken other steps to bring down longer rates, including mortgage rates as well. At other times when the economy is moving too quickly, it's overheating, inflation is becoming a concern, the Fed can raise interest rates, like Chairman Volcker did during the 1980s when he was fighting inflation, slow the economy down, and achieve lower inflation, for example. So that's basically the basic idea between monetary policy--of monetary policy.

It's important to also to note that the Fed has a dual mandate. We have two targets, two objectives. One is price stability, which means low inflation. The other is maximum employment, which means basically trying to put people back to work when there's a lot of unemployment in the economy. And we speed up or slow down the economy as needed to try to get the best results we can. So, that's--I think that's a basic summary.

As I mentioned before on FederalReserveEducation.org, there are some--besides lesson plans, there are some simulation games. I know kids like to play games. And this is an opportunity to pretend to be me, which I don't know why they would want to do that, but they can. So there are ways of doing that. The other thing I guess I would suggest, I already--I guess indicated, was to try to relate what the Fed does, what monetary policy does to their own individual lives. You know, what mortgage rate do their parents have if they own a house? Have they refinanced lately? What does that mean? How does the effect--the cost of the car loan affect what the monthly payment would look like? Those kinds of things. What is inflation? Why does it matter? Motivating for them in a personal way what--you know, why these things the Fed tries to manage, why they are so important for everybody in the economy I think that gives a stronger reason for them to want to understand, you know, what the FED does.

ROSE PIANALTO. All right. I have a question from Jennifer Davidson of the Nebraska Council on Economic Education in Lincoln, Nebraska. Can you explain the dual mandate of the Fed to target both the price levels and the unemployment rate? When was the unemployment rate target added? And please comment on the long-term and short-term of each mandate. How do you balance the two?

CHAIRMAN BEN S. BERNANKE. This is a good follow on from the previous question. So the Federal Reserve is accountable to Congress. It's accountable to the American people, and it's Congress that tells us what they want us to try to achieve. And the objective of Federal Reserve's monetary policy are the dual mandate--maximum employment and price stability--that was part of a law passed I think in 1977, which gave the Fed this charge for our monetary policy.

Now, we have recently put out--I think in January 2012 and it's in our website--we've put out a statement of policy principles, which explains our basic our framework for thinking about monetary policy. And in doing so, we talked about the dual mandate both in the long run and in the short run. So let me do that. In the long run, the--we're concerned again about inflation and about jobs.

In the long run, inflation is basically controlled by the Fed, by monetary policy, and so we can establish a target. And what we've said is that we think that price stability in practice corresponds to an inflation rate of about 2 percent--2 percent a year. Why not zero? Well, because zero is too close to the area where prices are falling, which is called deflation, and we know from the Great Depression, we know from the experience of Japan, we know from other places that deflation is not good for the economy. So to give a little bit of breathing space from deflation, which is negative inflation, we aim for about 2 percent inflation in the longer term.

In terms of maximum employment, at any given time, there are going to be some people unemployed even in a healthy economy because they'll be changing jobs, entering the labor force, looking for work, and for other reasons. And so, we don't aim for zero on employment just that we don't aim for zero inflation. We try to help the economy get to best and lowest unemployment rate that it can sustain, that it can manage. And our best estimate of the lowest unemployment rate that could be sustained in our economy is around 5 to 6 percent, and that's where unemployment has been during healthy periods. Right now, of course, it's over 7 percent, so it's high right now.

So that's where we try to go on the long run. And in the short run, we essentially are using interest rates to strengthen the economy or slow the economy in order to get as close as we can to those longer-term objectives.

Now, most of the time, those two objectives are complementary. For example, an economy that has low inflation, stable prices, typically will also be healthier overall. It will generate more jobs. And in that way, we are meeting both of our objectives. Right now, we're not at our objectives on either inflation or on unemployment, but we're missing on both of them as some sense in the same direction. Inflation is very low right now. It's below 2 percent. So for that purpose, we need a stronger, more rapidly moving economy. And likewise, unemployment at 7.3 at the moment is above the--what we think could be sustained in a longer term. And so, there are also--we need a stronger economy. So in keeping interest rates low and stimulating more rapid growth, we're really moving towards both parts of our mandate, trying to achieve both sides.

There are times when the demands for price stability and maximum employment are moving in opposite directions, and so there’s a bit of a trade-off temporarily, but we may--when we are in a situation like that, which again we're not there today, we try to take a balanced approach, which means that we're trying to manage both sides of the mandate and trying to get in both over time to our longer term objectives.

ROSE PIANALTO. Great. I have a question from Michael in Dallas. With the decrease in middle class incomes in the past four to five years and the potential for fewer work hours, where do you see the potential for economic growth for the middle class?

CHAIRMAN BEN S. BERNANKE. Well, one of the key things to understand about the Fed and monetary policy is we can have very important influences in the shorter term, the short to medium term, when monetary policy has its greatest effects. But monetary policy cannot manage--cannot have powerful effects in the very long-term except on inflation. So when we talk about middle class incomes, the disappearance of middle class, the hollowing out of the labor market, those kinds of issues, we have both a short-term and a long-term issue.

The short-term issue is basically that we have had--we're still recovering from what was by far the deepest and most serious recession in the post-war period, the worst recession since the Great Depression in the 1930s. The unemployment rate hit 10 percent about four years ago. It's still coming down very slowly, still above 7 percent as I noted. Wages, therefore, have not grown very quickly. A lot of people have been out of work for six months or more. So with the labor market being weak, it's understandable that family incomes are not somewhere we'd like them to be. And that's the reason why the Fed is aggressively trying to promote job creation, job growth, put people back to work. And in doing so, you know, we will help increase incomes and increase average standards of living in the economy. But that's a short-run phenomenon. We're trying again to get the economy back to a more normal state.

Now, over the longer term, going back at least 30 years or more, there has been a growing tendency towards greater inequality. More income and wealth held by the top 1 percent or fraction of 1 percent, less held by people lower in the income distribution. There are a number of reasons for that. They include the interaction of new technologies, globalization, and skills. So, for example, if you are a highly skilled worker, you can use new technologies, computers, robots, whatever, then you can make a very good living because you're participating in a global economy where there's a huge demand for this high-tech types of skills. Whereas, if you are low-skilled worker, then you're essentially competing in a global economy with literally billions of people who are earning much less than you and earning low wages, and have low levels of skills, and that's going to put down a pressure in what you can earn in your employment opportunities. And so that general phenomenon plus other changes in our society has been creating greater inequality in our economy.

There are various ways to approach it, but I think it's really most appropriate sitting here with so many teachers to say that, you know, fundamentally the most important thing that we can do is give people appropriate skills. And that means skills ranging from being an inventor in a garage all the way to being somebody who can effectively use a complicated machine in the context of the workplace, and those are the skills that have the highest return. But, again, given these long-term trends, it's going to take some very powerful forces to turn this around, and unfortunately, just bringing us out of the recession into a stronger economy—it’s certainly going to help, but it's not going to solve the long-term problem.

ROSE PIANALTO. Next, we'll go to a teacher in the room.

TIMOTHY WILSON. Thank you very much. My name is Timothy Wilson, and I teach at Surrattsville High School in Prince George's County, Maryland. My question is this: For students concerned about the United States national debt, how do you reassure future taxpaying adults that the American economy can absorb continued high levels of borrowing without sacrificing growth and stability?

CHAIRMAN BEN S. BERNANKE. Well, that's a--let me say $64-billion question, but I think that's probably too small.

So it's always important to start with the fundamentals, and I would make sure the students understand what deficits are and what debt is. So the deficit of course is the difference between what the government takes in—or I should say what it puts out--pays out in terms of all kinds of spending, and what it takes in in terms of taxes and other revenues. The deficits in the U.S. recently have been quite large, primarily because of the recession itself. The recession was very severe one as I mentioned. And with many people out of work and business profits down and so on, tax revenues have been significantly below normal, and so the deficit was quite large.

Now over the last few years, as a combination of a stronger economy, which means more tax revenue, and changes that have been made by Congress to spending and taxes, the deficit has actually come down quite a bit, where we're looking to be as low as about 2 percent in GDP in 2015 on the current plan, so that's actually relatively low deficit. So the deficit has come down the last few years.

Now the debt, a different concept, is the total amount that we owe. And so each year, you add the deficit--this year's deficit--plus the interest payments on the existing debt, put that--add that on to the debt, and that's how the debt grows over time. So the debt is always growing. A usual concept is the relationship of debt to the overall GDP of the economy. Right now, the

Federal debt is about 72 percent of the U.S. GDP. Just like the amount of mortgage payments or mortgage debt that a family can afford depends on their overall income and wealth, likewise a big, rich country like United States can afford more debt than a smaller country with that kind of wealth that we have. So as deficits had been large for the last few years, debt has risen. And as I said, it's now over about 70 percent of GDP.

Now, as we look forward and try to answer your student's question, we have been short-run and long-run considerations. I think the real issue that your taxpaying--future taxpayer should worry about is the long-run sustainability of fiscal policy of the U.S. debt situation. As the years roll by, going forward, all of us who are baby boomers are going to be retiring, and that means more Social Security and Medicare payments. Other programs will continue to expand. Health care costs are going up, as you know, which makes the cost of health care programs higher. Productivity may grow more slowly. Population is aging, as I already mentioned. So projections, which obviously are only projections and therefore are not precise or certain, but projections of the long-term deficit is it will get much larger, and the place to look for this, by the way--really good source of information--is the Congressional Budget Office, the CBO, which is on the web and publishes regular studies and reports on the deficit and makes projections of it. Anyway, the current CBO projections say that under current law that the deficit will continue to grow in the next few decades and eventfully become much too large relative to the economy, so that does suggest that there is an issue or problem and that involves--addressing that problem involves taking actions soon to try to put our long-term fiscal picture on a more stable footing, so that's very important.

The short-term issue is a little different. As I said, deficits have been coming down, not up, in the last few years as the economy has strengthened, and one of the main factors that helps the deficit come down actually is a stronger economy. And ironically, to the extent that fiscal policy cuts too quickly--cuts spending, raises taxes too quickly--can actually be counterproductive in the sense that if the government cuts programs and cuts its spending, that actually can cost jobs in the short run. That means fewer taxpayers, less revenue, and it actually can be sort of counterproductive.

So the trick here--I think what is the most sensible way forward is for the government to continue to be careful. I mean, obviously, we want to make sure that the government money is spent in an intelligent way. We want tax code to be as fair and as efficient as possible. But I think that we're better off being a little more careful in the short run about not doing anything that will slow down the recovery and prevent people from getting back to work while at the same time making sure that we have addressed the long-term issues to make sure that when your students are in the workforce and paying taxes that the deficit and debt of the U.S. should be sustainable and manageable.

ROSE PINALTO. O.K. A question from Lenny Briones, DeBakey High School in Houston, Texas. Can the Fed do anything to increase employment, or is 7 percent the new normal?

CHAIRMAN BEN S. BERNANKE. Well, again, going back to our mandate, we want to achieve maximum employment. That's what the law says. What does that mean? Well, as I mentioned before, our estimates of the lowest unemployment rate that the U.S. economy can achieve is probably somewhere in the range of 5 to 6 percent. Why not zero? Again, because at any given time, there are going to be people moving between jobs, coming into labor force. There will be some people whose skills are simply not appropriate for the jobs that are available.

And so, we don't expect to get zero unemployment, but we do think that we can get to 5 or 6 percent.

Now, that long-run rate of unemployment is primarily determined by factors other than monetary policy, such as the efficiency with which workers and jobs are matched--it's interesting to try to estimate how much the Internet for example has improved job-finding--and other factors like the mix of industries, the skills of the population, and a variety of other aspects of the labor market.

So I think that 7 percent is not where we are going to be. I think we will--I hope sooner rather than later--get back to more normal unemployment rate somewhere in the 5 or 6 percent range, although I hasten to add that that's an estimate and could be a little higher, could be a little lower. Unemployment has been as low as 4.5 percent in the last decade. But, you know--and of course, has been as high as10 percent a few years ago.

Now what the Fed can do--again, we can't really change the--very significantly anyway, we can't do much about the long-run unemployment rate or the long-run sustainable unemployment rate. But what we can do is in short-term when there's a shock to the economy, like the financial crisis, that drives unemployment way above that normal level, we could be part of the solution by using monetary policy to push--to help the recovery and bring the unemployment rate back down.

So, no, I don't think 7 percent is as good as a gets. I think the unemployment rate will go down. I think the labor market will get stronger. There are long-term changes in our labor market. We just talked about inequality. Another one is that participation rates, the share of the population that is in the labor force either working or looking for work, has been going down. That's partly the aging of the population. That's partly the fact that the share of women who are working in the labor force, as supposed to in home or education or as students, that that has stopped rising, has begun to come down a little bit. So there are a variety of social and other forces that are affecting a number of people working. But again, I do think that right now we're still in an incomplete recovery from the deep recession, and that the labor market for your students in a couple a years will be looking even better. Of course, they stay in school, finish their degree, go on to college, do all the things they need to do to make themselves attractive employees, of course that'll make things all the more easier for them.

ROSE PIANALTO. We have a question from Scott [inaudible]. With interest rates so low, how can I help my students understand the importance of saving? And how do I answer the question I'm frequently asked: Why should I put my money in the bank at interest rates at almost zero?

CHAIRMAN BEN S. BERNANKE. Well, there's good reasons for interest rates being low, and despite my, you know, simple description at the very beginning, it isn't just the Fed that makes interest rates low. For one reason, inflation is very, very low. And so, that's a reason for interest rates to be low. When inflation is high, people demand a higher interest rate to compensate them for the loss of purchasing power when they make loan or save money.

Another more fundamental reason why interest rates are low is that the economy just isn't performing at the level that we wanted to perform at. And that's true not just in the United States but even perhaps more so in some more advanced industrial economies. And when the returns on investment are low, as is the case when the economy is not performing at full capacity, then it's just difficult to make any investment that's going to give you a high return without undue risk.

So unfortunately, lower interest rates for the time being are a fact of life. I expect that interest rates will rise over time. But right now, you know, I would agree with the student that interest rates are just quite low.

That doesn't mean though it's not important to save. Even if interest rates are low, you're still putting away part of your income or your earnings. And with inflation very low, that saving is going to hold on to its value, its purchasing power. Putting aside part of your income to save, to build wealth is critically important as you go forward in life if you want to pay for an education or make a down payment on a house. You know, one of the changes in the housing market is that larger down payments are becoming required in those many cases, if not most. So if you want to become a home owner someday, you need to have some money put aside. Saving is a good habit. It's a good way to begin a process of building wealth over your lifetime.

And we talked about the inequality of income and wages across people. Inequality in wealth is far greater than inequality in income. A very large share of the population only has, you know--and I'm talking about, you know, people who've been working for many years--very large of the population only has wealth of a few thousand dollars that they could put their hands on. That's not very good if you run into some kind of medical emergency or somewhat--or become unemployed, or have some other problems.

So again, it's very important for young people to get in the habit of saving. Interest rates will be higher in the future. But putting aside part of your earnings, part of your income for the future is a good training, and it's a good way to become more future-oriented. And there're lots of reasons to think that people who think about their future, don't think only about immediate gratification will be more successful in many dimensions, not just financially.

ROSE PIANLTO. Next, we'll go to a teacher in the room.

KEISHA MADDOX. Good evening, Chairman Bernanke. My name is Keisha Maddox from Overlea High School in Baltimore County, and my question is: Given the ups and downs of the economy along with the increasing use of technology by employers, what are some of the best careers for high school students and college students to consider that we can talk to them about now?

CHAIRMAN BEN S. BERNANKE. So that follows up with our last question about saving, and this is about getting a job.

One thing I'd suggest for your students just as an assignment would be: The Bureau of Labor Statistics, or bls.gov, puts out a projection--I believe this is correct--a projection of where the future demands for jobs are going to be--what professions, what industries. I'm sure that health care is very far up there. I think education must be pretty high, construction and few other areas. So students can actually get a little bit a sense of where the jobs are going to be and think about it accordingly.

Naturally, consistent of what I was saying about the income distribution, some of the highest paying and most rewarding jobs are in what's called STEM fields--S-T-E-M, science, technology, engineering, and mathematics--for those students who are prepared to train in those areas. And that could be high professional level. It could be in a more supporting role. But students who are interested in those areas and can get degrees on those areas have a lot of opportunities.

But in general, I would argue that the best thing you can do is work hard, get your degree, practice workplace skills, you know. I think it's--you know, what's the reason to give homework? Well, one reason is to get the students to learn more. Another reason is to teach them to do something on time and get in when it's expected. Everybody’s going, “No, no, no, no, no.” But those kinds of skills are really important. You know, punctuality, responsibility, those things, you know, at the most basic level, that's--that's really a good place to start.

More generally, you should try to do something that you're obviously that you're interested in or that you love, because that will make you more motivated and more excited and make you work harder in a more dedicated way. But, in any case, you know, the world doesn't always provide exactly the most optimal thing. Not everybody can be NFL quarterback, so it is important to be flexible to try to do things that will give you a chance to learn on the job or in a new situation.

One good thing about United States is that we have quite a diverse way--education system. People, for example, even older folks who find that their skills are not, you know, what they like them to be, they have the choices of junior colleges, community colleges, technical schools, on-the-job training, all kinds of programs that are out there, and it just takes a certain amount of initiative and flexibility to, you know, to go out and do what's necessary.

So again, to answer your question I think that, you know, you can look and see where the jobs are going to be and, again, skills are really important. That means staying in school. That means if you're interested in STEM fields, working in those areas. But in the end, everybody's got to do what, you know, what they find interesting and rewarding, and you'll be better off finding a field, finding a job that you think is worthwhile and lets you exercise your skills and talents than trying to do something which you really don't like and are not really committed to.

ROSE PIANALTO. Great, we have a question from Kathryn Hudson of Dayton High School in Springfield, New Jersey. Why it is so important for our students to learn financial literacy?

CHAIRMAN BEN S. BERNANKE. Well, I think you all basically have a good instinct about why that's the case. Again, financial literacy just means knowing how to pick a mortgage, knowing how to save or invest, knowing how to plan a family budget, all these--how to choose a car loan. All of these basic things that adults have to know how to do if they want to have a good standard of living are just really much--really tied up with understanding the basics of personal finance. And I'm really pleased to see that financial literacy is becoming an increasingly big part of high school and even middle-school curricula, so I commend those of you here to include that in your classes.

It's also important for the country and for the economy as you just say, because when we have a smart disciplined financially literate population you're going to get better financial products, you can have better competition among financial firms which leads to better results. Even maybe going to avoid some of the problems we had during the financial crisis, when we had all these bad loans and so on which, you know, to some extend reflect the people not knowing exactly what their getting into. So it's very, very important for individuals trying to build a better life, trying to build wealth, trying to make--pay for a house and for education and for their kids and so on, and it's good for the country and for the economy.

Now, a very important question which I don't think anybody really has a perfect answer to it is, well, how do you get kids to learn this stuff? It isn't that easy and the research on it is kind of mixed. My own sense, and I know this from my wife’s experiences as well, is that kids like to role play and there are some really good programs like Junior Achievement’s Finance Park program, which involves kids spending some weeks in class learning the basics of buying insurance, buying a car, making a budget, all those things and then they get to go to the Finance Park and there's a stimulation where they are given a role to play. You know, you're a teacher with such and such income and so many kids and so on and so on, and what do you going to do? How are you going to? How are you going to make ends mean? I'm sure it's a question that's comes to your mind all the time. And, kids really like it. I mean they really get into it and enjoy it and it's a very useful type of teaching tool.

The other context that seems to be successful is that people really are motivated obviously when they are about to actually make a financial decision. So it's probably a good idea for people to have in their minds that when the time comes to buy a house, the time comes to take out a student loan, another example, that would be the good time to talk to a counselor or somebody who can help them make that decision and that's when they're really, really motivated to try to understand the issues and the choices.

ROSE PIANALTO. I have a question from Linda Poole in Saint Louis. Given the continued growth of big banks since the great recession, do you believe there is enough control in place to minimize the likelihood of a similar event in another round of too-big-to-fail?

CHAIRMAN BEN S. BERNANKE. Well, that's incredibly important question, and one that's engaging a lot of our attention here at the Fed and here in Washington in general. We're doing a lot of things to try to address too-big-to-fail and try and avoid a repeat of the financial crisis. One set of tools that were strengthening is the requirements that banks hold a lot of capital and a lot of liquidity.

Capital means that they finance themselves through shares from shareholders as supposed to debt or deposits, and banks that have lots of capital can--if they lose money then in some senses their losing their own money or the shareholder's money, they're losing rather than the defaulting on debt or defaulting on the deposits and creating a crisis situation. So, we have new capital rules that require banks to be financed to a greater extent by equity rather than by debt.

And I think that's important, also as I mentioned, higher liquidity requirement means they have to hold more cash or cash-like instruments such as Treasury bills on their balance sheets, so if there's a run like the run in 2008 that they'll have the cash to pay off or finance themselves despite the run. So that will certainly strengthen--it is strengthening the banks we--as part of that capital process by the way we, every year, put the big banks and medium-size banks as well to what's called the stress test and what we say is let's pretend that the economy goes into a deep recession that the market crashes, that house prices drop 25 percent et cetera, et cetera, what would your balance sheet look like at that case? And we force them to through that exercise and we make sure they do it in a reasonable, sensible way and we don't allow them to pay dividends their shareholders unless they can show that they have enough capitals stand a really serious crisis. So that's one set of things that we've done.

The second set of things that we--and when I said we here, I'm talking really about all the regulators not just the Federal Reserve, is we are toughening considerably the rules, the supervisory rules that we apply to banks for example. The regulators are working on something called the Volcker Rule, which is named after a Former Chairman of the Fed, which would reduce the ability, or eliminate the ability, of banks to make investment bets on their own account, as opposed to as agents for customers who want to buy and sell assets. And so that would take some of the risk out of the banking system.

And finally, and this is very important, to eliminate too-big-to-fail you got to have fail, you got to put fail in there in the equation somewhere. A noted economist once said that capitalism without bankruptcy is like religion without sin. You got to have the ability to fail if you're going to have any discipline on the behavior and performance of any large institution, whether it's a bank or some other kind of company. So one of the important innovations of the

Dodd-Frank Regulatory Reform is the creation of what's called an Orderly Liquidation Authority, Orderly Liquidation Authority, OLA. As you probably know the FDIC, the Federal Deposit Insurance Corporation, already has the authority to take small and medium-size banks essentially into bankruptcy, into receivership, protecting the depositors and trying to protect the communities and the financial system as well. Well, what the Orderly Liquidation Authority tries to do is give the FDIC in cooperation with the Fed, the tools it needs to safely take even enormous multinational bank, or other financial company, into a wind down without having the terrible effects on the rest of the system, that collapsed when Lehman Brothers Company and the other stresses of 2008 had on our financial system and our economy. And they've made a lot of progress on that and the Fed is working with them, but ultimately unless you're in a situation where the creditors of--the shareholders, the other creditors of large institutions actually worry about losing money, then you're not going to have a market discipline that you really want to have.

So, we're making a lot of progress on these issues. I think we still have more to do, and I think we have made progress. I think that it's too early to say whether the problem has been or will be completely solved. If it's not then I think additional steps, you know, would be warranted, but for the moment we have a plan in putting into place and meaningful progress has been made.

ROSE PIANALTO. OK next. We'll go to a teacher in the room.

PHIL SESSOMS. Hi. Phil Sessoms, Freedom High School, Loudoun County. Chairman, you've noted that inflation is currently pretty low and yet the Fed is, through policy of quantitative easing, injecting money into the money supply constantly to, by some estimates, about 3 trillion dollars over the last several years. Why do you think that hasn't led to inflation, and then to take it a little farther, what do you think would lead to inflation under those circumstances?

CHAIRMAN BEN S. BERNANKE. Good question.

So, let me first say a few words about what quantitative easing is. We call them LSAP's, Large Scale Asset Purchases. What quantitative easing is is the following. So, as I mentioned before, what the Fed does through monetary policy in order to stimulate the economy to try to strengthen the recovery is to lower interest rates. Normally we operate on short-term interest rates even overnight interest rates, but unfortunately for us we have already cut short-term interest rates almost to zero and you can't really take interest rates below zero, so were kind of, you know--but we can't take short-term interest rates down any lower.

So, what we're doing instead, we're doing several things. But one of the things we're doing is we are going out into the open market and buying longer-term securities, Treasury securities primarily, which we are financing by adding to the reserves of the banking system, not the cash in circulation by the way, but the reserves in the banking system. And that of course has been increasing our balance sheet. Our balance sheet is growing significantly on the asset side. We're holding more and more securities and on liability side is the reserves that the banks deposit with us, it’s like we're the bank, both the reserves and the deposits they hold with us. And that we've been scaling that up in order to try to bring down interest rates. So, as we expand our holdings of Treasury securities, that tends to put downward pressure on longer-term interest rates just analogous to normal monetary policy, and that tends to provide additional support to the economy.

It is important to note that this is not the same thing as fiscal policy. It doesn't involve any government spending. It doesn't involve a creation of any new debt. In fact, it has actually been very profitable for the taxpayer because we take the interest that we earn on the securities that we buy and we send it back to the Treasury. And we've been sending--we send back to the Treasury in the last three, four years something in the order of 300 billion dollars which is pretty significant amount of money. So, this is not the same thing as government spending. So, that's--we've been doing that and that I think has helped to push down interest rates to some extent and therefore supported the recovery.

Now, why is there no inflation? Well, inflation depends basically in the first instance on two things. The first is whether the economy is too hot or too cold. The economy is on a cold side. It's--there are still a lot of unemployment. Firms are not running at full capacity. So, there's not much wage or price pressure, you know, with a lot of unemployment. There's no reason for firms to raise wages. And with wages very low, there's not much pressure, and then they raise prices either. So, with an economy with lot of spare capacity the pressures for inflation are pretty low.

The other factor that affects inflation is the Fed's credibility; the expectations for what inflation is going to be. When people are confident that the Fed will keep inflation low, then they don't ask for big wage increases. They don't ask for big price increases. And it comes to self-fulfilling prophecy. Expectations on low inflation can help keep inflation actually quite low. Now, the Fed's credibility is very strong. Inflation expectations have been quite stable around the two-percent level which is where we want inflation to be in a longer term. And so, that credibility of the Fed, the confidence of the public has that we will do whatever it takes to make sure that inflation stays close to our longer term target has also helped keep inflation down. And as I noted and as you mentioned, inflation is very low. It's only a little bit about--a little bit above one percent which is below the two percent target. So, that's why there's not much inflation in fact in some sense to little inflation at this juncture.

Going forward, the appropriate policy is analogous to what it always is, which is as the economy strengthens, as people get back to work, as the unemployment rate falls to its sustainable level, as there is more demand in the economy, then it will be important for the Fed to normalize policy, to begin to raise interest rates, to begin to reverse in some way the quantitative easing perhaps by just letting the assets that we hold run off, mature. That, we have the tools to do. We are perfectly confident that we can raise interest rates when we have to do that. The challenge as always would be doing it not too early, not too late. A little bit too early and you would tend to get a recovery isn't as strong as you like. A little bit too late, you might get a little bit of inflation. That's the balancing act that monetary policy always faces and is faced, you know, as long as central banks have been in this business. But the quantitative easing part doesn't have any special implications. We can reverse that when we need to. We can raise interest rates when we need to. We can tighten monetary policy, slow the economy, if we need to. And so, there's an awful a lot of confidence here, you know, in the markets, in financial markets that--in the lower interest rates, the fact that 30-year interest rates are very low indicates the people are just not very worried about inflation even in a very long-term. And as long as the Fed has that credibility and we keep inflation low, then it'll be a self-fulfilling prophecy.

ROSE PIANALTO. OK. I have question from Sheri Shepherd in Glen Rose High School in Arkansas. As you prepare for the end of your time as Chairman, what would you like your legacy to be?

CHAIRMAN BEN S. BERNANKE. Well, I think fundamentally of course, that's really not for me to say. It's for others to say. But, in some of the things that obviously had a very eventful eight years, there's no question about that. We have--obviously, we took a lot of steps to try to stabilize a financial system in 2008, 2009. And the financial system I think is much healthier today than it was obviously a few years ago.

We have been innovative, I think, in finding ways to provide support from monetary policy to help the economy recover--not as quickly as we would like, but at least surely going in the right direction. One thing as I mentioned earlier, I think one thing that I think was very important and which has been one of my personal objectives since I became Chairman is to increase the transparency of the Fed to make--give a greater clarity about our policies, why we're taking decisions we're taking. How our policies are intended to work, and so on. And I think that increases confidence. I think it makes policy work better. And it also improves our accountability to Congress and to the American people. So, that is certainly something that has been important to my mind and in terms of what I tried to accomplish here at the Fed. But as you know, my term comes to an end in a few months and I wish I was leaving with the unemployment rate of five percent instead of seven percent, but we have done I think a good bet to support this recovery. And it's important that, you know, we continue to provide the necessary support to help put people back to work and keep inflation from falling too low.

ROSE PIANALTO. We're going to take one last question from a teacher in this room.

MICHAEL LINGER. Good evening, Mr. Chairman. My name is Michael Linger. I teach at Bronx Early College Academy in New York City. And my question would be, who was the most influential teacher you had as a student? And what did he or she do to leave such an impression on you?

CHAIRMAN BEN S. BERNANKE. Did you come all the way from New York for the--

[Inaudible Remark]

CHAIRMAN BEN S. BERNANKE. Oh, oh. Well, thank you for doing that.

I've had a lot of very important teachers. And I think--what I think basically with a good teacher, I need to say this first, on a one hand, is part of it is about the subject matter. You know, the math teacher or history teacher makes you excited about, you the student--makes you excited about the subject, learning about it and understanding it. But there's also--you know, teachers also model commitment and dedication. And I think students will respond to a teacher who they think really cares about them and cares about their learning. You know, just on a personal level, more so even than just purely based on interest in the subject matter or whatever it might be that they are teaching.

So, in my own case, you know, I went to a public high school in a small town in South Carolina. As I said, a lot of good teachers. I had a terrific band teacher who--I was a saxophone player by the way. Who--we were not the National Symphony Orchestra, I have to tell I have to tell you, but she worked--she worked really hard and we--she worked these long hours after school to get our marching routines in good shape. And she just had a very strong commitment to individual students, making sure each student is--you know, she would help with individual problems and things that came up that were outside of, you know, what she was teaching.

I also had a great English teacher, very good physics teacher. And again, it was not just their interest and commitment to their subject, but also their interest and dedication to the students themselves. As I got older and went to college and graduate school, then of course I became much more interested in economics. And so, I dealt with many outstanding economists. In college, I had a professor named Dale Jorgensen who was my--not only my adviser of my senior thesis, which was the first significant piece of individual research that I ever did, but he actually employed me for a couple of summer just working on his research, so that I could learn what it was like to be an economist. I mean, that's a basic thing that kids don't necessarily know, which is what does it like to do this kind of job or, you know, and usually to get that. And then as I mentioned in my opening remarks, Stan Fischer, my thesis adviser at MIT was very influential in getting me to be interested in monetary policy and monetary economics. Stan demonstrated that he lived to what he thought. He left MIT, had a nice tenured professorship at MIT to do many other things including being the First Managing Direct--Assistant--First Deputy Director of the IMF during the Asian crisis and he just finished his stint as the Governor of the Central Bank of Israel. And so, he has a plenty of real world experience as well as teaching experience and that just showed his commitment to what he was doing and he was very widely respected in that field.

So, a lot of teachers who've been important to me and again modeling their personality, character, commitments, interests students is just important as their knowledge and excitement about whatever it is they're specifically teaching, both are important. But I think that, again, that you need both, not just one of the other. I think this is an appropriate time again to thank all of you here and here you are coming out in evening to talk about teaching about the Federal Reserve, trying to improve your own teaching, skills and knowledge, doing something that will help your students, I think that shows a lot of commitment on your part, now we--from New York City. They have Fed in New York too by the way.

ROSE PIANTALO. You're not there though.

CHAIRMAN BEN S. BERNANKE. That's true.

So, I commend you all for that. And as a former school board member, college professor, textbook writer, my wife has been a teacher all her life, Spanish teacher, very interested in education. I think it's just incredibly important for young people and for our economy and for our country. So, thank you for doing that.

ROSE PIANALTO. Well.

I'll let you pull your cellphone cameras out now if you want. So thank you for questions. This concludes our session and we really appreciate Chairman Bernanke for speaking with us tonight. Thank you again. And we appreciate all you educators who participated, and we hope that you learned more about Federal Reserve that will help you teach your students about the Fed's missions and its roles. And on behalf of the Federal Reserve System, thank you especially to the participating teachers all around the country. We are pleased you could join us today. This concludes our session. Thank you.