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FEDERAL RESERVE'S SECOND MONETARY POLICY REPORT FOR 2015

HEARING

BEFORE THE

COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS UNITED STATES SENATE

ONE HUNDRED FOURTEENTH CONGRESS

FIRST SESSION

ON

OVERSIGHT ON THE MONETARY POLICY REPORT TO CONGRESS PURSUANT TO THE FULL EMPLOYMENT AND BALANCED GROWTH ACT OF 1978

JULY 16, 2015

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FEDERAL RESERVE'S SECOND MONETARY POLICY REPORT FOR 2015

THURSDAY, JULY 16, 2015

U.S. SENATE,
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS,
Washington, DC.

The Committee met at 2:32 p.m., in room SD–538, Dirksen Senate Office Building, Hon. Richard Shelby, Chairman of the Committee, presiding.

OPENING STATEMENT OF CHAIRMAN RICHARD C. SHELBY

Chairman SHELBY. The Committee will come to order.

Today we will receive testimony from Federal Reserve Chair Janet Yellen. These semiannual hearings are an important part of the Committee's oversight of the Fed and are among the few opportunities that we have for public discussion with the Chair of the Federal Reserve.

The Fed, as we all know, plays an important role in the overall economy, both in managing the supply of money and monitoring the health of the financial system. Through its quantitative easing and other special programs, the Fed's balance sheet has expanded to an unprecedented size of $4.5 trillion.

To put it in perspective, nearly 20 percent of all Treasury securities—20 percent—are held on the Fed's balance sheet. Furthermore, rather than using the proceeds from matured mortgage-backed securities to reduce its balance sheet, the Federal Reserve continues to reinvest these proceeds into even more mortgage-backed securities.

In addition, the Federal Reserve continues to hold down interest rates despite potential adverse effects on the U.S. economy, including the negative impact on household savings.

Past announcements by the Federal Open Market Committee have stated that it would adjust its interest rate policy once unemployment fell to 5.6 percent. The Fed's estimates, however, show an unemployment rate of 5.3 percent or lower for 2015, and yet interest rates remain unchanged.

The *Monetary Policy Report* released yesterday states that the Fed will keep rates low, even though "the unemployment rate [will soon] be at or below its longer-run normal level"—whatever that means. This is concerning to a lot of people because pushing the economy beyond its normal level can have negative effects, as we have seen with economic bubbles in recent history.

More than ever, the financial markets have become heavily dependent on the Fed's monetary policy decisions, which makes transparency I believe even more important.

The Fed is often described by its own officials as the world's most transparent central bank—or at least one of the most transparent. But it is worth noting that in several respects, Federal Open Market Committee monetary policy decisions are less transparent than at other central banks, including the European Central Bank and the Bank of England.

For example, the Bank of England has more annual meetings and a shorter delay in publishing its minutes than the Federal Reserve, and both banks issue more monetary reports per year. In addition, the European Central Bank has twice the number of press conferences. So it seems that some aspects of the Fed's transparency can be improved.

Similar concerns exist regarding the Fed's regulatory authority. The Federal Reserve's Dodd-Frank and CCAR stress tests determine the fate of U.S. banks, but the Fed does not reveal exactly how the banks will be tested or in what ways they have fallen short.

Similarly, many banks have been forced to file and refile their living wills without a thorough explanation from the Fed on why the submissions failed. I believe the Federal Reserve must provide more complete explanations of its actions in order for the financial system and the U.S. economy to function effectively.

Chair Yellen, we look forward to your testimony here today and your appearance and hope that you will be able to shed more light on some of the questions I have raised.

Senator Brown.

STATEMENT OF SENATOR SHERROD BROWN

Senator BROWN. Thank you, Mr. Chairman, and welcome back to the Committee, Chair Yellen. Nice to see you again.

Five years ago next week, July 21st, the Wall Street Reform Act became law. That anniversary serves as an important and ever present reminder of the costs of the financial crisis. The costs of the crisis were 9 million jobs lost, an unemployment rate that reached 10 percent, 5 million Americans who lost their homes, $13 trillion in household wealth erased.

In Ohio alone, unemployment was over 10 percent, and half a million homes were foreclosed upon between 2006 and 2011. My wife and I live in Zip code 44105 in the city of Cleveland. In 2007, I believe, that Zip code had the highest number of foreclosures of any Zip code in the United States. My State suffered 14 years in a row of one foreclosure—my entire State, foreclosures more one year to the next year, every year an increased number of foreclosures for 14 years.

As the Chair of the Federal Reserve, Ms. Janet Yellen, has said, the unemployed are more than just statistics. Behind each job loss, behind each foreclosure were painful conversations, parents telling their children they are going to have to share a house with their relatives, leaving their neighborhoods, schools, and friends, or that they could no longer afford their child's education. Think what that would be like.

The crisis took a devastating financial and psychological toll on a generation of workers and their families. We cannot forget that is why we passed the Wall Street reform law.

Today's hearing is a reminder how far we have come in 5 years. After unprecedented actions by the Government to stabilize the economy and the creation of a new regulatory framework to maintain financial stability and protect consumers, the private sector has created almost 13 million new jobs; household wealth has grown by some $30 trillion, exceeding precrisis levels; and business lending has climbed over 30 percent.

This hearing is also a reminder of how important it is that our financial system remains well regulated for financial stability, for consumer protection, and to prevent the next crisis. No one wants to return to the days of 2008 and 2009.

Yet opponents of Wall Street reform continue to say that the law has not stabilized the economy and even that new regulations will cause—will bring on the next financial crisis. Wall Street reform did not ruin the economy. Wall Street gambling did, along with the failure of regulators to take away the punch bowl.

Since Wall Street reform's passage, the economy has strengthened. We have made it less likely taxpayers will get stuck with a tab for another bailout. Polling released last week shows that Americans agree with that assessment. They overwhelmingly support strong financial rules.

Some of the behavior in the economy is the product of the extraordinary interest rate environment of the past 7 years. So it is no surprise that all eyes are on the Fed as it considers its first interest rate increase since 2008. There are real risks in tightening monetary policy too soon because although the economy has made progress since the crisis, we still have a ways to go.

The recovery has been uneven. There are many groups of Americans who have not benefited from it. Premature rate increases could mean these people do not see new jobs, wage increases, or have access to credit. The current economic problems in Greece and China also remind us that any progress that our economy makes cannot be divorced from what is happening overseas. Our manufacturers and our exporters are already contending with a very strong dollar.

Chair Yellen, I look forward to your assessment of our Nation's economy as well as your appraisal of the progress made from the enactment and the implementation of Wall Street reform. Thank you again for joining us.

Chairman SHELBY. Madam Chair, welcome again to the Committee. Your written statement will be made part of the record in its totality. You proceed as you wish.

STATEMENT OF JANET L. YELLEN, CHAIR, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

Ms. YELLEN. Thank you. Chairman Shelby, Ranking Member Brown, and Members of the Committee, I am pleased to present the Federal Reserve's semiannual *Monetary Policy Report* to the Congress. In my remarks today, I will discuss the current economic situation and outlook before turning to monetary policy.

Since my appearance before this Committee in February, the economy has made further progress toward the Federal Reserve's objective of maximum employment, while inflation has continued to run below the level that the Federal Open Market Committee judges to be most consistent over the longer run with the Federal Reserve's statutory mandate to promote maximum employment and price stability.

In the labor market, the unemployment rate now stands at 5.3 percent, slightly below its level at the end of last year and down more than 4½ percentage points from its 10-percent peak in late 2009. Meanwhile, monthly gains in nonfarm payroll employment averaged about 210,000 over the first half of this year, somewhat less than the robust 260,000 average seen in 2014 but still sufficient to bring the total increase in employment since its trough to more than 12 million jobs.

Other measures of job market health are also trending in the right direction, with noticeable declines over the past year in the number of people suffering long-term unemployment and in the numbers working part time who would prefer full-time employment. However, these measures—as well as the unemployment rate—continue to indicate that there is still some slack in labor markets. For example, too many people are not searching for a job but would likely do so if the labor market was stronger. And although there are tentative signs that wage growth has picked up, it continues to be relatively subdued, consistent with other indications of slack. Thus, while labor market conditions have improved substantially, they are, in the FOMC's judgment, not yet consistent with maximum employment.

Even as the labor market was improving, domestic spending and production softened notably during the first half of this year. Real GDP is now estimated to have been little changed in the first quarter after having risen at an average annual rate of 3½ percent over the second half of last year, and industrial production has declined a bit, on balance, since the turn of the year. While these developments bear watching, some of this sluggishness seems to be the result of transitory factors, including unusually severe winter weather, labor disruptions at West Coast ports, and statistical noise. The available data suggest a moderate pace of GDP growth in the second quarter as these influences dissipate. Notably, consumer spending has picked up, and sales of motor vehicles in May and June were strong, suggesting that many households have both the wherewithal and the confidence to purchase big-ticket items. In addition, homebuilding has picked up somewhat lately, although the demand for housing is still being restrained by limited availability of mortgage loans to many potential homebuyers. Business investment has been soft this year, partly reflecting the plunge in oil drilling. And net exports are being held down by weak economic growth in several of our major trading partners and the appreciation of the dollar.

Looking forward, prospects are favorable for further improvement in the U.S. labor market and the economy more broadly. Low oil prices and ongoing employment gains should continue to bolster consumer spending, financial conditions generally remain supportive of growth, and the highly accommodative monetary policies

abroad should work to strengthen global growth. In addition, some of the headwinds restraining economic growth, including the effects of dollar appreciation on net exports and the effect of lower oil prices on capital spending, should diminish over time. As a result, the FOMC expects U.S. GDP growth to strengthen over the remainder of this year and the unemployment rate to decline gradually.

As always, however, there are some uncertainties in the economic outlook. Foreign developments, in particular, pose some risks to U.S. growth. Most notably, although the recovery in the euro area appears to have gained a firmer footing, the situation in Greece remains difficult. And China continues to grapple with the challenges posed by high debt, weak property markets, and volatile financial conditions. But economic growth abroad could also pick up more quickly than observers generally anticipate, providing additional support for U.S. economic activity. The U.S. economy also might snap back more quickly as the transitory influences holding down first-half growth fade and the boost to consumer spending from low oil prices shows through more definitively.

As I noted earlier, inflation continues to run below the Committee's 2-percent objective, with the personal consumption expenditures, or PCE, price index up only ¼ percent over the 12 months ending in May and the core index, which excludes the volatile food and energy components, up only 1¼ percent over the same period. To a significant extent, the recent low readings on total PCE inflation reflect influences that are likely to be transitory, particularly the earlier steep declines in oil prices and in the prices of non-energy imported goods. Indeed, energy prices appear to have stabilized recently.

Although monthly inflation readings have firmed lately, the 12-month change in the PCE price index is likely to remain near its recent low level in the near term. My colleagues and I continue to expect that as the effects of these transitory factors dissipate and as the labor market improves further, inflation will move gradually back toward our 2-percent objective over the medium term. Market-based measures of inflation compensation remain low—although they have risen some from their levels earlier this year—and survey-based measures of longer-term inflation expectations have remained stable. The Committee will continue to monitor inflation developments carefully.

Regarding monetary policy, the FOMC conducts policy to promote maximum employment and price stability, as required by our statutory mandate from the Congress. Given the economic situation that I just described, the Committee has judged that a high degree of monetary policy accommodation remains appropriate. Consistent with that assessment, we have continued to maintain the target range for the Federal funds rate at 0 to ¼ percent and have kept the Federal Reserve's holdings of longer-term securities at their current elevated level to help maintain accommodative financial conditions.

In its most recent statement, the FOMC again noted that it judged it would be appropriate to raise the target range for the Federal funds rate when it has seen further improvement in the labor market and is reasonably confident that inflation will move

back to its 2-percent objective over the medium term. The Committee will determine the timing of the initial increase in the Federal funds rate on a meeting-by-meeting basis, depending on its assessment of realized and expected progress toward its objectives of maximum employment and 2-percent inflation. If the economy evolves as we expect, economic conditions likely would make it appropriate at some point this year to raise the Federal funds rate target, thereby beginning to normalize the stance of monetary policy. Indeed, most participants in June projected that an increase in the Federal funds target range would likely become appropriate before year-end. But let me emphasize again that these are projections based on the anticipated path of the economy, not statements of intent to raise rates at any particular time.

A decision by the Committee to raise its target range for the Federal funds rate will signal how much progress the economy has made in healing from the trauma of the financial crisis. That said, the importance of the initial step to raise the Federal funds rate target should not be overemphasized. What matters for financial conditions and the broader economy is the entire expected path of interest rates, not any particular move, including the initial increase, in the Federal funds rate. Indeed, the stance of monetary policy will likely remain highly accommodative for quite some time after the first increase in the Federal funds rate in order to support continued progress toward our objectives of maximum employment and 2-percent inflation. In the projections prepared for our June meeting, most FOMC participants anticipated that economic conditions would evolve over time in a way that will warrant gradual increases in the Federal funds rate as the headwinds that still restrain real activity continue to diminish and inflation rises. Of course, if the expansion proves to be more vigorous than currently anticipated and inflation moves higher than expected, then the appropriate path would likely follow a higher and steeper trajectory; conversely, if conditions were to prove weaker, then the appropriate trajectory would be lower and less steep than currently projected. As always, we will regularly reassess what level of the Federal funds rate is consistent with achieving and maintaining the Committee's dual mandate.

I would also like to note that the Federal Reserve has continued to refine its operational plans pertaining to the deployment of our various policy tools when the Committee judges it appropriate to begin normalizing the stance of policy. Last fall, the Committee issued a detailed statement concerning its plans for policy normalization and, over the past few months, we have announced a number of additional details regarding the approach the Committee intends to use when it decides to raise the target range for the Federal funds rate.

These statements pertaining to policy normalization constitute recent examples of the many steps the Federal Reserve has taken over the years to improve our public communications concerning monetary policy. As this Committee well knows, the Board has for many years delivered an extensive report on monetary policy and economic developments at its semiannual hearings such as this one. And the FOMC has long announced its monetary policy decisions by issuing statements shortly after its meetings, followed by

minutes of its meetings with a full account of policy discussions and, with an appropriate lag, complete meeting transcripts. Innovations in recent years have included quarterly press conferences and the quarterly release of FOMC participants' projections for economic growth, unemployment, inflation, and the appropriate path for the Committee's interest rate target. In addition, the Committee adopted a statement in 2012 concerning its longer-run goals and monetary policy strategy that included a specific 2-percent longer-run objective for inflation and a commitment to follow a balanced approach in pursuing our mandated goals.

Transparency concerning the Federal Reserve's conduct of monetary policy is desirable because better public understanding enhances the effectiveness of policy. More important, however, is that transparent communications reflect the Federal Reserve's commitment to accountability within our democratic system of Government. Our various communications tools are important means of implementing monetary policy and have many technical elements. Each step forward in our communications practices has been taken with the goal of enhancing the effectiveness of monetary policy and avoiding unintended consequences. Effective communication is also crucial to ensuring that the Federal Reserve remains accountable, but measures that affect the ability of policymakers to make decisions about monetary policy free of short-term political pressure, in the name of transparency, should be avoided.

The Federal Reserve ranks among the most transparent central banks. We publish a summary of our balance sheet every week. Our financial statements are audited annually by an outside auditor and made public. Every security we hold is listed on the Web site of the Federal Reserve Bank of New York. And, in conformance with the Dodd-Frank Act, transaction-level data on all of our lending—including the identity of borrowers and the amounts borrowed—are published with a 2-year lag. Efforts to further increase transparency, no matter how well intentioned, must avoid unintended consequences that could undermine the Federal Reserve's ability to make policy in the long-run best interest of American families and businesses.

In sum, since the February 2015 *Monetary Policy Report*, we have seen, despite the soft patch in economic activity in the first quarter, that the labor market has continued to show progress toward our objective of maximum employment. Inflation has continued to run below our longer-run objective, but we believe transitory factors have played a major role. We continue to anticipate that it will be appropriate to raise the target range for the Federal funds rate when the Committee has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2-percent objective over the medium term. As always, the Federal Reserve remains committed to employing its tools to best promote the attainment of its dual mandate.

Thank you, and I would be pleased to take your questions.

Chairman SHELBY. Thank you, Madam Chair.

Madam Chair, recently some of us have raised concerns over a proposal to reduce the statutory dividend paid to member banks on the shares that they hold in their respective reserve banks to help

pay for a new transportation bill. Are you aware of some of these proposals? And do you have some concerns?

Ms. YELLEN. Chair Shelby, I have heard about this proposal, and I guess I would say I would be concerned that reducing the dividend could have unintended consequences for banks' willingness to be part of the Federal Reserve System, and this might particularly apply to smaller institutions.

I would also say that this is a change that likely would be a significant concern to the many small banks that receive this dividend.

So I suppose I would say that this is a change to the law that could conceivably have unintended consequences, and I think it deserves some serious thought and analysis.

Chairman SHELBY. I agree with you, and I do not see any nexus between the dividends coming from members of the Federal Reserve System, which are a lot of small- and medium-size banks, and funding the highway or transportation system. I think that is a pretty far reach, but, you know, people look for money everywhere they can get it. But that is something that I think we better be working together on, I hope.

In another area, the impact of regulation on liquidity, the issue of liquidity in the fixed-income market has become a daily topic in the news and in the markets. Last month, Secretary Lew testified in the U.S. House that he does not—and I will quote him, he "does not believe that Federal regulation is a significant factor contributing to any liquidity issues." It is interesting.

So you think that Federal regulation is a significant factor impacting market liquidity in any respect? And what work has the Federal Reserve done to determine the impact of regulation on liquidity, if you have, in our markets?

Ms. YELLEN. So I would say that we are studying this issue very carefully. We have certainly heard the market concerns on this topic. At this point I can give you a list of factors that may be causing this phenomenon.

Chairman SHELBY. OK.

Ms. YELLEN. I should say you see this decline in liquidity in some measures but not in others. So the extent of the decline——

Chairman SHELBY. But isn't the decline in liquidity an important issue to be watching?

Ms. YELLEN. So there are a number of things that might be involved. First of all, there have been changes in the structure of the market. A larger share of bonds are held by buy-and-hold investors such as insurers and pension funds that may do less trading than leveraged firms that used to be more dominant in this market. We have had higher capital requirements and other regulatory changes, but firms are also changing their own risk management practices, in some cases in a more conservative direction.

We have seen an increase in algorithmic and high-frequency trading, and that may be leading to changes in market trading practices. In addition, in the corporate bond market, there have been increased reporting requirements that may be reducing the desired sizes of trades. And I think all of these factors could potentially account for what is going on, but we have not really yet been

able to figure out what the contribution of each is or just how serious.

I think a concern is that while day-to-day in normal times most measures of liquidity seem to be roughly unchanged, there is a concern that in stress situations it may be, and we have seen some cases where it is less available.

Chairman SHELBY. But in any market, you need risk and you need liquidity, do you not?

Ms. YELLEN. Yes, you——

Chairman SHELBY. You do not have a market without it, do you?

Ms. YELLEN. Well, we do need liquidity in markets. There may be changes, however, that precrisis it was leveraged, even highly leveraged banks that were exposed to providing liquidity and vulnerable if liquidity were to be reduced. And now it seems like more of that risk has moved to unleveraged, low-leveraged investors, and that may be a safer situation. So there are two sides, I think, to this.

Chairman SHELBY. In the area of reducing systemic risk, which we all are interested in, do you believe that having fewer systemically risky financial institutions would be a good thing?

Ms. YELLEN. Arguably, yes.

Chairman SHELBY. OK. And should banks through regulation, like the Fed, be encouraged to reduce systemic risk everywhere they can?

Ms. YELLEN. Well, we are certainly trying to put in place a set of incentives that will reduce the systemic footprint and risk of firms. I think higher capital requirements, we plan to impose surcharges, capital surcharges on the most systemic firms, and other regulations that will diminish the risks, create incentives for their footprints to be reduced in ways that will reduce their systemic risk to the financial system.

Chairman SHELBY. Senator Brown.

Senator BROWN. Thank you, Mr. Chairman.

Madam Chair, I continue to be concerned, as I know you are, that the economic recovery has not taken hold for all Americans, notably large numbers of women and in communities of color. I know that confirmation bias can be a problem in investing, and some might think it is a bit—it might exist on Capitol Hill, too, but I see lots of evidence of underemployment, unemployment, virtually no evidence of inflation, and lots of sources of headwinds for our economy.

What are the risks of tightening monetary policy too soon? And once rates are increased, what would be the impact of the gradual rate increases on working Americans?

Ms. YELLEN. So, of course, there are risks to the recovery of tightening too soon, and we have been highly focused on those risks. That is an important reason why we have left rates as low as they are for as long as they have been. Over 6 years they have been at effectively zero.

We have had a recovery that has been slow to take hold. Growth has been slower than in most U.S. recoveries following a severe financial crisis. We have clearly made progress. I agree with you that there remain groups that are struggling in the labor market, and as we try to show in the *Monetary Policy Report*, arguably the

standard unemployment rate that we look at that is 5.3 percent may somewhat understate the real degree of slack that exists in the labor market. So we clearly want to see continued improvement in the labor market, and we want to do nothing that would threaten that.

On the other hand, the labor market is getting demonstrably closer, in my view, by almost any metric to a more normal state, and the degree of monetary accommodation has been sufficient over a long period of time to generate pretty significant improvement in the labor market. And as the headwinds that are holding the economy diminish—and I believe they are diminishing—I think it does become appropriate to begin—we are not talking about tightening monetary policy. I think we are talking about slightly diminishing the very high degree of accommodation that we have in place. And, of course, we would not want to do so in a way or at a pace that would threaten continued progress in the labor market.

At the same time, inflation is very low, and while we have indicated that a good share of that is for reasons we believe will be transitory and we expect inflation—headline inflation to rise to much closer to core levels, that is another reason why we can be patient in removing accommodation. But I think it is also important there are risks on both sides. Just as we do not want to tighten too soon to threaten the recovery or to jeopardize the return of inflation back to our 2-percent target, we also want to be careful not to tighten too late because, if we do that, arguably we could overshoot both of our goals and be faced with a situation where we would then need to tighten monetary policy in a very sharp way that could be disruptive.

My own preference would be to be able to proceed to tighten in a prudent and gradual manner, and there are many reasons why I would like to be able to do that. So I agree that there are certainly risks to the recovery and to the labor market of tightening too soon, but there are risks on the other side as well. We are trying to balance those.

Senator BROWN. Thank you. Some people have suggested recently that American workers need to be willing to work longer hours. I do not think many Americans work fewer hours by choice unless, of course, there are health issues or child care limitations or other responsibilities. I think most or at least many Americans working part time would like to work full time. This slack in the labor market seems to indicate we still have a ways to go.

Discuss with us your concern about the number of workers who are only working part time but would like to be more in the labor force, if you would.

Ms. YELLEN. Yes. Well, we have an unusually large share of the labor force—I believe it is around 4.5 percent—that report themselves as working part time for economic reasons. That means they would like to be working more hours than they are able to work. And broader measures, the measure of the unemployment rate that we normally look at, it is referred to as the U–3 measure, that is 5.3 percent. But broader measures that capture that part time for economic reasons, a measure like U–6, we have a picture in the *Monetary Policy Report*, and we show how high that is. And we show that although, of course, it is always higher than the nar-

rower concept of unemployment, it is very much higher than you would expect historically given the narrower measure of unemployment.

So to my mind, this really suggests that our standard unemployment rate does understate the degree of slack we still have in the labor market.

Senator BROWN. Thank you.

Thank you, Mr. Chairman.

Chairman SHELBY. Senator Corker.

Senator CORKER. Thank you, Mr. Chairman, Ranking Member. I appreciate it.

Madam Chairman, thank you for being here. I spent a lot of time with you when you were getting ready to be confirmed, and I enjoyed that, and I appreciated talking about views on monetary policy. And this is a not a pejorative statement, but I know as you were coming in, you were acclaimed to be the first "dove" coming in as head of the Federal Reserve. I know we had numbers of conversations about that, and I know you supported all of the rate hikes, on the other hand, that took place as we were leading up.

Ms. YELLEN. That is true.

Senator CORKER. So I want to make sure everybody understands that.

Ms. YELLEN. Thank you.

Senator CORKER. But we did talk a lot about this moment in time we are in, and it seems that many are getting—let me put it this way—the impression, many who are spending their daily lives dealing with the stock market, that the Fed has become very affected by the market swings, and that much of that may actually be driving monetary policy, not just the stats. You know, we have had—this is the first—I guess we have had two other times in modern history where we have had negative interest rates, or at least times that I am aware of, from 1974 to 1976, and 2002 to 2004. And so we have had this long period of time where, in essence, we have negative interest rates, and yet it seems the Fed continues to watch not just the stats, but is very affected by the markets and worried about disruptions in the stock market.

I am wondering if you might address that.

Ms. YELLEN. So I would push back against the notion that we are unduly affected by the ups and downs of the stock market. We are certainly very focused on the fundamentals and the economic statistics that describe where the economy is and in terms of the labor market and inflation, which are the two goals assigned to us by Congress, and a lot of different kinds of economic information go into the forecasts that drive our decision making, our forecasts about where the labor market and inflation will be moving. But financial conditions broadly—and I am not talking about the stock market here uniquely, but a wide range of financial variables that I would say go into assessing financial conditions, the ease for households and businesses of borrowing that affect their spending patterns, whether it is consumer spending or investment or our ability, our competitive position in the global economy that affects our ability to export and the competitiveness of import competing goods. The state of financial, conditions broadly speaking, is one variable that does affect our forecast of the economy.

So we cannot completely ignore what is happening in the markets to housing prices, to equity prices, to longer-term interest rates, to credit spreads that influence borrowing costs, to the exchange that affects the competitiveness of U.S. goods and services. All those factors feed into financial conditions, and they are relevant to forecasting the economy. So it is one element of our evaluation, but I do not think we pay undue attention to it, and I do not think we should.

Senator CORKER. Yes, I agree. Thank you.

The living will process is something that—I know the Ranking Member alluded to Dodd-Frank, and Senator Warner and myself were assigned to work on those particular areas, Title 1 and Title 2, came to an agreement, and actually Senator Shelby, I think, offered an amendment on the floor that passed by 95 votes to make it even stronger, if I remember correctly. Or at least alter it to some degree, but certainly make sure it became law.

We have had some questions about the living wills as they have come up. The last round, there was a little bit of concern, at least on my part and I think a few others, that there was a little regulatory capture taking place, that really these living wills were way lacking in substance, and yet maybe the Fed really was not, you know, putting the pressure on these organizations to deliver as they should.

I had a good meeting this week with Mr. Tarullo, and my understanding is the substance of these living wills—I know you all have sent out some statements regarding what has happened. I think they are much better than they have been. But it is pretty clear these living wills have to be able to resolve an institution under bankruptcy, and I just wonder if you might speak to that for a moment.

Ms. YELLEN. I agree with you. We worked closely with the FDIC in this last round a year ago to set out a clear set of expectations for what we want to see in the current round of submissions. We have worked closely with the FDIC and the banking organizations to make sure that they have been very clear about what we expect in this round of submissions. We have instructed them to enhance their disclosure in the public part of the documents that they produce, and it looks like preliminary reads suggest they have made progress there, and we are going to be evaluating them in the coming months, and we indicated that if we continued to see shortcomings in the living wills, we will use our authority to determine that these resolution plans do not meet Dodd-Frank requirements. And that is where we stand, and that is what we are going to do.

Senator CORKER. Thank you very much for your service. I appreciate it.

Ms. YELLEN. Thank you.

Senator CORKER. Thank you, Chairman.

Chairman SHELBY. Senator Menendez.

Senator MENENDEZ. Thank you, Mr. Chairman.

Madam Chair, thank you for your service to our country. I appreciate the work you have been doing.

Ms. YELLEN. Thank you.

Senator MENENDEZ. As you know and have stated many times, the Fed's dual mandate directs it to pursue maximum employment and stable prices. Now, how the Fed chooses to balance these goals has significant consequences for the quality of life of millions of Americans.

On the first element, our labor market is improving, but most Americans feel like they have a lot of catching up to do from the deep hole the financial crisis put us in. They do not feel that their personal circumstances have certainly risen at all, and they feel enormous challenges.

Meanwhile, inflation continues to run well below target, as it has for an extended period of time, so it would be a mistake in my view for the Fed to shift its focus away from jobs at this critical time. With interest rates near zero, the Fed has essentially no room for error if it tightens too soon. If it tightens too late, I think the risks are much lower, and the Fed has plenty of ammunition to keep inflation anchored.

So as a follow-up to Senator Brown's question, I would like to know, in order to avoid choking off economic growth prematurely, will the Fed wait to raise interest rates until after it has seen signs of actual inflation rather than based on some intangible fear of future inflation, which may or may not ever actually materialize?

Ms. YELLEN. So, Senator, I agree with your characterization of the risks that if there is a negative shock to the economy within interest rates pinned at zero, we do not have great scope to respond by loosening policy further; whereas, with a positive shock, of course, we can tighten monetary policy. We have the tools, and we know how to do that. That is a consideration that has been weighing on our decision making for quite some time and has led us in part to hold interest rates at these very low levels for as long as we have.

So that has been a factor we have been taking into account, and it partly explains the policy that we have been following. But there are lags in the effect of monetary policy. We need to be forward-looking. And on the other side, there are risks from waiting too long to act as well. We have to balance those risks.

You asked me if we would likely raise rates before inflation has risen substantially, and there I would point you to Section 3 of the report that we gave to you where we show each summary of their forecast for the economy and for policy. And as I mentioned in my testimony, most participants, as of our June meeting, envisioned that economic developments would proceed in a way for the rest of this year that would, in their view for almost all of them, make it appropriate to begin the process of normalizing policy sometime this year.

And if you look at their inflation forecasts, at the end of the year, on a year-over-year basis, most participants envisioned that total inflation would be running a little bit under 1 percent, so that is well below our 2-percent objective. And they envisioned core inflation, that is, for the year as a whole, at the end of 2015 as running in the neighborhood of 1.3 to 1.4 percent. So in that sense, you can see in their projections that they are envisioning its being appropriate to begin tightening policy within inflation below our objective. But what we have said is we want to have reasonable con-

fidence before we tighten that inflation over the medium term will move back to 2 percent. And what is going on here is that we think that there are transitory influences—namely, the marked decline in oil prices and the strengthening of the dollar—that are holding inflation down, and that underlying inflation, even with core inflation, that low import prices and declining import prices are a transitory factor holding that down, that as we see the labor market improve and these transitory influences wash out, that we believe that inflation will move back to 2 percent. And so if we have that confidence, the Committee would be likely to begin before seeing inflation go back up to our target.

Senator MENENDEZ. Now, normally in my experience here I would have interrupted you a long time ago because my time has expired. But because your response was so interesting and I am trying to grasp where your policy view is from it, I let it go.

Let me, if I may, just make one very brief comment, Mr. Chairman, and that is, from my—I listened to you intently. From my perspective, I think it is much less of a problem that inflation may run high a little bit—I did not say significant inflation, which you referenced—to run high for a little bit, for a short period of time until the Fed's response to it takes effect than the alternative, which is cutting off much needed job growth and income growth, too, which would have been my second question, but I will submit that for the record.

Ms. YELLEN. We do not want to cutoff job growth and income growth, and we do want to see inflation move up to 2 percent. We would not be pleased to see it linger indefinitely below 2 percent.

Senator MENENDEZ. Thank you, Mr. Chairman.

Chairman SHELBY. Senator Rounds.

Senator ROUNDS. Thank you, Mr. Chairman.

Madam Chair, recently the Senate Banking Committee held a hearing that examined the role of the Financial Stability Board in the U.S. regulatory framework. A lot of concern was expressed about international decision making on regulation overtaking U.S. decision making. I am just curious if you would agree that it is important for the United States to set its own insurance capital and other regulatory standards before agreeing to any such standards internationally.

Ms. YELLEN. Well, we are working on U.S. standards. Nothing applies to U.S. firms until we have gone through a formal rulemaking process or process with orders in the United States. So no international discussion or agreement applies to U.S. firms unless they are consistent with U.S. law and we have gone through a full-blown rulemaking process.

But discussions are taking place internationally about appropriate standards. I think it is very important that we weigh in on those discussions so that the standards that other countries adopt work for our markets and for our firms, and that we end up with a playing field that is competitive for our own firms to compete in. So we participate in those international discussions, but within an understanding that nothing applies to U.S. firms until we have gone through a full rulemaking process here.

Senator ROUNDS. Thank you. I would like to follow up just a little bit on what the Chairman was visiting with earlier, and that

is with regard to SIFI designations, literally in the spirit of reducing systemic risk. Do you support giving designated firms a specific road map for de-designation, like an off ramp or an approach that would allow them to basically de-certify?

Ms. YELLEN. So I think firms should have the ability to de-certify, and the FSOC every year has to review designations to make sure that they remain appropriate. That is an annual procedure.

Now, firms are given very detailed information and interact a great deal with FSOC during the process of designation, and they understand very clearly what it is about their business model and strategy that has caused them to be designated. So it is not a mystery to those firms what about their business activities is responsible for designation.

I do not think it is appropriate for FSOC or for the regulators to try to run these businesses, to try to micromanage what these firms do. I do not think there is any single, appropriate off ramp. We should not be telling them exactly do the following list of things. They understand what they need to do to change their profile in a way that would change FSOC's evaluation. And if they were seriously contemplating making those kinds of substantial changes, I am sure there would be many opportunities to interact with FSOC and staff to gain some perspective on whether or not the kinds of changes they were thinking of would significantly change their systemic footprint.

Senator ROUNDS. Thank you.

One last question. As you know, Madam Chair, when you talk, the markets clearly listen. As you work with the Federal Reserve's Open Markets Committee, you look at a balanced approach, and you are looking at several goals. You have clearly defined that your goal is a 2-percent inflation rate. What about when we talk about maximum employment? Where do we go, and what do you lay out as the firms look at it in terms of what to expect from the Committee? What is your goal in terms of the maximum employment?

Ms. YELLEN. So as we say in our statement of longer-run goals and monetary policy strategies, there is something different about the two goals. We have a goal for inflation, 2 percent, and maximum employment. A central bank can choose or determine what its inflation target should be. We chose 2 percent. We are in good company. That is what most advanced central banks have chosen.

Maximum employment is different. We cannot just decide what do we want that to be in the long run. We think there is some normal longer-run rate of unemployment or level of maximum employment that is consistent with stable inflation, and for us it is not something we can say we would like it to be this or we would like it to be that. It is something we are trying to determine. It can change over time. It is not easy to know exactly what is possible given technology and demographics and the way the institutions of the labor market function. So we are trying to estimate it, not determine it.

But participants in the Committee are asked every 3 months, when they submit their forecasts, to write down their own current views on the unemployment rate that corresponds to what they regard as normal in the longer run or consistent with maximum employment. And most members of our Committee or participants

currently regard that as an unemployment rate in the neighborhood of 5.2 to 5.3. And that is something that can change over time. It has changed over time, and we report that publicly.

Senator ROUNDS. Thank you.

Thank you, Mr. Chairman.

Chairman SHELBY. Thank you, Senator Rounds.

Senator Donnelly.

Senator DONNELLY. Thank you, Mr. Chairman, and thank you, Madam Chair.

Madam Chair, I know you share my concerns with income inequality and the continuing trend of middle-class wage stagnation. In your testimony, you said, " . . . although there are tentative signs that wage growth has picked up, it continues to be relatively subdued . . . ."

So as the economy improves, how do you expect middle-class wages to show substantial improvement? What are you looking at?

Ms. YELLEN. Well, we look at several different measures of wage growth. Three aggregate measures that we look at are the Employment Cost Index, hourly compensation, and average hourly earnings. They do not always tell exactly the same story. I think we have seen a meaningful pickup over the last year in the growth in the Employment Cost Index but less movement in the other two measures. So there are early indications or conflicting indications there.

The levels of increase are still relatively low, and in real or inflation-adjusted terms, compensation or wages are increasing less rapidly than productivity.

Senator DONNELLY. What do you expect to see in the next year——

Ms. YELLEN. I would expect to see——

Senator DONNELLY. ——with regard to middle-class wages?

Ms. YELLEN. ——a pickup in—so I am not going to say "middle-class wages" but aggregate wages in the economy. I would expect to see some further upward movement. Where they can go depends in part on productivity growth. For example, if productivity growth—and there is a lot of uncertainty about what it is, but if it were at a trend rate running, say, around 1.5 percent with a 2-percent inflation, we would expect to see wage growth——

Senator DONNELLY. And I guess the key to that is that there would actually be some correlation between productivity growth and the growth in wages as well.

Ms. YELLEN. There tends to be over long periods of time, but it is not always true over shorter periods. So there is some uncertainty about this, and we have been through a period in which wages have been in real terms——

Senator DONNELLY. We have not seen a closer link——

Ms. YELLEN. ——growing less rapidly than productivity. I would expect to see a pickup. It is not a certainty here, but it is—and to my mind, it is evidence of some remaining slack in the labor market. So that is—my forecast is that we will see some pickup in wage growth.

But it is important to remember that there has been increasing wage inequality in the United States over a long period of time, certainly going back to the mid-to-late 1970s, and that reflects a

deeper set of structural factors that the Federal Reserve does not have tools to combat. What we are looking for is an overall job market that is functioning in some sense well, but we see increasing gaps between the wages or compensation of more skilled and less skilled workers, and that has been holding down middle-class wage growth for a long time for other reasons.

Senator DONNELLY. Let me ask you about a little bit different subject. You know, I voted for Dodd-Frank because I wanted to see safety and stability in the system. It was not a desire to load it up with regulations, but it was a desire to make sure we had safety and stability. But now what we have seen is a growing shadow banking system, which brings other concerns, and so as you look at this, since shadow banking entities are not subject to the same regulatory oversight, how concerned should we be with the potential risk involved here? Because that is what we are trying to drive at in the first place with Dodd-Frank, was to eliminate some of the systemic risk.

Ms. YELLEN. Well, I think you have put your finger on a very important phenomenon, and we were well aware when we put these regulations in place in Dodd-Frank that wherever you draw the regulatory perimeter, there will be a tendency for activity to migrate beyond it to what we call "the shadow banking system." So we clearly need to be very vigilant about monitoring risks that are migrating to that system, and certainly in the Federal Reserve, we have hugely ramped up our attention to the shadow banking system.

The FSOC is focused on risks developing broadly through the financial system in shadow banking, and the Financial Stability Board has a large work program devoted to shadow banking. We are thinking about regulations that might address—like minimum margin requirements that would apply not only to banking organizations but more broadly, that might address some potential risks in the shadow banking system.

Of course, we have seen some heightened attention to risks by the SEC in money market funds, which was an important piece of the shadow banking system where risks developed leading to the crisis. But you are absolutely right to focus on that, and we are attempting to address those risks as best we can.

Senator DONNELLY. Thank you, Madam Chair.

Thank you, Mr. Chairman.

Chairman SHELBY. Senator Scott.

Senator SCOTT. Thank you, Mr. Chairman. Chair Yellen, thank you for being here today.

Ms. YELLEN. Thank you.

Senator SCOTT. As I travel across South Carolina, people express concerns about America leading from behind, whether my conversations with folks have been about the Administration's failure to enforce their own red lines in Syria or more recently about the ill-advised nuclear deal with Iran, South Carolinians have the sense that our Nation is timid, that it is comfortable sitting back and taking cues from foreign actors rather than occupying our traditional role a leader of the world.

Now, I am certainly not suggesting that you somehow are in charge of military policy or Middle East diplomacy, but you are in

charge of our regulatory policy for some of our country's most successful businesses. And sometimes it seems to me like our U.S. regulators are leading from behind, especially when it comes to our involvement in international regulatory bodies like the Financial Stability Board or the International Association of Insurance Supervisors.

For example, the FSOC designated domestic insurers as SIFIs shortly after the FSB did, suggesting that the FSOC was happy to follow FSB's lead.

We saw something very similar happen with capital buffers for money market mutual funds. The FSOC and SEC seemed to take their cues from the FSB.

Madam Chair, now that the Fed is writing a capital rule for insurance companies, I would encourage you to break from the tradition of leading from behind by developing a capital standard that first works for our domestic insurance companies rather than letting international standard-setting bodies like the ones I have mentioned already write rules and export them back to our country.

I would also encourage you in your capacity as a member of the IAIS to take the lead in that body in promoting activity-based regulations of insurers as the group reconsiders its G–SII designation methodology later this year. It appears that Governor Tarullo has committed the Fed to an activities-based approach for asset managers, but I have not yet heard him say that he would do the same for insurers.

Can you commit today that the Fed will take the lead and follow these two courses of action both on insurance company capital standards and on promoting the replacement of entity-based regulation of insurance with activity-based regulation? I think Senator Rounds really was starting down this road when he was asking his question. It appears to me that the European regulators are concerned about the creditor protections. We at home are far more concerned about protecting the policy holders. The difference yields different capital philosophies. I would like a commitment to use our domestic approach and export it as opposed to importing their philosophical disposition on capital standards based on creditor protections.

Ms. YELLEN. So I guess all I can really say is that we are playing an active role internationally in insurance, which is why we joined the IAIS. We are participating jointly with the Federal Insurance Office and the State Insurance Commissioners. We are collaborating to think through what is an appropriate system of capital and liquidity standards for globally active firms.

We have a strong interest in doing that, and it is important for us to have our voices heard in that process. So I do not think it is accurate to say we are sitting back and not trying to play a leadership role. I think we are.

Domestically, we have been given increased flexibility through the Collins fix to design and tailor a set of insurance regulations, capital standards that we think are appropriate for our institutions. We want to carefully tailor them to the unique characteristics of the firms that we supervise, and we are taking the time and interacting with those firms to make sure we understand what an

appropriate insurance-centric, well-tailored set of capital standards would look like.

Senator SCOTT. Thank you. I think at the end of the day all of the Washington regulators speak and sound pretty academic, but what it ultimately boils down to is a price that Americans will pay for their retirement. One of the things that we are trying to do is make sure that that price goes down and not up as we find ourselves, from my perspective, adopting international standards as opposed to taking ours and exporting them.

Thank you.

Chairman SHELBY. Senator Warren.

Senator WARREN. Thank you, Mr. Chairman, and it is good to see you again, Chair Yellen.

I want to follow up on Senator Corker's question. As you know, Dodd-Frank requires big financial institutions to submit living wills, a plan for how they could be liquidated—and I want to quote the statute here—"in a rapid and orderly fashion" in bankruptcy without bringing down the economy or needing a taxpayer bailout.

Now, by law, the Fed and the FDIC are supposed to determine whether these plans are credible or not, and then if they are not credible, the agencies can order the institutions either to simplify their structures or eventually to sell off assets.

So last August, the Fed and the FDIC identified significant problems with the living wills submitted by 11 of the biggest banks in the country. The FDIC determine that these living wills were not credible. But the Fed did not. Instead, the Fed said that if the banks did not "take immediate action to improve their resolvability and reflect those improvements" in their new living wills, the Fed "expected" to find the new living wills were not credible.

Now, the 11 banks submitted their new living wills at the beginning of this month, and I know you have not completed reviewing them yet. But I just want to make sure we are really clear on this point. Will the Fed find living wills not credible if the bank has not fixed each of the problems that the agencies identified last August?

Ms. YELLEN. We are certainly prepared to make those determinations. We will work jointly with the FDIC, as we have been doing, to analyze the living wills and see whether or not we feel that the responses to the directions that we gave to these firms are satisfactory or not. And if we find that they are not, we are certainly prepared to say that they are not credible.

Senator WARREN. OK. Good. I am glad to hear that.

Two of the issues the agencies directed the banks to address were "establishing a rational and less complex legal structure and developing a holding company structure that supports resolvability."

Now, JPMorgan Chase, just to pick one example, has over 3,000 subsidiaries. It will take a lot of work to establish a rational structure that permits JPMorgan to be resolved quickly as required by law. But to be clear again, the Fed will find JPMorgan's living will not credible, and the living wills of the other 10 banks not credible, if they have not taken concrete steps to significantly simplify their structures and are not sleek enough to be resolved quickly?

Ms. YELLEN. Well, we have given them those directions, and we will evaluate that. I would simply say that the regulatory reports

that we receive indicate that these firms since 2009 have reduced the number of legal entities in their structures by approximately a fifth. I guess we will be looking for——

Senator WARREN. You will note that number I gave you is not from 2009. It is over 3,000 subsidiaries at latest count that I have seen. So I just want to be clear that you are willing to say not credible if they do not meet the legal standards that they could quickly be resolved, and that includes how complex their structure is.

Ms. YELLEN. Well, agreed that they need to be less complex, and we have given them that direction. But I am not sure we can determine exactly how complex they are by just counting the number of legal entities——

Senator WARREN. Fair enough. I am glad to have——

Ms. YELLEN. They are not all——

Senator WARREN. ——lots of ways you look at this.

Ms. YELLEN. They are not all equal. Some are set up for very narrow purposes and would not represent serious impediments to resolving the firms. So I do not want to——

Senator WARREN. OK. But——

Ms. YELLEN. ——determine this by count of legal entities.

Senator WARREN. Count by itself, I understand that. But we do remember that the statute says "rapid and orderly liquidation, and that goes to the question of complexity. I raise this because the living wills are one of the primary tools the Fed has to make sure that taxpayers will not be on the hook if one of these giant banks fails. It is critical that the Fed uses this authority, and like the FDIC has been willing to do, to make our financial system safer.

I want to ask you one other question just quickly. In Dodd-Frank, Congress directed the Fed to impose some tougher rules on banks with more than $50 billion in assets. That covers roughly 40 of the biggest banks in the country, about one-half of 1 percent of the 6,500 banks that we have in the U.S. Together, this one-half of 1 percent holds more than $14 trillion in assets, about 95 percent of all the banking assets in this country—40 banks, 95 percent of all the assets.

The tougher scrutiny is designed to direct regulator attention where serious risk is—in other words, concentrate regulatory scrutiny on these 40 banks rather than on community banks and credit unions.

Now, there have been proposals recently about exempting many of these banks from tougher rules by raising the $50 billion threshold to $100 billion, $250 billion, $500 billion. The argument I hear is that $50 billion banks just do not pose systemic risk. So I just want to ask a question on this one.

We learned or should have learned in 2008 that in a crisis several banks can find themselves on the verge of failure at the same time. Do you think it could pose a systemic threat if two or three banks with about $50 billion in assets were on the verge of failure?

Ms. YELLEN. Well, when a significant number of firms is at the risk of failure, often it is because they have highly correlated positions. We always have to worry about that resulting in a drying up of credit to the economy, and, you know, during the Great Depression, most of the banks that failed were small. They were a lot smaller than $50 billion or adjusted for that time. So when many

banks fail, of course, we have to be concerned as well, and that is one reason why for all institutions, even for community banks, Basel III regulatory capital requirements are higher. We want to see safety and soundness throughout the entire financial system, throughout the banking system, although the most systemic firms, as you pointed out, of course, need the greatest scrutiny.

Senator WARREN. It is the top 40. So I just want to say there are two approaches to this issue. The first, which every Republican on this Committee supported, is to raise the threshold to $500 billion—that is, cut loose about 30 or so of the biggest banks in this country, and just hope for the best. And if it does not work out, the taxpayers can pick up the tab again.

The other approach is to play it safe. Keep the threshold where it is and rely on the Fed to tailor the rules to fit the risks posed by these different banks. That is the approach I support, and since the American taxpayers are on the hook when the economy starts to implode, I suspect most of them would prefer that Congress be careful, too. Thank you, Madam Chair.

Thank you, Mr. Chairman.

Chairman SHELBY. Madam Chair, some people have proposed that we do not have any threshold. You have seen some of that. But the regulator having the power to do their job properly, you have seen some of that, I am sure.

Senator Crapo.

Senator CRAPO. Thank you very much, Mr. Chairman, and I want to follow up on exactly the same question that Senator Warren just finished on.

Last September, I asked Federal Reserve Governor Tarullo about legislatively raising the trigger when a bank is systemically important from the $50 billion level. In hearings, we have heard that the asset threshold should be raised or changed because it is arbitrary, includes institutions that are not systemically important, focuses only on size, and produces undesirable incentives. Governor Tarullo said that several years of testing and assessment have given regulators a better understanding of the designation threshold. Given the intensity and complexity of work around stress testing, he said that regulators have not felt that the additional safety and soundness benefits of SIFI regulation are really substantial enough to warrant the kinds of compliance and resource expenditures required of banks that are above $50 billion in assets, but well below the largest systemically important institutions.

And so I guess my question to you, which is sort of another way of asking the same question that Senator Warren just asked, is: Do you agree with Governor Tarullo's analysis that there would be a benefit if Congress changed the current threshold and focused more on substantive evaluations of true risk rather than on an arbitrary number?

Ms. YELLEN. So like Governor Tarullo, I would be open to a modest increase in the threshold. And I guess the reason that I would be open to it is, as he indicated and as you just stated, we do have some smaller institutions that under Section 165 are required to do, for example, supervisory stress testing and resolution planning. And for some of those institutions, it does look from our experience like the costs exceed the benefits.

But if there were to be a modest increase in the threshold, I think what is essential is that the Federal Reserve retain the discretionary to subject an institution that might fall below the new threshold to higher supervisory requires, for example, that we would be able to insist that it perform supervisory stress testing if, in our view, the risk profile of that firm, in spite of its size, led us to believe that it had systemic import that made us think it was appropriate, and that is possible that we might feel we would need that discretion. But at present, every firm over $50 billion has to do things like supervisory stress testing, and I think what we have found is in some cases the burden associated with that for many of those firms really exceeds the benefit to systemic stability. But retaining the discretion to, as supervisors require them to, do that if we thought it appropriate, that would be very important for me to support that change.

Senator CRAPO. Thank you. I appreciate your openness to increasing the threshold and focusing on the flexibility that we need there. What I am hearing you say—well, let me put this differently. It seems to me that a principle we should follow is that banks with similar risk profiles should not be subject to different regulatory standards, and that applies on both sides of any arbitrary number which we might pick. The question that I—what I think I heard you say was that the real issue is the risk profile, and that the regulators should have the authority to evaluate the risk profile of our financial institutions and regulate them appropriately. Did I hear you correctly?

Ms. YELLEN. I think that is a fair summary.

Senator CRAPO. Thank you. And the last question I have is: The Office of Financial Research recently published a study this past February that uses a multifactored approach to grading the systemic risk of each of the institutions subjected to Section 165 of Dodd-Frank. Are you familiar with that study? Do you know what I am referring to?

Ms. YELLEN. I am sorry. I have not really had a chance to review the study. I apologize.

Senator CRAPO. Fair enough. I get asked by reporters all the time about things, and I have learned, if I do not know about it, to tell them, and I appreciate that.

The point is this study showed that different banks who are subject to the $50 billion—who are on the upside of the $50 billion trigger have vastly different risk profiles. And I guess the question I was going to ask you is whether this study has validity in showing that there are vastly different risk profiles among the different banks who are above the $50 billion trigger. So let me ask that question without referencing the study.

Isn't it correct that there are very, very different risk profiles in this pool of banks that are above the $50 billion trigger?

Ms. YELLEN. Yes, they have very different risk profiles. Some are essentially large community banks that are not especially risky. But, on the other hand, we have a couple of U.S. firms that are designated as G–SIBs now. They are a lot above 50, but they are certainly a lot smaller than the largest U.S. firms. But they have business models that make their activities systemically important. And so firms of the same size can have very different risk profiles

and the appropriate supervision of those firms can be quite different.

Senator CRAPO. Well, thank you. And this is not a question. I will just conclude with this comment, and that is, I think we would be much better served if our regulatory system allowed our regulators to focus on risk and regulate to that rather than forcing them to utilize arbitrary numbers.

Chairman SHELBY. Thank you, Senator Crapo.

Senator Reed.

Senator REED. Well, thank you very much, Mr. Chairman. Just quickly, because I have had the opportunity to listen to these questions, your position would be that a threshold is appropriate, but then discretion to look at different banks over that threshold differently is what really you think is the ideal?

Ms. YELLEN. Well, within limits, we can tailor our supervision to the profiles of the firms. I guess I would be concerned if the threshold is raised, we are now saying that banks that used to be above the threshold now fall below the new threshold. They are no longer automatically subject to a number of requirements.

Senator REED. And they might be engaged in risky behaviors that——

Ms. YELLEN. Yeah, and we might want to, as supervisors, say no, no, no. But those two firms, they really need to continue doing that. We know they are now below the threshold, but we want to subject them to it anyhow because it is right for them.

Now, there may be many other firms that have now been relieved from what was a burden that is not appropriate for them.

Senator REED. So just to be clear, this issue of threshold is not to essentially if you get below a threshold, you do not have any responsibility. What you want to be able is to follow risk even if it is below the threshold.

Ms. YELLEN. That is right. But we have observed that, for example, quite a number of firms that are just above the $50 billion threshold, we are really imposing some burdens on them that it is not clear that the benefits exceed the costs there.

Senator REED. Just a final point. There is sort of a functional value of having a threshold.

Ms. YELLEN. Yes.

Senator REED. However you want to characterize it, because if you do not, then you have to have sort of a contest with each institution about whether they fit within your criteria, whether they truly have risk, and you do not have the entree you need to basically make your valuation. You know, you have to fight your way through the door. Is that correct?

Ms. YELLEN. That is right. And I used the words "modest increase in the threshold."

Senator REED. All right. Thank you.

My real question is with the now ubiquitous issue of cybersecurity. First, a two-pronged question. One is the cybersecurity of the Federal Reserve, and then as importantly, maybe more importantly, how effective you are in ensuring that your regulated institutions have cybersecurity protections that are effective, because this is the issue of the moment and of the next decade or more—millennium maybe.

Ms. YELLEN. Absolutely agreed. We internally are highly focused on cybersecurity. I believe we have a robust and comprehensive cybersecurity system in place. We realize that the nature of the threats we face are constantly evolving. We are routinely doing self-evaluations of our vulnerabilities and engaging third parties to review what we are doing.

We have a National Incident Response Team that is constantly 24/7 responsible for looking at intrusion detection, incident response, vulnerable assessments, trying to do their own penetration tests to see how secure we are. We have business continuity plans for all of our business lines, including our most systemically important payment systems like Fedwire and for our open market operations. If the primary operators of these systems were to suffer an attack, we have backup facilities that could take over the operations. So that is sort of a——

Senator REED. Madam Chair, switching to your regulated industry, are you testing them as hard? Are you going in with teams to assess? Are you trying to sort of break in—I mean, in terms of as a regulator looking to see if they are conducting operations appropriately?

Ms. YELLEN. So I do not think we are breaking in and doing our own detection tests. But it is an important aspect of our supervision to ensure financial institutions have appropriate measures in place. We have specialized teams of supervisors that are trained in IT security who examine the institutions to make sure that they are appropriately—taking the appropriate steps, and we work jointly with other regulators through the FFIEC for the financial sector more broadly under the leadership of Treasury. And we support efforts throughout the Government to make sure that we are addressing these threats.

Senator REED. Thank you very much. I think the nature of the threat is we will be having this conversation for a long time.

Ms. YELLEN. We will.

Chairman SHELBY. Senator Warner, finally.

Senator WARNER. Thank you, Mr. Chairman. I will go ahead and start.

Chairman SHELBY. I am sorry. If I could, Senator Schumer came back.

Senator SCHUMER. I will let Senator Warner go.

Chairman SHELBY. He was here earlier. He came back.

Senator WARNER. Senator Schumer was hoping to learn from some of my comments, and then he can follow up on them.

Chairman SHELBY. He yielded to you, so maybe we will——

Senator SCHUMER. Mark, do not mess with me.

[Laughter.]

Senator WARNER. I want to start by complimenting the Chairman on one of his first questions to Chair Yellen about the notion of taking some of these funds that are used to shore up the financial system and using them for purposes not related to the financial system, the way I believe some people have proposed related to highways.

This is what happens when you skip the line in the hierarchy on the Democratic side.

[Laughter.]

Senator SCHUMER. Those are the big banks.

Senator WARNER. Although I would acknowledge that while I have great sympathy, you know, for the fact that our community-based banks, close to 7,000 of them, are buying into this, getting the 6-percent return, you know, some of the money market funds that can access the emergency window at 50, 60, 70, 80 basis points, if they have to then get this ability to invest at 6 percent, that is a pretty good trade for the money center banks that the community banks do not have——

Senator SCHUMER. I am going to forgo my line of questioning.

[Laughter.]

Senator WARNER. The one thing I know that I think Senator Warren and probably Senator Brown offered, I actually do believe on the resolution plans that we have made progress and that we are seeing plans with greater rigor and, candidly, even some of the plans in terms of the capital standards that are being put in place might even get close to meeting Senator Brown and Senator Vitter's requirements.

The one area that we still do not have the regs out on, though, is the regs on the long-term debt and how we have got to make sure that that long-term debt is clear, that it could be convertible in the event of a challenge so that we can use bankruptcy, so that we can meet the goals that Senator Brown so carefully articulated.

I think what I would love to just hear is some assurance that we are going to see those final regs by the end of the year so that we can have this full guidance out about these resolution plans.

Ms. YELLEN. So I cannot give you a specific date, but I want to assure you it is a very high priority item for us. We have not——

Senator WARNER. Chair Yellen, I did not say specific date. I am just saying end of the year. You know, that gives you half the year.

Ms. YELLEN. I am loath to promise a date. This is really important to us. This is not something that we are just letting slip. It is right at the top of our agenda——

Senator WARNER. But when we look at——

Ms. YELLEN. ——to get this done.

Senator WARNER. ——the capital structures and the kind of increased ability for these large banks to withstand trauma, having those rules out on the long-term debt and that conversion component really, you know——

Ms. YELLEN. Agreed. I totally agree.

Senator WARNER. Because I really want to be able to respond to Senator Brown in an artful and complete way that his approach maybe has been solved by those of us who thought Title 1 and Title 2 got at this issue.

Ms. YELLEN. So we completely agree. It is very important for there to be a long-term debt requirement. Most of these firms in their living wills propose a resolution strategy that is similar to the FDIC's single point of entry strategy that they would use under Title 2.

Senator WARNER. Right.

Ms. YELLEN. In either case, it requires adequate long-term debt. We are working jointly with the FDIC trying to figure out the right parameters. We are working through the FSB. There is a TLAC

agreement. We want to see this globally. I promise to get it done just as soon as we can. I am not going to let it——

Senator WARNER. It sounds like—end of the year sounds like a great time. But let me——

Ms. YELLEN. I promise to make every effort to do so.

Senator SCHUMER. He has spoken.

[Laughter.]

Senator WARNER. You know, one of the things that we have seen—let us switch to kind of world monetary policy for a moment. You know, as we see the Bank of Japan and the ECB continue to deal with their currencies, which indirectly obviously makes their products cheaper, our products more expensive, do you worry at all that the actions of these other central banks are putting even more undue pressure on America to be the engine that drives and affects the whole world's economy because of their monetary policy actions?

Ms. YELLEN. Well, monetary policy for domestic purposes often has some impact on a country's exchange rate. So the fact that we have a stronger economy, are likely to raise rates sooner, and they are continuing to ease monetary policy, those factors have tended to push up the dollar. That has tended to create a drag for net exports and to diminish our growth prospects, and that is something that affects the stance and appropriate future stance of monetary policy.

Now, even taking all of that into account, the very significant appreciation we have seen of the dollar, we need to put that in the context of the overall strength in domestic spending in the U.S. economy. Our committee concluded that even taking that into account, the continuing drag there, we still think the U.S. economy is going to grow and will probably remain appropriate.

Senator WARNER. But this will be a factor—and my time is up.

Ms. YELLEN. It is a factor——

Senator WARNER. This will be a factor the FOMC will look at since——

Ms. YELLEN. Absolutely, always looking at——

Senator WARNER. ——in effect, they are continuing to put all these burdens on our country's economy to kind of carry the whole world forward.

Ms. YELLEN. It is a factor. We are constantly looking at it. That is essentially what is happening.

Chairman SHELBY. Before I recognize Senator Schumer, I would like to clarify the record. The bill that was reported out of here, our banking legislation, back in May does not raise the threshold in Section 165 of Dodd-Frank to $500 billion, as a lot of people think. In fact, the legislation keeps the $50 billion threshold in place for all institutions to be considered for enhanced prudential regulation and gives the regulators—the Fed, generally—the discretion to determine what institutions above $50 billion should be subject to it. Banks above $500 billion would receive no such discretion. I just wanted to clear the record on this.

Senator Schumer.

Senator SCHUMER. Thank you, Mr. Chairman——

Senator BROWN. Could I speak for a moment?

Chairman SHELBY. Yes, sir, Senator Brown.

Senator BROWN. While the Chairman technically is correct, the difficulty for FSOC designation was made much greater, so the—I believe that what Senator Warren said is correct, that it does not protect the safety and soundness of our—that legislation can threaten the safety and soundness of our banking system. I will leave it at that, and we can debate this for a long time.

Chairman SHELBY. We will.

[Laughter.]

Chairman SHELBY. Senator Schumer.

Senator SCHUMER. Thank you, Mr. Chairman.

Chairman SHELBY. Thank you for your——

Senator SCHUMER. No problem. Thank you. And thank you, Chairman.

As you stated in your testimony, the FOMC will likely look to raise the Federal funds rate at some point before the end of the year, and you and the others on the FOMC must ultimately make this decision, weighing all the information at your disposal. I understand that.

But as we have discussed previously, I am still troubled by sluggish wage growth in America. Along with tepid wage growth, we continue to see depressed labor force participation, inflation continues to run well below the 2-percent target. So I am left to question whether there is still significant slack in the labor market.

Views may differ here. I have heard from experts on both sides. But I refuse to let the loud voices of those screaming for the Fed to act to drown out the voices of middle-class working families who continue to wait quietly for economic recovery to show up in their take-home pay. And so the question of when the Fed will raise rates has received a lot of attention, but as I have said before, I believe the single biggest problem facing this country is the decline of middle-class income. And as you know, middle-class incomes have decreased by 6.5 percent. Median income adjusted for inflation is $3,600 lower than when President Bush took office.

So my question is a simple one: What more can be done? How can we create better individuals to increase productivity? What do you see as critical catalysts for stronger wage growth? Because it almost seems we are pushing on a wet noodle?

Ms. YELLEN. Well, we have seen structural forces over a long period of time push down on middle-class wages, and the economic research that has been done suggests a continuing high demand for skilled labor and declining demand for less skilled labor. We see an increasing wage gap between those who are more skilled and less skilled, partly reflecting the nature of technological change and globalization. And productivity growth, as you mentioned, has certainly slowed down since 2007. We point this out in the *Monetary Policy Report*. It has been decidedly slower than before that. And I think it is important to focus on policies that would improve productivity growth. They have to do with making sure that every American child is able to get a really world-class education and is really able to succeed in this economy, and that we take actions to promote innovation and entrepreneurship and capital investment, both public and private, that are necessary to drive innovation.

I think those are the kinds of policies that Congress and the public need to consider to address these. These are deeper structural

trends that are not just related to the cyclical state of the economy, and they have been around for a long time, and it is appropriate——

Senator SCHUMER. And there is certainly a limit what monetary policy——

Ms. YELLEN. There is.

Senator SCHUMER. We understand that. But here we are facing sequestration here in the Congress, and current spending bills proposed by my colleagues on the other side of the aisle would slash funding for key resources—supplemental opportunity grants, Pell grants, $300 million from employment and job training programs, cuts to education. These are the kinds of programs you mentioned in part as catalysts to stronger wage growth. So I do not want you to weigh in on specific programs. Obviously, that is not your job. But let me ask you this: As we look toward the end of the year, can you talk about the broader impact to our economic recovery that drastic, automatically triggered budget cuts may have as well as the potential for a Government shutdown and the uncertainty surrounding the debt ceiling? Do you believe these events could create fiscal headwinds for our recovery?

Ms. YELLEN. Well, in recent years, fiscal policy has gone from creating a significant drag on the economy to being roughly neutral, and that shift in a favorable direction I think has helped to promote economic recovery. So I would be concerned about something that was a large fiscal shift. I do not know whether or not this would be. But policies or governmental actions that create uncertainty, whether it is a Government shutdown or running up against the debt ceiling, that reduce the confidence of households and businesses on the ability of their Government to function in an effective way and create fear and loss of confidence obviously are not helpful to recovery.

Senator SCHUMER. And just getting to the wage growth conundrum, wouldn't cutting education and cutting training programs that make workers more able to be productive be counter to that?

Ms. YELLEN. So I do not want to, as you indicated, weigh in on specific programs, but I do think that education programs, programs to promote training and skills acquisition are very critical in addressing wage inequality.

Senator SCHUMER. Thank you.

Thank you, Mr. Chairman.

Chairman SHELBY. Madam Chair, we thank you again for your appearance and your willingness to come, and we hope we can work with you on some of the proposed legislation because I think there are some misperceptions of what we are trying to do. We are trying to give you a lot of power—you already have a lot of power—and some discretion, but none of us wants to weaken the banking system.

Thank you.

Ms. YELLEN. Thank you, Chair Shelby. I look forward to working with you and the Committee.

Chairman SHELBY. Thank you. This hearing is adjourned.

[Prepared statements, responses to written questions, and additional material supplied for the record follow:]

PREPARED STATEMENT OF JANET L. YELLEN

CHAIR, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

JULY 16, 2015

Chairman Shelby, Ranking Member Brown, and Members of the Committee, I am pleased to present the Federal Reserve's semiannual *Monetary Policy Report* to the Congress. In my remarks today, I will discuss the current economic situation and outlook before turning to monetary policy.

Current Economic Situation and Outlook

Since my appearance before this Committee in February, the economy has made further progress toward the Federal Reserve's objective of maximum employment, while inflation has continued to run below the level that the Federal Open Market Committee (FOMC) judges to be most consistent over the longer run with the Federal Reserve's statutory mandate to promote maximum employment and price stability.

In the labor market, the unemployment rate now stands at 5.3 percent, slightly below its level at the end of last year and down more than 4½ percentage points from its 10 percent peak in late 2009. Meanwhile, monthly gains in nonfarm payroll employment averaged about 210,000 over the first half of this year, somewhat less than the robust 260,000 average seen in 2014 but still sufficient to bring the total increase in employment since its trough to more than 12 million jobs. Other measures of job market health are also trending in the right direction, with noticeable declines over the past year in the number of people suffering long-term unemployment and in the numbers working part time who would prefer full-time employment. However, these measures—as well as the unemployment rate—continue to indicate that there is still some slack in labor markets. For example, too many people are not searching for a job but would likely do so if the labor market was stronger. And, although there are tentative signs that wage growth has picked up, it continues to be relatively subdued, consistent with other indications of slack. Thus, while labor market conditions have improved substantially, they are, in the FOMC's judgment, not yet consistent with maximum employment.

Even as the labor market was improving, domestic spending and production softened notably during the first half of this year. Real gross domestic product (GDP) is now estimated to have been little changed in the first quarter after having risen at an average annual rate of 3½ percent over the second half of last year, and industrial production has declined a bit, on balance, since the turn of the year. While these developments bear watching, some of this sluggishness seems to be the result of transitory factors, including unusually severe winter weather, labor disruptions at West Coast ports, and statistical noise. The available data suggest a moderate pace of GDP growth in the second quarter as these influences dissipate. Notably, consumer spending has picked up, and sales of motor vehicles in May and June were strong, suggesting that many households have both the wherewithal and the confidence to purchase big-ticket items. In addition, homebuilding has picked up somewhat lately, although the demand for housing is still being restrained by limited availability of mortgage loans to many potential homebuyers. Business investment has been soft this year, partly reflecting the plunge in oil drilling. And net exports are being held down by weak economic growth in several of our major trading partners and the appreciation of the dollar.

Looking forward, prospects are favorable for further improvement in the U.S. labor market and the economy more broadly. Low oil prices and ongoing employment gains should continue to bolster consumer spending, financial conditions generally remain supportive of growth, and the highly accommodative monetary policies abroad should work to strengthen global growth. In addition, some of the headwinds restraining economic growth, including the effects of dollar appreciation on net exports and the effect of lower oil prices on capital spending, should diminish over time. As a result, the FOMC expects U.S. GDP growth to strengthen over the remainder of this year and the unemployment rate to decline gradually.

As always, however, there are some uncertainties in the economic outlook. Foreign developments, in particular, pose some risks to U.S. growth. Most notably, although the recovery in the euro area appears to have gained a firmer footing, the situation in Greece remains difficult. And China continues to grapple with the challenges posed by high debt, weak property markets, and volatile financial conditions. But economic growth abroad could also pick up more quickly than observers generally anticipate, providing additional support for U.S. economic activity. The U.S. economy also might snap back more quickly as the transitory influences holding down first-half growth fade and the boost to consumer spending from low oil prices shows through more definitively.

As I noted earlier, inflation continues to run below the Committee's 2-percent objective, with the personal consumption expenditures (PCE) price index up only ¼ percent over the 12 months ending in May and the core index, which excludes the volatile food and energy components, up only 1¼ percent over the same period. To a significant extent, the recent low readings on total PCE inflation reflect influences that are likely to be transitory, particularly the earlier steep declines in oil prices and in the prices of non-energy imported goods. Indeed, energy prices appear to have stabilized recently.

Although monthly inflation readings have firmed lately, the 12-month change in the PCE price index is likely to remain near its recent low level in the near term. My colleagues and I continue to expect that as the effects of these transitory factors dissipate and as the labor market improves further, inflation will move gradually back toward our 2-percent objective over the medium term. Market-based measures of inflation compensation remain low—although they have risen some from their levels earlier this year—and survey-based measures of longer-term inflation expectations have remained stable. The Committee will continue to monitor inflation developments carefully.

Monetary Policy

Regarding monetary policy, the FOMC conducts policy to promote maximum employment and price stability, as required by our statutory mandate from the Congress. Given the economic situation that I just described, the Committee has judged that a high degree of monetary policy accommodation remains appropriate. Consistent with that assessment, we have continued to maintain the target range for the Federal funds rate at 0 to ¼ percent and have kept the Federal Reserve's holdings of longer-term securities at their current elevated level to help maintain accommodative financial conditions.

In its most recent statement, the FOMC again noted that it judged it would be appropriate to raise the target range for the Federal funds rate when it has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2-percent objective over the medium term. The Committee will determine the timing of the initial increase in the Federal funds rate on a meeting-by-meeting basis, depending on its assessment of realized and expected progress toward its objectives of maximum employment and 2-percent inflation. If the economy evolves as we expect, economic conditions likely would make it appropriate at some point this year to raise the Federal funds rate target, thereby beginning to normalize the stance of monetary policy. Indeed, most participants in June projected that an increase in the Federal funds target range would likely become appropriate before year-end. But let me emphasize again that these are projections based on the anticipated path of the economy, not statements of intent to raise rates at any particular time.

A decision by the Committee to raise its target range for the Federal funds rate will signal how much progress the economy has made in healing from the trauma of the financial crisis. That said, the importance of the initial step to raise the Federal funds rate target should not be overemphasized. What matters for financial conditions and the broader economy is the entire expected path of interest rates, not any particular move, including the initial increase, in the Federal funds rate. Indeed, the stance of monetary policy will likely remain highly accommodative for quite some time after the first increase in the Federal funds rate in order to support continued progress toward our objectives of maximum employment and 2-percent inflation. In the projections prepared for our June meeting, most FOMC participants anticipated that economic conditions would evolve over time in a way that will warrant gradual increases in the Federal funds rate as the headwinds that still restrain real activity continue to diminish and inflation rises. Of course, if the expansion proves to be more vigorous than currently anticipated and inflation moves higher than expected, then the appropriate path would likely follow a higher and steeper trajectory; conversely, if conditions were to prove weaker, then the appropriate trajectory would be lower and less steep than currently projected. As always, we will regularly reassess what level of the Federal funds rate is consistent with achieving and maintaining the Committee's dual mandate.

I would also like to note that the Federal Reserve has continued to refine its operational plans pertaining to the deployment of our various policy tools when the Committee judges it appropriate to begin normalizing the stance of policy. Last fall, the Committee issued a detailed statement concerning its plans for policy normalization and, over the past few months, we have announced a number of additional details regarding the approach the Committee intends to use when it decides to raise the target range for the Federal funds rate.

Federal Reserve Transparency and Accountability

These statements pertaining to policy normalization constitute recent examples of the many steps the Federal Reserve has taken over the years to improve our public communications concerning monetary policy. As this Committee well knows, the Board has for many years delivered an extensive report on monetary policy and economic developments at semiannual hearings such as this one. And the FOMC has long announced its monetary policy decisions by issuing statements shortly after its meetings, followed by minutes of its meetings with a full account of policy discussions and, with an appropriate lag, complete meeting transcripts. Innovations in recent years have included quarterly press conferences and the quarterly release of FOMC participants' projections for economic growth, unemployment, inflation, and the appropriate path for the Committee's interest rate target. In addition, the Committee adopted a statement in 2012 concerning its longer-run goals and monetary policy strategy that included a specific 2-percent longer-run objective for inflation and a commitment to follow a balanced approach in pursuing our mandated goals.

Transparency concerning the Federal Reserve's conduct of monetary policy is desirable because better public understanding enhances the effectiveness of policy. More important, however, is that transparent communications reflect the Federal Reserve's commitment to accountability within our democratic system of Government. Our various communications tools are important means of implementing monetary policy and have many technical elements. Each step forward in our communications practices has been taken with the goal of enhancing the effectiveness of monetary policy and avoiding unintended consequences. Effective communication is also crucial to ensuring that the Federal Reserve remains accountable, but measures that affect the ability of policymakers to make decisions about monetary policy free of short-term political pressure, in the name of transparency, should be avoided.

The Federal Reserve ranks among the most transparent central banks. We publish a summary of our balance sheet every week. Our financial statements are audited annually by an outside auditor and made public. Every security we hold is listed on the Web site of the Federal Reserve Bank of New York. And, in conformance with the Dodd-Frank Act, transaction-level data on all of our lending—including the identity of borrowers and the amounts borrowed—are published with a 2-year lag. Efforts to further increase transparency, no matter how well intentioned, must avoid unintended consequences that could undermine the Federal Reserve's ability to make policy in the long-run best interest of American families and businesses.

Summary

In sum, since the February 2015 *Monetary Policy Report,* we have seen, despite the soft patch in economic activity in the first quarter, that the labor market has continued to show progress toward our objective of maximum employment. Inflation has continued to run below our longer-run objective, but we believe transitory factors have played a major role. We continue to anticipate that it will be appropriate to raise the target range for the Federal funds rate when the Committee has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2-percent objective over the medium term. As always, the Federal Reserve remains committed to employing its tools to best promote the attainment of its dual mandate.

Thank you. I would be pleased to take your questions.

RESPONSES TO WRITTEN QUESTIONS OF CHAIRMAN SHELBY FROM JANET L. YELLEN

Q.1. Many economists have proposed that the Federal Reserve should adopt a strategy of targeting the growth rate of nominal GDP, which would create a countercyclical monetary policy to offset booms and downturns in the economy while also reducing uncertainty.

Does the Federal Open Market Committee (FOMC) consider the rate of nominal GDP growth as a priority in its monetary policy decisions?

A.1. The Federal Reserve's mandate, as established by Congress in the Federal Reserve Act, is "to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates."[1] To assess progress toward these statutory objectives, the FOMC considers information about a wide range of variables, including the rate of nominal GDP growth. This information encompasses indicators of inflation pressures, measures of labor market conditions and real economic activity, and readings on financial and international developments. Nominal GDP growth, by itself, does not give a complete picture of the economy's performance; moderate nominal GDP growth could reflect, for example, strong growth of real economic activity with low inflation, or weak economic growth with high inflation.

Q.2. Could the FOMC adopt a strategy of targeting nominal GDP?

A.2. While, conceptually, the FOMC could adopt a strategy of targeting nominal GDP, there are a number considerations regarding the satisfaction of the Federal Reserve's statutory objectives and the balance of prospective benefits and costs that such strategy would entail relative to other policy frameworks.

The expression "nominal GDP targeting" has been used to refer to two distinct policy strategies. First, a central bank could target the growth rate of nominal GDP.[2] As pointed out by Bernanke and Mishkin (1997), and as illustrated by the international experience, modern inflation targeting frameworks generally allow policymakers ample flexibility to stabilize economic activity in the near term or to look beyond transitory movements in inflation due to swings in global energy and trade prices. The research literature suggests that the macroeconomic outcomes achieved by central banks pursuing an inflation objective tend to be similar to those they would have achieved had they targeted the growth rate of nominal GDP.[3] Second, nominal GDP targeting can be understood

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[1] The FOMC judges that moderate longer-term interest rates would follow if the Federal Reserve achieves its objectives of maximum employment and stable prices; hence the FOMC often refers to its statutory objectives as the "dual mandate." The FOMC also judges that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve's statutory mandate. In setting monetary policy, the FOMC seeks to mitigate deviations of inflation from this 2 percent longer-run goal and deviations of employment from the committee's assessments of its maximum level. See Board of Governors (2015), "Statement on Longer-Run Goals and Monetary Policy Strategy", press release, January 27, *http://www.federalreserve.gov/monetarypolicy/files/FOMC_LongerRunGoals.pdf.*

[2] For early arguments in favor of targeting the growth rate of nominal GDP, see Taylor (1985), "What Would Nominal GDP Targeting Do to the Business Cycle?" Carnegie-Rochester Conference Series on Public Policy, Amsterdam: North-Holland, vol. 22, pp. 61–84.

[3] See Ben S. Bernanke and Frederic S. Mishkin (1997), "Inflation Targeting: A New Framework for Monetary Policy?" *Journal of Economic Perspectives*, vol. 11(2), pp. 97–116. For arguments that policymakers under inflation targeting regimes afforded considerable flexibility to re-

as a monetary policy strategy in which the central bank seeks to stabilize the level of nominal GDP around a preannounced trend path in order to achieve its longer-run statutory objectives.

Because the difference between nominal GDP and its targeted value can be expressed as the sum of a price gap and a real activity gap, nominal GDP targeting recognizes, albeit imperfectly, elements on both sides of the FOMC's dual mandate.[4] At least in theory, monetary policy that targets nominal GDP can help correct the effects of aggregate demand shocks on both real GDP and the price level. For instance, under nominal GDP level targeting, the central bank would respond to a shortfall in the level of nominal GDP by easing monetary policy to generate a period of above-trend nominal GDP growth in order to bring nominal GDP back to the original trend path; that policy easing would increase both real activity and the price level. A credible expectation that monetary policy will be accommodative in the future, in turn, helps to mitigate the initial fall in output and inflation. The theoretical benefits of targeting the level of nominal GDP hinge on the credibility of the promise to stimulate the economy down the road, the public's ability to form accurate expectations of the policy response and its effects, and, more generally, the public's understanding of the way the economy operates and interacts with monetary policy.

There are, however, some important practical considerations with the pursuit of nominal GDP targeting. First, when faced with a very large fall in nominal GDP, as occurred during the 2008–2009 recession, a central bank committed to a nominal GDP target would promise to eventually lower the unemployment rate well below the natural rate of unemployment and to raise inflation above its longer-run average for some time in order to lift nominal GDP back to its targeted level. When that promise comes due, it is not obvious that the central bank and the public would judge that running the economy that hot—possibly over a period of several years after the initial shock has come to pass—is desirable.[5]

Second, if the central bank is intent on delivering the promised period of very low unemployment and temporarily high inflation, there can be risks to the potency and credibility of monetary policy from adverse movements in expectations. Once resource slack has been reabsorbed, the maintenance of monetary conditions that are sufficiently accommodative to lift inflation above the longer-run objective could be misinterpreted by the public as evidence that the central bank is not committed to its price stability mandate, thus heightening the risk that longer-run inflation expectations could become unanchored.

Third, data on nominal GDP are not available as timely and frequently as, say, data on inflation and the unemployment rate. Moreover, nominal GDP data are subject to revisions, which can be

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spond to the slump in output during the financial crisis, see Ben S. Bernanke (2011), "The Effects of the Great Recession on Central Bank Doctrine and Practice", speech delivered at Federal Reserve Bank of Boston 56th Economic Conference, Boston, Massachusetts, October 18.

[4] Output prices cover a broader set of goods and services prices than the index of personal consumption expenditures that the FOMC uses to assess progress toward its longer-run inflation objective. Moreover, the real activity gap is only imperfectly related to the gap between employment and the statutory goal of maximum employment.

[5] This phenomenon is known as the time-consistency problem. It arises because the benefits of nominal GDP targeting are frontloaded whereas the costs are postponed and can be avoided by reneging on the promise.

large and occur several quarters or even years after the release of the initial estimates. These revisions directly alter the size of the gap between current nominal GDP and its targeted level, and so might call for a change in the stance of monetary policy even if the public perceives economic conditions as unchanged. Furthermore, nominal GDP is influenced by a number of nonmonetary factors such as population growth, the labor force participation rate, the pace of technological advances, and measurement issues such as price adjustments for quality changes. Innovations to these nonmonetary factors affect the price level or inflation rate that is consistent with the achievement of a given nominal GDP target.[6] For all these reasons, the demands on the public's attention and comprehension imposed by nominal GDP targeting are arguably nontrivial.

Q.3. A recent report from the Bank of International Settlements (BIS) found that the prolonged period of low interest rates is damaging the U.S. economy, resulting in "too much debt and too little growth." In addition, the report states that "low rates may in part have contributed to . . . costly financial booms and busts." Do you agree with the BIS that persistently low interest rates can have negative effects on the U.S. economy? Please explain.

A.3. The accommodative monetary policy of the Federal Reserve is designed to fulfill the dual mandates of maximum employment and price stability set for us by the Congress. In particular, low interest rates are currently needed to provide support for a return to full employment and for inflation to return to the FOMC's longer run objective over time. When the economy has strengthened, interest rates will rise in a sustainable way. In particular, the FOMC has indicated that it anticipates that it will be appropriate to raise the target range for the Federal funds rate when it has seen some further improvement in the labor market and is reasonably confident that inflation will move back to its 2-percent objective over the medium term.

However, the Federal Reserve is also mindful that a prolonged period of low rates could encourage imprudent risk taking by some investors and eventually undermine financial stability, with negative effects on the U.S. economy. For this reason, the Federal Reserve, on its own and with other domestic and international regulators, has taken steps to boost the resilience of the financial system and has increased its efforts to comprehensively monitor the financial system for building vulnerabilities and to guide actions to mitigate those risks.

Q.4. In your previous testimony before this Committee on February 24th, you stated that in the FOMC's monetary policy decision-making process, "it is useful for us to consult the recommendations of rules of the Taylor type. We do so routinely, and they are an important input into what ultimately is a decision that requires sound judgment."

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[6] Given a fixed nominal GDP target, volatility in these nonmonetary factors thus directly translates into volatility in the level of inflation consistent with achieving the target. This volatility could conflict with the Federal Reserve's statutory mandate of promoting "stable prices." To be sure, the FOMC could offset the effects on inflation of movements in these nonmonetary factors by adjusting the nominal GDP target. However, occasional adjustments to the target could create some communication challenges.

Which monetary policy rules are used by the FOMC?

A.4. The FOMC treats the prescriptions of monetary policy rules as useful benchmarks for setting the Federal funds rate. Accordingly, ahead of every FOMC meeting, Federal Reserve staff prepare a discussion of policy prescriptions from several policy rules for the committee's consideration. For example, the most recent staff briefing materials that are available to the public, which cover FOMC meetings in 2009, considered prescriptions from the following five simple rules: the canonical Taylor (1993) rule, the Taylor (1999) rule, a first-difference rule, an empirical rule approximating past FOMC behavior, and an estimated forecast-based rule. Those materials also discussed "optimal control" policy prescriptions, which are simulations of the path for the Federal funds rate that delivers the best macroeconomic outcomes given the Federal Reserve staffs baseline economic outlook and a "loss function" that considers larger deviations of real GDP from the level consistent with full employment to be appreciably more costly than smaller deviations, and similarly for deviations of inflation from the longer-run objective and for volatility in the Federal funds rate.[7] In addition, FOMC discussion of monetary policy rules is informed by in-depth technical memos and working papers that are periodically prepared by Federal Reserve staff, as well as by contributions from the academic literature.[8]

The FOMC considers the prescriptions of a variety of monetary policy rules because no single rule has been shown to be fully satisfactory given the complexity of the economy and constantly evolving economic relationships. Many studies have shown that in normal times, when the economy is buffeted by typical shocks, simple rules can deliver outcomes that are close to those under optimal policies. However, the simple rules that perform well under ordinary circumstances may disappoint during periods of, say, persistently strong headwinds restraining recovery.[9] Moreover, simple rules that perform well in some economic environments may perform poorly when economic relationships are unstable, because such rules do not quickly adapt to changes in potential output growth or fail to incorporate financial stability concerns in times of crisis.[10]

Q.5. Please submit to us a list of each rule discussed by the FOMC at its most recent meeting.

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[7] For an example of policy prescriptions from simple rules and optimal control exercises, along with a discussion of how they inform policy, see Janet Yellen (2012), "Perspectives on Monetary Policy", speech delivered at the Boston Economic Club Dinner, Boston, Massachusetts, June 6. Complete model code of the Federal Reserve's FRB/US model and illustrative simulation programs, including sample code for optimal control policy, are publicly available on the Federal Reserve's Web site.

[8] Some of the staff's technical analysis reviewed by FOMC participants may be made public in the form of technical working papers, staff notes, and publications in academic journals. For an illustration of in-depth staff analysis using simple policy rules, including nominal GDP targeting rules, see William B. English, David Lopez-Salido, and Robert J. Tetlow, "The Federal Reserve's Framework for Monetary Policy: Recent Changes and New Questions", *IMF Economic Review*, vol. 63(1), pp. 22–70.

[9] For a discussion and an illustration of the shortcomings of simple Taylor-type rules in the wake of the Great Recession, see Janet Yellen (2012), "Revolution and Evolution in Central Bank Communications", speech delivered at the Haas School of Business, University of California, Berkeley, Berkeley, California, November 13.

[10] For studies of rule robustness, see, among others, John B. Taylor and John C. William (2011), "Simple and Robust Rules for Monetary Policy", in John C. Williams, Benjamin Friedman, and Michael Woodford (Eds.), *Handbook of Monetary Economics*, vol. 3, pp. 829–859.

A.5. Please see response to Question 4.

Q.6. Federal Reserve officials have stated that the Federal Reserve's practice of paying interest on banks' reserve balances has become an important tool of monetary policy. If that is the case, should this rate be set by the FOMC, which is responsible for monetary policy, rather than by the Federal Reserve Board of Governors? Please explain.

A.6. By statute, both the Federal Reserve and FOMC play important roles in the conduct of monetary policy, with the Federal Reserve being responsible for some policy tools and the FOMC being responsible for the others. The Federal Reserve and FOMC have worked collaboratively for decades to employ these policy tools in concert to effectively promote the Federal Reserve's long-run goals of maximum employment and stable prices.

Under the Federal Reserve Act, the Federal Reserve has authority over changes in reserve requirements and on interest on reserves. In addition, any change in the discount rate initiated by a Federal Reserve Bank is subject to review and determination by the Federal Reserve. Reserve requirements and the discount rate have been employed for many years as key elements of the framework that the FOMC has relied upon in managing the level of the Federal funds rate.

The interest rate paid on banks' reserve balances is an important new tool of monetary policy that is determined by the Federal Reserve. Following the examples of the discount rate and reserve requirements, the Federal Reserve has indicated that the interest on excess reserves rate will be set in a way to keep the Federal funds rate in the range established by the FOMC. Indeed, the FOMC noted in its September 2014 Policy Normalization Principles and Plans that the Federal Reserve intends to move the Federal funds rate into the target range set by the FOMC primarily by adjusting the interest rate it pays on excess reserve balances. The collaborative approach to monetary policy implementation to achieve overall monetary policy objectives was reiterated in the June 2015 FOMC meeting minutes, which noted that operational decisions regarding policy tools will be made in concert by the Federal Reserve and the FOMC.

Q.7. A Federal judge recently ruled in *Starr International Co. v. U.S.* that the actions in the bailout of AIG were beyond the authority of the Federal Reserve since "Section 13(3) did not authorize the Federal Reserve Bank to acquire a borrower's equity as consideration for the loan." The Board of Governors responded in a press release that its "actions in the AIG rescue during the height of the financial crisis in 2008 were legal, proper and effective."

Did the Federal Reserve conduct a legal analysis to reach this conclusion?

A.7. A comprehensive legal analysis supporting the conclusion that the Federal Reserve's actions in the American International Group (AIG) rescue were consistent with all applicable laws can be found in the United States' Post-Trial Brief in the Starr International court case, filed on March 23, 2015. *Starr International Co. v. U.S.*, No. 11-779C, U.S. Court of Federal Claims (Docket No. 434, pages 6–19). Attached is a copy of that brief, along with two internal Fed-

eral Reserve memoranda cited in it that relate to the issue of authority (JX–13 and DX–484). Some other publicly available filings in this case that also address the authority issue are Docket Nos. 55, 63, 248-1, 279, and 426; these can be found through the Federal Judiciary's system, "Public Access to Court's Electronic Records" or PACER, at *www.pacer.gov*. As you may be aware, the Department of Justice has cross-appealed the Court of Federal Claims decision in Starr, and we expect that the issue of the Federal Reserve' s authority will be addressed by the Federal Circuit.

Q.8. Please provide a copy of this analysis and all memoranda and related documents.

A.8. Please see response to question 5a.

Q.9. Market-based indicators of future economic activity are often more accurate than research-based predictions.

Does the FOMC use any market-based indicators (such as TIPS spreads) in its monetary policy decisions?

A.9. The FOMC is firmly committed to fulfilling its statutory mandate of promoting maximum employment and stable prices. The FOMC recognizes that the inflation expectations of those who set prices in the economy are an important determinant of the behavior of actual inflation. Consequently, the FOMC monitors both inflation expectations and the actual inflation rate in setting monetary policy.

The FOMC follows various measures of inflation expectations. One set of measures is based on financial instruments whose payouts are linked to inflation. For example, Treasury inflation protection securities (TIPS)—implied inflation compensation (or the TIPS break even inflation rate) is defined as the difference at comparable maturities between yields on nominal Treasury securities and yields on Treasury securities that are indexed to headline CPI inflation (or TIPS). Inflation swaps—contracts in which one party pays a certain fixed amount in exchange—for cash flows that are indexed to cumulative CPI inflation over some horizon—provide alternative measures of inflation compensation. These market-based measures provide information about market participants' expectations of inflation. However, extracting that information generally requires the application of economic theory and statistical models because these market-based measures reflect not only expected inflation, but also an inflation risk premium—the compensation that holders of nominal securities demand for bearing inflation risk—as well as other premiums driven by liquidity differences and shifts in the relative supply and demand of nominal versus inflation-indexed securities. Staff in the Federal Reserve System maintain several term structure models aimed at providing estimates of the inflation expectations and risk premiums that make up inflation compensation but results from those decompositions are sensitive to model specification.

In addition, the FOMC monitors measures of inflation expectations that are based on surveys of households, market participants, and professional forecasters. These measures elicit respondents' inflation expectations directly, although survey participants are not necessarily the price setters in the economy.

As none of available measures of inflation expectations is perfect, staff in the Federal Reserve System keep track of a wide array of such measures and continue their efforts to develop deeper understanding of the measures' behavior.

Q.10. Does the Federal Reserve have the authority to create a prediction market for economic indicators to help inform its monetary policy decisions?

A.10. A predictions market is a market where investors purchase financial contracts—futures or options for example—with real funds and the contract payoffs depend on the outcome of events, such as economic data releases or events. The Federal Reserve Act does not expressly provide the Federal Reserve with authority to establish and operate a predictions market. The Federal Reserve has not considered whether it has inherent authority or authority under other more general provisions of law to establish and operate a predictions market.

From time to time, there have been private sector efforts to create prediction markets for economic variables but they have not attracted widespread interest from investors. Indeed, some financial firms have experimented with running prediction markets for major economic releases. This information was useful in gauging market expectations ahead of economic releases but those markets are no longer active.

More broadly, the Federal Reserve regularly reviews information from financial markets to gauge market expectations about economic variables such as inflation or the Federal funds rate.

Q.11. If not, what clarification or authorization would be necessary from Congress to assure the Federal Reserve that predictions markets are an authorized tool for its economic research?

A.11. As noted above, the Federal Reserve regularly reviews financial data to gauge market participants' outlook for economic variables such as inflation or the Federal funds rate. If there were actively traded instruments based on other economic variables, the Federal Reserve would use that information for economic research and policy analysis as well. The Federal Reserve is not requesting specific authority to establish and operate a predictions market. In effect, establishing a predictions market would amount to establishing a futures and options exchange for special types of derivatives contracts. This is an undertaking that would involve many important operational and policy challenges for the Federal Reserve. Perhaps more importantly, the fact that existing futures and options exchanges and other large financial institutions have been unable to launch successful financial contracts of this type suggests that investor interest in such instruments is limited.

Q.12. On July 20, 2015, the Federal Reserve finalized the G–SIB surcharge proposal. The final rule adopts the proposed rule's methodology to identify whether a bank holding company is a G–SIB by considering the institution's size, interconnectedness, substitutability, complexity, and cross-jurisdictional activity. The final rule states that there "is general global consensus that each category included in the BCBS framework is a contributor to the risk a banking organization poses to financial stability." Please explain why

the Federal Reserve believes that this multifactor approach is an appropriate way to measure systemic importance.

A.12. The Federal Reserve believes that the multifactor approach used in the final G–SIB surcharge rule (final rule) is appropriate because it closely aligns with the considerations that the Federal Reserve may consider under section 165 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act). Section 165 of the Dodd-Frank Act (12 U.S.C. §5365) directs the Federal Reserve to implement enhanced prudential standards for certain bank holdings companies and nonbank financial companies. In prescribing more stringent prudential standards, the Federal Reserve may differentiate among companies on an individual basis or by category, capital structure, riskiness, complexity, financial activities (including the financial activities of their subsidiaries), size, and any other risk-related factors that the Federal Reserve deems appropriate.[11] Similarly, the final rule takes into account leverage, off-balance sheet exposures, interconnectedness with significant financial counterparties, the nature, scope, size, scale and mix of activities, degree of regulation, and liabilities. Consistent with that requirement, under the final rule, a firm's method 1 and method 2 scores are calculated using a measure of each firm's nature, scope, size, scale, concentration, interconnectedness, and mix of the activities. Global systemically important bank holding company (G–SIB) capital surcharges are established using these scores, and G–SIBs with higher scores are subject to higher G–SIB capital surcharges.

In addition, the Federal Reserve, along with other central banks, informed and contributed to the preparation of the 2009 Report to the G20 Finance Ministers and Central Bank Governors, titled "Guidance to Assess the Systemic Importance of Financial Institutions, Markets and Instruments: Initial Considerations—Background Paper" (available at *http://www.bis.org/publ/othp07b.pdf*) by participating in a comprehensive survey on what factors contribute to the classification of systemic importance. This report identified size, interconnectedness, substitutability, complexity, and cross-jurisdictional activity as trends in countries' assessments of systemic importance.

Q.13. It is my understanding that custodial banks have faced increasing difficulty in accepting cash deposits from their clients such as investment funds and institutional investors, in part due to regulatory requirements that provide disincentive for custodial banks to hold cash. Nonetheless, custodial banks play an important role of handling cash for investment funds and now face a multitude of regulations that inhibit their core activities.

Please provide a copy of any analysis the Federal Reserve has conducted to evaluate the impact of new regulations on custody banks' ability to accept cash deposits.

Please provide a copy of each analysis conducted by the Federal Reserve which considers the impact that such regulations would have on a custody bank during times of financial stress.

Please explain policy rationale for disincentivizing cash holdings by custodial banks.

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[11] 12 U.S.C. §5365(a)(2)(A).

A.13. I will first respond to your last inquiry, then to the first two. With regards to part (c), regulatory requirements that have been established by the Federal Reserve since the financial crisis are meant to address risks to which banking organizations are exposed, including the risks associated with funding in the form of cash deposits. The requirements were designed to increase the resiliency of banking organizations, enabling them to continue serving as financial intermediaries for the U.S. financial system and as sources of credit to households, businesses, State governments, and low-income, minority, or underserved communities during times of stress.

The supplementary leverage ratio rule (SLR rule), which requires internationally active banking organizations to hold at least 3 percent of total leverage exposure in tier 1 capital, calculates total leverage exposure as the sum of certain off-balance sheet items and all on-balance sheet assets.[12] The on-balance sheet portion does not take into account the level of risk of each type of exposure and includes cash. As designed, the SLR rule requires a banking organization to hold a minimum amount of capital against on-balance sheet assets and off-balance sheet exposures, regardless of the risk associated with the individual exposures. This leverage requirement is designed to recognize that the risk a banking organization poses to the financial system is a factor of its size as well as the composition of its assets. Excluding select categories of on-balance sheet assets, such as cash, from the total leverage exposure would generally be inconsistent with this principle.

Moreover, in some instances the regulatory requirements regarding liquidity and liquidity risk management provide a favorable treatment to specific types of cash deposits. For example, the outflow rates for deposits under the Liquidity Coverage Ratio: Liquidity Risk Management Standards rule (LCR rule) are based on factors such as counterparty type and tenor.[13] Relevant to the activities of custodial banks, the LCR rule provides favorable outflow treatment to operational deposits because the LCR rule acknowledges that these types of deposits exhibit a more stable funding profile than non-operational funding.[14] To be afforded this favorable treatment, the deposits must meet a set of specific criteria associated with such increased stability.[15] In this way, the LCR rule takes into account the risk that is inherent in the particular type of deposit held at the bank.

With regard to parts (a) and (b) of Question 13, as part of several rulemakings that are applicable to U.S. banking organizations identified as global systemically important banking organizations (G–SIBs), which includes the largest U.S. custodial banking organizations, Federal Reserve staff estimated the impact that such rulemakings would have on these firms' regulatory capital ratios, including on the leverage ratio.

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[12] See 79 FR 57725 (September 26, 2014), available at *http://www.gpo.gov/fdsys/pkg/FR-2014-09-26/pdf/2014-22083.pdf.*

[13] See 79 FR 61440 (October 10, 2014), available at *http://www.gpo.gov/fdsys/pkg/FR-2014-10-10/pdf/201422520.pdf.*

[14] See page 61502 of 79 FR 61440 (October 10, 2014), available at *http://www.gpo.gov/fdsys/pkg/FR-2014-1010/pdf/2014-22520.pdf.*

[15] See page 61498 of 79 FR 61440 (October 10, 2014), available at: *http://www.gpo.gov/fdsys/pkg/FR-2014-1010/pdf/2014-22520.pdf.*

For example, in April 2014, the Federal Reserve issued a final rule that would require U.S. top-tier bank holding companies identified as G–SIBs to maintain an SLR of more than 5 percent to avoid restrictions on capital distributions and discretionary bonus payments to executive officers.[16] Insured depository institutions of these BHCs must maintain at least a 6 percent SLR to be "well-capitalized" under the Federal banking agencies' prompt corrective action framework. Prior to finalizing these requirements, the staff of the Federal banking agencies, including the Federal Reserve, analyzed regulatory and confidential supervisory data to determine the quantitative impact of these rules on subject firms. Federal Reserve staff estimated a tier 1 capital shortfall across U.S. G–SIBs of approximately $68 billion to meet a 5 percent SLR, but all internationally active banking organizations firms were estimated to already meet the minimum 3 percent SLR requirement.[17] The SLR rule requires public disclosures beginning in 2015, and provides a transitional period until January 1, 2018, for firms to comply with these standards. According to their public disclosures, U.S. G–SIBs have made significant progress in complying with the enhanced SLR standards that take effect in 2018.

As another example, more recently, in July 2015, the Federal Reserve finalized a rule that would implement risk-based capital surcharges for U.S. G–SIBs.[18] Federal Reserve staff estimated the capital surcharges that would apply to the eight U.S. bank holding companies identified as G–SIBs under the final rule. Based upon these estimates, seven of the eight G–SIBs already meet their G–SIB surcharges on a fully phased-in basis, and all such firms are on their way to meeting their surcharges over the 3-year phase-in period from January 1, 2016, to fully phased in on January 1, 2019. Therefore, it is likely that the immediate costs of the final rule on individual institutions are significantly mitigated by the implementation timeframe.[19]

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[16] See 79 FR 24528 (May 1, 2014), available at*http://www.gpo.gov/fdsys/pkg/FR-2014-05-0l/pdf/2014-09367.pdf.*

[17] See Staff memo to the Board "Draft Final Rule on Enhanced Supplementary Leverage Ratio (SLR) Standards"; p. 2, available at *http://www.federalreserve.gov/aboutthefed/boardmeetings/20140408openmaterials.htm.*

[18] See 80 FR 49107 (August 14, 2015), available at *http://www.gpo.gov/fdsys/pkg/FR-2015-08-14/pdf/201518702.pdf.*

[19] See Staff memo to the Board "Draft Final Rule Regarding Risk-Based Capital Surcharges for Systemically Important U.S. Bank Holding Companies"; p. 9, available at *http://www.federalreserve.gov/aboutthefed/boardmeetings/board-memo-gsib-20150720.pdf.*

April 2, 2008

TO: Board of Governors

FROM: Scott G. Alvarez, Richard M. Ashton, Mark E. Van Der Weide, and Heatherun S. Allison

SUBJECT: The authority of the Federal Reserve to provide an extension of credit in connection with the acquisition by JPMorgan Chase of Bear Stearns.

ISSUE: May the Federal Reserve Bank of New York ("FRBNY") extend credit to a limited liability company ("LLC") that acquires $30 billion in assets from The Bear Stearns Companies Inc. ("Bear Stearns"), and secures the credit exclusively with those assets, in connection with the proposed acquisition by JPMorgan Chase & Co. ("JPMC") of Bear Stearns (the "FRBNY special facility").

SUMMARY: The Board may authorize the FRBNY to provide the FRBNY special facility under the authority provided by section 13(3) of the Federal Reserve Act. This memorandum documents the legal advice provided to the Board on March 14, 2008, and the succeeding days.

FACTUAL BACKGROUND: On Friday, March 14, 2008, the Board authorized the FRBNY to extend credit to Bear Stearns through its clearing bank, JPMorgan Chase Bank, N.A. ("JPMC Bank"). On that day, the FRBNY made an overnight discount window loan of $12.9 billion to JPMC Bank on a non-recourse basis and took as collateral certain assets of Bear Stearns.

On Sunday, March 16, 2008, JPMC agreed to acquire Bear Stearns. That same day, in connection with the acquisition agreement, the Board voted unanimously to authorize the FRBNY to provide non-recourse credit in an amount up to $30 billion, secured by a pledge of up to $30 billion of identified, less liquid assets of Bear Stearns. The Board

approved a rate for the credit equal to the primary credit rate charged by the Reserve Banks to depository institutions that borrow primary credit through the discount window.[1]

As explained more fully below, based on its review of the facts and circumstances, and in accordance with the requirements of section 13(3) of the Federal Reserve Act and with the Board's authorization, the FRBNY agreed to provide senior secured financing of $29 billion in connection with JPMC's acquisition of Bear Stearns. The financing would be provided to an LLC that would acquire from Bear Stearns a portfolio of assets identified by the FRBNY as in need of funding. The facility would be secured by the portfolio of Bear Stearns assets held by the LLC (including the proceeds of any sale or repayment at maturity of such assets and any income earned from the reinvestment of such proceeds). The facility would have a maturity of ten years (unless extended by the FRBNY) and would earn interest at the primary credit rate (currently 2.50 percent). JPMC would provide $1 billion of subordinated financing to the LLC. The JPMC facility also would have a maturity of ten years (subject to the same extension authority) and would earn interest at the primary credit rate plus 4.50 percent (for a current rate of 7.00 percent).

The portfolio of assets to be purchased by the LLC from Bear Stearns had a market value on March 14, 2008, of $30 billion (representing a discount from par). The FRBNY has hired an independent third-party investment adviser – Blackrock Financial Management Inc. – to manage the LLC's assets with a view toward maximizing repayment of the LLC's obligations, including the FRBNY special facility, with minimum disruption

[1] The March 14 loan by the FRBNY was repaid in full by JPMC Bank on Monday, March 17, 2008. For an analysis of the legal basis for the March 14 loan, see the Memorandum on the March 14 loan from the

to the financial markets. Under the terms of the FRBNY special facility, the FRBNY would be entitled to a return of its principal plus interest before JPMC received any repayment on its loan to the LLC. JPMC next would be entitled to receive full repayment of its principal and interest on its loan to the LLC. If proceeds on the sale and maturity of the LLC's collateral exceed the aggregate amount of the principal and interest owed both to the FRBNY and JPMC, the excess proceeds would accrue to the FRBNY.

As discussed in more detail below, in the days and weeks preceding the Board's authorization of the FRBNY special facility, the financial markets were particularly fragile and vulnerable to disruption. The Board's intent in authorizing the transaction was to avoid a potentially severe disruption in the financial markets by contributing to the orderly stabilization of Bear Stearns, a major participant in the troubled repo and residential mortgage-backed securities ("RMBS") markets.

LEGAL BACKGROUND: The Federal Reserve Act empowers the Federal Reserve System to extend credit to a variety of counterparties in a variety of circumstances. One of these powers is contained in section 13(3) of the Federal Reserve Act. Section 13(3) provides in its entirety that:

- "In unusual and exigent circumstances, the Board of Governors of the Federal Reserve System, by the affirmative vote of not less than five members, may authorize any Federal Reserve bank, during such periods as the said board may determine, at rates established in accordance with the provisions of section 14, subdivision (d), of this Act, to discount for any individual, partnership, or corporation, notes, drafts, and bills of exchange when such notes, drafts, and bills of exchange are indorsed or otherwise secured to the satisfaction of the Federal Reserve bank: provided, that before discounting any such note, draft, or bill of exchange for an individual, partnership, or corporation the Federal reserve bank shall obtain evidence that such

Legal Division to the Board dated April 2, 2008.

individual, partnership, or corporation is unable to secure adequate credit accommodations from other banking institutions. All such discounts for individuals, partnerships, or corporations shall be subject to such limitations, restrictions, and regulations as the Board of Governors of the Federal Reserve System may prescribe."[2]

DISCUSSION: The FRBNY special facility represents the exercise of authority expressly provided by section 13(3) of the Federal Reserve Act. The Federal Reserve must satisfy five principal conditions to use this authority. First, section 13(3) lending by a Reserve Bank must be authorized by the Board, which generally may authorize section 13(3) lending only with the affirmative vote of at least five members of the Board. Second, the Board may authorize section 13(3) lending only in "unusual and exigent circumstances." Third, the Reserve Bank that engages in section 13(3) lending must obtain evidence prior to making the loan that the individual, partnership, or corporation ("IPC") borrower "is unable to secure adequate credit accommodations from other banking institutions." Fourth, the Reserve Bank must establish the rates for section 13(3) lending in accordance with the provisions of section 14(d) of the Federal Reserve Act. Fifth, section 13(3) lending must be in the form of a "discount" of "notes, drafts, and bills of exchange" of the IPC. The FRBNY special facility meets all of these conditions.

A. Approval by five members of the Board

The Board must authorize section 13(3) lending by a Reserve Bank and generally may only authorize section 13(3) lending with the affirmative vote of at least five members of the Board.[3] The Board

[2] 12 USC 343.
[3] Section 11(r) of the Federal Reserve Act contains an exception to the five-member approval requirement. 12 USC 248(r). This exception is not relevant to an assessment of the adequacy of the authorization of the FRBNY special facility.

authorized the FRBNY special facility by the affirmative vote of all five members of the Board at a meeting of the Board on March 16, 2008.

B. Unusual and exigent circumstances

To authorize credit extensions to IPCs under section 13(3) of the Federal Reserve Act, the Board must find that "unusual and exigent circumstances" exist. These terms are not defined in the Federal Reserve Act and are committed to the Board's discretion.[4] In the past, the Board has based a finding of unusual and exigent circumstances on general market conditions. For example, at the time Congress enacted section 13(3) of the Federal Reserve Act in July 1932, bank credit was extremely scarce and many banks were closed. Congress was concerned that general market conditions prevented many creditworthy borrowers from obtaining credit. These general market conditions motivated the Board to activate the Federal Reserve's section 13(3) authority from 1932 to 1936.[5]

The Board also has based a finding of unusual and exigent circumstances on the potential disruption associated with the disorderly collapse of a single firm or group of firms. On July 1, 1966, the Board authorized a program under section 13(3) pursuant to which the Reserve Banks could make credit facilities available to savings associations and other similar depository institutions that were not members of the Federal Reserve System.[6] The Board took this action because of the possibility that some of these depository institutions might be subjected to unusual withdrawals of

[4] Courts generally are required to defer to interpretations of statutes made by the administrative agency with specific jurisdiction to implement the statute where the statutory language is ambiguous and the interpretation is reasonable. See, e.g., Chevron U.S.A., Incorporated v. Natural Resources Defense Council, Incorporated, et al., 467 U.S. 837 (1984).
[5] See 18 Federal Reserve Bulletin 518 (1932).
[6] At the time, savings associations were unable to access the Federal Reserve's discount window because the Federal Reserve Act permitted only banks that were members of the Federal Reserve System to obtain credit at the discount window.

funds due to legal limits on the interest rates these institutions could pay on deposit accounts. The Board believed that its action could help prevent the insolvency of a substantial number of depository institutions due to lack of liquidity, which in turn could have created a serious financial disturbance in the wider economy.[7] On December 24, 1969, the Board again authorized the Reserve Banks to provide emergency credit facilities to savings associations and other similar depository institutions that were not members of the Federal Reserve System. The Board took this action in 1969 for substantially the same reasons as it authorized section 13(3) lending in 1966. A sharp advance in market yields during the fourth quarter of 1969, unusually large net savings withdrawals at depository institutions in October 1969, and preliminary reports of reduced savings deposits in some areas in December 1969 created some concern about the possibility of substantially increased run-off of deposits at such institutions in the coming months.[8]

Importantly, Congress amended section 13(3) of the Federal Reserve Act in 1991 specifically to expand the ability of the Reserve Banks to extend credit to securities firms.[9] The legislative history of the 1991 amendments makes manifest the Congressional view that an important purpose of the Board's section 13(3) lending authority is to promote liquidity in the financial system in times of market stress, such as the October 1987 market break. The Senate Report accompanying the

[7] See Memorandum from Staff to the Board dated June 27, 1966, entitled "Emergency Credit Facilities for Mutual Savings Banks." Although the program was authorized through March 1, 1967, no credit was extended by the Reserve Banks under the program. Annual Report of the Federal Reserve Board 91-92 (1966).

[8] Although the program was authorized through April 1, 1970, no credit was extended by the Reserve Banks under the program. Annual Report of the Federal Reserve Board 92-93 (1969).

[9] P.L. 102-242, Dec. 19, 1991 (105 Stat. 2236, 2386). As originally enacted, section 13(3) permitted Reserve Banks to discount only notes that were eligible under the Federal Reserve Act for rediscount by a Reserve Bank for a member bank – namely, notes drawn for specific industrial or agricultural purposes that had maturities of 90 days or less. Congress repealed these limitations in 1991 as part of FDICIA.

legislation explains that the amendments were designed to ensure that the Federal Reserve would be able under section 13(3) to provide liquidity "directly to a securities dealer to help preserve market liquidity and avoid market disruption."[10] The Report goes on to state: "With the increasing interdependence of our financial markets, it is essential that the Federal Reserve System have authority and flexibility to respond promptly and effectively in unusual and exigent circumstances that might disrupt the financial system and markets."[11]

Conditions on and around March 16, 2008, represented unusual and exigent circumstances in the financial markets. Financial conditions deteriorated markedly between mid-January and mid-March 2008. Volatility was steadily increasing and liquidity was quickly declining in many credit markets – including in particular the market for RMBS, but also in the markets for other asset-backed securities, corporate securities, and municipal securities. Moreover, many market participants were financing a large portion of their holdings of these long-term securities in short-term collateralized funding markets. Rapid escalation in collateral haircuts in many of the associated term collateralized funding markets produced a self-reinforcing dynamic in which the higher haircuts led to missed margin calls, fire sales of collateral, increased price volatility, and ever higher haircuts and more frequent margin calls and fire sales.

By March 16, liquidity in financial markets was impaired. The dislocations caused by this large and systemic shortfall in liquidity posed severe risks to the integrity of the financial system and, thus, to prospects for economic growth. These circumstances were at least as severe as the

[10] S. Rep. 102-167, at 203 (Sept. 19, 1991).
[11] Id. See also 138 Cong. Rec. 3152 (Feb. 21, 1992).

unusual and exigent circumstances prevailing (i) during the second half of the 1960s when the Board publicly authorized section 13(3) lending to savings associations and other similar depository institutions; and (ii) during the 1987 market break referenced by Congress in the legislative history of the 1991 amendments to section 13(3) of the Federal Reserve Act.[12]

C. Lack of adequate credit accommodations

Section 13(3) of the Federal Reserve Act requires the Federal Reserve Bank to obtain evidence that the borrower "is unable to secure adequate credit accommodations from other banking institutions." The wording of this statutory requirement is ambiguous and is not defined in the statute, and thus the Board would be accorded significant deference in defining the standard.[13] The Board's Regulation A does not require any specific type of evidence for this finding and bases the finding simply on "the judgment of the Reserve Bank" about credit availability.[14]

Because section 13(3) of the Federal Reserve Act speaks of a lack of "adequate credit accommodations," it contemplates that the Federal Reserve Bank could lend to a borrower even when credit might be available at some price or under some conditions, but the price or conditions are not reasonable.[15] Indeed, Congress added section 13(3) to the Federal Reserve

[12] The fact that Congress amended section 13(3) of the Federal Reserve Act in 1991 to further expand its applicability and without adverse comment on the Board's public use of the provision in the 1960s also suggests a Congressional ratification of the Board's 1960s application of the provision in a period of comparatively milder market stress. A canon of statutory interpretation provides that Congress may be presumed to be aware of an agency interpretation of a statutory provision and to adopt that interpretation when it later amends the provision without change to the text that serves as the basis for the agency interpretation. See Haig v. Agee, 453 U.S. 280 (1981); Lorillard v. Pons, 434 U.S. 575, 580-81 (1978).
[13] See, e.g., Chevron U.S.A., Incorporated v. Natural Resources Defense Council, Incorporated, et al., 467 U.S. 837 (1984).
[14] See 12 CFR 201.4(d).
[15] The fact that an IPC may have U.S. Treasury securities or securities issued or guaranteed by a U.S. government agency that could be used to obtain credit would not disqualify the IPC from obtaining credit under section 13(3) of the Federal Reserve Act. The Act itself – in section 13(13) – allows the Reserve Banks to make advances to IPCs based on U.S. Treasury securities and securities issued or guaranteed by a

Act in 1932 to allow the Federal Reserve to extend credit to creditworthy borrowers with sufficient collateral during a nationwide banking crisis when market conditions prevented credit from being available even to borrowers in sound condition. The Board also has been willing to invoke section 13(3) based on the condition of the specific borrower rather than the overall condition of the financial markets. In these cases, the Reserve Banks accumulated evidence that other banking institutions were unwilling to lend to the borrower; the Board in these cases did not require a showing that no institution would lend to the borrower at any price.[16]

Bear Stearns, like most large securities firms, heavily financed itself in the short-term securities repurchase agreement market. This market enables banks and other financial institutions to obtain short-term credit by selling securities for cash and agreeing to repurchase them for cash (with interest) on the following day. A substantial portion of the liabilities of Bear Stearns were short-term repo liabilities, and a substantial portion of these liabilities came due every day.

Bear Stearns was unable to secure adequate credit accommodations from other banking institutions on and around March 14-16, 2008. The situation of Bear Stearns was dire on Friday, March 14. The senior management of Bear Stearns notified the Federal Reserve on the evening of Thursday, March 13, that its pool of liquid assets had shrunk from over $12 billion to about $2 billion on that day because a number of counterparties refused to continue to provide funding to Bear Stearns. In addition, Bear Stearns anticipated that many of its counterparties on Friday

U.S. government agency but does not make use of that facility a precondition of access to credit under section 13(3). See 12 USC 347c.

[16] See, e.g., Memorandum from Mr. Hackley to the Board dated June 16, 1966; Annual Report of the Federal Reserve Board 91-92 (1966); Annual Report of the Federal Reserve Board 92-93 (1969).

would not agree to roll over their repurchase agreements and, therefore, that Bear Stearns would be required on Friday to repay a significant portion of its repurchase agreement liabilities. Bear Stearns expected that it would not have sufficient funds or liquid assets to repay these liabilities as they came due and would not be able during the short period before markets opened on Friday to find a private-sector source of alternative financing. Accordingly, officials at Bear Stearns and the Securities and Exchange Commission informed the Federal Reserve that night that Bear Stearns would likely have to file for bankruptcy protection on Friday, March 14, unless the Federal Reserve were willing to provide Bear Stearns with liquidity.

The imminence of insolvency for Bear Stearns, the large presence of Bear Stearns in several important financial markets (including in particular the markets for repo-style transactions, over-the-counter derivative and foreign exchange transactions, mortgage-backed securities, and securities clearing services), and the potential for contagion to similarly situated firms raised significant concern that financial markets would be seriously disrupted if Bear Stearns were suddenly unable to meet its obligations to counterparties. Most crucially, the consequences of default or insolvency by Bear Stearns – a major borrower and lender in the repurchase agreement market – could have seriously disrupted this very large, important, and increasingly strained market for short-term secured financing. Market participants were likely to respond to the failure of Bear Stearns by withdrawing generally from short-term collateralized funding markets, resulting in a dramatic drop in the overall availability of short-term financing, and threats to the liquidity and possibly the solvency of other large and highly leveraged financial institutions. For these reasons, as

explained above, the FRBNY provided secured funding to Bear Stearns on March 14, through JPMC Bank, its clearing bank.

Despite the receipt by Bear Stearns of Federal Reserve funding on March 14, market pressures on Bear Stearns worsened throughout the day on March 14 and continued to worsen during the weekend. In light of the further erosion of confidence in Bear Stearns over the weekend by its chief short-term liquidity providers and capital markets transaction counterparties, Bear Stearns likely would have been unable to avoid bankruptcy on Monday, March 17, without either very large injections of liquidity from the Federal Reserve or an acquisition of Bear Stearns by a more resilient firm.

During the period from March 13 through March 16, Bear Stearns actively sought both capital injections and acquisition partners. JPMC emerged as the only viable bidder for Bear Stearns on Sunday, March 16. Bear Stearns determined that only JPMC offered a credible proposal that would allow Bear Stearns to meet its obligations beginning Monday, March 17. Accordingly, on Sunday, March 16, Bear Stearns accepted the offer to merge with JPMC.

JPMC believed that it would be unable to acquire Bear Stearns, however, if it were required to obtain funding in the strained credit markets for a specified portfolio of less liquid assets of Bear Stearns. Bear Stearns itself was unable to secure adequate credit accommodations for those assets from private sources. Because no other funding source for these assets appeared available, emergency financing from the Federal Reserve with respect to those assets was necessary to facilitate JPMC's prompt acquisition of Bear Stearns, which would alleviate the intense strains in the credit markets described above that were likely to result from the failure of Bear Stearns.

D. Establishment of rate by the Federal Reserve

Section 13(3) of the Federal Reserve Act provides that Reserve Bank lending under section 13(3) must be at rates established in accordance with section 14(d) of the Act. Section 14(d) provides every Reserve Bank the power to establish, subject to review and determination by the Board, rates of discount to be charged by the Reserve Bank. In the case of the FRBNY special facility, the Board reviewed and approved the request of the FRBNY to charge the primary credit rate.

The Board's Regulation A authorizes emergency Reserve Bank credit for IPCs "extended at a rate above the highest rate in effect for advances to depository institutions."[17] The primary credit rate, however, is the lowest rate charged by the Reserve Banks to depository institutions. The FRBNY special facility is a permissible exercise of the Federal Reserve's section 13(3) lending authority because the emergency lending provision of Regulation A does not govern all credit extended to IPCs under section 13(3).

Section 13(3) allows the Board to authorize any Federal Reserve Bank to extend credit to any IPC "during such periods as the said board may determine" and "subject to such limitations, restrictions and regulations as the [Board] may prescribe." The Board, therefore, has complete statutory discretion to determine the timing and the conditions of lending under section 13(3). Regulation A represents one exercise of that authority in the form of an ongoing authorization to the Reserve Banks to lend under section 13(3) when the conditions in Regulation A are met. Regulation A does not limit the Board's power to authorize lending under

[17] 12 CFR 201.4(d).

section 13(3) in other circumstances and under other limitations and restrictions.

This conclusion is supported by the fact that Regulation A does not by its terms purport to be a comprehensive regulation implementing each component of each lending authority of the Federal Reserve System (or even of each emergency lending authority of the Federal Reserve). Nor does the regulatory history of Regulation A suggest that the Board intended the rule to set forth the exclusive methods for the Reserve Banks to extend credit.

E. Discount of a note for an IPC

Section 13(3) of the Federal Reserve Act allows the Board to authorize any Reserve Bank "to discount for any individual, partnership, or corporation, notes, drafts, and bills of exchange when such notes, drafts, and bills of exchange are indorsed or otherwise secured to the satisfaction of the Federal Reserve Bank...." For the following reasons, the FRBNY special facility is a discount of a note for an IPC permitted under section 13(3).

A "discount" of a note for a counterparty under section 13(3) encompasses a broad range of transactions, including a simple advance to the counterparty on a note newly issued or made by the counterparty and a purchase of one or more third-party notes held by the counterparty. Specifically, the Board consistently has viewed the term "discount" under section 13(3) as including a Reserve Bank extension of credit to an IPC (a loan to an IPC by a Reserve Bank on the borrowing IPC's own note) as well as a purchase by a Reserve Bank of third-party notes held by an IPC.[18]

[18] See Board Circular X-7215-a, "Discounts for Individuals, Partnerships and Corporations," 18 Federal Reserve Bulletin 518-519 (Aug. 1932) (Reserve Bank may discount for IPCs notes "which are the obligations of other parties actually owned by such [IPCs], and indorsed by them, or the promissory notes of such [IPCs] indorsed by other parties whose indorsements are satisfactory to the [Reserve Bank]"). Section 13(3) originally required notes discounted by a Reserve Bank under authority of the section to be both indorsed and otherwise secured to the Reserve Bank's satisfaction. When section 13(3) was amended in 1935 to remove this requirement, the Circular was amended to remove the requirement that an IPC's

Furthermore, the Board previously has found that a "discount" of a note is not limited to transactions in which a note is acquired at less than the stated principal amount of the note.[19] Thus, a "discount" of a note under section 13(3) includes the acquisition of a note at its stated principal amount.

For purposes of section 13(3) of the Federal Reserve Act, a note is any written promise to pay a stated amount of money with or without interest or other charges.[20] Although section 13(3) originally required notes discounted by a Reserve Bank under authority of the section to have certain maturities and purposes, Congress removed these restrictions in 1991, and section 13(3) currently places no restrictions on the maturities or purposes of the notes that may be discounted thereunder.[21] Moreover, although section 13(3) originally required notes discounted by a Reserve Bank under authority of the section to be both indorsed and otherwise secured to the Reserve Bank's satisfaction, since 1935, section 13(3) has permitted Reserve Banks to discount notes for IPCs where the notes are either "indorsed or otherwise secured to the satisfaction of the Reserve Bank."

own note must be indorsed by another entity. See 22 Federal Reserve Bulletin 123-124 (Feb. 1936). Thus, a Reserve Bank may discount an unindorsed note of an IPC. See also Memorandum to Board from Mr. Vest (Legal Division), entitled "Authority of one Federal reserve Bank [sic] to discount for another Federal reserve bank member banks' collateral notes held by the latter" (Jan. 30, 1926) ("An investigation of the cases discussing the meaning of the word 'discount' shows that this term applies not only to the purchase of a note from the one who actually owns the same—that is, the payee or other holder, but includes also the transaction by which a loan is made to the maker of a note by the payee thereof").

[19] See "Order Denying Application of General Contract Corporation for an Exemption of Certain Subsidiary Corporations under Section 4(c)(6) of the Bank Holding Company of 1956," 44 Federal Reserve Bulletin 260 (Mar. 1958). The Board observed: "the term 'bank discount' is applied broadly to transactions by which a bank computes interest in advance so that there is the possibility of compound interest, and it seems that any purchase of paper is a 'discount' in that sense since it permits such advance computation and compounding." Id. at 269 (citation omitted).

[20] See generally U.C.C. § 3-104(a), (b), (d) (2003). Although the U.C.C. Article 3 definition requires "notes" to be negotiable, since 1970 the Board has not required that "notes" discounted by Reserve Banks be negotiable. See H. Hackley, "Lending Functions of the Federal Reserve Banks: A History" (May 1973) at 13.

[21] As noted above, section 13(3) originally permitted Reserve Banks to discount only notes that were eligible under the Federal Reserve Act for rediscount by a Reserve Bank for a member bank – namely, notes drawn for specific industrial or agricultural purposes that had maturities of 90 days or less. Congress

Nor does section 13(3) require that a note discounted by a Reserve Bank provide only for payment of principal and a fixed amount of interest or for payments on a certain schedule. Accordingly, nothing in section 13(3) prohibits a Reserve Bank from discounting an IPC's note that provides for payment of principal and interest by the IPC to the Reserve Bank on a flexible schedule and for potential additional payments by the IPC to the Reserve Bank out of the proceeds of the sale or maturity of the collateral securing the note, whether or not the aggregate payments by the IPC to the Reserve Bank are less than or greater than the amount of credit provided by the Reserve Bank to the IPC.

In light of these considerations, the FRBNY special facility is a discount of a note for an IPC for purposes of section 13(3). As explained above, for purposes of section 13(3), a discount of a note includes a purchase of an IPC's own note, and a note is a promise to pay a sum of money. The FRBNY proposes to pay $29 billion to discount a note of the LLC (secured by the LLC's assets) that represents a promise to pay the FRBNY over time an amount equal to $29 billion, plus interest on the $29 billion at the primary credit rate over the term of the note, plus any proceeds remaining in the LLC after liquidation or maturity of the LLC's assets and after repayment of the JPMC facility and payment of the LLC's expenses.[22]

repealed these limitations in 1991 for the express purpose of increasing the ability of the Federal Reserve to extend credit to securities firms during times of stress in the financial markets.

[22] Although the maker of the note being discounted by the FRBNY (that is, the borrower from the FRBNY) in this case is a Delaware limited liability company and not a corporation or partnership under state law, the FRBNY special facility should be viewed as a discount of a note of an IPC. The purpose of section 13(3) of the Federal Reserve Act was to enable the Federal Reserve to provide emergency credit to any individual or entity that was previously unable to get such credit from the Federal Reserve. There would have been no public policy reason for Congress to restrict the beneficiaries of the new emergency credit facilities to two particular types of business firm ("partnerships" and "corporations"), and there is no evidence that Congress intended to restrict the availability of emergency credit under section 13(3) to those business firms that were organized as partnerships or corporations under state law. In addition, the Board consistently has subscribed to this broad interpretation of section 13(3) since its enactment, and has included as eligible IPCs savings associations, savings banks, and other companies that are not organized in

In the alternative, if the FRBNY special facility were characterized as an acquisition by the FRBNY of the assets of the LLC or of Bear Stearns, the FRBNY special facility would still be a discount of notes of an IPC permitted under section 13(3). As discussed above, the Board consistently has viewed the term "discount" as including a purchase by a Reserve Bank of third-party notes held by an IPC. The assets of the LLC will consist of third-party notes that are eligible for discount under section 13(3).[23]

CONCLUSION: For the reasons stated above, and in view of all the facts of record, the Board had statutory authority to authorize the FRBNY to provide the FRBNY special facility under section 13(3) of the Federal Reserve Act.

the form of a corporation or partnership under state law. Moreover, a limited liability company is a form of business organization that did not exist in 1932 but is in legal and economic effect a hybrid of the partnership and corporation form of business firm.

[23] A small amount of assets of the LLC that are not notes, drafts, or bills of exchange (for example, cash and hedging instruments) may be discounted by the FRBNY under the incidental powers provision of the Federal Reserve Act. In addition to the express powers of the Federal Reserve Banks set forth in the Federal Reserve Act, the Act provides that each Federal Reserve Bank has the authority to exercise "such incidental powers as shall be necessary to carry on the business of banking within the limitations prescribed by this Act." 12 USC 341(7th). The Federal Reserve has long held that a power is incidental to an express power in the Federal Reserve Act if it is reasonably necessary to effectuate an express power in the Act. See Memoranda to the FOMC regarding the legality of lending U.S. Government securities by Federal Reserve Banks from Mr. Hackley, FOMC General Counsel, July 10, 1968, September 13, 1968, and August 25, 1969 (p. 1). Acquiring a small amount of assets other than notes in the context of the acquisition of a large portfolio of notes from an IPC would be incidental to the express authority in section 13(3) to discount notes for an IPC.

DRAFT

September 17, 2008

TO: Vice Chairman Kohn

FROM: Legal Division
(Messrs. Alvarez,
Ashton & Van Der Weide)

SUBJECT: Authority of a Reserve Bank to take warrants in connection with an extension of credit under section 13(3)

ISSUE: In connection with a credit extension to an individual, partnership, or corporation (IPC) under section 13(3) of the Federal Reserve Act, does the Federal Reserve have the authority to condition the granting of the credit on the issuance to the Federal Reserve of warrants to purchase equity securities of the borrower.

SUMMARY: There is a reasonable argument that accepting warrants to purchase equity securities of a section 13(3) borrower is incidental to the extension of the credit and therefore authorized by the Federal Reserve Act.

DISCUSSION: Section 13(3) of the Federal Reserve Act authorizes the Federal Reserve Banks to extend credit to IPCs in unusual and exigent circumstances and secured to the satisfaction of the Federal Reserve Bank, if the Reserve Bank obtains evidence that the borrower is unable to secure adequate credit accommodations from other banking institutions.[1] Any such extensions of credit by a Reserve Bank are subject to "such limitations, restrictions, and regulations as the Board of Governors of the Federal Reserve System may prescribe." The Federal Reserve Act also provides that each Reserve Bank has the authority to exercise "all powers specifically granted by the provisions of this Act and such incidental powers as shall be necessary to carry on the business of banking within the limitations

[1] 12 USC 343.

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prescribed by this Act."[2] The Board has long read the incidental powers clause as authorizing powers that are "reasonably necessary" to effectuate a power specifically granted by the Act.[3]

The question has arisen whether a Federal Reserve Bank has authority to take warrants in connection with a section 13(3) extension of credit to an IPC. In answering this question, it is important to note that the Federal Reserve Banks are not obligated to lend to any IPC – even if the Board makes a determination that unusual and exigent circumstances prevail and even if the Reserve Bank finds that an IPC is unable to secure adequate credit accommodations from other banking institutions. Moreover, the Federal Reserve Act does not contain any limits on what conditions a Reserve Bank might impose on a section 13(3) borrower. As such, a Reserve Bank should be viewed as having implicit power to condition any section 13(3) extension of credit as it deems appropriate to justify the decision to extend credit (including to help ensure that the credit is secured to the satisfaction of the Reserve Bank).

Moreover, we understand that it is common practice in the banking industry for lenders to take a warrant issued by the borrower in connection with a loan. Thus, it would not be unreasonable to find that accepting warrants is incidental to the power to extend credit as authorized by section 13(3) of the Federal Reserve Act.

The question of whether the Reserve Bank would be authorized to exercise any warrants that it has received in connection with a section 13(3) loan and thus to acquire, hold, and vote the equity securities it obtains

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[2] 12 USC 341(7th).

[3] *See* Memorandum to the FOMC from Mr. Hackley, General Counsel, regarding the legality of a plan for lending government securities by Federal Reserve Banks, dated July 10, 1968.

pursuant to the warrants does not need to be addressed at this time. It has been proposed that in connection with the AIG transaction, the New York Reserve Bank would either transfer any warrants relating to AIG shares it may acquire in the transaction to the Treasury Department before the warrants are exercised or would exercise the warrants and immediately sell the equity securities purchased.

IN THE UNITED STATES COURT OF FEDERAL CLAIMS

STARR INTERNATIONAL COMPANY, INC., on its behalf and on behalf of a class of others similarly situated,	)	
Plaintiff,	)	No. 11-779C (Judge Thomas C. Wheeler)
v.	)	
UNITED STATES,	)	
Defendant.	)	

DEFENDANT'S POST-TRIAL BRIEF IN RESPONSE TO PLAINTIFF'S POST-TRIAL PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

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IN THE UNITED STATES COURT OF FEDERAL CLAIMS

STARR INTERNATIONAL COMPANY, INC., on its behalf and on behalf of a class of others similarly situated,	)	
Plaintiff,	)	
v.	)	No. 11-779C (Judge Thomas C. Wheeler)
UNITED STATES,	)	
Defendant.	)	

DEFENDANT'S POST-TRIAL BRIEF IN RESPONSE TO PLAINTIFF'S POST-TRIAL PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

Pursuant to this Court's November 25, 2014 Order, defendant, the United States, respectfully submits the following response to the post-trial briefs of plaintiff, Starr International Company, Inc. (Starr).

INTRODUCTION

At trial, and again in its post-trial briefs, Starr failed to establish that the extraordinary assistance provided to AIG caused either a taking or an illegal exaction. Neither the facts nor the law support Starr's claimed entitlement to a better deal. The Federal Reserve acted within its authority when it sought equity as part of the compensation for an $85 billion rescue loan. AIG's board, in turn, represented the company's shareholders when it voluntarily accepted the proposed offer. The Board of Governors only authorized five such rescue loans, with AIG receiving, by far, the largest package of Government assistance. This assistance saved AIG from failing. In contrast, more than 100,000 businesses filed for bankruptcy because they could not weather the financial storm. AIG's only entitlement was to this same bankruptcy process, a process the company avoided only because of the discretionary assistance provided by the Government.

This assistance both preserved AIG's ability to operate as a going concern, and salvaged (indeed, greatly enhanced) the value of Starr's AIG holdings. Because Starr failed to prove the necessary conduct and harm, the Court should reject each of Starr's claims.

First, Starr has failed to show that the Federal Reserve Act (FRA) prohibited the rescue loan's equity term. Congress provided that the Federal Reserve could offer to loan money under section 13(3) subject to such "restrictions" and "limitations" that the Federal Reserve, in its discretion, "may prescribe." This broad language authorizes the Federal Reserve to prescribe loan conditions such as fees and equity. Further, Section 4(4) provided additional authority by granting reserve banks "such incidental powers as shall be necessary to carry on the business of banking within the limitations prescribed by this Act."

Starr argues that reserve banks may only seek interest as consideration for a rescue loan. Section 13(3), however, contains no limitation whatsoever against including other consideration for a loan. Moreover, Starr cannot explain why the express power to impose "restrictions" and "limitations" excludes the power to condition a rescue loan on an equity term, or why requiring equity as consideration for a loan is not incidental to section 13(3)'s express lending power. Starr offers no support for its dubious assumption that Congress intended to foreclose the Federal Reserve from tailoring its lending to the particular circumstances or, indeed, to hamstring the Federal Reserve from making loans that incorporate the same kinds of commercially reasonable provisions that exist in the private marketplace. Indeed, Starr's reading of section 13(3) conflicts with the Federal Reserve's practice in every "comparator rescue" that Starr relies upon, as each of these included consideration beyond interest. Finally, Starr's argument that the Act prohibited equity consideration is further debunked by Congress's review and acceptance of the equity

term. In two enactments after the AIG rescue, Congress ratified the Federal Reserve's conclusion that it could condition a rescue loan on the receipt of equity.

Second, Starr fails to explain why AIG's entry into the rescue loan – with the equity term – was not voluntary. Under the Fifth Amendment, a plaintiff claiming a taking or illegal exaction in connection with a contract must demonstrate that the subject property was involuntarily included in the transaction. Here, AIG's board of directors – duly elected by shareholders and independent from the Government – voluntarily accepted FRBNY's loan offer because it served the shareholders' best interests and was vastly better than the alternative. Starr's initial briefing largely ignores this evidence.

Instead, Starr's economic expert advanced the theory that – contrary to evidence and logic – the Government controlled AIG's board without the Government owning a single share of AIG stock. Beyond its factual shortcomings, Starr's theory of effective economic control is legally insufficient to prove duress. Under applicable law, only actual, exercised control could defeat the defense of voluntariness. The AIG board's independence – both on September 16 and September 21 – defeats any claim by Starr against the United States for a taking or exaction arising out of the rescue.

Starr contends that AIG's voluntary agreement is not dispositive because AIG's *shareholders* did not voluntarily agree to the rescue or its terms. Although Starr's years-long failure to challenge the loan should be considered acquiescence, the shareholders' approval was never necessary for the loan. Under Delaware law, AIG's board had the authority to agree to the rescue loan and to issue the promised equity. Certainly, the Fifth Amendment does not require the Government to obtain the permission of every corporate shareholder before the Government contracts with a corporation, whether to provide emergency lending assistance or otherwise.

Third, Starr's inability to prove economic harm independently dooms all of its claims. Takings and illegal exaction claims require showing that, but for the Government's conduct, the plaintiff's property would have been more valuable. Here, absent any action by the Government, AIG would have entered bankruptcy, and its common stock would have lost all or nearly all its value as a result.

Rather than explain how the rescue injured AIG or its shareholders, Starr seeks to change the subject. Specifically, Starr compares AIG's rescue to those received by others, and to the rescue Starr would have preferred. These analyses are both legally irrelevant and factually incomplete. Starr fails to compare its rescue to the more than 100,000 businesses that – like AIG – faced bankruptcy in 2008 and 2009, and that – like AIG – had no entitlement to taxpayer assistance, but that – unlike AIG – failed without such extraordinary assistance. Such a comparison highlights the fallacy of Starr's claims that AIG was "punished" and confirms why AIG's board was not "coerced" to accept the rescue loan.

In another run at proving harm, Starr demands the return of what was "exacted" by the Government. Starr, however, cannot overcome the fact that no physical shares were taken or "exacted" from anyone – AIG's shareholders owned the same number of shares before and after the rescue. Indeed, the rescue increased the value of those shares by billions of dollars; again, this fact defeats every effort Starr has made at proving injury.

Even if the Court were to find that the Federal Reserve exceeded its authority, that AIG's board was coerced into accepting a rescue loan, and that Starr suffered actual harm, the Court still would have to resolve *all* of the following additional questions in Starr's favor to hold the United States responsible for an illegal exaction: (1) that Congress enacted Section 13(3), not for the public's benefit, but to protect borrowers and their shareholders from providing equity as

consideration for a rescue loan; (2) that Starr has proved that its claims truly are direct and established separate and independent harm to shareholders; (3) that Starr did not waive its exaction claim by waiting to bring it until after enjoying the benefit of multiple rescues; and (4) that even if the equity term was illegal, the proper remedy is to simply excise it from the transaction even though the evidence clearly established that the Federal Reserve would not have rescued AIG in the absence of that term. Starr's inability to satisfy any – let alone all – of these preconditions ends its equity claim.

Starr's Stock Split Claim fares no better. Starr argues that the Government originated, orchestrated, or compelled the stock split transaction but has identified no facts to support this theory. The undisputed evidence shows that AIG's board proposed the transaction to avoid delisting by the NYSE; AIG's common shareholders – including Starr – approved the transaction, presumably for the same reason. That should put an end to Starr's claim. Starr's efforts to tie the 2009 split (and the 2009 Stock Split Class) to the 2011 recapitalization are meritless. As Starr admits, the stock split had no harmful effect in 2009. Similarly, the 2011 recapitalization did not harm any shareholders, let alone the June 2009 shareholders. Certainly, Starr cannot explain why AIG's 2009 shareholders should recover for an economic event that allegedly affected AIG's very different 2011 shareholders.

At bottom, Starr demands that American taxpayers provide an additional $40 billion to AIG's shareholders, on top of the extraordinary and unprecedented assistance that they have already received, because Starr believes itself entitled to be rescued on even more generous terms. This would impose a multi-billion dollar loss upon taxpayers for having saved AIG and its shareholders from catastrophe. As Starr's and AIG's executives acknowledged, AIG's investments placed the company in a position where it would have failed without unprecedented

Federal Reserve financing. Starr was not entitled to any rescue, and nothing Starr alleges or argues can convert the rescue it received into a cognizable harm warranting redress. Starr's claims are erroneous and unjust. The Court should deny Starr's claims and grant judgment in favor of the United States.

ARGUMENT

I. The Federal Reserve Acted Within Its Legal Authority In Conditioning Its Rescue Loan On AIG's Agreement To Convey Equity

The Federal Reserve properly conditioned its September 2008 rescue loan to AIG on a 79.9 percent equity participation in the company, placed in a trust for the benefit of the taxpayers. Nothing in the text of section 13(3) forbids such equity consideration. To the contrary, by its plain terms, section 13(3) of the FRA empowered the Board of Governors to prescribe "restrictions" and "limitations" on its authorization for FRBNY's proposed rescue loan to AIG. Further, the Act's section 4(4) also gave the Federal Reserve this authority by providing "such incidental powers as shall be necessary or useful to carry on the business of banking within the limitations prescribed by this chapter."

Starr argues that, despite these provisions, section 13(3) "unambiguously" forecloses any form of consideration for a rescue loan other than a charge of interest. Pls. Corrected Post-Trial Proposed Conclusions of Law (Pl. Law Br.) ¶ 4.1.1. In fact, the statute itself does not purport to identify any non-permissible forms of consideration. Indeed, Starr recognizes that section 13(3) loans may include other, non-interest forms of consideration, such as fees. Starr has identified no basis for treating equity any differently than these other terms, nor does Starr support its assumption that Congress intended to disable the Federal Reserve from including commercially reasonable terms in its loans.

Starr's current argument not only lacks support in the actual text of the statute, but it also conflicts with Starr's prior position. As the Court has noted, Starr already conceded that "Section 13(3) did not expressly prohibit the Government's actions." *Starr Int'l Co. v. United States*, 106 Fed. Cl. 50, 83 (2012) (*Starr*). Starr's prior concession was correct: there is no express, statutory prohibition preventing the Board from conditioning a rescue loan on an equity term. Although the Court preliminarily accepted Starr's assertion that "the 'only consideration for a loan prescribed by' section 13(3) 'is an interest rate subject to the determination of the Board of Governors,'" the Court did so only "for purposes of the Government's motion to dismiss." *Starr Int'l Co. United States*, 107 Fed. 374, 378 (2012) (quoting *Starr*, 106 Fed. Cl. at 85). These statements, however, do not end the analysis. Now, with the context provided by trial testimony, the Court can resolve the question: does the FRA, properly interpreted, provide the Board with the discretion to prescribe an equity term?

Section 13(3) contemplates lending conditions beyond simply an interest rate. Starr's construction conflicts with the statute's language; recognized rules of construction; uniform lending practice; the considered determinations of the Board of Governors and FRBNY; and Congress's immediate ratification of the equity term.

A. Section 13(3)'s Language Demonstrates That Interest Is Not The Only Permissible Form Of Consideration For A Rescue Loan

Section 13(3) contains two sentences: the first provides the conditions that must be met for a Federal Reserve bank to issue an emergency loan to a non-bank such as AIG; the second vests the Board of Governors with broad discretion in determining the terms and conditions of such loans.

The 2008 version of section 13(3)'s first sentence states:

> In unusual and exigent circumstances, the Board of Governors of the Federal Reserve System, by the affirmative vote of not less than five

> members, may authorize any Federal reserve bank, during such periods as the said board may determine, at rates established in accordance with the provisions of section 357 of this title, to discount for any individual, partnership, or corporation, notes, drafts, and bills of exchange when such notes, drafts, and bills of exchange are indorsed or otherwise secured to the satisfaction of the Federal reserve bank: *Provided*, That before discounting any such note, draft, or bill of exchange for an individual or a partnership or corporation the Federal reserve bank shall obtain evidence that such individual, partnership, or corporation is unable to secure adequate credit accommodations from other banking institutions.

12 U.S.C. § 343 (2008). That sentence establishes several requirements that must be met before the Board of Governors authorizes – and a reserve bank extends – a loan. These requirements include (1) "unusual and exigent circumstances," (2) the loan being "secured to the satisfaction of the Federal reserve bank," and (3) the lending bank receiving "evidence that [the borrower] is unable to secure adequate credit accommodations from other banking institutions." The sentence also requires that the interest charge on lending be "at rates established in accordance with the provisions of section 357" (also referred to as section 14(d) of the FRA), which is a broad standard that calls for reserve banks to set interest rates "with a view of accommodating commerce and business." 12 U.S.C. § 357.

Congress also provided that, even if section 13(3)'s requirements are met, the decision whether to lend remains discretionary. The first sentence states that the Board "may" authorize lending when the required conditions can be satisfied. In statutory construction, "[t]he word 'may' customarily connotes discretion." *Jama v. Immigration and Customs Enforcement*, 543 U.S. 335, 346 (2005) (citing *Haig v. Agee*, 453 U.S. 280, 294, n. 26 (1981)). In addition, the provision reflects Congress's expectation that a decision to lend may require difficult policy judgments about which reasonable people might disagree – the statute requires the approval of five members of the Board of Governors, rather than unanimity.

Section 13(3)'s second sentence grants further authority and discretion to the Board of Governors regarding the loan's terms. That sentence states: "All such discounts for individuals, partnerships, or corporations shall be subject to such limitations, restrictions, and regulations as the Board of Governors of the Federal Reserve System may prescribe." 12 U.S.C. § 343 (2008). This sentence empowers the Board to tailor its loan authorizations based on particular characteristics of the borrower, the proposed loan, the market, policy issues, or other considerations. Under the statute, the tools by which the Board can customize a loan are restrictions or limitations on the authority granted to the Federal Reserve bank, which will ultimately make the loan.

Starr cannot reconcile this statutory language with its contention that "Section 13(3) unambiguously provides that the only consideration Congress authorized for a Section 13(3) extension of credit is an interest rate." Pl. Law Br. ¶ 4.7.1. As part of its list of requirements for a section 13(3) loan, Congress included a general provision about choosing an interest rate, but Congress did not stop there. Congress also authorized the Board to approve loans with features and conditions beyond simply satisfying these threshold requirements. No word or phrase of section 13(3) suggests that the requirement to set interest rates in accordance with section 14(d) identifies the loan's sole permissible consideration for a loan. Section 13(3)'s first sentence does not preclude the Board of Governors from attaching conditions to its loan authorizations, and the section's second sentence expressly empowers the Board of Governors to prescribe those conditions. If Congress had intended to limit the Board's discretion in such a manner, it could have used words to that effect, but it did not.

As a practical matter, loans necessarily provide for consideration in addition to interest. Covenants, default and acceleration provisions, representations and warranties, fee provisions,

and expense reimbursements are typical components of most loans, including rescue loans. Starr has not challenged these other components of rescue loans as beyond the Federal Reserve's statutory authority in section 13(3), even though they are also forms of consideration other than interest. In response to the evidence that other section 13(3) rescue loans (including facilities in which AIG participated) provided for fees in addition to interest, *see* Def. Post-Trial Proposed Findings of Fact (Def. PFOF) ¶ 193, Starr apparently concedes that fees are a valid form of consideration even though section 13(3) does not mention fees. *See* Pl. Law Br. ¶ 12.10.3 n.4 (asserting that FRBNY was "fully compensated" by the payment of "interest and fees."). Starr does not explain how an invalid equity stake is materially different from a valid fee.

In section 13(3)'s second sentence, Congress clearly intended that the Board of Governors tailor loans to reflect the borrower's particular circumstances and the Board's policy judgments about the appropriate lending conditions. Quite plainly, a rescue loan authorization conditioned on an equity term reflects the Board of Governors placing a "limitation" or "restriction" on the provision of that assistance (just as a fee or covenant would). And the discretion afforded by section 13(3)'s second sentence does not render superfluous the first sentence's requirements, including its provisions for interest. *See* Def. Post-Trial Proposed Conclusions of Law (Def. Law Br.) at 79-81. Nor does the requirement of an interest term in the first sentence prohibit other, additional terms, which the second sentence specifically contemplates. *Id.* Starr's reading of the statute, however, leaves the second sentence largely without force, and bars the Federal Reserve from including a wide variety of commercially reasonable terms in its rescue loans.

B. The Court Should Affirm The Board Of Governors' Exercise Of Its Congressionally Authorized Judgment

Under section 13(3), Congress provided the Board of Governors the discretion as to whether to lend and on what terms. The Court should not second-guess the Board of Governors' policy decisions within that broad grant of authority. When the administration of a statute "necessarily require[s] significant expertise and entail[s] the exercise of judgment grounded in policy concerns," courts should respect the administering agency's judgments, even when *Chevron* deference does not apply. *See, e.g.*, *Douglas v. Ind. Living Ctr. of S. Cal, Inc.*, 132 S. Ct. 1204, 1210 (2012); *Daniels v. United States*, 407 F.2d 1345, 1347 (Ct. Cl. 1969) ("Because of the broad congressional grant of administrative discretion, the scope of this court's review is limited."); *Bd. of Governors of Fed. Res. Sys. v. Investment Co. Institute*, 450 U.S. 46, 56 n.21 (1981) (citing *Bd. of Governors v. Agnew*, 329 U.S. 441, 450 (1947) (Rutledge, J., concurring) (treating the Board's judgment as "conclusive" in any matter on which there could be a reasonable difference of opinion, "because the system itself is a highly specialized and technical one, requiring expert and coordinated management in all its phases … [The Board's] specialized experience gives them an advantage judges cannot possibly have ….")); *Bd. of Governors of Fed. Res. Sys. v. First Lincolnwood Corp.*, 439 U.S. 234, 248 (1978); Def. Law Br. at 79-80.

Starr argues that that the Government's reading of section 13(3) is merely a "litigation position." Pl. Law Br. § 4.4.6. The Court should reject this argument as irrelevant and unfounded. First, determining section 13(3)'s breadth raises purely legal questions. *E.g.*, *Norfolk Dredging Co. v. United States*, 375 F.3d 1106, 1108 (Fed. Cir. 2004) ("statutory construction is a question of law"). The Federal Reserve's past analyses of its authority cannot, of course, affect the statute's meaning or Congress's intent.

In any event, the factual record contradicts Starr. Both before and contemporaneously with its decision to lend to AIG, the Federal Reserve confirmed that section 13(3) conferred authority to require equity as consideration for a rescue loan. In an April 2, 2008 memorandum, the Federal Reserve's General Counsel, Mr. Alvarez, reviewed the Bear Stearns loan, which offered FRBNY upside potential akin to an equity participation in Maiden Lane LLC. Mr. Alvarez concluded that the FRA permitted this type of loan condition because "Section 13(3) allows the Board [of Governors] to authorize any Federal Reserve bank to extend credit ... 'subject to such limitations, restrictions and regulations as the Board may prescribe.' The Board, therefore, has complete statutory discretion to determine . . . the conditions of lending under section 13(3)." JX-13 at 12; (April 2, 2008 Board of Governors memorandum); *see* Def. PFOF ¶¶ 192, 206-08. Likewise, in a September 17, 2008 memo addressing the equity consideration for the AIG rescue loan, Mr. Alvarez again cited the last sentence of section 13(3) in concluding the Federal Reserve had "implicit power to condition any section 13(3) extension of credit as it deems appropriate to justify the decision to extend credit." DX-484 at FRB018-01228070-71. These memoranda, by the Board of Governors' chief legal officer, refute Starr's argument that our reading of section 13(3) reflects an after-the-fact rationale developed as a litigating position.

Last, Starr mistakenly seeks support from a regulation and some early circulars about section 13(3). Pl. Law Br. §§ 4.2, 4.8.6. The regulation on which Starr relies directs that section 13(3) rescue loans carry a minimum interest rate but does not purport to set a maximum rate or to preclude other forms of consideration in addition to interest, such as equity. *See* 12 C.F.R. § 201.4. Nor do the circulars invoked by Starr say anything to bar non-interest forms of consideration. Instead, they simply state that section 13(3) loans "may be made only at rates established by the Federal Reserve banks, subject to review and determination by the Federal

Reserve Board." *See* 1932 Circular, 18 Fed. Reserve Bulletin no. 8473, 518 (Aug. 1932). Thus, interest rates will be set in that prescribed manner; the guidance neither states nor suggests that interest is the only form of consideration for a 13(3) loan. *See id.*; 1936 Circular, 22 Fed. Reserve Bulletin 71, 123 (Feb. 1936). To the contrary, those same circulars expressly state that "[a]ny Federal reserve bank may prescribe such additional requirements and procedures respecting discounts hereunder as it may deem necessary or advisable." 1936 Circular at 123-24; 1932 Circular at 520. Those circulars thus confirm the Federal Reserve's longstanding recognition of its authority to seek terms other than interest for section 13(3) loans.

C. The Challenged Equity Term Also Reflected A Valid Exercise Of FRBNY's Incidental Powers

The FRA's grant of "incidental powers" provide still further authority to include equity as a condition for the AIG loan. This term, in Section 4(4), grants Federal Reserve banks "such incidental powers as shall be necessary to carry on the business of banking within the limitations prescribed by this chapter." 12 U.S.C. § 341 (Seventh). Federal Reserve officials testified that the AIG-equity term facilitated the section 13(3) rescue by justifying the loan's extraordinary risks and mitigating the related policy concerns; the equity term was, thus, "convenient or useful" to the exercise of the section 13(3) authority. *See* Def. Law Br. at 84-86; Def. PFOF ¶¶ 119, 185-209; *see generally* Def. PFOF § III.A.

Courts have repeatedly recognized that exercise of an incidental power should be viewed as "necessary" whenever it is "convenient or useful" to the exercise of an existing power, and agencies' judgments on these points are entitled to respect. Def. Law Br. at 86-87; *NationsBank of N.C., N.A. v. Variable Annuity Life Ins. Co.*, 513 U.S. 251, 258 n.2 (1995) (upholding agency's "discretion to authorize activities beyond those specifically enumerated" so long as the exercise of that discretion was within "reasonable bounds").

Contrary to Starr's claim, conditioning lending on an equity term does not represent a new and separate power apart from lending itself. *See* Pl. Law Br. § 4.5.4. Instead, the equity term merely helped effectuate the Federal Reserve's undisputed authority to make rescue loans under section 13(3). Equity kickers are incidental to "the business of banking," as evidenced by the 79.9 percent equity terms of the private bankers' term sheet for a potential AIG loan, the testimony of Mr. Lee of JPMorgan Chase, and the Comptroller of the Currency's approval of equity kickers in bank loans. *See* Def. PFOF ¶¶ 120-22; Def. Law Br. at 85, 88-89.

The distinction between powers that help effectuate existing authority and powers that are separate from that authority is illustrated by the difference between providing a loan conditioned on the conveyance of equity as consideration (as in the case of the AIG loan) and providing equity funding by purchasing equity directly. The former helps to effectuate the Federal Reserve's section 13(3) lending authority by enabling the exercise of that authority in circumstances where perceived risks and policy considerations otherwise would preclude lending absent the conveyance of equity, while the latter does not involve lending at all but rather the direct injection of new equity capital, a power not conferred by section 13(3). *See* Def. PFOF ¶¶ 195-96, 210-13, 215-16.

Facing a clear grant of broad, incidental powers, Starr seizes upon section 4(4)'s reference to the exercise of powers "within the limitations set forth in this chapter," 12 U.S.C. § 341 (Seventh); Starr argues that this provision precludes an equity term. *See* Pl. Law Br. §§ 4.5.1-4.5.2. But the "limitations" referenced by section 4(4) are only those that are expressly

"set forth" by statute.[1] Starr has not identified a single provision of the FRA that prohibits the Federal Reserve from conditioning rescue lending on the conveyance of equity. Certainly, section 13(3)'s non-exclusive requirement that interest rates be set in accordance with section 357 is not a "limitation" precluding other forms of consideration in addition to interest.

Congress's decision to confer broad incidental powers on the Federal Reserve further demonstrates that Congress did not intend to disable the Board of Governors, when making loans to distressed companies, from incorporating the very kinds of terms that private lenders typically include in an emergency loans. Indeed, Congress recognized that the Federal Reserve's lending function would implicate elements of the "business of banking" that the statute did not identify. Starr has not – and cannot – reconcile section 4(4)'s express grant of incidental powers *in addition to* those powers already expressly enumerated, with Starr's argument that the scope of FRBNY's enumerated powers "circumscribes" the scope of its incidental powers. Pl. Law Br. §§ 4.5.1-4.5.2. Starr's reading improperly renders section 4(4) superfluous, *See* Def. Law Br. at 87, and Starr's arguments do not overcome the court decisions affording national banks and Federal Reserve banks broad discretion to determine what actions are necessary to exercising their enumerated powers in the business of banking. Def. Law Br. at 86.

D. Congress Ratified The Federal Reserve's Authority To Condition Lending On The Conveyance Of Equity

Congress effectively ratified the AIG rescue terms twice, confirming the equity term fell within the Federal Reserve's authority. Specifically, Congress responded to the AIG loan and its equity provision (1) in October 2008, by enacting a requirement that the Federal Reserve report

[1] For example, 12 U.S.C. § 347b(b)(1) limits the period over which a reserve bank may extend credit to certain depository institutions. Similarly, 12 U.S.C. § 345 restricts the amount the Federal Reserve may rediscount on behalf of member banks.

"warrants or any other potential equity" conveyed by borrowers in section 13(3) loans, and (2) in 2010, when amending section 13(3), by modifying the Federal Reserve's reporting obligations regarding "the amount of interest, fees and other revenue or items of value received in exchange for section 13(3) assistance." *See* Def. Law Br. at 89-90. That congressional ratification confirms that the Federal Reserve "*always had* th[e] discretionary authority" to condition section 13(3) lending on an equity term. *Cookeville Reg. Med. Ctr. v. Leavitt*, 531 F.3d 844, 848-49 (D.C. Cir. 2008) (emphasis added); *see also N. Haven Bd. of Ed. v. Bell*, 456 U.S. 512, 535 (1982) ("Where an agency's statutory construction has been fully brought to the attention of the public and the Congress, and the latter has not sought to alter that interpretation although it has amended the statute in other respects, then presumably the legislative intent has been correctly discerned.") (internal quotation marks omitted).

Starr's response to these ratifications is illogical. Starr's reading of section 13(3) – indeed, its entire illegal exaction claim – is based on the theory that FRBNY's actions were illegal and clearly contrary to Congress's limits. Yet, when trying to counter Congress's ratification, Starr's argument can be summed up as assumed congressional indifference. Starr disregards history with speculation that, because 12 U.S.C. § 5235 was a "minor part" of the new law, Congress may not have focused on the Federal Reserve's interpretation of its authority when enacting EESA. *See* Pl. Law Br. at 26. The AIG rescue was so highly visible that "it is hardly conceivable that Congress . . . was not abundantly aware" of the equity condition on the AIG loan when, just two weeks later, it passed EESA and decided to include provisions specifically directed at the Federal Reserve's section 13(3) lending. *See F.D.A. v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 156 (2000) (internal quotation marks omitted). Representative Louise Slaughter confirmed this during Congress's debate on EESA, stating

"Taxpayers should know that we push to ensure that the government receives shares of any company it provides with aid, and after agreeing to rescue AIG from filing for bankruptcy, the government received nearly an 80 percent share in the company. . . . By making sure the government gets shares of companies we aid, we are working to revitalize this industry in a way that will benefit the taxpayers who are funding this rescue." 154 Cong. Rec. H10702, 703 (daily ed. Oct. 3, 2008).[2]

In EESA, Congress requires the Federal Reserve to report on transactions involving the receipt of equity. Starr argues that any receipt of equity was illegal; thus Starr imagines a world where Congress merely requires the Federal Reserve to self-report the agency's purported illegal conduct, but does not discontinue or reverse that same conduct. Pl. Law Br. § 4.9.2. Starr's position defies common sense. In EESA, Congress recognized and ratified the Board of Governors' conclusion that a section 13(3) loan can be properly conditioned on an equity term. *See* Def. Law Br. at 89-92.

Next, Starr argues that, because Congress purportedly limited the Treasury Department's authority to purchase equity under the TARP to warrants, Congress could not have ratified the Federal Reserve's authority to require the preferred shares as part of the AIG loan. Pl. Law Br. at 26-27. This argument lacks merit. Far from a limitation, EESA permitted the Secretary of the Treasury to purchase and hold *any financial instrument* – including common stock – from any

[2] Contrary to Starr's assertion, Pl. Law Br. § 4.9.2, the relevant provisions of EESA and Dodd-Frank applied not just to future section 13(3) loans but also to all outstanding loans, including the AIG loan. *See* 12 U.S.C. § 5235(d) ("The provisions of this section shall be in force for all uses of the authority provided under section 13 of the Federal Reserve Act occurring during the period beginning on March 1, 2008 and ending on the after [*sic*] October 3, 2008 . . . ."); 12 U.S.C. § 343(3)(C)(ii) (2010) (requiring reporting "with respect to any *outstanding* loan") (emphasis added).

financial institution.[3] Indeed, EESA required that taxpayers receive an equity participation when firms received public assistance. As a condition of any purchase of any troubled asset from a financial institution, Congress *required* that the Secretary *also* obtain warrants or their equivalent so that taxpayers would participate in any upside of the rescue. *See* EESA Section 113(d), 12 U.S.C. § 5223(d). Thus, Section 113(d)'s requirement that warrants be obtained as additional consideration when purchasing financial instruments did not limit the Treasury Department's authority to acquire any kind of assets authorized under EESA's sections 101 and 3(9). Indeed, more generally, Section 113(d) confirms Congress's view that the Government, in undertaking rescue assistance to private enterprises, may properly condition its emergency lending on equity participation in the company receiving assistance.

Additionally, in section 129 of EESA, Congress implicitly ratified that a section 13(3) loan could be granted in return for "warrants or other potential equity" by providing only that the Federal Reserve submit reports about those forms of equity consideration. 12 U.S.C. § 5235(a). That statutory language plainly embraced AIG's contractual promise to issue equity. Congress also made clear in EESA section 135 that, with the exception of a section concerning the use of the Exchange Stabilization Fund for future guarantees of domestic money market funds, "nothing in this Act may be construed to limit the authority of the Secretary or the Board under any other provision of law." 12 U.S.C. § 5240. Taken together, these provisions demonstrate Congress's ratification of the Federal Reserve's September 2008 interpretation of the scope of its

[3] EESA Section 101, 12 U.S.C. § 5211, authorizes the Secretary of the Treasury to purchase troubled assets from any financial institution, including either "(A) residential or commercial mortgages, and any securities, obligations or other instruments that are based on or related to such mortgages," or "(B) any other financial instrument that the Secretary . . . determines the purchase of which is necessary to promote financial market stability. . . ." EESA Section 3(9). 12 U.S.C. § 5202(9).

authority. *See Jama*, 543 U.S. at 341 ("We do not lightly assume that Congress has omitted from its adopted text requirements that it nonetheless intends to apply, and our reluctance is even greater when Congress has shown elsewhere in the same statute that it knows how to make such a requirement manifest.").

Finally, Starr reaches back to 1932, when Congress enacted section 13(3), and argues that Congress' original intent concerning the scope of section 13(3) lending was murky. Of course, the absence of any clearly expressed Congressional intent to limit the Board's authority simply confirms that Congress intended the Federal Reserve to exercise discretion in its interpretation and implementation of the statute. Indeed, Starr offers no legislative history to support its argument that Congress, at the same time it afforded broad, discretionary lending authority to the Federal Reserve, simultaneously frustrated the Government's ability to include terms in its emergency lending that it considered to be necessary and appropriate under the circumstances.

When FRBNY sought equity as a condition of the AIG rescue loan, the Federal Reserve acted within the scope of its statutory authority.

E. In Any Event, Starr's Illegal Exaction Claim Fails Because Section 13(3) Is Not Money-Mandating

Starr also failed to establish that section 13(3) meets the "money mandating" requirement for an illegal exaction claim. Def. Law. Br. § 2.C. As the Federal Circuit has explained, "The Tucker Act itself does not create a substantive cause of action; in order to come within the jurisdictional reach and the waiver of the Tucker Act, a plaintiff must identify a separate source of substantive law that creates the right to money damages." *Fisher v. United States*, 402 F.3d 1167, 1172 (Fed. Cir. 2005) (citations omitted) (*en banc* with respect to cited portion). The "absence of a money-mandating source" is "fatal to the court's jurisdiction under the Tucker Act." *Id.* at 1173.

"A statutory or regulatory provision that grants a government official or agency substantial discretion to decide whether and how to expend government funds in a particular way is not considered money-mandating and does not create a cause of action that can be prosecuted under the [Tucker Act]." *Price v. Panetta*, 674 F.3d 1335, 1339 (Fed Cir. 2012). Courts presume that statutes using the word "may" are not money mandating, unless other indicia show that Congress intended payment to be mandatory. *McBryde v. United States*, 299 F.3d 1357, 1362 (Fed. Cir. 2002). The Federal Circuit has, therefore, held that discretionary statutes may be considered money-mandating "when an analysis of congressional intent or the structure and purpose of the statute reveal one of the following: (1) the statute has 'clear standards for paying' money to recipients, (2) the statute specifies the 'precise amounts' to be paid, or (3) the statute compels payment once certain conditions precedent are met." *Doe v. United States*, 463 F.3d 1314, 1324 (Fed. Cir. 2006) (citations omitted).

Section 13(3) does not satisfy any of the *Doe* factors. Nothing in the statute's text or legislative history limits the Board of Governors' discretion or requires the Board of Governors to approve a loan or a Federal Reserve bank to grant one. *See supra* § 1.A. Instead, the statute is expressly discretionary. This view was proffered both by Chairman Bernanke, Tr. 2168, Lines 3-13, and by plaintiffs' expert, Dr. Cragg, Tr. 5164 Line 25-Tr. 5165 Line 5 (Q: If the minimum requirements of 13(3) are met, 13(3) does not say that lending has to take place. Do you agree? A. Right. That's correct.").[4]

[4] In its decision on the United States' Motion for Reconsideration of its motion to dismiss, the Court stated that "at this stage Starr is entitled to the inference that Section 13(3) is indeed money-mandating." *Starr v. United States*, 107 Fed. Cl. at 378. Now that the trial has concluded, it is clear that Starr is no longer entitled to that inference.

Because section 13(3) provides the Board of Governors with discretion as to whether to authorize a loan, the section cannot be money mandating. Thus, Starr's exaction claims fails.

II. Unable To Establish That The Federal Reserve Exceeded Its Authority, Starr Asserts Irrelevant And Incorrect Arguments To Support Its Illegal Exaction Claim

Unable to prove the necessary statutory violation, Starr raises a host of issues that cannot support its claim.

A. Starr's Arguments Regarding Authority To *Hold* Equity And Attacks On The Trust Are Irrelevant And Incorrect

The Court should reject Starr's claim that FRBNY lacked legal authority to *hold* AIG's equity. Holding AIG preferred shares would have been a valid exercise of FRBNY's incidental powers, just as FRBNY's holding equity obtained by foreclosure following a default, or equity provided in satisfaction of an antecedent debt have long been recognized to be within a reserve bank's power. Moreover, Starr offers no connection between the holder of AIG's shares and the harm Starr alleges; accordingly, Starr lacks standing to challenge the Trust. *See* Def. Law Br. at 92-93. Quite simply, if the Federal Reserve had the authority to seek equity as compensation for the rescue loan (and it did), it was of no legal consequence to Starr what entity held or received the benefit from the preferred shares.

Starr's attacks on the Trust also lack merit. FRBNY created the Trust to hold the Series C preferred shares for genuine policy reasons. In any event, Starr has not undermined the Trust's validity, regardless of the reasons for its creation.

1. Neither FRBNY Nor Treasury Ever Held The Series C Preferred Shares, Nor Would Any Law Have Prevented Them From Holding Equity

The Court should reject Starr's argument that FRBNY "initially acquired" the Series C preferred shares and that such acquisition was illegal. Pls. Corrected Post-Trial Proposed Findings of Fact (Pl. PFOF) ¶ 25.1. FRBNY's role as settlor, Pl. PFOF ¶ 25.1.1, simply meant

that it "set[] up a trust," Black's Law Dictionary (8th ed. 2004) ("settlor"), which it did by placing one dollar into the Trust. JX-172 at 5 (Trust Agreement § 1.02). Because AIG issued the Series C preferred shares directly to the Trust, neither FRBNY nor the Treasury ever owned the preferred stock. *See* JX-185 at 2 (Series C Stock Purchase Agreement § 2.1).

But even if FRBNY had received AIG's preferred shares, Starr fails to identify any legal prohibition against FRBNY's ownership of equity obtained as loan consideration. *California National Bank v. Kennedy* 167 U.S. 362 (1897), on which Starr relies, Pl. Law Br. § 4.5.5, does not prohibit holding equity, but only "dealing in" stock – that is, speculative buying and trading of stock for profit. *See* Def. Law Br. at 93-94. FRBNY did not "deal in" stock when it loaned money to AIG. Rather, FRBNY obtained stock as part of the consideration for a loan. *See* Def. Law Br. at 87-89. As the Court explained in *Starr Int'l Co. v. Fed. Reserve Bank of New York*, 906 F. Supp. 2d 202 (S.D.N.Y. 2012), "*Kennedy* held that national banks could not engage in the *speculative purchase* of stock. But it absolutely did not hold that such banks were prohibited from *holding* stock at all. . . . [A] bank's incidental powers 'necessary to carry on the business of banking' . . . have been defined expressly to include the receipt of equity in the borrower as part of the consideration for a loan." *Id.* at 241-42 (quoting 12 U.S.C. § 24) (emphases in original).

The Government has repeatedly identified authorities permitting national banks to condition lending on the conveyance of equity, *see* Def. PCOL ¶ 138, *see also* Def. Law Br. at 85, 87-89, 94-95, but Starr's submission does not address those authorities. Instead, Starr argues that national banks have greater power to obtain equity consideration for the benefit of their shareholders than FRBNY has for the benefit of taxpayers. Pl. Law Br. § 4.5.5. Starr characterizes the "public purpose" of section 13(3) lending as the protection of borrowers and their shareholders, even at the expense of taxpayers and the economy. Starr cites to no legal

support for its position; to the contrary, authorities have uniformly recognized that Congress enacted section 13(3) to protect the public interest in the economy and the Federal Reserve system, not to benefit individual borrowers or their shareholders. *See* Def. Law Br. at 105-06.

The Government Corporation Control Act (GCCA) also would not have prohibited FRBNY or the Treasury Department from holding the equity, nor does that Act "reinforce[]" any lack of authority. *See* Pl. Law Br. § 4.3. The GCCA prevents the Government from turning a private corporation into a Government agency. 31 U.S.C. § 9102; *see also* Pl. Law Br. § 4.3(a). Even with the equity term, AIG never acted as a Government agency, and never performed any governmental function or statutory mission. *See OLC Applicability of Gov't Corp. Control Act to Gain Sharing Benefit Agreement*, 2000 WL 34545092, at *6 (U.S.A.G. Sept. 18, 2000) (a company acts as an agency if it is "deliberately used to accomplish [governmental] objectives") (citation omitted); *id.* at *7 (a company acts as an agency if it is "vested, by law, with the authority to act on behalf of the United States, or to fulfill some statutory mission of the federal government") (citation and internal quotation marks omitted). Therefore, Starr's citation to the GCCA fails to support Starr's argument.[5]

[5] Starr has cited a September 17, 2008 internal email sent by Randall Guynn of Davis Polk stating that "the govt is on thin ice and they know it" in support of Starr's claim that the Government "understood" that section 13(3) did not authorize the Federal Reserve to acquire or hold equity as consideration for a 13(3) loan. Pl. PFOF ¶ 23.1(d) (quoting PTX-3263 at 1). It is clear from the face of Mr. Guynn's email that he was writing about whether Treasury had authority "to own the company," not whether FRBNY had authority to acquire or hold equity. PTX-3263 at 1. Starr ignores an email from the very next day in which Mr. Guynn states his position on FRBNY authority, namely, that "FRBNY has the power to take equity securities as an incident to the 13(3) power," DX-3102 at 1. He conveyed that same view to FRBNY and Treasury lawyers, reasoning that taking equity was "incidental to that express power." PTX-148 at 1.

2. The Credit Agreement Used An Independent Trust To Address Policy Considerations

The Federal Reserve placed the AIG equity interest in the Trust to address policy concerns associated with the prospect of directly owning a majority voting interest in AIG. *See* Def. PFOF § III.C. Citing out-of-context, partial quotes from emails and trial testimony, Starr argues that the Federal Reserve created the Trust because FRBNY "knew that it did not have the authority to acquire, or hold, equity." Pl. Law Br. § 13.3.2. The facts contradict Starr's position. As laid out in the record, Mr. Baxter concluded that FRBNY had statutory authority not only (1) to condition lending on a borrower's agreement to provide equity, but also (2) to hold that equity when authorized by the Board of Governors. *See* Def. PFOF ¶¶ 194-200; Baxter, Tr. 944, Lines 8-15 ("I believe that under the Federal Reserve Act we had full statutory authority to own the equity and hold it."); Tr. 805, Lines 6-9 ("In my view, there was no question that the Federal Reserve Bank of New York had the authority to receive equity as consideration for a section 13(3) lending."). However, Mr. Baxter believed that Mr. Alvarez – consistent with Mr. Alvarez's strongly expressed policy and prudential concerns, Def. PFOF ¶¶ 224-26, 238 – had not reached a view that the Board of Governors' authorization in its September 16 resolution encompassed FRBNY ownership of the AIG equity. Baxter, Tr. 802, Line 22-Tr. 803, Line 12.

Mr. Alvarez, like Mr. Baxter, had no doubt that FRBNY could lawfully condition lending on AIG's conveyance of equity, as memorialized in contemporaneous written analysis. *See* Def. PFOF ¶¶ 203-09; DX-484 (Sept. 17, 2008 Alvarez memorandum); Alvarez Tr. 449, Lines 12-17. Mr. Alvarez had not reached a conclusion as to whether FRBNY could hold a majority voting interest in AIG over an extended period. Alvarez, Tr. 556, Line 10-Tr. 557, Line 5; *see* Def. PFOF ¶¶ 246-48; Alvarez, Tr. 271, Lines 16-19. Having the Trust hold the equity interest

resolved policy concerns and obviated the need for Mr. Alvarez to resolve his long-term authority-to-hold question.

Contrary to Starr's assertion, there is no inconsistency between Mr. Alvarez's testimony (that he had not reached a conclusion as to FRBNY's statutory authority to hold equity over a long term), and Mr. Baxter's testimony (that although he believed the FRA authorized an equity provision, he understood Mr. Alvarez to have not reached a view that the Board of Governors had authorized FRBNY to hold the AIG equity interest). Mr. Alvarez was the gate-keeper in determining whether the final loan terms to AIG were within the Board of Governors' authorization to FRBNY; if Mr. Alvarez did not accept the proposed final equity provisions for either legal or policy reasons, he would find them to be beyond the scope of the Board of Governors' September 16 authorization.

Starr claims – but offers no evidence – that Mr. Baxter's testimony regarding the reasons the Trust was created were "pretextual." *See* Pl. PFOF ¶ 25.4.1. Indeed, contemporaneous documents and the testimony of Messrs. Alvarez, Geithner, and Huebner support Mr. Baxter's explanation. *See e.g.,* JX-172 at 5 (Trust Agreement); Alvarez, Tr. 553, Lines 15-24; Geithner, Tr. 1686, Line 23-Tr. 1687, Line 9; Huebner, Tr. 6114, Lines 4-19.

Starr contends that the Board of Governors and FRBNY believed they lacked authority to obtain equity consideration for the AIG loan, but Starr's argument fails because the Federal Reserve concluded that it had this authority, both before anyone even contemplated the AIG transaction, and again in connection with the approval process for the AIG loan. Def. PFOF ¶¶ 186-209. Before it voted on September 16, Mr. Alvarez advised the Board of Governors that the proposed AIG loan terms were legal. Def. PFOF ¶ 205. Starr does not undermine that evidence by citing (1) Federal Reserve documents declaring that FRBNY had no authority to

make equity investments (a very different transaction from receiving equity as part of the consideration for a loan), Def. PFOF ¶¶ 196-213, (2) documents and drafts authored by subordinate staff that did not accurately represent Mr. Baxter's or Mr. Alvarez's views as the chief legal officers of FRBNY and the Board of Governors regarding FRBNY's authority, Def. PFOF ¶¶ 247-48, (3) documents authored by outsiders unfamiliar with the Federal Reserve's legal analysis of its authority, Def. PFOF ¶ 248 n.26, and (4) other documents that Starr has misinterpreted or misconstrued. *See generally* Def. PFOF § III.B.3.

Starr's arguments cannot be reconciled with the evidence. Mr. Baxter's and Mr. Alvarez's testimony, as well as their contemporaneous written notes and memoranda, demonstrate their reasonable belief that the Federal Reserve could condition a section 13(3) loan on the borrower's agreement to convey equity as part of the loan consideration, and in particular that the AIG loan was within the Federal Reserve's authority. *See* Def. PFOF § III.B.

3. The Trust Was A Valid And Appropriate Owner of AIG's Equity

Starr argues that the Trust was a sham with no separate identity from FRBNY. Pl. PFOF ¶¶ 25.3-25.7. Starr is wrong. We have explained why this issue is not relevant to the Court's decision, but even if it were, the Trust was a valid and appropriate owner of AIG's equity, and was independent from FRBNY.

Even if Starr were correct that FRBNY or the Treasury Department could not hold equity – and it is not – that would not make the equity transfer Starr has challenged illegal, because neither FRBNY nor Treasury ever acquired an equity interest in AIG. Def. Law Br. at 95-98. FRBNY created the Trust to be independent from FRBNY and the Government; the Trust, in turn, properly exercised its independence. Although Starr asserts that FRBNY and the Government "managed the Trust and exercised the Trust's ownership rights in AIG,"

Pl. PFOF ¶ 25.6.3, Starr produces no support for its claim. Extensive negotiations by the Trustees with FRBNY over the Trust and with all parties in the 2011 recapitalization show the Trust's independence. The Trustees also testified as to their independence of judgment; Starr has not identified a single Trustee decision that contradicts that testimony. *See generally* Def. PFOF ¶¶ 273-302 (discussing the Trustees' independent exercise of their duties).

Starr's distorted reading of the Trust Agreement does not support a conclusion that the Trust and the Trustees lacked a separate identity from FRBNY and the Treasury Department. Although Section 2.04(d) of the Agreement sets forth FRBNY's views on the merits of AIG's paying back its support while not disrupting financial markets, this non-binding guidance could not impair the Trustees' independence. Def. PFOF ¶¶ 276-80. Similarly, Section 3.03(a), which provided indemnification rights so long as the Trustees did not undermine the taxpayers' interests, could not have affected the Trustees' role; the taxpayers were the Trust's beneficiaries, and the Trustees already owed the taxpayers a fiduciary duty. *See* Def. PFOF ¶¶ 286-88, 294-95. Starr has cited no provision of the Trust Agreement that: (1) directed the Trustees' decision on any action they took that Starr seeks to challenge; (2) prevented the Trustees from exercising their independent judgment; or (3) undermined the Trust's status as a separate juridical entity.

The Trust enabled the Federal Reserve to require equity as partial consideration for the AIG rescue loan without activating the legitimate policy concerns associated with having FRBNY hold the shares. The Trust was not a "sham," and it accomplished its purposes.

B. Starr's Claim That The Board Of Governors Did Not "Approve" The Credit Agreement Misapprehends The Requirements Of Section 13(3)

Starr's claim that the Board of Governors did not "approve" the Credit Agreement, Pl. PFOF ¶ 18.7, Pl. Law Br. ¶ 5.0, misapprehends both the scope of the Board of Governors' authorization and, more broadly, the different roles filled by the Board and the reserve banks.

The Board of Governors does not "approve" section 13(3) loans, but rather authorizes reserve banks to extend loans subject to the limitations and restrictions the Board of Governors chooses to impose. *See* 12 U.S.C. § 343 (2008); Def. PFOF ¶ 254 n.27. The Board of Governors did not delegate to FRBNY its statutory authority to authorize lending, as Starr claims. *See* Pl. Law Br. ¶ 5.2. Rather, the Board authorized FRBNY to exercise judgment, within identified bounds, in reaching final loan terms that were consistent with the authority conveyed. *See* 12 U.S.C. § 343 (2008); Def. PFOF ¶¶ 254-60. Because the Credit Agreement as ultimately executed was within the scope of the Board of Governors' existing September 16, 2008 authorization, the agreement was authorized without the need for further formal Board action. *See* Def. PFOF ¶¶ 254-66.

Starr does not dispute that the term sheet presented to the Board of Governors on September 16, 2008, was labeled "Preliminary Draft" and left some terms blank or in brackets. Def. PFOF ¶ 255. Starr also does not dispute that the Board of Governors, recognizing that loan terms might change before a final agreement was executed, approved the proposed interest rate but otherwise authorized FRBNY to "impose conditions *such as* those described in the proposed lending facility term sheet, on its extension of credit to AIG." Def. PFOF ¶ 258. This language authorized FRBNY to change the terms, within the resolution's scope, without the need for a further Board of Governors vote.

In the days after September 16, 2008, Mr. Alvarez considered whether the evolving transaction terms, including the form of equity, fell within the authorization provided by the Board of Governors' September 16 resolution. During those days, he initially indicated that certain forms of the proposed equity ownership "will not work for the Fed." *See, e.g.*, PTX-183 at 1. When it was decided that the equity would be in the form of voting preferred shares held by a trust for the benefit of taxpayers, Chairman Bernanke and Vice Chairman Kohn – in

consultation with Mr. Alvarez – concluded that the final form of equity fell within the authorization of the September 16 resolution. Def. PFOF ¶¶ 263-65.

Although Starr disagrees with this view, the decision-makers' interpretation of their own actions should be conclusive. It makes no sense to suggest, as Starr does, that all five members of the Board of Governors had to vote on whether the loan's final terms differed so much from the preliminary, draft term sheet that they fell outside the original authorization. Boards have gatekeepers who make threshold determinations whether a vote is required in specific circumstances. Boards do not and should not generally require the inefficient and incongruous step of voting on the threshold question of whether an action falls within prior authorization. Here, Chairman Bernanke and Vice Chairman Kohn, in consultation with Mr. Alvarez, concluded that the Credit Agreement's terms fell within the original resolution. This conclusion was procedurally appropriate and analytically sensible; it cannot support Starr's claims.

Even if a second formal vote by the full Board of Governors had been necessary to authorize the Credit Agreement, and it was not, the failure to hold such a vote would not present a viable basis for Starr's exaction claim. Starr has not established how the existence of such a vote would have affected the resulting Credit Agreement or why AIG shareholders should receive a windfall of tens of billions of dollars based on what was, at most, a procedural misstep. *See Cessna Aircraft Co. v. Dalton*, 126 F.3d 1442, 1451 (Fed Cir. 1997) ("The primary intent of a statute or regulation must be to protect or benefit a class of persons in order for that class to be able to bring suit against the government for violating the statute or regulation.").

C. The AIG Loan's Interest Rate Satisfied Section 13(3)

Starr's arguments regarding section 14(d), 12 U.S.C. § 357, misunderstand that provision and improperly attempt to use a provision about *interest rates* to prop up its claims about the *equity* term. Starr argues that the rates set under section 14(d) must accommodate the borrower;

this misreads the statute, which directs the Federal Reserve instead to "accommodat[e] commerce and business" generally. 12 U.S.C. § 357. Starr, moreover, has never sought compensation on the theory that the AIG loan's interest rate violated section 14(d); certainly, Starr did not present any evidence of such injury at trial. If Starr now claims that AIG's interest rate was not set in accordance with section 14(d), then the Court should reject this newfound argument.

Section 14(d), a broad and general directive, instructs that "rates of discount" (that is, interest rates) be established "subject to review and determination by the Board of Governors" and "with a view of accommodating *commerce and business*." *Id.* (emphasis added); Def. Law Br. at 101-03. At its September 16 meeting, the Board of Governors met this requirement by approving the interest rate proposed by FRBNY. JX-63 at 4. The Board of Governors provided this approval after determining that lending at that rate would accommodate commerce and business by avoiding the market disruptions that could result from AIG's failure – the same standard the Board of Governors applied when approving rates for other individual lending facilities. *See* Def. PFOF ¶ 193 n.20; Def. Law Br. at 101-03; Alvarez, Tr. 387, Lines 16-21.[6]

Starr's invocation of section 14(d) in support of its assertion that "Federal Reserve extensions of credit 'are made not for profit but for a public purpose,'" *see* Pl. Law Br. § 4.5.5; *see also id.* § 4.10, fundamentally misunderstands the "public purpose" that section 13(3) lending

[6] Charging higher interest rates on the AIG loan than on other section 13(3) loans was consistent with section 14(d), which has long been interpreted to permit different rates for different section 13(3) borrowers. *See* PTX-2826 at 2 (July 17, 1970 Hackley memorandum); *id.* at 8 ("[T]he Board has established different rates, under the same statutory authorization, for advances to different types of borrowers even though the paper taken as collateral was of precisely the same nature."); PTX-742 at 191-92 (Hackley, "Lending Functions of the Federal Reserve Banks: a History") ("[T]here may be different rates according to the nature of the borrower.").

serves. Emergency lending furthers the broad public interest in stabilizing and protecting the financial system for the benefit of the public generally, *see* 12 U.S.C. § 343 (2008); 12 C.F.R. § 201.4(d), not to benefit and subsidize shareholders' risk taking.[7] Lending for a public purpose, however, does not prohibit the Federal Reserve from profiting on a loan. Even under Starr's incorrect reading of the FRA to limit consideration to interest, if a borrower properly repays a section 13(3) loan, the lending bank would make a profit by recouping both the principal and interest.

Nor can Starr plausibly argue that the AIG rescue loan's *equity term* violated section 14(d). That statutory provision's requirement that interest rates be set in a particular manner has nothing to do with, and does not by its terms prohibit, other forms of consideration *in addition to* interest. *See* 12 U.S.C. § 357; Def. Law Br. at 101-02.

D. Starr's Arguments Concerning "Punishment" Are Irrelevant And Incorrect Because The Terms Of The Loan Were Not Punishment For Wrongdoing

Starr's arguments about "punishment" simply restate its already dismissed claim that AIG was punished without due process of law. *Starr*, 106 Fed. Cl. at 61; Def. Law Br. § II.A.4.a. Moreover, Starr's insistence that the Federal Reserve "punished" AIG, Pl. Law Br. §§ 6.2, 12.13, Pl. PFOF ¶ 26.2, is contrary to fact. Starr cannot alter the fundamental economic

[7] Congress did not enact section 13(3) to ensure that borrowers or shareholders would be insulated against all financial risk; to the contrary, such persons are ordinarily (and properly) left to the discipline of the market. *See* Def. Law Br. at 105-06; *Starr v. Fed. Reserve Bank of New York*, 742 F.3d 37, 42 (2d Cir. 2014) (section 13(3) loans do not encompass a duty to advance the interests of borrowers or their shareholders); *Corbin v. Fed. Reserve Bank of New York*, 475 F. Supp. 1060, 1068 (S.D.N.Y. 1979), *aff'd*, 629 F.2d 233 (2d Cir. 1980) ("Loans made by the Federal Reserve are made for a public purpose, they are not intended to serve private interests[.]"); *In re Franklin Nat'l Bank Secs. Litig.*, 478 F. Supp. 210, 217-19 (E.D.N.Y. 1979) (Federal Reserve lending is intended "to preserve the stability of the banking system, to minimize the losses to the public, and to reduce the possibility of grave national and international financial repercussions").

reality that the rescue loan provided a substantial benefit to AIG and its shareholders compared to their position in the absence of a loan. The notion that the United States "punished" AIG by extending a loan that saved it – and all of its shareholders – from the devastating consequences of bankruptcy is not only at odds with the evidence presented at trial, but defies all common sense.

Indeed, President Geithner and Chairman Bernanke testified without contradiction: (1) that the terms of AIG's rescue loan reflected their judgments about the unprecedented risks and policy implications of lending to AIG, rather than a desire to punish AIG for wrongful conduct; (2) that the Federal Reserve borrowed the loan's equity terms from provisions that private sector bankers themselves had proposed, but ultimately determined were still too risky; and (3) that, in the financial world, the term "punitive" is widely understood to mean merely "harsh" or "expensive," such that any reference to a "punitive" loan term is best understood not to reflect a subject motivation to inflict punishment, but rather an objective intent to reconcile a loan's terms with the poor condition of the borrower and the heightened level of risk involved. *See* Def. PFOF ¶¶ 181-84; Def. Law Br. at 99-100.

Starr's argument fails for the additional reason that the Federal Reserve had no means by which it could "impose punishment" on AIG. *See* Pl. Law Br. § 12.13. As this Court has correctly observed, "[I]f AIG had refused the conditions of the loan agreement, AIG would not have been subject to any ongoing [regulatory] restrictions; AIG simply would not have obtained the loan." *Starr*, 106 Fed. Cl. at 82-83. AIG was under no compulsion to accept the Government's offer. Instead, AIG's board voluntarily accepted the rescue loan because it was vastly preferable to AIG's alternative option of bankruptcy, which would have wiped out shareholders. *See* Def. PFOF § II. Offering AIG's shareholders a rescue that partially insulated

them from the consequences of the company's business decisions, to which they already were fully exposed in the absence of that rescue, simply does not amount to "punishment." *See* Def. Law Br. at 100. Certainly, the 100,000 businesses that went bankrupt in 2008 and 2009 in the absence of Government assistance would have welcomed the "punishment" that AIG itself freely accepted.

E. The Loan Terms Were Justified, And The Equity Term Was Not An Extraneous Demand

Starr suggests that because the Federal Reserve's loan was at all times "fully secured," Pl. PFOF ¶ 21.0, the Federal Reserve must have required the equity term simply to "pick[] up a few dollars for the public treasury," unrelated to and beyond the scope of section 13(3)'s authority. *See* Pl. Law Br. § 2.3 (b) (quoting *Suwannee S.S. Co. v. United States*, 279 F.2d 874, 877 (Ct. Cl. 1960)). As we have demonstrated, however, the equity term was not beyond the scope of the Federal Reserve's statutory authority. The Federal Reserve, therefore, was free to condition the AIG loan on the equity term. *See* Pl. Law Br. § 2.4.[8] In addition, the factual premises of Starr's argument are incorrect: (1) the loan terms were directly related to the substantial risks and policy considerations that the Board of Governors identified; and (2) contrary to Starr's assertions, the loan was, in fact, very risky, even with AIG's collateral.

1. The Challenged Loan Terms Were Directly Related To The Risks And Policy Implications Of Lending To AIG

Starr cites cases in which the conditions placed on the provision of discretionary benefits bore no relationship to those benefits. Here, however, the AIG loan's terms and conditions,

[8] To the extent that Starr relies upon unconstitutional conditions cases to argue that the equity term is an illegal exaction, Pl. Law Br. § 2.4.1, Starr conflates an alleged lack of *statutory* authority (creating a potential *illegal exaction*) with a condition that is purportedly *unconstitutional* because it violates the *takings* clause. We therefore address Starr's unconstitutional conditions arguments in our takings section below.

including the 79.9 percent equity term, directly related to the risks and policy implications of lending to AIG.

For example, in *Suwannee Steamship Co. v. United States*, the Court determined that a fee, demanded in exchange for the Government's regulatory approval of the sale of a ship to a foreign purchaser, did not bear even "the remotest relation" to "whether the transfer would be compatible with national interests." 279 F.2d at 876-77. "The vice of the [fee was] its irrelevance." *Id.* By contrast, the AIG loan terms, including the equity term, were relevant (1) to compensating taxpayers for the unprecedented scale and risks of the loan; and (2) to mitigating policy concerns such as the windfall AIG and its shareholders received from being rescued, and the moral hazard associated with rescuing AIG. Those considerations clearly related to the Federal Reserve's determinations whether and on what terms to lend. *See* Def. PFOF § III.A.

The Federal Reserve's loan terms were based on and consistent with the terms private sector lenders had sought to develop but had found insufficient to entice the market to lend to AIG, further demonstrating these terms' relevance and appropriateness. *See id.* at § III.A.1. Starr has not offered any explanation why it could possibly be unjustified for the Government to offer AIG a loan on essentially the same commercial terms (including a 79.9 percent equity participation) that a consortium of private lenders considered, but ultimately rejected.

Beyond the loan's riskiness, the equity term was independently justified based on policy grounds. As President Geithner and Chairman Bernanke testified, the equity term reduced the windfall that AIG and its shareholders enjoyed by being rescued from a value-destroying bankruptcy and reduced the unfairness of using taxpayer funds to rescue AIG while other institutions failed and their shareholders were wiped out. *See* Def. PFOF ¶¶ 130-35. Also, the AIG loan raised exceptional moral hazard, which, alone, could have been a basis for denying the

loan to AIG. The Federal Reserve properly considered these policy issues when deciding whether and on what terms to make the loan; the equity term addressed and mitigated those concerns.

Starr is left to argue about the alternative manner in which the Federal Reserve might have addressed the moral hazard concerns. Starr argues that the Federal Reserve addressed moral hazard differently in its other lending facilities, without conditioning lending on the conveyance of equity. *See* Pl. PFOF ¶¶ 32.2.5, 32.2.7, 32.2.12. Starr's policy critique of the Federal Reserve's balancing of various policy considerations ignores the reasons why different lending programs had different terms and, in any event, is not a viable legal basis for Starr's claims. *See* Def. PFOF § III.F; Def. Law Br. at 100-01.

2. The Evidence Contradicts Starr's Assertion That The AIG Loan Was Not Risky

Neither the evidence nor common sense support Starr's assertion that the collateral securing the Federal Reserve's $85 billion loan to AIG eliminated the loan's risk. As recorded in contemporaneous documents, President Geithner and others recognized that the AIG loan carried enormous risk despite being "secured" within the meaning of the statute. *See* Def. PFOF ¶¶ 148-50; JX-82 at 1 (Sept. 16, 2008 Alvarez handwritten notes) (although the FRBNY loan was secured, Geithner believed there remained "risk of loss"); DX-421 at FRBNY-STARR(CFC)-0445444 (Sept. 16, 2008 McConnell handwritten notes) ("Significant risk that you won't recover princip[al] and interest on this loan."); Geithner, Tr. 1759, Lines 10-21 (Geithner recognized that FRBNY might lose "billions of dollars, if not tens of billions of dollars"); JX-129 at 2 (Oct. 8, 2008 letter from Paulson to Geithner acknowledging that taxpayers bore the risk of loss on the AIG loan). Starr cites to after-the-fact statements about the loan's riskiness and expressions of hope that the rescue ultimately would succeed. Pl. PFOF ¶¶ 21.2, 21.7. Those statements,

however, do not refute the written evidence as well as the decision-makers' testimony about the Federal Reserve's contemporaneous understanding of the riskiness of the loan. As Chairman Bernanke testified, lending $85 billion "in the middle of a financial crisis, to a company which can't get credit elsewhere, that you don't know too much about because it's an insurance company, where the collateral is the assets of the firm, which are very hard to value and are certainly not marketable or saleable . . . [and] not independent of the value of the firm . . . no reasonable person could conclude that it was anything other than a risky loan." Def. PFOF ¶ 152.

Of course, if anyone truly viewed the AIG loan as low-risk, then the private sector would have provided the funding without the need for Government support. The market's contemporaneous conduct belies Starr's litigation position. Hours before FRBNY offered the loan, Goldman Sachs and JP Morgan walked away from the opportunity to syndicate a private loan on terms including a 79.9 percent equity interest – and from the fees such a loan would produce – because they did not believe any private investors would be willing to assume the enormous risk inherent in any attempt to bring AIG back from the brink of bankruptcy. *See* Def. PFOF ¶¶ 42, 45-47.[9]

Contrary to Starr's assertions, the collateral securing the AIG loan – ownership interests in AIG's regulated insurance subsidiaries – was different from and uniquely risky compared to any other collateral ever accepted by FRBNY. This equity collateral (1) lacked a readily determinable market price, (2) was not readily saleable, (3) faced declines in value over time

[9] Mr. Willumstad had reported on September 15, 2008, to AIG's board of directors that, for a credit facility of $50 to $75 billion, "the expectation is that the banks will ultimately be paid in some form of equity." JX-74 at 2; *see also* Def. PFOF ¶ 46; Def. Law Br. at 23 & n.3.

with no capacity on AIG's part to provide additional collateral, and (4) was expected to drop dramatically in value upon AIG's failure or bankruptcy. *See* Def. PFOF ¶¶ 153-165.

As its primary support for the conclusion that the AIG loan was not risky, Starr relies on its assessment of AIG's valuation as a going concern. Pl. PFOF ¶ 21.6. This supposed valuation, however, ignores the universal consensus, shared by the Federal Reserve, AIG, and all of their respective advisors, that if AIG went bankrupt the collateral's value would drop immediately and dramatically. See Def. PFOF ¶¶ 163-65, 350-66; Geithner, Tr. 1757, Lines 8-12 ("Q. [W]hat was your analysis of what would have happened to the value of the collateral AIG was proffering if AIG ended up in bankruptcy? A. [O]ur judgment was that the risk is it would decline sharply in value."); Tr. 1812, Lines 13-23; Bernanke, Tr. 2237, Lines 12-15 ("[T]he collateral taken on this loan was not independent of the firm itself, and the collapse of the firm would have destroyed much of the collateral."). Thus, AIG's collateral would melt away under the very circumstance in which the Federal Reserve would need to turn to that collateral for repayment.

Market indicators corroborated the conclusion that the loan to AIG was risky. In September 2008, these indicators reflected both (1) the likelihood of an AIG bankruptcy, and (2) that, in the event of bankruptcy, AIG's assets would not have been valuable enough to repay even its previously outstanding obligations, let alone an additional $85 billion credit facility. *See* Def. PFOF ¶¶ 167-71 (the market viewed an AIG default as highly likely and, in the event of bankruptcy, valued AIG's assets below AIG's already-existing obligations).

Contrary to Starr's assertion, because AIG did not have any secured debt at the time of the AIG rescue, AIG's unsecured debt properly reflected the risk of lending to the company. *See* Pl. PFOF ¶ 21.8. As Dr. Mordecai explained, "once the revolving credit facility is put in place, it

basically takes the place of those senior unsecured debt claims in the capital structure . . . . [T]he revolving credit facility has the same seniority that the previous senior unsecured debt claims have. It's also backed by the same sources of repayment from the same assets as the senior unsecured debt claims . . . ." Mordecai, Tr. 7536, Lines 3-19 (discussing DX-2618). Market indicators showed that AIG's assets would have been insufficient to fully repay unsecured creditors in the event of the company's bankruptcy, confirming the substantial risk that the Federal Reserve faced in lending against those same assets. *See* Saunders, Tr. 8210, Lines 17-20 ("with the collateral being mostly illiquid, nontraded equity interest in the subsidiaries, . . . the loan was similar to an uncollateralized loan").

F. Starr's Equal Protection Claim Already Has Been Dismissed, And Section 13(3) Does Not Require Lending On Uniform Terms And Conditions

The Court should reject Starr's improper effort to resuscitate its dismissed equal protection claim, which asserts that the Federal Reserve was required to lend to all institutions on identical terms. Pl. Law Br. §§ 7.0, 12.14. This previously dismissed claim continues to lack any legal basis and improperly invites the Court to enter the policy and economic thickets of how to properly price and structure emergency financial assistance in an economic crisis. *See* 12 U.S.C. § 343 (2008). As already explained, the FRA authorizes the Federal Reserve to set the terms and conditions of individual section 13(3) rescue loans based on discretionary policy judgments that may vary from one loan to another, as well as on the individual circumstances and characteristics of the borrower and the proposed loan. *See* Def. PFOF ¶¶ 118-19; Def. Law Br. at 79-80.

By comparing section 13(3) lending to section 10B discount window lending, Starr argues that AIG should have received the same terms as all other entities receiving 13(3) loans. *See* Pl. Law Br. § 7.4. But Starr's argument rests on Dr. Cragg's opinion that the Federal

Reserve should blind itself to "the actual circumstances of [the] particular borrower" when lending through the discount window – a nonsensical approach that Dr. Cragg likened to obscuring policymakers' vision with "frosted glass." Cragg, Tr. 5467, Lines 5-19; Tr. 5526, Line 11-Tr. 5527, Line 4; *see* Pl. PFOF ¶ 7.4(b). Discount window lending, however, is not done through a "frosted glass." The lending reserve bank always knows to whom it lends, and different borrowers are subject to different loan terms depending on their characteristics. *Cf.* 12 C.F.R. § 201.4 (distinguishing among primary, secondary, and seasonal credit). Even in section 10B discount window lending, the Federal Reserve charges a different rate to depository institutions judged to be in less satisfactory financial condition. 12 C.F.R. § 201.4(a), (b); Baxter, Tr. 846, Line 18-Tr. 847, Line 7.

In any event, by statute, section 13(3) lending fundamentally differs from section 10B discount window lending. Entities receiving 10B discount window loans are depository institutions that must comply with pre-existing regulations and limitations. No such restrictions apply to potential section 13(3) borrowers. Geithner, Tr. 1709, Line 25-Tr. 1710, Line 17; Tr. 1765, Lines 16-22. Congress, moreover, expressly limited section 13(3) lending to "unusual and exigent circumstances." Those loans, particularly loans to individual institutions, are anything but routine. Under section 13(3), the Federal Reserve's decision to lend requires assessing the individual circumstances of the non-bank institutions seeking loans, the policies and purposes underlying specific loan decisions, and the loan's likely impact on the marketplace. *See* 12 U.S.C. § 343 (2008). Starr provided no reason in law, policy, or economics why the terms of every rescue loan transaction must be exactly the same no matter the borrower's condition; to the contrary, the reasons for permitting the Federal Reserve to tailor the terms of a rescue to the relevant circumstances of each borrower are both intuitive and compelling.

III. The *Penn Central* Analysis Applies To Starr's Takings Claim

Starr's takings theory cannot survive the analysis of *any* takings framework because the loan was voluntary and did not harm Starr. Nevertheless, the Court should analyze Starr's takings claim under the *Penn Central* balancing test. Although Starr attempts to characterize its claim as a physical taking, it is not.

In addition, although Starr urges the Court to apply the unconstitutional conditions doctrine, that analysis does not support Starr's claim. That doctrine applies to takings claims only as the "rough proportionality" test established in *Dolan v. City of Tigard*, 512 U.S. 374 (1994), and the Court has already rejected such an approach. Even if that test did apply, the Government did not impose any unconstitutional condition on AIG or its shareholders.

A. Starr Cannot Claim A Physical Taking Because Starr Has No Property That Was Physically Taken

The parties agree that there are two broad categories of takings: physical takings and regulatory takings. Pl. Law Br. § 11.1.1 (citing *Casa de Cambio Comdiv S.A. de C.V. v. United States*, 48 Fed. Cl. 137, 141 (2000)). The regulatory category sweeps in all takings claims that are not physical, and thus (contrary to its name) is not reserved for claims based on regulations. *See, e.g., A & D Auto Sales, Inc. v. United States*, 748 F.3d 1142, 1151 (Fed. Cir. 2014). Starr disclaims a regulatory taking and argues that the United States' $85 billion loan to AIG constituted a physical taking. *See* Pl. Law Br. §§ 11.2.2-3; Def. Law Br. § 1.A & at 62. Starr misunderstands, and misapplies, takings jurisprudence.

Starr's allegations at best fit into the regulatory taking framework. As this Court described Starr's pleadings, "'The right to recover is not premised on the *physical* expropriation of a shareholder's stock; instead, it is premised on the theory that the corporation, by issuing additional stock for inadequate consideration, made the complaining stockholder's investment

less valuable.'" Pl. Law Br. § 10.6.1 (emphasis in original) (quoting *Starr*, 106 Fed. Cl. at 74) (additional citations and quotation marks omitted).

A physical taking occurs when the Government seizes, physically invades, or directly appropriates the property owner's property. Pl. Law Br. § 11.3.1 (quoting *Casa de Cambio*, 48 Fed. Cl. at 141, and *Casita Mun. Water Dist. v. United States*, 556 F.3d 1329, 1332 (Fed. Cir. 2009)). The owner's "right to possession, use, and disposal of the property" is "destroy[ed]." *Id.* § 11.3 (quoting *Boise Cascade Corp. v. United States*, 296 F.3d 1339, 1343 (Fed. Cir. 2002)). By contrast, a regulatory taking occurs when "Government action . . . does not directly appropriate or invade, physically destroy, or oust an owner from property but is overly burdensome." *A & D Auto Sales*, 748 F.3d at 1151; *see also Americopters, LLC v. United States*, 95 Fed. Cl. 224, 229 (2010) (regulatory taking occurs when "government regulations unduly burden private property to the point of diminishing its utility or value") (citing *Yee v. City of Escondido*, 503 U.S. 519, 522-23 (1992); *Huntleigh USA Corp. v. United States*, 525 F.3d 1370, 1378 (Fed. Cir. 2008)).

Starr does not dispute that it held the same number of shares or stock certificates both before and after AIG entered into the Credit Agreement, Pl. Law Br. § 10.6.1, but nonetheless argues that the Government still effected a "partial [physical] taking of property." *Id.* § 11.3.2 (citing *Ga. Pac. Corp. v. United States*, 640 F.2d 328 (Ct. Cl. 1980)). Starr's argument misunderstands what it means to take part of an owner's property in the context of a physical taking. In *Georgia Pacific*, the Government took part of the owner's plot of land; this constituted a physical taking because, although the owner retained some of its property, a portion of it was completely taken. *See generally Ga. Pac. Corp.*, 640 F.2d 328. The parallel situation in this case would be if the Government had directly seized some number of Starr's shares,

leaving Starr without title or ownership to that taken stock. But it is undisputed that this did not happen. Starr and all the common shareholders retained the exact same number of shares before and after the alleged taking. For each of those shares, Starr still possessed that stock, still could use and vote that stock, and still could dispose or sell that stock. Therefore, no physical taking could have occurred. *Boise Cascade*, 296 F.3d at 1353 (physical taking "destroys owner's right to possession, use, and disposal of the property").[10] Indeed, Starr fails to cite a single case to support the illogical notion that a Government action that affects the value of a plaintiff's stock, without actually transferring the stock, could constitute a physical appropriation.

Thus, Starr alleges a regulatory – not physical – taking. *See A & D Auto Sales*, 748 F.3d at 1157 ("In order to establish a regulatory taking, a plaintiff must show that his property suffered a diminution in value or a deprivation of economically beneficial use.") (citing *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1015 (1992), and *Penn Central Transp. Co. v. City of New York*, 438 U.S. 104, 124 (1978)).[11] The Court, therefore, should apply a regulatory taking analysis.

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[10] Contrary to Starr's characterization, the Government has never conceded that "to the extent a taking took place, it involved a direct appropriation of property – not a regulatory taking." *See* Pl. Law Br. § 11.2.2. From the beginning of this case, the Government has argued that Starr has not successfully alleged either a regulatory taking or a *per se* taking. The Government's position remained the same after trial. Earlier in this litigation, the Government argued that Starr did not suffer a regulatory taking because no regulations affecting AIG burdened its shareholders' property interests. *See* Def. Memo in Support of Motion to Dismiss, at 26. It remains true that Starr cannot establish a regulatory taking for that reason and for the additional reasons discussed in the Government's opening post-trial brief. *See* Def. Law Br. § I.E. Similarly, the Government has been equally clear throughout this litigation that Starr cannot establish that it suffered a *per se* (physical) taking. *See* Def. Reply Memo in Support of Motion to Dismiss, at 24; Def. Law Br. § I.A..

[11] Of course, "not every government action that reduces a property's value is a regulatory taking." *Reoforce, Inc. v. United States*, 118 Fed. Cl. 632, 666 (2014).

B. Starr Cannot Establish An "Unconstitutional Conditions" Taking

Starr argues that an unconstitutional condition is a coercive act indicative of duress. Pl. Law Br. § 12.10. The Court should not permit Starr to smuggle its dismissed, unconstitutional conditions claim into the duress/coercion standard.

First, courts use *Dolan*'s rough proportionality test to analyze unconstitutional conditions claims based on the Fifth Amendment's takings clause. This Court properly dismissed Starr's takings claim based upon the *Dolan* analysis, because *Dolan* claims only apply to land use regulation cases. *Starr*, 106 Fed. Cl. at 83. Second, even if that analysis did apply outside the context of land use regulations, Starr's claim fails because the Government and FRBNY did not threaten to impose any regulatory or police power restrictions on AIG's or AIG's shareholders' property if AIG did not accept the allegedly unconstitutional condition. *Id.* Last, even if Starr's unconstitutional conditions claim did not require the Government to threaten penalties or restrictions on AIG's property, the equity term is not an unconstitutional condition because it satisfies *Dolan*'s rough proportionality test.

1. The Court Dismissed Starr's Unconstitutional Conditions Claim

The Court long ago rejected as legally unsustainable Starr's "unconstitutional conditions" claim that Starr had been wronged because "the Government's conditions under the loan agreement were disproportionate to the benefits." *See Starr*, 106 Fed Cl. at 81. The Court correctly concluded that Starr could not invoke *Dolan*'s "rough proportionality" test because that test applies only to land use exactions. *Id.* at 82-83. Starr cannot revive its dismissed claims by citing *Koontz v. St. Johns River Water Mgmt. Dist.*, 133 S. Ct. 2586 (2013), in place of *Dolan*, Pl. Law Br. §§ 2.4, 12.10; *Koontz* relies on the same "rough proportionality" test the Court has already rejected.

Undeterred, Starr cites to several unconstitutional conditions cases in which the Government improperly attempted to condition a benefit on a plaintiff giving up rights to free speech or interstate travel. Pl. Law Br. § 12.10.3(a) (citing a string of cases cited in *Koontz*, 133 S. Ct. at 2596). Those cases are inapposite because the framework for analyzing whether the Government has placed an unconstitutional condition on a benefit depends on what part of the Constitution the Government allegedly violated. In the context of First and Fourteenth Amendment rights, the Government's ability to condition a benefit is relatively narrow; the Government categorically "may not deny a benefit to a person on a basis that infringes his constitutionally protected interests – especially, his interest in freedom of speech." *Perry v. Sindermann*, 408 U.S. 593, 597 (1972). Starr does not allege that the Government denied its First or Fourteenth Amendment rights; therefore, this test does not apply.

In the context of the takings clause, however, determining whether a condition is unconstitutional generally requires nothing more than applying the usual analyses for takings claims. For regulatory takings, that is the *Penn Central* analysis. *Penn Central* and other takings analyses already incorporate an analysis of whether a benefit or compensation provided by the Government to the property owner adequately compensates the property owner for the allegedly taken property. *See, e.g.*, *Bauman v. Ross*, 167 U.S. 548, 574 (1897) (The "incidental injury or benefit to the part [of an owner's property] not taken is also to be considered. . . . When . . . the part which he retains is specially and directly increased in value by the public improvement, the damages to the whole parcel by the appropriation of part of it are lessened."); *Bassett, New Mexico LLC v. United States*, 55 Fed. Cl. 63, 75 (2002); *Hendler v. United States*, 38 Fed. Cl. 611, 617 (1997).

The Supreme Court has recognized just one type of takings case that requires a separate unconstitutional condition analysis: governmental conditions arising "when owners apply for land-use permits." *Koontz*, 133 S. Ct. at 2594 (citing *Lingle v. Chevron U.S.A. Inc.*, 544 U.S. 528, 547 (2005); *Dolan*, 512 U.S. at 385)).[12] This case is not a land-use case; as the Court previously held, an unconstitutional conditions/rough proportionality test does not apply.

2. Even If The *Nollan/Dolan* Test Applied Outside Of The Land-Use Context, Starr's Claim Fails Because The Government's Actions Did Not Impose Any Regulatory Or Police Power Restrictions That Would Affect AIG's Voluntary Choice

Even if the unconstitutional conditions doctrine did apply, Starr has not alleged the regulatory, police power interference with Starr's property that is necessary for an unconstitutional condition to exist. As the Court previously explained:

> Even if the *Nollan/Dolan* test were to be applied outside the context of land use exactions, the factual predicate for using the test is not alleged here. . . . Here, in placing certain conditions on AIG's receipt of the $85 billion loan, the Government was not exercising preexisting regulatory authority, or anything akin to a state or locality's police powers. In *Nollan* and *Dolan*, the landowners were restricted from building on their land, and the localities would lift those restrictions only if the landowners agreed to certain conditions. By contrast, here, if AIG had refused the conditions of the loan agreement, AIG would not have been subject to any ongoing restrictions; AIG simply would not have obtained the loan. In this way, the Government was not in a position to exploit any existing regulatory

[12] Starr cites to *Janowsky v. United States*, 133 F.3d 888 (Fed. Cir. 1998), presumably to argue that the case supports applying *Dolan* outside the land-use context. Pl. Law Br. §§ 12.10(a), 12.10.3(c) (citing *Janowsky* quoting *Dolan*). First, although the *Janowsky* court cited *Dolan*, it never applied the *Dolan* test or held that the test would apply outside the context of land-use or real property. The Court merely held that, when reviewing allegations in the light most favorable to the plaintiff at the motion-to-dismiss stage (which the Court had converted to a motion for summary judgment), the plaintiff had sufficiently alleged coercion. Second, *Janowsky* involved radically different facts: the plaintiff alleged that the FBI had compromised Mr. Janowsky's cover during an investigation, which placed Mr. Janowsky in physical danger, then threatened to *remove* protection unless Mr. Janowsky agreed to let the FBI take over his property and business. 133 F.3d at 892. Those allegations are vastly different from a "take it or leave it" offer, as Starr itself characterizes FRBNY's proposed loan. Pl. PFOF ¶ 13.3.

> power to induce the loan transaction. Because Starr has not alleged the occasion for coercion that was present in *Nollan* and *Dolan*, the Court finds the test articulated in those cases inapplicable here.

Starr, 106 Fed. Cl. at 82-83.

The other case on which Starr relies, *Union Pacific Railroad Co. v. Public Service Commission of Missouri*, 248 U.S. 67 (1918), supports the conclusion that the unconstitutional conditions doctrine only applies when the Government exercises its police power or threatens to burden a plaintiff's rights if its condition is not met. That case – which concerned neither a taking nor an illegal exaction – involved a plaintiff's application for a certificate authorizing the plaintiff to issue bonds secured by a mortgage. *Id.* at 68. Without the certificate, the state would impose "severe penalties" and invalidate the bonds. The Public Service Commission of Missouri granted the certificate for a fee; the plaintiff paid the fee but protested in writing, saying that it was paying under duress and that the fee was an unconstitutional interference with interstate commerce. *Id.* The Supreme Court declined to address whether the fee was, in fact, unconstitutional, but ruled that the plaintiff had paid under duress. *Id.* at 70. The Court explained: "Were it otherwise, as conduct under duress involves a choice, it always would be possible for a State to impose an unconstitutional burden by the threat of penalties worse than it in case of a failure to accept it, and then to declare the acceptance voluntary." *Id.*

Here, by contrast, neither the Government nor FRBNY threatened penalties if AIG refused FRBNY's loan. *Starr*, 106 Fed. Cl. at 82-83. Just as the Government was under no obligation to offer any rescue loan to AIG, AIG was under no obligation from the Government to accept its offer. Indeed, the evidence showed that if AIG had refused the loan, AIG would have been in the same position after its refusal as it was before FRBNY offered the loan: the precipice

of bankruptcy. Thus, the equity term could not be an "unconstitutional condition" that would constitute a wrongful or coercive act under the duress standard. *See* Pl. Law Br. § 12.10.

Indeed, the Government's contract with a corporation, voluntarily undertaken by both parties, cannot be second-guessed at the invitation of disappointed shareholders on the theory that the Government's failure to offer more favorable terms constituted an "unconstitutional condition." If Starr's theory were to be accepted, the United States would face takings liability to corporate shareholders every time the Government (1) provided any benefit to a corporation for a fee, or (2) contracted to buy a company's products or services. The Court should reject Starr's legally unsupported invitation to reverse its prior decision and exceed well-established precedent.

3. Even If The "Unconstitutional Conditions" Doctrine Applied, The Equity Term Was Not An Unconstitutional Condition

Even if the Court were to apply an unconstitutional conditions test to the equity term, Starr's claim would fail because the equity term was directly related to the benefit AIG sought. When a plaintiff claims that the Government "has forced her to choose between [a benefit] and her right under the Fifth Amendment to just compensation," *Dolan*, 512 U.S. at 385-86, the plaintiff must prove that the Government required property "in exchange for a discretionary benefit conferred by the government where the benefit sought has *little or no relationship to the property*." *Id.* at 385 (emphasis added). To determine whether a Government-imposed condition is an unconstitutional condition to give up just compensation for property, the Court "must first determine whether the 'essential nexus' exists between the 'legitimate state interest' and the permit condition exacted by the city." *Dolan*, 512 U.S. at 386 (quoting *Nollan*, 483 U.S. at 837). If a nexus exists, the Court must then determine whether there is "rough proportionality" between the benefit conferred and the condition required – that is, the Government "must make

some sort of individualized determination that the required [condition] is related both in nature and extent to the impact of the [benefit sought]." *Id.* at 391.

Here, the equity term shares an "essential nexus" with the Government's legitimate interest. The $85 billion loan increased the value of AIG's existing equity by preventing AIG from going bankrupt; the equity term moderated that windfall by having AIG pay equity as consideration for the loan's benefit. Def. PFOF ¶¶ 130-35. The equity term also helped compensate for the risk of the Federal Reserve's loan, and mitigated moral hazard concerns – that is, the concern that a loan to AIG on overly favorable terms might encourage other industry participants to engage in risky decision making or to pass up potential private sector solutions in hopes of a favorable Government rescue. Def. PFOF ¶¶ 136-38. The equity term, therefore, directly related to the Federal Reserve's legitimate interests in extending a rescue loan to AIG.

The equity term also satisfies the rough proportionality test. The Federal Reserve made the "individualized determination" that the equity term was appropriate and "related both in nature and extent to the impact of the" loan's benefit. *Dolan*, 512 U.S. at 391. The Federal Reserve considered the policy reasons for offering the rescue loan and determined that conditioning the loan on a 79.9 percent equity stake, as the potential private sector deal would have done, was both critical and closely related to the Federal Reserve's legitimate concerns about (1) compensating the taxpayers for the risks of providing the largest Government loan in history to a company that had managed itself to the brink of bankruptcy; (2) mitigating the risk of this loan; (3) reducing the windfall to AIG's shareholders; and (4) addressing moral hazard. *See, e.g.*, Def. PFOF ¶ 135 (JX-172 at 4 (AIG Credit Facility Trust Agreement)); *id.* ¶ 136 (JX-129 at 2 (Oct. 8, 2008 letter from Paulson to Geithner acknowledging that taxpayers were bearing the risk of loss on FRBNY's loan); *id.* ¶ 136 (describing conversation and notes from

September 16, 2008, explaining that, even with AIG's collateral, a loan would be risky); *see also generally id.* § III.A. That analysis would fully satisfy the rough proportionality test, as "[n]o precise mathematical calculation is required." *Dolan*, 512 U.S. at 391.

The private market's use of equity in commercial loans confirms the existence of an "essential nexus" and "rough proportionality" between the AIG loan's equity term and the benefit conferred by the Government. Equity kickers are common in lending to distressed entities because the entities cannot, otherwise, adequately compensate the lender for the loan's risks. Def. PFOF ¶ 209, 413. Indeed, the private sector consortium that considered lending to AIG on September 15, 2008, included a 79.9 percent equity term in their proposed term sheet. Def. PFOF ¶ 46. The Government's adoption of a similar equity term in making an even larger loan to AIG was not "disproportionate."

Thus, even if the unconstitutional conditions doctrine applied in this case – which it does not – the equity term satisfied this test and cannot serve as a basis for compensating Starr.

Finally, to the extent Starr claims that the "unconstitutional condition" stems from FRBNY's alleged lack of authority to condition a section 13(3) loan on an equity provision, Starr simply restates its illegal exaction claim, which fails for the reasons discussed above and in our opening brief. *See* Pl. Law Br. § 12.10.3(c) (citing *Suwannee*, 279 F.2d 874, an illegal exaction case, in its argument entitled "Defendant acts wrongfully and coercively when, as here, it conditions the provision of a discretionary benefit on the forfeiture of constitutional rights"). The Court should dispose of Starr's illegal exaction claim in the context of that claim, not in the context of an allegedly unconstitutional condition violating the Takings Clause of the Fifth Amendment; if the equity term constitutes an illegal exaction, it cannot also be a taking. *Compare Alves v. United States*, 133 F.3d 1454, 1456-58 (Fed. Cir. 1998) (taking must be based

on authorized Governmental action) *with Figueroa v. United States*, 57 Fed. Cl. 488, 496 (2003) (If the Government action complained of is unauthorized, "plaintiff's takings claim would fail on that basis.").

IV. No Taking Or Exaction Occurred Because AIG Acted Voluntarily And Without Duress

AIG voluntarily accepted the rescue's equity term; this precludes Starr's equity claims under both taking and illegal exaction theories. Def. Law Br. §§ I.B, II.B; *see Starr*, 106 Fed. Cl. at 77-78. Nothing in Starr's 700 pages of briefing alters that reality.

First, the evidence established that AIG's board voluntarily accepted the rescue. Starr presented no evidence that the Government acted coercively in offering to rescue AIG. Second, AIG voluntarily agreed to the equity term on September 16, 2008, and the terms of the September 22, 2008 Credit Agreement were consistent with that agreement. Third, the Court should apply the traditional standard for duress, not Starr's invented-for-litigation "effective economic control" standard. Further, Starr's argument is internally inconsistent: Starr argues that the Government gained control of AIG on September 16, 2008, but that AIG remained independent and without any obligation to issue equity until the September 22, 2008 Credit Agreement. Fourth, Starr errs in asserting that the Credit Agreement deprived the common shareholders of a right to vote on the rescue's equity term. The shareholders had no such right, and, thus, they did not lose this phantom property interest. Last, the AIG board's voluntary agreement also vitiates Starr's illegal exaction claim.

A. AIG's Board Voluntarily Accepted The Rescue, And The Government Did Not Act Wrongfully Or Coercively

To establish that the AIG board did not voluntarily accept FRBNY's rescue offer, Starr needs to prove three separate elements: that AIG's board "involuntarily accepted" FRBNY's terms; that "the circumstances permitted no other alternative"; and that those circumstances

"'were a result of coercive acts of' the other party." Def. Law Br. § I.B.1; *Starr*, 106 Fed. Cl. at 77 (quoting *Fruhauf Sw. Garment Co. v. United States*, 111 F. Supp. 945, 951 (Ct. Cl. 1953)). We explained in our opening brief why Starr has failed to establish the three elements of *Fruhauf*'s duress standard. Def. Law Br. §§ I.B.2, I.B.3.b. Sidestepping the first two prongs, Starr argues, without legal support, that the third prong of the *Fruhauf* test, by itself, can prove duress. Pl. Law Br. §§ 12.6-12.15. According to Starr, the Government's allegedly wrongful conduct, along with the fact that AIG was facing bankruptcy on September 16, 2008, proves AIG's involuntary acceptance. Pl. Law Br. § 12.4. This argument fails because: (1) proving duress requires establishing all three *Fruhauf* prongs, *see Bergman v. United States*, 28 Fed. Cl. 580, 585-86 (1993); and (2) the Government did not act coercively.

1. The Unrebutted Testimony Of The Allegedly Coerced Individuals Refutes Starr's Argument That AIG's Board Was Coerced

Starr called no AIG witness to support Starr's claim of coercion and control. Instead, Starr relies entirely on speculation and conjecture by its experts to the effect that coercion somehow must have existed. Direct testimony from the board members, however, must trump the self-serving theories plied by Starr's experts. Accordingly, the Court should reject Starr's coercion claim. *See Sys. Tech. Assoc., Inc. v. United States*, 699 F.2d 1383, 1387 (Fed. Cir. 1983).

AIG's board members – the decisionmakers who agreed to the loan, both on September 16, 2008, and September 21, 2008 – testified that, when the loan terms were accepted, they and the rest of the board acted voluntarily and in the best interests of AIG and its shareholders. Def. PFOF ¶¶ 67, 77, 78, 99. The board members explained, and the contemporaneous documents corroborate, that bankruptcy was always an option, but that FRBNY's loan was a better alternative. Def. PFOF ¶¶ 72, 103. AIG's board members also testified – again, without

contradiction – that there was no coercion. AIG's request for admission responses confirm the company's voluntary agreement to provide equity. *See* AIG Resp. to RFA No. 15 (Pl. Post-Trial App'x at 595) (admitting that the AIG board concluded that accepting the terms of the FRBNY loan on September 16 was in the best interest of AIG); Resp. to RFA No. 7 (Pl. Post-Trial App'x at 596) (admitting that AIG's board understood on September 16, 2008, that the equity it would provide would be "[e]quity participation equivalent to 79.9% of the common stock of AIG on a fully-diluted basis," with the "[f]orm" of the equity participation "to be determined."); Resp. to RFA No. 18 (Pl. Post-Trial App'x at 597) (admitting that the AIG board approved the September 22, 2008 Credit Agreement because it concluded it was in the best interest of AIG); Resp. to RFA No. 19 (Pl. Post-Trial App'x at 597) (admitting that on September 16, 2008, the AIG board was not directed, instructed, or otherwise required to vote in favor of the September 16, 2008 term sheet by the United States).

2. The Government Did Not Act Wrongfully Or Coercively

Without any direct evidence of coercion, Starr argues that there was something inherently wrongful about FRBNY's negotiation of the equity term because of the Federal Reserve's position as a lender of last resort. These arguments fail. The Government and FRBNY did not act wrongfully or coercively when FRBNY offered AIG a take-it-or-leave-it loan. Voluntariness ceases to be a defense only when it is undermined by a threat of Government penalty or interference with property rights if the plaintiff did not assent. There was no such threat here. Instead, the evidence shows that, had AIG decided not to accept the AIG loan, AIG would have faced no adverse action from the Government whatsoever, and would have been free to pursue bankruptcy.

Starr contends that, if the equity term was illegal, the deal was inherently coercive. Pl. Law Br. 12.6. But Starr misapplies the case it relies upon. In *Robertson v. Frank Bros Co.*, 132

U.S. 17 (1889), the Government officials required an illegal payment *or they would impose a penalty* on the plaintiffs. *Id.* at 18, 22-23. It was the threat that created the coercion.

Starr next argues that, even if not illegal, the Government's conduct was wrongful because of "threats that would breach a duty of good faith and fair dealing under a contract." *See* Pl. Law Br. § 12.7. But Starr has identified no threats from either the Government or FRBNY. Instead, after careful deliberations, FRBNY merely offered a loan on specific terms.[13]

Starr also attacks the structure of section 13(3), which – according to Starr – "by definition, ma[d]e the existence of duress more likely." *Id.* at § 12.9. To support this argument, Starr notes that section 13(3) only authorizes the Federal Reserve to lend under "unusual and exigent circumstances" and when no private loan is available. *Id.* at §§ 12.9.4-12.9.5. This argument does not demonstrate any actual coercion or wrongful Government "exploitation of temporary monopolies" in this case; indeed, Starr seeks to label all "lender of last resort" loans legally suspect. *See id.* at §§ 12.9.4-12.9.5 (citing *Prof'l Serv. Network, Inc. v. Am. Alliance Holding Co.*, 238 F.3d 897, 900 (7th Cir. 2001)). The Court should reject Starr's invitation to presume every section 13(3) loan coercive. Indeed, Starr's theory, were it actually adopted as a legal principle, would discourage the Government from engaging in future rescue lending to corporations, even those that desperately seek the Government's assistance, for fear of incurring astronomical liability at the demand of shareholders who second guess their company's actions.

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[13] In addition, Starr cannot conjure a threat from any action seeking to secure payment of what was owed to FRBNY or the Government, because action seeking to secure repayment of a loan from the Government is not the kind of sovereign regulatory action supporting a taking or exaction claim. *See A & D Auto Sales*, 748 F.3d at 1156-57 (noting whether "the government's actions were regulatory in nature or were designed to protect the government's financial interest in repayment," as repayment "could be viewed as non-regulatory").

Starr also asserts that the Government discouraged private lending. Pl. Law Br. § 12.11. It did not.[14] Def. Law Br. at 30 & n.5. Nor was the deadline of the evening of September 16, 2008, a coercive tactic by the Government, *see* Pl. Law Br. § 12.12. Rather, the commercial realities of AIG's impending bankruptcy required a quick decision. Def. Law Br. at 31; Def. PFOF ¶ 71 & n.8. Indeed, given AIG's condition on September 16, 2008, Starr does not argue that it would have been feasible to have afforded the company days or weeks to consider the Government's bailout offer.

Nor, as discussed above and in our opening briefs, was the loan punitive or discriminatory. *See* Def. PFOF ¶¶ 181-84, 347-372; *see also supra* § 2.D.

3. Starr Offers No Evidence That An "Arm's Length" Transaction Would Have Taken Place On Different Terms

Starr also erroneously contends that the FRBNY's loan to AIG does not reflect an "arm's length" deal because: (1) the United States controlled AIG; (2) the United States was "the monopoly supplier of credit" to AIG; and (3) "the process" by which AIG entered into the Credit Agreement was allegedly flawed. *See* Pl. Law Br. ¶¶ 12.1.2, 12.2.4-12.2.7. The United States did not control AIG on either September 16 or 21, 2008, Def. Law Br. §§ I.B.2, I.B.3.b, nor did AIG improperly or involuntarily enter into the Credit Agreement, Def. Law Br. §§ I.B.3.a-b. In addition, a lender's status as the only entity willing to lend to a borrower is irrelevant to whether the parties negotiate at arm's length.

[14] Starr contends in its proposed findings of fact that "Defendant Directly Discouraged Sovereign Wealth Funds from Providing Liquidity to AIG." Pl. PFOF § 11.12. Yet, none of the cites identified by Starr actually support this proposed finding and, as discussed in our opening brief, there is no evidence that any Government official took any actions to discourage any sovereign wealth fund from investing in AIG. Def. PFOF ¶¶ 51-54.

But even if Starr were correct in its allegations, Starr's reaches a faulty conclusion. Contrary to Starr's argument, FRBNY's loan terms are both the result of and fully consistent with an arm's length negotiation in which both sides were free to exercise their independent judgment as to whether or not to enter into the proposed agreement. FRBNY's loan to AIG was based in large part upon terms designed by *the private sector.* Def. PFOF ¶¶ 120-128. The potential private sector loan would have been, presumptively, an arm's-length transaction, and it would have included a 79.9 percent equity term. *Id.* ¶ 46. AIG received a loan that was *better* than an arm's-length private sector transaction because no private actor was willing to lend to AIG at that time even with an equity term.

4. Starr's Failure To Timely Challenge The AIG's Board's Agreement Precludes A Finding Of Duress

The Court should also reject Starr's duress claim because Starr failed to timely challenge AIG's entry into the Credit Agreement. Starr fails to explain why it did not challenge the legality of FRBNY's loan at its earliest opportunity – a legally required element for a claim of duress. Rather, Starr sat on its hands for years, while benefitting from the United States' and FRBNY's enormous assistance to AIG. *Id.* ¶ 483. Accordingly, the Court should preclude Starr from bringing a claim of duress.

Contrary to Starr's assertions, Pl. Law Br § 15.2.6, Starr's failure to bring its claims until years after it had fully enjoyed AIG's rescue also precludes Starr's exaction claim. *See* Def. Law Br. § II.F; *cf. AT&T Co. v. United States*, 307 F.3d 1374, 1381 (Fed. Cir. 2002) ("In short, the proper time for AT&T to have raised the issues that it now presents was at the time of contract negotiation, when effective remedy was available. . . . [E]ven were AT&T to have stated a valid claim . . . this court's case law would require a finding that AT&T waived that claim."). The untenable alternative would be that whenever the Government's contracting counterparty

identified a potentially illegal term, the counterparty could enjoy the contract's benefits and then sue to avoid its own, promised performance. The Court should reject the erroneous and unfair rule Starr hopes to graft onto contract law.

B. AIG Voluntarily Promised Equity Equivalent To Common Stock On September 16, 2008, And Implemented That Promise Through The Credit Agreement

Starr has not presented any evidence to counter the fact that AIG agreed to the terms of the rescue deal – including the equity term – on September 16, 2008. In lieu of such evidence, Starr trumpets the alleged import of a preliminary draft term sheet for warrants that FRBNY never provided to AIG, and claims that the terms of the Credit Agreement were "materially worse" than the terms of the September 16 rescue. *See* Pl. PFOF § 12.0; *id.* § 14.0 (asserting that AIG's September 16, 2008 resolution was not a real obligation with regard to the equity term); *id.* § 17.0 (asserting that Credit Agreement terms were "materially worse" than the terms FRBNY had offered on September 16, 2008).

These arguments fail because: (1) AIG's agreement on September 16, 2008, obligated AIG to convey equity equivalent to 79.9 percent of its common stock, in a form to be determined; and (2) the Credit Agreement implemented, rather than materially changed, the September 16, 2008 agreement.

1. On September 16, 2008, FRBNY And AIG's Board Agreed To Equity In A Form To Be Determined, Not Warrants

On September 16, 2008, FRBNY's offer and the AIG board's resolution created an agreement for an $85 billion loan in exchange for, among other things, AIG's promise to convey equity equivalent to 79.9 percent of its common stock. The AIG board's meeting minutes and resolution from that day recognized that the approved loan included "equity participation equivalent to 79.9 percent of the common stock of the Corporation." Def. PFOF ¶¶ 73, 84.

Similarly, the Board of Governors did not approve a specific term sheet for warrants. *See* Pl. PFOF ¶ 12.2. Rather, the Board of Governors authorized the loan conditioned on terms "such as" those in the term sheet FRBNY had provided to the Board of Governors on the afternoon of September 16, 2008. Def. PFOF ¶¶ 58, 60-61. The documentation, therefore, does not support the warrants agreement alleged by Starr.

Starr's observation that Mr. Baxter and Chairman Bernanke understood what warrants are in the context of the description in the draft term sheet presented to the Board of Governors, *see* Pl. PFOF ¶¶ 12.2.3-4, does not narrow the scope of authority conferred by the Board of Governors' resolution. Nor is it remarkable or relevant that, as the parties developed the Credit Agreement and the specific terms for the equity, some people working for the Federal Reserve thought that the equity would ultimately take the form of warrants. *See* Pl. PFOF ¶ 12.3.[15]

Moreover, Starr presented no evidence that anyone from FRBNY or the Government ever offered AIG a loan based upon warrants. Instead, before AIG's September 16, 2008 board meeting, FRBNY gave AIG's advisors a term sheet that included the requirement that AIG transfer 79.9 percent of its equity in a form to be determined. *See* Def. PFOF ¶¶ 62-63. Starr seeks to manufacture an issue out of whether AIG's board actually saw the "to-be-determined" term sheet, Pl. PFOF ¶ 14.2, but this is a red herring; the evidence establishes that the terms to

[15] To argue that the Federal Reserve understood the equity term to be for warrants, Starr inappropriately relies on PTX-2736 to assert that Federal Reserve staff believed in the evening of September 16 that the equity would be warrants. *See* Pl. PFOF ¶ 12.2.2 n.17. That exhibit was admitted only for the purposes of Rule 703, and the Court should not admit – and we request the Court strike Starr's briefing relying upon – the unadmitted double hearsay within that document as evidence of what unnamed staff members believed. In any event, what the press understood of staff members' beliefs is irrelevant. The decisionmakers' actual decision is what matters.

which AIG's board agreed included equity equivalent to 79.9 percent of AIG's stock but did not resolve the equity's form.[16]

Starr's "evidence" to support its argument that the September 16 agreement was for warrants is incorrect, in any event. First, the AIG board's discussion of what would happen "*if* the equity interest took the form of warrants," Def. PFOF ¶ 84, only underscored the board's understanding that the equity's form had not yet been determined. Pl. PFOF ¶¶ 12.4.3, 12.5, 12.6. Second, AIG mistakenly filed an 8-K suggesting that a warrant had already been issued, but AIG immediately corrected this error the following day. *Id.* ¶ 12.6.2.

Starr also seems to argue that, because FRBNY immediately began lending to AIG pursuant to demand notes, AIG did not actually agree to the equity term on September 16, 2008. *See* Pl. PFOF ¶¶ 14.0(a) & n.25, 14.1. This argument is baseless. The demand notes were part of the $85 billion section 13(3) loan. FRBNY would not have lent $37 billion to AIG between September 16 and September 21, 2008, without the understanding that AIG had agreed to the loan terms as preliminarily defined by the parties on September 16, 2008. Indeed, the demand notes were a way to lend to AIG immediately before full "definitive documentation" of the Credit Facility existed. Def. PFOF ¶ 85. The notes could not reflect separate, unrelated

[16] The September 16, 2008 term sheet was not itself the complete September 16, 2008 agreement between FRBNY and AIG. For example: (1) FRBNY discussed the terms orally with Mr. Willumstad during a break in the September 16 AIG board meeting, Def. PFOF ¶ 79; (2) Mr. Willumstad's resignation was a condition of the loan not in the written terms but orally conveyed to the AIG board during the September 16 board meeting, Def. PFOF ¶ 64; and (3) AIG conveyed its acceptance to FRBNY orally as well as in writing, Def. PFOF ¶ 74. Therefore, Starr's proposed findings about the term sheet itself – that the term sheet contained language that it was not legally binding and that no version of the September 16, 2008 term sheet was signed by both parties, Pl. PFOF ¶¶ 14.3, 14.4 – do not mean that AIG lacked an obligation on September 16 to provide 79.9 percent of its equity in return for FRBNY's agreement to provide up to $85 billion in financial assistance.

agreements to lend $37 billion outside the Board of Governors' authorization for a section 13(3) loan conditioned on an equity term.

2. The Credit Agreement Implemented The September 16, 2008 Agreement

The Credit Agreement implemented the September 16, 2008 agreement between AIG and FRBNY; under the Credit Agreement, the previously promised 79.9 percent equity interest took the form of preferred shares. Starr argues that the Credit Agreement's terms were "materially worse" than the terms FRBNY offered on September 16, 2008. Pl. PFOF ¶ 17.0. This argument relies on the false premise that, on September 16, 2008, FRBNY offered to make the loan specifically in return for warrants. Although at least some AIG board members and advisors apparently had initially anticipated that the equity would be in the form of warrants, they also understood that the original agreement was not for warrants. *See* Def. PFOF ¶¶ 112-13. In fact, AIG's September 21, 2008 board meeting minutes expressly acknowledge that the preferred shares were consistent with the board's authorization on September 16, 2008. *See* Def. PFOF ¶ 113.

C. It Is Contrary To Precedent And Logic For Starr To Argue That The Government Controlled AIG After AIG's September 16 Resolution But That The Resolution Did Not Create An Obligation For Equity

Starr argues for a new legal standard to govern its claim, in which a taking could be found if the Government gained "effective economic control" of AIG – a standard that neither this Court nor any other has recognized as sufficient to establish involuntariness for purposes of a takings or exaction claim. *See* Def. Law Br. § I.B.1. Starr's "effective economic control" argument collides with both well-established precedent, and basic logic. Starr asserts that the Government gained effective economic control of AIG on September 16, 2008, but without any promise by AIG of a controlling share of its equity.

As the Court noted before trial, "it is unclear why, if Starr's position is to be believed, the [September 16] term sheet was binding as to control but not as to the transfer of the 79.9% interest in AIG (or why the former was not simply the result of the latter)." *Starr*, 106 Fed. Cl. at 64. After trial, that question remains unanswered.

AIG's board was unquestionably independent from the Government and FRBNY on September 16. AIG's board, moreover, exercised independent judgment when it accepted the Credit Agreement. *See* Def. PFOF ¶ 100; Offit, Tr. 7904, Line 18-Tr. 7906, Line 5; Def. Law Br. § I.B.3.b.i.1. Thus, if the September 16 agreement was *not* binding, AIG had no obligation to accept the Credit Agreement on September 21, 2008, and therefore, there is no basis to question the voluntariness of its acceptance. On the other hand, if the September 16 agreement *was* binding, then the AIG board's vote on September 21 merely finalized the September 16 agreement, and the vote on September 21 is legally irrelevant to this case.

Nevertheless, even with a binding agreement on September 16, 2008, the Government did not control AIG when the board voted on September 21, 2008; it is undisputed the AIG board remained independent on that date, and neither FRBNY nor the Government nor the Trust had actual voting control on that date. *See Gilbert v. El Paso Co.*, 490 A.2d 1050, 1055-56 (Del. Ch. 1984) ("[I]t may be said that [a company engaged in taking over another] used its right to future control as leverage to fashion a merger agreement more to its benefit . . . [b]ut its status, however enhanced, remained that of an outsider, free to bargain but not to dictate terms" to management) (emphasis in original).

Starr's argument is also factually flawed. Starr argues that, when the AIG board approved the loan on September 16, 2008, the Government "assumed control of AIG." Pl. PFOF § 15.0. Starr then provides a laundry list of "evidence" of this control. First, many of these

proffered examples are, on their face, unrelated to control of the AIG board's decisions (for example, that FRBNY hired firms that also worked with AIG, Pl. PFOF § 15.9). Ultimately, Starr's assertion that the Government assumed control of AIG on September 16, 2008, boils down to one fact: that as a condition of the rescue, the Government required that Edward Liddy become the company's Chairman and CEO. *See* Pl. PFOF §§ 15.0-15.13. Yet, a lender's inclusion of a change of leadership as a condition to an emergency loan agreement is not an agreement to transfer control to the lender. In fact, the AIG board conducted its own diligence on Mr. Liddy's qualifications and independently voted to approve him as Chairman and CEO on September 18. Def. PFOF ¶ 100 n.10. And Mr. Liddy's testimony confirmed his independence. *See* Def. PFOF ¶ 106.[17]

In short, control that negates a board's decision requires the actual exercise of control over that particular decision. In its extensive allegations as to how the Government "assumed control" of AIG, Starr fails to address, much less prove, how the Government overcame the AIG

[17] Although we do not agree with Starr's characterizations of many of these facts, we do not address them in detail in this reply because we have previously demonstrated that Starr's control allegations are irrelevant and incorrect. Def. PFOF § II (AIG acted voluntarily), Def. Law Br. § I.B.1 (Starr's theory of effective economic control is not the correct legal standard to analyze duress). For example, facts about who paid for FRBNY's expenses in administering the loan, Pl. PFOF ¶ 15.10, or FRBNY's review of AIG's SEC filings about the loan, Pl. PFOF ¶ 15.11, are irrelevant to AIG's independence and voluntariness when it accepted the September 16 deal. Similarly, the Court should reject Starr's suggestion that the Government and FRBNY acted improperly between September 16 and September 21, 2008 (and beyond). On September 16, 2008, FRBNY agreed to extend the largest loan in human history to AIG. The bank prudently established a monitoring team and hired highly knowledgeable consultants. After AIG filed incorrect information about FRBNY's loan with the SEC, FRBNY reviewed AIG's statements about the loan and the Government's involvement.

Starr also implies that Mr. Liddy knew that Goldman Sachs was going to become a bank holding company and therefore should have worked to get AIG that status. Pl. PFOF ¶ 15.7. AIG, however, never applied to become a bank holding company and would not have been able to borrow more money if it did, and Starr has never established that AIG could have met the requirements for becoming a bank holding company, even if it had applied. Def. PFOF ¶ 315.

board's ability to independently and voluntarily decide whether to accept a rescue loan in return for an equity interest.

D. The AIG Shareholders' Consent To The Equity Term Was Not Required

Without evidence that AIG's board involuntarily agreed to the rescue, Starr argues that implementing the September 16, 2008 agreement with preferred shares deprived the AIG shareholders "of an opportunity to vote on the Credit Agreement." Pl. PFOF § 28.0. Because the shareholders had no right to vote on the Credit Agreement, the board's consent to the rescue cannot constitute a taking of the shareholders' property rights.

Starr and the other common shareholders were never entitled to vote on the Credit Agreement or the equity term. Therefore, nothing relating to such a vote could have been "taken" from them. AIG's charter authorized its board to issue "blank check preferred shares"; Delaware law permitted AIG's board to authorize and implement the Credit Agreement's equity term without a common shareholder vote. *See* Def. Law Br. § I.B.5. Corporate boards – not individual shareholders – act on the company's behalf. Delaware law does not promise shareholders a vote on corporate decisions to contract with or borrow from another party. *Id.* Although certain actions, such as increasing the number of authorized common shares, may require the shareholders' approval, boards are not obligated to structure the company's lending agreements with third parties to provide the shareholders a separate vote.

In any event, Starr has no evidentiary basis for its implausible, hypothetical warrants agreement. According to Starr, this agreement would have had the Government pay more than the market value of *100 percent* of AIG common stock on September 16, 2008, to exercise

warrants for *80 percent* of AIG common stock.[18] Starr's presumption that FRBNY or the Government would have had to pay additional value to exercise warrants ignores Delaware law, which gives corporate boards exclusive power to determine the form and value of consideration paid for stock, including "any tangible or intangible property or any benefit to the corporation." 8 Del. Code § 152. Thus, had the form of equity been warrants, the Credit Agreement could have required the AIG board to determine that the exercise price of those warrants was fully satisfied by the value of the revolving credit facility, with no additional payment needed.

Indeed, if AIG had ever believed that the Government would pay an additional $30 billion for exercising warrants, there would have been evidence of that understanding in AIG's securities filings disclosing the material facts of the September 16, 2008 agreement. No such filing, or indeed any public or private statement or action by *any party* indicated that AIG understood FRBNY's offer to include billions in cash in addition to the credit facility. Not even the mistaken 8-K that stated that AIG had already issued a warrant to the Board of Governors indicated that AIG anticipated such a payment. *See* JX-96 at 2. Starr also has not presented a single analyst report or public comment on the rescue that described the agreement reached between the parties as having contemplated an additional $30 billion payment to AIG. This idea exists solely in the minds of Starr's litigators.

Starr also argues that there was "no legitimate basis" for AIG asking to waive the New York Stock Exchange (NYSE) rule that shareholders vote whenever a company issues equity

[18] In fact, the evidence suggests to the contrary that FRBNY at a minimum would have required additional compensation for any loan where the equity term was warrants for common stock. For example, the only term sheets that included warrants for common stock (the preliminary term sheets on September 16, 2008 that FRBNY never provided to AIG) included a material "ticking fee" for every quarter that the shareholders did not approve the necessary changes in authorized shares and par value of common stock. Huebner, Tr. 6004, Line 5-Tr. 6005, Line 2; JX-63 at 6.

worth more than 20 percent of its voting rights. Pl. PFOF ¶ 28.2.5. That argument, however, disregards the urgency that was required to provide funds to AIG so as to avoid an immediate bankruptcy filing. The NYSE's approval of AIG's request further demonstrates the "legitimate basis" for the request. *See* Def. PFOF ¶ 105. Moreover, Starr has not alleged, nor can it establish, that NYSE rules create shareholder rights. Rather, NYSE rules define the conditions for a stock's listing on that exchange. Had the NYSE not allowed AIG to invoke the exigent circumstances exception, and had the shareholders voted against the issuance of preferred stock, AIG still could have issued the preferred stock to the Government; shareholders would have had no legal ability to block that issuance, and the NYSE would have delisted common stock to Starr's detriment. *See id.* at 104-05; JX-240 at 93-97.

Because AIG's board had the authority to consent to the rescue, the AIG Board's voluntary decision to issue a new equity stake in the company to the Government could not have been a taking. *See A & D Auto Sales*, 748 F.3d at 1154 (where the alleged deprivation of the plaintiff's property right by a third party was a "direct and intended result of the government's actions," the Government may still only be liable for a taking "if the third party is acting as the government's agent or the government's influence over the third party was coercive"); *Texas State Bank v. United States*, 423 F.3d 1370, 1377 (Fed. Cir. 2005) (noting that there is "no potential taking" of a plaintiff's property right if "the third party has exercised its own discretion" in agreeing to deprive the plaintiff of its property). Indeed, regardless whether AIG's board was authorized to consent to the rescue, its voluntary decision could not have resulted in a taking. *See, e.g.*, *B&G Enters., Ltd. v. United States*, 220 F.3d 1318 (Fed. Cir. 2000) (analysis of the United States' liability for a taking turned only on whether the United States coerced

California into enacting legislation that allegedly constituted taking, and not on whether California had improperly deprived the plaintiff of its property).

In short, AIG's board exercised its authority to voluntarily agree to a rescue package that saved AIG and provided equity to the Government. No taking can occur under such circumstances.

E. The AIG Board's Voluntary Agreement Vitiates Starr's Illegal Exaction Claim

The AIG board's voluntary agreement to the terms of FRBNY's rescue loan also forecloses Starr's illegal exaction claim. Binding Supreme Court and Federal Circuit precedent clearly establishes that voluntariness vitiates a claim of illegal exaction, unless the violated statutory provision was enacted for the benefit and protection of the party claiming injury. *See* Def. Law Br. § II.B; *Am. Smelting & Refining Co. v. United States*, 259 U.S. 75, 78-79 (1922) (rejecting an illegal exaction claim when "the statutory requirements [allegedly violated] were for the protection of the United States" rather than the plaintiff).

Starr's proposed conclusions of law do not mention the voluntary payment doctrine or the Federal Circuit precedent applying it to exaction cases. Instead, Starr cites decisions in which courts permitted recovery because the particular statutory provisions at issue were for the benefit of the plaintiffs. *See, e.g.*, *Alyeska Pipeline Serv. Co. v. United States*, 624 F.2d 1005, 1017-18 (Ct. Cl. 1980); *Finn v. United States*, 428 F.2d 828, 831 (Ct. Cl. 1970); *Chris Berg, Inc. v. United States*, 426 F.2d 314, 317-18 (Ct. Cl. 1970); *Rough Diamond Co. v. United States*, 351 F.2d 636, 639-40 (Ct. Cl. 1965) (explaining that the statutory provision at issue in *Suwannee S.S. Co. v. United States*, *Sprague S.S. Co. v. United States*, and *Clapp v. United States* "was evidently for the benefit of" the plaintiffs).

Those cases do not apply here, because Congress did not enact section 13(3) "for the benefit" of a borrower's shareholders. In *Lucas v. Fed. Reserve Bank of Richmond,* 59 F.2d 617, 621 (4th Cir. 1932), the court held that a private party could not challenge a lending decision as beyond the Federal Reserve's authority because "no one can complain of such action except the government, the sovereign which created and limited its powers." Starr, thus, cannot establish that any allegedly violated portions of section 13(3) were enacted to protect borrowers from being asked to provide equity as consideration for receiving taxpayer-backed rescue loans. To the contrary, courts have repeatedly recognized that Congress allowed section 13(3) lending for the benefit of the public interest and to protect the economy and financial system, not the private interests of borrowers, much less their shareholders. *See* Def. Law Br. § II.B. Congress's attitude toward individual borrowers seeking a Government loan can be gleaned from the statutory conditions that must be met *before* a section 13(3) loan can be made and the discretion conferred upon the Federal Reserve to determine whether to lend. Like Lehman Brothers, and thousands of other businesses, most would-be borrowers must face the discipline of the markets, however painful that may be to them. In sum, section 13(3) does not afford a distressed corporation's shareholders an entitlement to any rescue at all, let alone a rescue on the windfall terms that Starr has demanded in this litigation.

Starr asserts that after the Supreme Court's decision in *United States v. Edmonston*, 181 U.S. 500, 511 (1901),[19] several courts found illegal exactions where money was voluntarily paid as a result of an unauthorized Government demand. Pl. Law Br. §§ 8.1-8.2. These cases, however cannot support Starr's position, because they are far afield from the circumstances here,

[19] *Edmonston*, and additional Supreme Court and other authorities holding that voluntariness vitiates a claim of illegality, are discussed in further detail in our opening brief. *See* Def. Law Br. § II.B.

where (1) a company received a commercial offer from the Government which the company was free to reject, and (2) the company voluntarily accepted the offer.

Starr's citation of *American Airlines, Inc. v. United States*, 551 F.3d 1294 (Fed. Cir. 2008), illustrates our point. That case turned upon statutes requiring persons entering the United States to pay fees to the Government; the Government compelled airlines to pay such fees that they failed to collect. *Id.* at 1296, 1299. The airlines were offered no choice but to pay, and they paid. The court held that the Government misinterpreted the statutes to impose liability on the airlines for the uncollected fees; accordingly, the already-paid fees were returned to the airlines. *Id.* at 1303. Here, in contrast, AIG was not obligated to deal with the Government at all, and certainly was not required to provide equity because of the Government's misapplication of a statute that required such payments. Instead, AIG requested a loan from FRBNY; AIG had no entitlement to any loan, let alone a loan offered on more generous terms; and AIG had the ability to decline to accept the loan that it was offered. Further, the Federal Reserve had unfettered discretion to refuse to extend a loan to AIG, or anyone else. Consequently, AIG was not required to pay the Government as a condition of operating its business, as would be necessary to establish an exaction like the one found in *American Airlines*. Plaintiffs cannot recover for an illegal exaction when the underlying transaction was voluntary. Def. Law Br. at 104 (citing maxim *volenti non fit injuria* and related cases). AIG's voluntary acceptance of a benefit it was not required to accept waived any claim of alleged illegality.

The remaining cases Starr cites, Pl. Law Br. § 8.2, similarly fail to establish that an illegal exaction claim can survive voluntary acceptance. Starr's cases do not support its claim because none of them involved a voluntary acceptance of an offer that was not required to be made at some other price. Instead, Starr cites cases where (1) statutes or regulations entitled plaintiffs not

to pay money that the Government required them to pay;[20] or (2) the Government and plaintiff have an existing contractual relationship from which a dispute arose.[21] Because AIG chose to request and accept a rescue offer that the Government had the discretion but not the obligation to provide, the United States cannot be held liable for an "exaction" that Starr now claims was illegal.

V. Starr's Failure To Demonstrate Economic Loss Is Fatal To Both Its Takings And Exaction Claims

Starr's takings and exaction claims for the equity term fail for the independent reason that Starr has provided no evidence that the class members suffered any economic loss as a result of the Government's actions. The Fifth Amendment provides no recovery where there has been no loss. *See* Def. Law Br. § I.C.1; *Brown v. Legal Found. of Wash.*, 538 U.S. 216, 237 (2003) (if the claimant's "net loss was zero, the compensation that is due is also zero"). To prove economic loss, Starr bears the burden of establishing "what use or value its property would have

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[20] *Eastport S.S. Corp. v. United States*, 372 F.2d 1002 (Ct. Cl. 1967) (vessel owner required to pay fee in exchange for approval); *Aerolineas Argentinas v. United States*, 77 F.3d 1564 (Fed. Cir. 1996) (airlines required to pay certain fees to house, sustain, and guard aliens seeking political asylum); *Continental Airlines, Inc. v. United States*, 77 Fed. Cl. 482 (2007) (same situation as *American Airlines*); *United States v. Best Foods, Inc.*, 47 C.C.P.A. 163 (Cust. & Pat. App. 1960) (importer required to pay tariffs imposed by Presidential proclamation); *Eversharp, Inc. v. United States*, 125 F. Supp. 244 (Ct. Cl. 1954) (profits required to be paid by War Contracts Price Adjustment Board); *O'Bryan v. United States*, 93 Fed. Cl. 57 (permittee required to pay rent pursuant to permit); *Bautista-Perez v. Mukasey*, No. C07-4192, 2008 WL 314486 (N.D. Cal. Feb. 4, 2008) (fingerprinting fee required to maintain immigration status); *PSI Energy, Inc. v. United States*, 411 F.3d 1347 (Fed. Cir. 2005) (utilities required to pay special assessment tax on spent nuclear fuel); *Lancashire Shipping Co. v. United States*, 4 F. Supp. 544 (S.D.N.Y. 1933) (vessel required to post bond before disembarking and make penalty payment); and *Star Motor Co. of Cal. v. United States*, 41 F.2d 901 (Ct. Cl. 1930) (manufacturer required to pay additional excise tax);

[21] *James Shewan & Sons, Inc. v. United States*, 73 Ct. Cl. 49 (1931) (Navy breached by cancelling contract and requiring waiver of outstanding invoices before remitting payment for agreed-upon invoices).

had but for the government action." *A & D Auto Sales*, 748 F.3d at 1157; *see also Brown*, 538 U.S. at 240-41.

Starr makes no attempt to satisfy this requirement, and the evidence does not support the existence of economic harm. Absent the rescue, AIG would have collapsed into bankruptcy, rendering Starr's shares worthless. *See* Def. PFOF ¶¶ 350-72. Rather than attempting to prove economic loss, Starr seeks to evade the requirement by (1) arguing that it has a physical taking claim, and (according to Starr) the requirement to show economic loss does not apply to physical takings claims, (2) recharacterizing its disappointment in not being awarded more of the value created by the rescue as "economic loss," (3) contending that the "but for" standard of economic loss is inapplicable to its illegal exaction claim, and (4) seeking to shift the burden to the Government to establish the absence of economic loss. Each of Starr's arguments is legally and factually deficient.

A. Regardless Of How Starr Characterizes Its Takings Claim, Starr Must Demonstrate That The Class's Shares Would Have Had Greater Value In The Absence Of Any Government Rescue

The Court should reject as untenable Starr's argument that it has no need to prove economic loss because its claim is a physical, rather than regulatory, taking. *See* Pl. Law Br. § 19.1. Indeed, Starr's reliance on this argument only underscores the fact that the challenged transaction benefitted AIG's shareholders.

First, Starr did not suffer a physical taking. The United States did not cause a change in the number of AIG shares each shareholder had throughout the Credit Agreement Class period. *See* Def. Law Br. § I.A.

Second, the Fifth Amendment requires a showing of net economic loss regardless of whether the claim is a regulatory taking or a direct appropriation. *See Brown*, 538 U.S. at 240-41 (holding in *per se* taking case that there was no violation of the just compensation clause when

the owner's "pecuniary loss" was zero); *A & D Auto Sales*, 748 F.3d at 1157 (holding in a regulatory taking case that plaintiff must show value "but for the government action"). Starr's argument that there is a "different analysis" for regulatory takings as opposed to physical takings, *see* Pl. Law Br. §§ 19.1-19.4, collapses under established precedent. Although a regulatory takings analysis does include some unique factors (such as whether the Government conduct affected investment-backed expectations, *see* Def. Law Br. § II.E), the need to establish economic loss is not one of these. Whether the requirement is phrased as a need to prove "pecuniary loss," *Brown*, 538 U.S. at 240, "net loss," *id.* at 240 n.11, "economic loss," *A & D Auto Sales*, 748 F.3d at 1157, or "a diminution in value," *id.*, a takings plaintiff can only ask "to be put in as good a position pecuniarily as if his property had not been taken." *Brown*, 538 U.S. at 236 (quoting *Olson v. United States*, 292 U.S. 246, 255 (1934)). Accordingly, plaintiffs must "show what use or value its property would have but for the government action." *A & D Auto Sales*, 748 F.3d at 1157. Although *A & D Auto Sales* was a regulatory takings case, the Federal Circuit relied on *Brown*, a *per se* taking case, in its analysis of economic impact for the proposition that "just compensation for a net loss of zero is zero." 748 F.3d at 1157 (quoting *Brown*, 538 U.S. at 240 n.11).

Third, case law offers no support for Starr's attempt to limit *Brown* to situations "where the Government has not itself received the property taken." Pl. Law Br. § 19.1.5(e). In *Brown,* the Supreme Court did not tie the plaintiffs' obligation of proving economic loss to the fact that a charity designated by the Government, rather than the Government itself, had received the plaintiffs' property. *See Brown*, 538 U.S. at 235-37. Rather, the basis for the Court's decision was clear: even when the Government directly appropriates property, the Fifth Amendment mandates compensation only to the extent necessary to place the property owner in the position

he would have been in "if his property had not been taken." *Id.* at 236. Where the plaintiff cannot prove any value that it would have retained but for the Government's actions, no recovery is possible. *Id.* at 240 n.11; *see also Texas State Bank*, 423 F.3d at 1375 (*Brown* "hold[s] that transfer of interest earned in IOLTA accounts to pay for legal services for the poor constituted a *per se* taking, but that no compensation was due because there was no net loss to the clients who owned the principal").

Attempting to distinguish *Brown*, Starr mistakenly focuses on the value the Government received, rather than Starr's loss. Black-letter law, however, provides that a plaintiff can only recover for its own loss, and not for the Government's gain. *See, e.g.*, *Brown.* 538 U.S. at 235-36; *Kimball Laundry Co. v. United States*, 338 U.S. 1, 5 (1949); Def. Law Br. § I.C.1. Like the plaintiff in *Brown*, Starr has no evidence of any value *it* would have retained but for the Government's actions. Without such a loss, Starr's claim for the value created by the Government must fail.

B. AIG's Post-Rescue Stock Price Does Not Reflect What Was Taken Or Exacted Because It Does Not Measure Any Loss Experienced By The Class Members

Unable to show economic loss as required by *Brown* and *A & D Auto Sales*, Starr seeks to redefine "economic loss" to include Starr's disappointment in not receiving an even greater share of the rescue's benefits. Starr's attempted recharacterization relies on the following flawed arguments: (1) Starr's belief that it was entitled to a rescue without an equity term, (2) "just compensation" should be increased to capture any benefit the Government received for providing the rescue, (3) AIG's value – and Starr's economic loss – should be assessed based on some subjective "intrinsic" value rather than the real-world, market value of its assets in the actual marketplace, and (4) the provision of liquidity that saved AIG should be treated as distinct from the Government's receipt of equity in AIG. Starr's arguments fail first and foremost because the

recharacterization does not satisfy the economic loss requirement of *Brown* and *A & D Auto Sales*. Nevertheless, each of Starr's arguments fail for the additional reasons discussed below.

1. Starr Had No Property Interest In A Rescue Without An Equity Term

Starr's use of AIG's post-rescue share prices to calculate the claimed compensation violates the principle that Starr can recover only for the taking or exaction of a property interest that it possessed. *See, e.g.*, *Am. Pelagic Fishing Co. v. United States*, 379 F.3d 1363, 1372 (Fed. Cir. 2004); *Texas State Bank*, 423 F.3d at 1380-81. "[A] taking claim cannot be supported by asserting ownership in a property interest that is different and more expansive than the one actually possessed." *Rogers Truck Line, Inc. v. United States*, 14 Cl. Ct. 108, 114 (1987). Failure to identify a property interest cognizable under the Fifth Amendment "is fatal not only to [plaintiff's] takings claim, but also to its illegal exaction and due process claims." *Texas State Bank*, 423 F.3d at 1380.

Starr had no property interest in, and has no right to recover, the value its shares hypothetically might have had if FRBNY had agreed to lend to AIG without the equity term. Neither Starr nor AIG had a right to any rescue at all, let alone a windfall rescue containing no equity term whatsoever. *See* Def. Law Br. § I.D.2. Certainly, common stock in AIG did not come with a property interest entitling its holder to a Government rescue. Section 13(3) did not obligate FRBNY to loan to AIG to prevent the company's failure; indeed, the vast majority of troubled companies in 2008 and 2009 did not receive Government assistance. The decision to provide a rescue loan under section 13(3) was entirely discretionary, as were the terms on which the loan could be conditioned. *See* Def. Law Br. § II.A.1. These decisions belonged solely to the Board of Governors and to FRBNY. Starr cannot recover as "loss" the hypothetical value that might have been created by an alternative rescue; Starr never possessed or had a right to that

hypothetical value.[22] *See United States v. Rands*, 389 U.S. 121, 124-25 (1967) ("[I]f the owner of the fast lands can demand port site value as part of his compensation, he gets value of a right that the Government . . . can grant or withhold as it chooses.") (internal quotation marks omitted). Starr's expert improperly calculated Starr's "loss" based on post-rescue (September 24, 2008) stock prices, which is equivalent to "asserting ownership in a property interest that is different and more expansive than the one actually possessed" by Starr. *See Rogers*, 14 Cl. Ct. at 114.

2. Starr Is Not Entitled To A Recovery Reflecting Value Created By The Rescue

Starr also cannot be compensated for value that the Government created. *See* Def. Law Br. § I.C.1.a. It is beyond dispute that the rescue loan increased the value of Starr's shares. *See* Def. PFOF ¶¶ 347-61. Long standing precedent, moreover, establishes that the Government "in fairness should not be required to pay" value that "the government itself created." *United States v. Cors*, 337 U.S. 325, 333-35 (1949). Indeed, the cases on which Starr relies only confirm this well-established rule. *See, e.g.*, *Almota Farmers Elevator & Warehouse Co. v. United States*, 409 U.S. 470, 476 n.3 (1973) (reasoning that "action by the Government" did not "contribut[e] any element of value" to the property found to be taken); *United States v. Reynolds*, 397 U.S. 14, 17-18 (1970) ("The owners ought not to gain by speculating on probable increase in value due to the Government's activities."); *United States v. Fuller*, 409 U.S. 488, 498 (1973) ("[T]he Government as condemnor may not be required to compensate a condemnee for elements of value that the Government has created."). Additionally, courts will not calculate "just

[22] In any event, such a measure of economic harm would compensate Starr for value created by the Government's action, rather than for the value of its shares preceding any such action. *See infra*, § VI.B.

compensation" in a manner that would result in "manifest injustice" to the "public that must pay the bill." *United States v. Commodities Trading Corp.*, 339 U.S. 121, 123 (1950). Using the market value of AIG's post-rescue stock in the manner Starr advocates would result in a "manifest injustice" to the public by delivering to common shareholders all of the value created by the taxpayer-funded, Government rescue.[23]

3. Starr Cannot Recover Value Created By The Government By Arguing That The Rescue Merely "Restored" AIG's "Intrinsic Value"

Starr argues that AIG's September 16, 2008 share price should not be used to measure harm because it did not reflect AIG's "intrinsic enterprise value." Starr's position is economically, factually, and legally unsound.

First, the Court should reject Starr's argument that the value of AIG's stock after September 15 was not attributable to the Government's assistance, but instead reflected the stock's "restored" or "intrinsic" value rebounding after a "temporary" liquidity crisis. By September 24, 2008, AIG's market capitalization was $47.6 billion, a $42.6 billion increase over AIG's market capitalization before the rescue. *See* DX-2747. That $42.6 billion increase, along with the $5.0 billion of pre-rescue shareholder value that would have been lost had AIG filed for bankruptcy, reflects the value created by FRBNY's loan.

Second, Starr's assertion that AIG's stock price on September 16, 2008, was below its "intrinsic value" reflects an after-the-fact disagreement with the investors who set the stock price

[23] The American taxpayers ultimately received a modest 5.7 percent annualized return on the enormous risks of lending to AIG. *See* Mordecai, Tr. 7540, Line 15-Tr. 7541, Line 21; DX-2619 (Mordecai Demonstrative). If Starr's position is accepted, taxpayers would instead suffer a significant loss for their efforts. Indeed, Starr's apparent assumption that a corporation's shareholders should be entitled to all of the rewards of a Government rescue loan, while participating in none of its risks, would only discourage the Government from future rescue lending, as rescue loans made on the lopsided terms that Starr now demands would more frequently result in substantial losses to taxpayers.

on that day by trading millions of AIG shares. As Starr's experts have acknowledged, AIG's shares were actively traded on September 16, 2008, in an efficient market. Accordingly, each trade reflected the value that individual buyers and sellers assigned to each share. In the aggregate, those trades reflected AIG's market value, including the company's substantial liquidity risks.[24] Starr's disagreement with the market's real-time analysis cannot change the fact that – had Starr sought to sell its shares on September 16 – it would have received the market value of those shares, not some alleged "intrinsic value."

The near-zero price on September 16 reflected the market's recognition (1) that AIG shares likely would be worthless in a bankruptcy, but (2) that the shares retained some minimal "option value" because of the possibility of a rescue. *See* Def. PFOF ¶ 369. Indeed, Starr's experts agreed that AIG's near-zero share price on September 16, 2008, reflected AIG's value given the company's substantial liquidity needs. *See* Kothari, Tr. 4898, Line 23-Tr. 4899 Line 6; Cragg, Tr. 8755, Line 21-Tr. 8756, Line 6.

Next, Starr attributes the decline in AIG's market price on September 16, 2008, to generalized market conditions. This analysis is twice flawed. First, comparisons of AIG with other institutions that were exposed to the same market conditions (including a comparison done by Starr's own expert) strongly indicate that factors specific to AIG account for the dramatic drop in AIG's stock price before September 16, 2008. *See* Def. PFOF ¶ 399. Second, even if

[24] Starr's effort to point to certain individuals who believed that AIG's stock was trading below its intrinsic value, *see, e.g.*, Pl. PFOF ¶ 37.5.5, does not vitiate the reliability of the market price set by the more than one billion shares actually traded on September 16, 2008, as the core measure of equity value. Necessarily, in any market, some people believe that future prices will rise and others think prices will fall – otherwise no one would buy or sell. If, on September 16, 2008, Starr truly believed AIG was trading below some knowable, intrinsic value, one would have expected Starr to acquire enormous holdings in the lower-than-intrinsic value shares – Starr's failure to make such an investment undermines its after-the-fact claims.

general market conditions affected AIG, those conditions are not irrelevant to the value of AIG's stock. *See* Pl. Law Br. § 19.6; Pl. PFOF ¶¶ 2.2-2.7, 7.0, 37.5.4-37.5.7. All property is ultimately valued based upon the interests of potential buyers and sellers in the market. There is, therefore, no economic basis for valuing Starr's shares above the market price. *See United States v. Miller*, 317 U.S. 369, 374 (1943); *see also* Pl. Law. Br § 18.0.

Starr's "intrinsic value" analysis also finds no support in the law. Takings claims are properly valued at the time of the taking using objective, market-based values. Case law provides no support for Starr's demand for use of a subjective valuation method selecting a date well before the alleged taking of their property. *See Miller*, 317 U.S. at 374. To hold otherwise would present the Government with the impossible task of deciding whether to take property without the ability to measure the property's value.

Finally, Starr's "intrinsic value" argument conflicts with the evidence. By claiming that AIG's September 16 stock price was artificially low, Starr argues that the post-rescue increase in AIG's stock price "restored" value that was always present. But the facts do not support Starr's efforts to portray AIG as a healthy, solvent company before the rescue. *See, e.g.*, DX-130, DX-434 at 2 (letters from Starr's CEO to AIG's board highlighting the "persistent and seemingly endless destruction of value at AIG" prior to the rescue); Lee, Tr. 7074, Line 7-Tr. 7075, Line 17, DX-382 (JPMorgan concluded on September 15, 2008, that AIG had a liquidity need of $50-$60 billion). It cannot be disputed that AIG faced increasingly dire financial difficulties in the months preceding the rescue, and that the company itself acknowledged that it faced imminent failure several days before Lehman weekend. *See* Def. PFOF ¶¶ 25-54.[25]

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[25] Further, the Credit Agreement Class's assertion that AIG did not engage in "irresponsible ex ante risk-taking," Pl. Fact Br. ¶ 32.1, is contradicted by the claims of AIG

The depth and persistence of AIG's financial problems after the $85 billion rescue loan further demonstrate the severity of the company's financial problems before September 16. *See, e.g.*, Def. PFOF ¶¶ 172-80; 487-9 (AIG required tens of billions of dollars of additional support just *weeks* after FRBNY made an $85 billion credit facility available to AIG).[26] Contrary to Starr's claim, AIG faced much more than one bad weekend, and its price on September 16, 2008, reflected that fact.

4. Starr Cannot Recover The Value Created By The Rescue By Treating The Provision Of Liquidity That Saved AIG As Distinct From The Government's Receipt Of Equity In AIG

The record does not support Starr's attempt to isolate the equity term from the rest of the rescue transaction. It is not the case, as Starr appears to argue, that (1) on September 16, 2008, the Government agreed to provide AIG an $85 billion rescue loan, and then (2) a week later, in

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shareholders in a class action concerning alleged Federal securities laws violations relating to AIG's CDS and securities lending practices in 2008. *See* Compl., *In re AIG 2008 Sec. Litig.*, No. 08-CV-4772 (S.D.N.Y.), Dkt. 95 (S.D.N.Y. May 6, 2009) (*In re AIG*). Last week, the district court approved the settlement of these claims for $970.5 million, including $960 million from AIG. *See* Judgment and Order, *In re AIG*, Dkt. 518 (Mar. 20, 2015); *see also* Stipulation and Agreement of Settlement, *In re AIG*, Dkt. 445 (Sept. 12, 2014), at 8, 13, 16. The *In re AIG* class consists of purchasers of AIG common stock from March 16, 2006 to September 16, 2008. *See* Dkt. 445 at 16-17. Although Starr was exempted from that class due to a prior settlement with AIG, the class undoubtedly includes numerous other members of the Credit Agreement Class. We request that the Court take judicial notice of the AIG shareholders' claims and recovery of a settlement upon claims that they suffered losses attributable to the CDS and securities lending practices that brought AIG to the brink of bankruptcy, when at the same time, many of those shareholders are suing the United States for rescuing AIG from the very same conditions. Fed. R. Evid. 201.

[26] The record offers no support for Starr's effort to dismiss all subsequent extensions of additional assistance as a result of the initial credit facility's onerous terms. For example, the assistance provided in October and November 2008 was structured to eliminate the financial burdens of the two lines of business that caused the most significant problems – securities lending and AIGFP's CDS portfolio. These problems existed long before the Government rescued AIG, and were the chief reasons AIG needed a rescue loan in the first place. *See* Def. PFOF ¶¶ 4-17, 172-77.

an unrelated decision, FRBNY demanded 79.9 percent of AIG's equity. *See Miller*, 317 U.S. at 376-77. As made plain by all of the testimony and contemporaneous documents, Government officials, AIG management and directors, and market participants, all understood that as a condition of the Government's provision of liquidity on September 16, 2008, the Government would receive an equity stake in AIG "equivalent to 79.9 percent of the common stock of [AIG]." *See* JX-74 at 13; Def. PFOF ¶¶ 73-74, 79, 84-86; Def. Law Br. 40-42.

In any event, the Supreme Court has held that if a Government project is completed in steps, but was intended from the beginning to affect certain property, the owner of property affected in later stages of the project may not be compensated for any increases in value to his property due to the Government's earlier action under the same transaction. *See United States v. Reynolds*, 397 U.S. 14, 17 (1970); *Miller*, 317 U.S. at 376-77; *United States v. Land*, 213 F.3d 830, 834-35 (5th Cir. 2000); *see also Carolina Plating Works, Inc. v. United States*, 102 Fed. Cl. 555, 561 n.5 (2011) (describing the "*Miller* Doctrine" as the proposition that plaintiffs are "not entitled to any enhancement in value associated with an action that would not have occurred but for the taking"). Faced with a clearly integrated transaction, Starr cannot select whichever date it wants to act as the valuation date. Rather, the Court should measure the alleged harm by the date of the project's initial authorization, *Miller*, 317 U.S. at 377, which in this case was September 16, 2008.

C. Starr's Failure To Prove Its Shares Would Have Had Value In The Absence Of The Government Rescue Defeats Its Exaction Claim As Well

Starr argues that illegal exaction claims are not subject to a "but for" requirement for showing economic loss. *See* Pl. Law Br. § 19.5. This position misconstrues exaction law. Because illegal exaction cases are "those in which 'the Government has the citizen's money in its pocket,'" *Eastport*, 372 F.2d at 1008 (citations omitted), the essence of recovery for any

illegal exaction is the return of property exacted by the Government. Because Starr cannot demonstrate that *its* pre-rescue property ended up "in the Government's pocket," Starr's exaction claims must fail. Instead, Starr seeks an award based upon the value created by the Government's discretionary choice to provide liquidity to AIG. Starr, however, never had this property – this value – in its pocket, and the Government could not have exacted from Starr what it never had.

Starr argues that using a "but-for" analysis in the illegal exaction context would "effectively eliminate a claim for illegal exaction . . . when an agency ties obtaining a benefit from the Government to an illegal condition" because the benefit received "would always exceed the cost of the illegal condition." *See* Pl. Law Br. §§ 19.5.3-19.5.4. Starr's argument fundamentally misapprehends but-for analysis, which examines not the value of the exchanged benefit but the value of the exacted property before any Government action. For example, the property exacted from the ship owner in *Suwannee* was the $20,000 unauthorized fee the Government demanded. In the absence of any Government action, that property would still have had a value of $20,000 – but that money would have remained in the ship owner's "pocket" instead of the Government's. *Suwannee*, 279 F.2d at 877 (concluding that "the Government has in its treasury $20,000 which belongs to the plaintiff, and that the plaintiff is entitled to a judgment for that sum").[27]

Moreover, "the doctrine of illegal exaction requires compensation for actual payments of money and has never . . . been applied to compensate a plaintiff for lost opportunities to make money." *Westfed Holdings, Inc. v. United States*, 52 Fed. Cl. 135, 153 (Fed. Cl. 2002).

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[27] Of course, the ship owner in *Suwannee* was entitled to sell its property without the unauthorized fee, but AIG's shareholders were not entitled to a Government rescue.

Certainly, the evidence demonstrated that FRBNY would not have loaned money to AIG without the equity term, which the Federal Reserve's leaders viewed as vital to addressing the risks and policy concerns of lending. *See*; Def. Law Br. § II.E.1; Def. PFOF ¶¶ 79-83, 389-92. It cannot, therefore, be said that the rescue put into the Government's pockets any money that Starr had in its pockets. To the contrary, the Government simply retained for the benefit of the taxpayers value created by the Government rescue.

Ultimately, Starr demands that the Court now rewrite the agreement between AIG and FRBNY, on the basis that one of the contract's terms purportedly was unauthorized. Of course, Starr has no standing to complain about AIG's contract, and appellate precedent commands the rejection of such an attempt to recover as if the parties had agreed to different terms. In *AT&T*, 307 F.3d at 1380, AT&T, after having agreed to a fixed-price contract with the Government, later claimed that the Government lawfully could only have entered into a cost-reimbursement contract. The Federal Circuit, however, refused to alter the parties' agreement, because the plaintiff had not established that the Government would have contracted with it in the absence of the contract term it challenged as illegal. That is, the plaintiff failed to establish that it would have had the right to any payment but-for the Government's allegedly unlawful conduct. *See id.* at 1380-81; *see also Northrop Grumman Corp. v. United States*, 47 Fed. Cl. 20, 43-44 (Fed. Cl. 2000) (refusing to alter a contract's agreed-upon terms because doing so would confer "a windfall to which [plaintiff] is not entitled" but "[e]nforcement as written, regardless of the illegality, brings no unjust result"). Likewise, Starr cannot recover upon a claim that the Federal Circuit would reject had it been brought by AIG, the actual party to the transaction. The Court should reject Starr's attempt to circumvent settled law to seek a belated rewriting of AIG's contract.

D. Starr Cannot Shift Its Burden Of Proving That The Rescue Loan Harmed The Class

Rather than proving economic loss, Starr attempts to shift the burden to the Government of establishing an absence of economic loss. *See* Pl. Law Br. § 19.2. Starr contends that even if the "but for economic loss test" applied to its claims, the Government "has not carried its burden of proving offsetting benefits." *Id.* But the burden to establish economic loss falls squarely on Starr. "The Fifth Amendment does not proscribe the taking of property; it proscribes taking without just compensation." *Brown*, 538 U.S. at 235 (quoting *Williamson Cnty. Reg'l Planning Comm'n v. Hamilton Bank of Johnson City*, 473 U.S. 172, 194 (2003)). In other words, the concept of liability and damages are so intertwined in the takings context that there can be no liability for a taking unless the taking itself resulted in economic loss. *See* Def. Law Br. § I.C.2. In its discussion of *Brown,* Starr recognized this point, noting that "the Court did not end its analysis at whether there was, in fact, a taking because it still needed to determine whether any 'just compensation' was due." Pl. Law Br. § 19.1.5(d).

Nor can Starr shift the burden of providing evidence of economic loss to the Government by reference to "offsetting benefits." Although the Government can establish "offsetting benefits" to mitigate evidence of economic harm in a regulatory taking case, such a showing would only occur "[o]nce [Starr] came forward with evidence of an economic impact" in the first instance. *See CCA Assocs. v. United States*, 667 F.3d 1239, 1245 (Fed. Cir. 2011). Here, Starr failed to satisfy this threshold showing.

In any event, the "benefits" provided by the Federal Reserve's loan are so obvious as to require little discussion. Because of FRBNY's rescue loan, AIG did not enter bankruptcy, but rather had its liquidity restored and, eventually, returned to profitability. In turn, Starr and other

AIG shareholders saw an immediate and sustained increase in their share value. It is absurd to suggest, as Starr does, that these benefits should in no way factor into the analysis of harm.

In sum, Starr was not entitled to a Government rescue, and but for the Government's action, AIG would have faced imminent collapse into bankruptcy that would have made Starr's shares worthless. Starr's property thus suffered no economic loss relative to what it would have had but for the Government's action. *See Brown*, 538 U.S. at 240-41; *A & D Auto Sales*, 748 F.3d at 1157. Because the evidence unequivocally shows that AIG and its shareholders received a benefit, rather than any economic loss, from the Government's rescue action, the Court should reject Starr's taking and exaction claims.

VI. Starr Has Failed To Provide The Evidence Identified By The Court As Necessary To Support Standing To Bring A Direct Claim

Starr has failed to provide the evidence identified by the Court as necessary to support standing to bring a direct claim, and has failed to provide the evidence necessary to allocate damages between its purported direct claims and the previously dismissed, derivative claims. For each of these reasons, Starr's direct claim fails.

In connection with the Government's motion to dismiss Starr's direct claim, we explained that the Credit Agreement Class's claims are wholly derivative, and that the injury allegedly suffered by AIG shareholders was wholly derivative of an injury to AIG. The Court recognized that "corporate overpayment" claims "premised on the notion that the corporation, by issuing additional equity for insufficient consideration, made the complaining stockholder's stake less valuable" are "normally regarded as exclusively derivative." *Starr*, 106 Fed. Cl. at 62 (quoting *Feldman v. Cutaia*, 956 A.2d 644, 655 (Del. Ch. 2007), *aff'd* 951 A.2d 727 (Del. 2008)).

The Court held, however, that it could not "decide[ ] definitively" on the pleadings whether this case fell within "'a species of corporate overpayment claim' that is 'both derivative and direct in character.'" *Starr*, 106 Fed. Cl. at 62, 64. The Court explained that this exception to the general rule arises only where a controlling shareholder causes a corporation "to issue 'excessive' shares of its stock in exchange for assets . . . that have a lesser value," resulting in "an increase in the percentage of the outstanding shares held by the controlling shareholder, and a corresponding decrease in the share percentage owned by the public (minority) shareholders." *Id. at* 64; *see also id.* at 62 (quoting *Gentile v. Rossette*, 906 A.2d 91, 99 (Del. 2006)). The Court reasoned that it was "unclear" why even under Starr's theory of the case "the [September 16] term sheet was binding as to control but not as to the transfer of the 79.9% interest in AIG," but held that it had to "accept as true Starr's position" for the purpose of the Government's motion to dismiss. *Id.* at 64-65. The Court now has a full evidentiary record before it, and that record is devoid of support for Starr's direct claim.

A. Starr Has Failed to Show That Its Claim Is Not Derivative

Starr has failed to meet its burden of proving that its claims are anything other than wholly derivative claims — claims for injury to AIG rather than an injury to Starr or some other subset of shareholders.[28] Starr has not proven that the Government "used its control of AIG to expropriate the economic and voting interests of the then-existing common stock shareholders."

[28] In litigation against the United States, claims of economic harm that apply ratably to all shareholders of a corporation, share for share, are derivative claims that must be brought, if at all, in the name of the corporation itself. *See, e.g.*, *Hometown Fin. Inc. v. United States*, 56 Fed. Cl. 477, 486 (2003) (noting that "courts have consistently held that shareholders lack standing to bring cases on their own behalf where their losses from the alleged injury to the corporation amount to nothing more than a diminution in stock value or a loss of dividends" that is shared equally). That is precisely the sort of economic harm that Starr claims that it, along with every other AIG shareholder, suffered.

Starr Int'l Co. v. United States, 112 Fed. Cl. 601, 605 (2013) (*Starr III*). In setting forth what Starr had to prove to support this element of a direct claim, the Court framed the issue in terms of when the contractual right to equity and control arose. *Starr*, 106 Fed. Cl. at 64-65. The Court explained that if the AIG board's acceptance of the Government's rescue offer on September 16, 2008, gave the Government a contractual right to a 79.9 percent equity stake, then Starr lacked standing to bring a direct claim. *Id.* (holding that Starr's direct claim may proceed only "insofar as Starr claims that the Government first acquired control of AIG (on September 16, 2008) and then used that control to expropriate a 79.9% interest in AIG from the minority shareholders").

As we have shown, the AIG board's voluntary acceptance of the rescue offer on September 16, 2008, provided the Government a contractual right to equity participation equivalent to 79.9 percent of AIG's common stock. Def. Law Br. § I.B.3.a. The Government did not – could not – control the AIG board's decision to accept the loan offer. Def. Law Br. § I.B.2.a-b; Def. PFOF ¶¶ 67-83; Pl. PFOF ¶ 15.0 (conceding that the Government did not control the AIG board's vote to accept the rescue facility on September 16, 2008).

But, even if the Court were to conclude that the Government's contractual right to the equity did not arise until the Credit Agreement was executed, Starr still has failed to establish a direct claim because it has not proved that the Government controlled the AIG board's approval of the Credit Agreement. *See* Def. Law Br. § I.B.3.b; Def. PFOF ¶¶ 99, 114. Regardless, because the equity term in the Credit Agreement was entirely consistent with the equity term AIG's board of directors accepted on September 16, the issue of Government control on September 21 is a red herring. Def. PFOF ¶¶ 111-114; Def. Law Br. §§ I.B.3-3.a. A non-controlled board agreed on September 16 to provide "equity participation equivalent to 79.9 percent of [AIG's] common stock," Def. PFOF ¶¶ 71-74, which accurately described the equity

stake executed in the Credit Agreement. Even if the Government "controlled" AIG when AIG's board approved the Credit Agreement (which it did not), that control made no difference: the Credit Agreement promised no more economic value and voting interests than AIG's board had already promised on September 16, 2008, when the board was indisputably independent. Starr has thus failed to prove that the Government "caused the shareholders to suffer the alleged harm" by "us[ing] its control" over the AIG board to obtain that equity stake. *Starr III*, 112 Fed. Cl. at 605.

B. Even If Starr's Claim Is Both Derivative And Direct, Starr Has Failed To Allocate Economic Harm To The Claim's Direct Aspect

Even if Starr's claim is "both derivative and direct," *Starr*, 106 Fed. Cl. at 62, derivative and direct claims have distinct harms. Recognizing this, Starr represented to the Court in Starr's motion for class certification on December 3, 2012, that "AIG and its shareholders each suffered distinct injuries, and the allocation of damages for these injuries will be based on data disclosed during discovery and expert testimony." Pl. Mem. in Supp. of Mot. for Class Certification (Dec. 3, 2012) (Dkt. 81) at 13.[29]

Starr failed to deliver on that promise. Neither Starr's proposed factual findings, nor its proposed legal conclusions, nor any testimony or documentary evidence, address an injury to AIG's shareholders separate and distinct from an injury to AIG. Indeed, Starr's expert testified that he did not analyze that distinction. Def. PFOF ¶ 346.

[29] Similarly, in asking AIG's board to allow Starr to pursue a derivative claim on AIG's behalf, Starr represented that it could not "at this point say the direct claim is X percent and the derivative claim is Y percent" but that "it is clear that both are significant" and that "the division is something that would have to be supervised by the court." Dkt. 87-26 at 34 (AIG Bd. Mtg. Tr. 129:10-16). Starr was clear: "you have to take that and you have to allocate it." *Id.* at 35 (AIG Bd. Mtg. Tr. 131:9-10).

Because Starr has failed to show what harm shareholders suffered distinct from any harm incurred by AIG, the Court should reject all of Starr's claims. *See* Def. Law. Br. at 118-120.

VII. Starr Has Failed To Establish Its Reverse Stock Split Claim

Starr's claim with respect to the reverse stock split fails because (1) Starr has not identified a property right that was taken or exacted, Def. Law Br. §§ IV.A, IV.D, (2) Starr's claim that the reverse stock split was engineered by the Government is not supported by the evidence, Def. Law Br. § IV.B, and (3) the reverse stock split caused no economic harm. Def. Law Br. § IV.C. Starr's briefing fails to cure these deficiencies.

A. Neither Delaware Law Nor The *Walker* Order Granted AIG's Common Shareholders The Right To Avoid Dilution Of Their Shares

Starr argues that section 242(b)(2) of the Delaware Code and the Delaware Chancery Court's order in *Walker v. AIG, Inc.*, No. 4142-CC (Del. Ch. 2009), provided AIG's common shareholders with the right to reject any dilution of their shares. *See* Pl. Law Br. §§ 14.7. & 14.8. Starr's arguments misstate relevant Delaware law, mischaracterize the scope of the *Walker* order, are not supported by the evidence, and ignore the common shareholders' vote in favor of the stock split.

1. Section 242(b)(2) Grants The Right To A Class Vote In Limited Circumstances And Confers No General Right To Avoid Dilution

Starr contends that section 242(b)(2) of the Delaware Code gave common shareholders a right to a separate class vote on any action that could dilute their common-stock-percentage, ownership interests. Pl. Law Br. § 14.7. That section, however, requires a separate class vote to "increase or decrease the aggregate number of authorized shares of such class, [or] increase or decrease the par value of the shares of such class." 8 Del. Code Ann. § 242(b)(2). Section 242(b)(2) confers class voting rights only in these two enumerated circumstances. Nothing in the section or in any case identified by Starr provides the sort of all-encompassing anti-dilution

protection that Starr claims. *See Feldman v. Cutaia*, 956 A.2d 644, 656 (Del. Ch. 2007) *aff'd* 951 A.2d 727 (Del. 2008) (quoting *Oliver v. Boston Univ.*, No. Civ A. 16570-NC, 2006 WL 1064169, at *17 (Del. Ch. Apr. 14, 2006)) ("Clearly a corporation is free to enter into . . . numerous transactions, all of which may result legitimately in the dilution [of present equity holders]. Such a dilution is a natural and necessary consequence of investing in a corporation."). Indeed, Starr fails to identify statutory or case law to support its position.

Starr's reliance on Delaware cases protecting voting rights, Pl. Law Br. ¶ 14.8.9, is mistakenly circular, incorrectly assuming the existence of the alleged rights at the center of Starr's reverse stock split claims. Starr contends that section 242(b)(2) "would effectively be rendered meaningless" if "a controlling entity could use a reverse stock split to bypass [its] shareholder voting requirement." Pl. Law Br. § 14.7.2. This argument is factually and legally baseless. First, Starr offers no evidence supporting Starr's claim that the reverse stock split was intended to "bypass" section 242(b)(2) (as discussed in Section VII.A.3 below). Second, Starr's argument is contrary to Delaware's "formal and technical approach" to "evaluating claimed violations" of Delaware corporate law. *See Quadrant Structured Prods. Co. v. Vertin*, 102 A.3d 155, 201 (Del. Ch. 2014), *reconsideration denied*, 2014 WL 5465535 (Del. Ch. Oct. 28, 2014). Starr's incorrect claim that section 242(b)(2) requires a class vote not only under the circumstances expressly described in section 242(b)(2), but also in *all other circumstances* that arguably would accomplish the same or a similar end, ignores the bedrock doctrine of Delaware law known as the doctrine of independent legal significance: actions valid under one provision of Delaware corporation law must be respected as valid "even though the end result may be the same" as proceeding under a different provision with different requirements. *See id.* (quoting *Orzeck v. Englehart*, 195 A.2d 375, 377 (Del. 1963)).

2. The *Walker* Order Did Not Grant Common Shareholders The Right To A Separate Class Vote on Dilutive Transactions

Starr admits, as it must, that its asserted right "to exclude at least the holders of the Series C Preferred Stock from diluting their shares of common stock," Pl. Law Br. § 14.8.8, can be found nowhere in the language of the *Walker* order; Starr thus asks this Court to read that order inconsistently with the order's plain language. *See* Pl. Law Br. § 14.8.7 n.5 (recognizing that the *Walker* order "required a separate class vote to *increase* the number of *authorized* common shares, but not to *decrease* the number of *issued* shares, which is what happened here") (citations omitted) (emphasis in original). But the *Walker* order did not and could not have granted any right beyond its four corners. *See* Def. Law Br. § IV.A.1.b.

Although Starr insists that the *Walker* order must be read in light of a representation by AIG to the Delaware Court of Chancery, *see* Pl. Law Br. §§ 14.8.1-.8, that representation was no broader than the order itself. AIG represented only that "any amendment to [its] certificate of incorporation to increase the number of authorized shares of common stock or to change the par value of that stock" would require a separate class vote. *See* Def. PFOF ¶ 441 (quoting JX-143 at 7). This narrow and precise representation – and the correspondingly narrow and precise language of the *Walker* order – did not confer a broad and ill-defined protection against all actions that could dilute common shareholders' ownership interests through the issuance of additional stock. Starr asks the Court to read far more into the *Walker* order than the Delaware Chancery Court actually placed in that document.[30]

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[30] Starr's contention that the Court should read broad terms into the *Walker* order because "the lawsuit also requested appropriate relief based upon the common shareholders' right to reject the dilution of their shares," Pl. Law Br. § 14.8.7 n. 5 (quoting *Starr*, 106 Fed. Cl. at 73), and that the Stock Split Class "had a right to exclude at least the holders of the Series C Preferred Stock from diluting their shares of common stock," *id.* § 14.8.8 (internal quotation marks and citation omitted), has no merit. No such relief was granted, and Ms. Walker's unfounded claim

3. Starr Has Not Presented Any Evidence That The Reverse Stock Split Was Designed To Evade Common Shareholders' Rights

Failing to establish a blanket shareholder right to vote on any dilutive action, Starr argues that AIG's reverse stock split wrongfully circumvented the more limited rights common shareholders did possess under Delaware law. *See* Pl. PFOF ¶ 36.4. Starr, however, has presented no evidence supporting its assertion that the June 2009 reverse stock split was "engineered" to facilitate the January 2011 recapitalization. Indeed, after the close of testimony, Starr admitted that it "ha[d] not yet identified any document showing when it was first proposed to use the reverse stock split to avoid a class vote of common shareholders;" Starr has not, since, remedied that failing. *See* Pl. Memo. in Support of Req. to Keep the Record Open for a Limited Time and Purpose After Plaintiffs' Rebuttal Case (Dkt. 373) at 8 (Nov. 24, 2014). Because Starr has failed to prove the assertion at the heart of its stock split claim, that claim fails.

According to Starr, the Government's discussion of alternatives to monetize the Series C evidences that the reverse stock split was developed to circumvent a shareholder vote. *See* Pl. PFOF ¶ 36.4.2. The discussion of alternative methods of monetization, of course, suggests exactly the opposite. The other options for monetizing the Series C stock undercuts Starr's theory that the Government orchestrated the reverse split to monetize its shares.

In the face of uniform evidence to the contrary, Starr's allegation that the reverse stock split was "engineered" to "bypass a shareholder vote" relies solely on speculation by Starr's expert witness, Dr. Zingales. Pl. PFOF ¶¶ 36.4.3(c), 36.6(e). But as an expert "in the field of economics and corporate governance" (Zingales, Tr. 3796, Lines 6-8; see Tr. 3799 Lines 18-19),

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that shareholders had a right to vote on any dilution was dismissed after her claim seeking a separate vote on any increase in the number of authorized shares of common stock or decrease in their par value had been mooted. Def. PFOF ¶ 444 (citing JX-176). Starr presents no legal support for its assertion that dismissed claims can create a property right, nor could it.

Dr. Zingales was not qualified to opine on motives in this situation, much less to conjure an imaginary phone conversation in which AIG and the Government "resolve a way to bypass a shareholders vote." Pl. PFOF ¶ 36.6(e). Regardless, the Court should give Dr. Zingales's opinion regarding motive no weight because it is unsupported by the factual record – including the uniform sworn testimony of the individuals involved in designing and proposing the stock split. *See, e.g.*, *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 242 (1993) ("When an expert opinion is not supported by sufficient facts to validate it in the eyes of the law, or when indisputable record facts contradict or otherwise render the opinion unreasonable, it cannot support a jury's verdict.").

Similarly, the Court should reject Dr. Zingales's insistence that the structure of the reverse stock split demonstrated an intent to "bypass a [separate vote] by common shareholders." (Pl. PFOF ¶ 36.5.2.3(i)). Prof. Daines explained that in 2009 a number of companies addressed the risk of delisting with reverse stock splits and that it was not unusual for companies to apply reverse stock splits only to issued and not authorized shares. *See* Def. PFOF ¶ 425. Thus, nothing nefarious could be inferred from the stock split's structure. Accordingly, the Court should reject Starr's invitation to displace uncontroverted facts regarding the purpose of the reverse stock split with Dr. Zingales's unfounded speculation.

Starr also argues that the "effect" of the reverse stock split was to allow the recapitalization to occur 18 months later, but Starr has presented no contemporaneous evidence that the reverse stock split was intended to facilitate the exchange. *See* Pl. PFOF ¶ 36.4.[31] To the contrary, an exchange of preferred stock for common shares was first contemplated in 2010,

[31] Nor could the reverse stock split have been intended to facilitate conversion, because it did not solve the need to reduce the per share par value. *See* Def. PFOF ¶ 446.

at least six months after the reverse stock split vote and more than a year after AIG first began planning the reverse stock split. *See* Def. PFOF ¶ 447 (testimony of Brandow and Shannon).

In any event, Starr's contentions regarding the eventual effect of the reverse stock split are legally insufficient to establish liability for a taking or unlawful exaction. *See* Def. Law Br. at 138; *Norman v. United States*, 429 F.3d 1081, 1088, 1096 (Fed. Cir. 2005) (finding no takings or illegal exaction when the "causal relationship" between governmental conduct and the asserted harm was "too attenuated").

B. Starr's Invocation Of Entire Fairness Review Under Delaware Law Is Erroneous

Starr contends that the reverse stock split is governed by the entire fairness test of Delaware fiduciary duty law. *See Reis v. Hazelett Strip-Casting Corp.*, 28 A.3d 442 (Del. Ch. 2011). Pl. Law Br. ¶¶ 12.2.6, 14.3, 14.7.2(a). But Starr's reliance on that test is entirely misplaced. A taking occurs only when (1) "the claimant has identified a cognizable Fifth Amendment property interest" and (2) "the government's action amounted to a compensable taking of that property interest." *Klamath Irrigation Dist. v. United States*, 635 F.3d 505, 511 (Fed. Cir. 2011).

To the extent Starr suggests that the "cognizable Fifth Amendment property interest" was the shareholders' right to bring a breach-of-fiduciary-duty claim, that property interest was not taken. No Government action deprived Starr or any other common shareholder of its right to file suit to block any transaction and argue for an entire fairness standard of review within the applicable statute of limitations period.

To the extent Starr suggests that Delaware's entire fairness standard of review governs the second question in *Klamath*, whether "the government's action amount[s] to a compensable taking of that property interest," Starr is wrong. The question of "what constitutes a 'taking' is a

'federal question' governed entirely by federal law." *Bartz v. United States*, 633 F.2d 571, 577 (Ct. Cl. 1980); *Klamath*, 635 F.3d at 520 (determination whether cognizable property interest has been taken "will turn on existing takings law," not state law).

C. Starr Has Failed To Prove Its Allegation That The Government "Engineered" The Reverse Stock Split

Starr has failed to prove that the Government was involved in proposing the reverse stock split. In the absence of such proof, Starr contends that the Government's alleged voting control of AIG equates to legal responsibility for AIG's independent actions. Because Government action is a necessary element of either a taking or an illegal exaction, Starr's claims fail.

Starr has failed to identify a single piece of evidence that the Government was involved in suggesting, seeking, or shaping the reverse stock split proposal. *See* Starr Second Amended Verified Class Action Complaint (Dkt. 101) at ¶ 112 (Mar. 11, 2013); Pl. PFOF ¶¶ 36.4-36.6. Starr's allegations contrast with the uniform evidence that AIG's management and board of directors developed the reverse stock split because they believed that the reverse stock split would prevent delisting, and thereby serve the best interests of the company and its shareholders. *See* Def. PFOF ¶¶ 421-428.[32]

Lacking any evidence of Government involvement, Starr now presents a new theory that the Government's "ownership of, and resulting control over, AIG" transforms AIG's stated – and reasonable – motives into Government action designed to thwart an alleged shareholder right. Pl. Law Br. §§ 14.0, 14.9.3.

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[32] Starr challenges Mr. Herzog's testimony that he proposed the reverse stock split. *See* Pl. PFOF ¶ 36.5.1(a) n.124. No evidence, however, contradicts this testimony. Def. PFOF ¶ 424. The fact that Mr. Herzog did not, ultimately, design the transaction's structure does not undermine his credibility.

As demonstrated in our opening brief, however, "[m]ere approval of or acquiescence in the initiatives of a private party is not sufficient to justify holding the [Government] responsible for those initiatives." *Blum v. Yaretsky*, 457 U.S. 991, 1004-05 (1982) (discussing Fourteenth Amendment rights). Similarly, the Government's "cooperation" with a private party cannot make the Government responsible for the private party's actions. *Stueve Bros. Farms, LLC v. United States*, 737 F.3d 750, 758 (Fed. Cir. 2013). Additionally, Delaware law requires a party alleging control over a corporation's conduct to demonstrate the *actual direction* of corporate conduct; the potential ability to do so is insufficient as a matter of law. *See* Def. Law Br. at 14-15. The Trust's ownership of a majority voting interest in AIG is legally insufficient to hold the Government liable for AIG's independent conduct. Starr's failure to present any evidence of Government involvement in suggesting or shaping the terms of the reverse stock split is, as a matter of law, fatal to its claim.[33]

D. Starr Failed To Demonstrate Economic Harm From The Reverse Stock Split

The Court should reject the Stock Split Class's claims because Starr has not demonstrated that the reverse stock split caused class members any economic loss. *See* Def. PFOF. § VII; Def. Law Br. § IV.C; *Brown*, 538 U.S. at 240 n.11. It is undisputed that the majority of AIG's common shareholders, including Starr itself, voted in favor of the split. Indeed, common

[33] Similarly, the Trust's vote in favor of the reverse stock split cannot turn the reverse stock split into a taking or unlawful exaction. As a threshold matter, the Trust's vote is not Government action. The Trustees had complete independence in voting the Trust's stock and were not controlled by the Government. *See* Def. PFOF ¶¶ 275-278. Regardless, as discussed above, the reverse stock split served AIG's express purpose of raising the market price of AIG shares, which benefited the company and its common shareholders by preventing delisting and attracting institutional investors. *See* Def. PFOF ¶¶ 445-47, 452-54. That the Trust voted for these benefits is neither surprising nor controversial given the Trust's mandate, and, instead, demonstrates only that the Trust agreed with a majority of AIG's common shareholders that the reverse stock split was in AIG's best interests.

shareholders voted for the transaction with full knowledge that the reverse stock split would have the effect of enabling the future issuance of additional common shares. *See* Def. PFOF ¶¶ 430-34, 449-50; JX-221 at 70; DX-814-A at 1. Thus, the reverse stock split did not deprive shareholders of the separate class vote that Starr claims as an entitlement.[34].

In any event, as discussed at length in our opening briefs, the trial record demonstrates that common shareholders had the same percentage ownership, with the same value and voting rights, before and after the reverse stock split. *See* Def. PFOF § VII.B. Indeed, the reverse stock split benefitted common shareholders, who would have lost substantial value had AIG been delisted from the NYSE. *See id.* § VII.A. On these grounds alone, there can be no finding of economic harm from the reverse stock split.

Similarly, Starr's attempt to measure damages based on the 2011 recapitalization fails as a matter of law and fact. As discussed at length in our opening briefs, (1) Stock Split Class members cannot have lost more than the value of their shares on June 30, 2009 (Def. PFOF § VII.D.1); (2) common shareholders in June 2009 had no property rights affected by the 2011 recapitalization (Def. Law Br. § IV.A.3; Def. PFOF § VII.D.2);[35] (3) shareholders in January

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[34] Starr argues that the reverse stock split was "coercive" because it applied only to issued but not authorized shares. Pl. PFOF ¶ 36.5. Starr, however, has not presented any evidence that the Government was responsible for this feature of the reverse stock split. To the contrary, both testimony and documents from AIG demonstrate that the structure of the reverse stock split, including the exchange ratio, was developed by AIG with the assistance of D.F. King, an outside consultant. *See* Def. PFOF ¶ 427; Shannon, Tr. 3709, Line 24-Tr. 3710, Line 15. Dr. Zingales's uninformed speculation that this structure was only explainable as the product of Government "control," Pl. PFOF ¶ 36.5.2.3(i), ignores that numerous other companies addressed the risk of delisting in 2009 through reverse stock splits that similarly applied only to issued and not authorized shares. *See* Def. PFOF ¶ 425.

[35] In fact, Starr concedes that stockholders in June 2009 and January 2011 were drastically different. *See* Pl. PFOF ¶ 30.2.6(c) (noting that "many" members of the Stock Split Class had "likely sold their AIG holdings prior to January 2011"). As discussed in our opening

2011 did not suffer any economic loss as a result of the recapitalization, which was a negotiated and fair transaction (Def. Law Br. § IV.C.3; Def. PFOF § VII.D.4); and (4) shareholders had no ability to recover "hold up" value related to the exchange of the Series C shares because the Trust had alternatives for the monetization of its Series C shares. (Def. Law Br. § IV.C.3; Def. PFOF § VII.D.3).

VIII. Starr's Contentions Regarding Maiden Lane III Are Irrelevant And Incorrect

The November 2008 Maiden Lane III transaction has no bearing upon Starr's claims that the September 2008 rescue or the June 2009 reverse stock split were takings or unlawful exactions. Accordingly, Starr's various contentions regarding the Maiden Lane III transaction are misplaced. Moreover, Starr's Maiden Lane III arguments are also incorrect; the evidence at trial unequivocally showed that AIG's board independently and voluntarily authorized AIG's entry into Maiden Lane III because that transaction was a vital component of additional support that unquestionably benefitted AIG and its shareholders. *See* Def. PFOF ¶¶ 492-93; JX-144 at 8 (Nov. 9, 2008 AIG board minutes) ("[t]he proposed arrangements seem indisputably to provide the highest value under the circumstances"); Liddy, Tr. 3236, Lines 3-21; Tr. 3235, Line 24-Tr. 3236, Line 11 ("Q. To your knowledge, did anyone coerce you into voting in favor of these resolutions? A. No. Q. To your knowledge, did anyone coerce the board into voting in favor of these resolutions? A. No.").

In particular, Starr asserts that AIG did not know total payments to its CDS counterparties would be at par. Pl. PFOF ¶ 34.5. The testimony of Dr. Zingales (an expert, and Starr's only witness on an historical factual question) was both wholly uninformed by and

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brief, the Stock Split Class may not recover damages based on alleged dilution suffered by different shareholders on a later date. Def. Law Br. § IV.A.3.

contrary to the evidence. *See* Def. PFOF ¶¶ 501-02; DX-2131 at AIGFIN010227727 (Nov. 8, 2008 email informing AIG's general counsel, outside counsel, and business leaders that "no concession[s]" were available and total payments would be at par); Zingales, Tr. 4015, Line 17-Tr. 4019, Line 5 (admitting that he had not reviewed DX-2131 prior to testifying). Similarly, Starr relies on Dr. Zingales's speculation that FRBNY caused AIG to enter into broad mutual releases with its counterparties. Pl. PFOF ¶¶ 34.6.3-34.6.5. The evidence, however – from AIG and others – demonstrated that AIG's outside counsel was responsible for the releases. *See* Def. PFOF ¶¶ 503-04; DX-666; Zingales Tr. 4010, Lines 8-22 (Dr. Zingales could not identify a single document supporting his testimony).[36]

Starr's various contentions concerning AIG's "maximum exposure" on its CDS contracts, that the values of the CDOs underlying those CDSs could eventually have recovered over time, or that Maiden Lane III "crystallized" losses on those CDSs, Pl. PFOF ¶ 34.4, miss the point: if AIG's exposure to its CDS obligations had not been removed from the company's balance sheet, the ratings agencies would have further downgraded AIG, pushing it into default and bankruptcy; it simply was not an option for AIG to retain its CDS positions on its books. *See* Def. PFOF ¶¶ 487-491; Liddy, Tr. 3230, Line 20-Tr. 3231, Line 5 (it was vital for AIG to "remove that cash drain and liability off of [its] balance sheet"). Starr's further assertion that FRBNY should have implemented solutions other than Maiden Lane III that Starr contends could also have alleviated

[36] Other contentions are similarly incorrect or misleading. For example, Starr asserts that three counterparties "offered or accepted" concessions, but the sources it cites indicate instead that only UBS offered a small, two-percent concession, conditioned on all the other counterparties doing the same; not a single counterparty "accepted" concessions as Starr claims. *See* Pl. PFOF ¶ 34.5.4(f) n.113. Similarly, Starr's claim that FRBNY sought concessions from only eight of sixteen counterparties, *id.* ¶¶ 34.5.4, 34.5.5(b) n.114, ignores that the terms of Maiden Lane III were negotiated with the eight largest counterparties prior to the rating agencies' November 10, 2008 deadline, and then extended to the other eight afterwards. *See* PTX-549 at 19-23.

AIG's collateral posting obligations, Pl. PFOF ¶ 34.2, is entirely irrelevant to Starr's claims that the September 2008 rescue or the June 2009 reverse stock split were takings or unlawful exactions.[37]

IX. Starr Is Not Entitled To Attorney Fees, Expert Witness Fees, And Disbursements For An Illegal Exaction

Starr appears not to claim an entitlement to attorney fees, expert witness fees or disbursements for its illegal exaction claims. *Compare* Pl. Law Br. § 21.1 *with id.* § 21.2. If Starr meant to claim such fees, it is not entitled to recover them. 42 U.S.C. § 4654(c) awards "reasonable costs, disbursements, and expenses, including reasonable attorney . . . fees" only when a party prevails on a *takings* claim, not an illegal exaction claim. The Court should not apply section 4654(c) beyond its terms because the Supreme Court has made it abundantly clear that "[a]ttorneys' fees and expenses are not embraced within just compensation." *United States v. Bodcaw Co.*, 440 U.S. 202, 203 (1979) (*per curiam*) (quoting *Dohany v. Rogers*, 281 U.S. 362, 368 (1930)).[38] Nor would an award pursuant to 28 U.S.C. § 2412(a)(1) encompass attorney fees, expert witness fees, or disbursements; by its terms, that statute permits awarding costs to prevailing parties but explicitly excludes fees.

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[37] Contrary to Starr's assertions, a guarantee of AIG's CDS obligations also was not viable. Starr's repeated suggestion that the Federal Reserve simply could have provided funding whenever counterparties demanded collateral ignores the fact that, because AIG did not own the CDOs underlying its CDS obligations, AIG did not have the additional collateral necessary to secure any such hypothetical lending. By contrast, the backstop lending made available to Citigroup was secured by a pool of assets owned by Citigroup.

[38] In addition, "just compensation" is not part of a due process illegal exaction claim in any case. *See U.S. Shoe Corp. v. United States*, 296 F.3d 1378, 1384-85 (Fed. Cir. 2002) (declining to "import the [Supreme] Court's interpretation of 'Compensation' . . . where the word 'compensation' does not appear.").

Respectfully submitted,

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RESPONSES TO WRITTEN QUESTIONS OF SENATOR CRAPO FROM JANET L. YELLEN

Q.1. I submitted a question for the record at your last hearing that focuses on the Federal Reserve's waiver authority under the advanced approaches regulation. In the response, you noted there were five criteria against which the Federal Reserve would judge a waiver application. Please provide information on how you define those criteria and how you would apply them.

A.1. As set forth in the advanced approaches risk-based capital rule (the advanced approaches rule), the Board of Governors of the Federal Reserve System (Board) may determine that the application of the advanced approaches rule to a particular firm is not appropriate in light of the firm's asset size, level of complexity, risk profile, or scope of operations.[1] Based on these criteria, the Board has exempted from, or determined not to apply, the advanced approaches rule to two State member banks, certain U.S. subsidiaries of foreign banking organizations, and GE Capital Corporation (GECC).

Exemption for Two State Member Banks

The Board has exempted from the advanced approaches rule two special purpose State member banks that were subsidiaries of bank holding companies.[2] In each case, the State member bank was subject to the advanced approaches rule because the parent bank holding company was subject to the advanced approaches rule. Each of the banks had limited credit risk because each engaged in a narrow range of deposit, loan, and other banking services. One of the banks was a limited purpose trust bank with no FDIC-insured deposits. The other bank engaged primarily in back-office operations and maintained very high capital levels. In addition, each bank's total assets represented less than 1 percent of the total consolidated assets of its bank holding company.

In exempting these banks from the advanced approaches rule, the Board considered the limited activities and operations of the banks, risks posed by the banks to the overall banking organization, and the enterprise-wide risk-management practices and ongoing implementation of the advanced approaches rule by the holding company. After the Board granted the exemptions, each of the bank holding companies continued to be required to capture the risks of its subsidiary bank in its advanced systems and to hold capital at the consolidated level against these risks.

Certain U.S. Subsidiaries of Foreign Banking Organizations

The Board also has exempted certain U.S. subsidiaries of foreign banking organizations from the requirements of the advanced approaches rule. Under the enhanced prudential standards regulation (Regulation YY, 12 CFR part 252), a foreign banking organization with U.S. nonbranch assets of $50 billion or more is required to form or designate a U.S. intermediate holding company (IHC) to

[1] 12 CFR 217.100(b)(2).

[2] The advanced approaches rule applies to a State member bank that has total consolidated assets equal to $250 billion or more, that has consolidated total on-balance sheet foreign exposure equal to $10 billion or more, or that is a subsidiary of a holding company or depository institution that is subject to the advanced approaches rule. See 12 CFR 217.100(b)(1)(ii).

hold its interests in its U.S. subsidiaries.[3] While an IHC is generally subject to the same risk-based and leverage capital rules that apply to a bank holding company, the IHC is not required to comply with the Board's advanced approaches rule.[4] Prior to IHC formation, a bank holding company that is a subsidiary of a foreign banking organization and that currently is subject to the advanced approaches rules may, with the Board's prior written approval, elect not to comply with the advanced approaches rule.[5]

As with the exemptions for the two limited purpose State member banks, the risks of the IHCs are captured in the consolidated capital requirements and risk management systems of its parent foreign banking organization. In addition, each IHC will remain subject to the Board's standardized risk-based capital rules, leverage capital rules, and capital planning and supervisory stress testing requirements.

GECC

Section 165 of the Dodd-Frank Wall Street Reform and Consumer Protection Act generally requires the Board to apply enhanced prudential standards, including risk-based capital requirements, to nonbank financial companies supervised by the Board.[6] In the case of GECC, the Board applied the same risk-based capital requirements that apply to bank holding companies, except for the advanced approaches rule.[7] In particular, as noted in the Board's draft order applying enhanced prudential standards to GECC, the advanced approaches rule requires the development of models for calculating advanced approaches risk-weighted assets, and can require a lengthy parallel run period of no less than four consecutive calendar quarters during which the firm must submit its models for supervisory approval.[8] While GECC exceeds the threshold for application of the requirements that apply to advanced approaches banking organizations, GECC had not previously been subject to regulatory capital requirements and had not developed the infrastructure and systems required to begin calculating its capital ratios under the advanced approaches rule.[9] Moreover, GECC is undergoing a substantial reorganization. The Board determined to apply to GECC the same minimum capital requirements that apply to all bank holding companies under the Board's Regulation Q (12 CFR part 217) through December 31, 2017, and the Board's regulatory capital framework applicable to advanced approaches banking organizations, except for the advanced approaches rule, thereafter unless GECC is no longer designated for Board supervision at that time.[10]

Other Firms

In determining whether to apply the advanced approaches rule to other firms, the Board would, in each case, make a determina-

[3] See 12 CFR 252.153.
[4] 12 CFR 252.153(e)(2)(i)(A).
[5] 12 CFR 252.153(e)(2)(i)(C).
[6] 12 U.S.C. §5365.
[7] 79 FR 71768, 71772 (Dec. 3, 2014).
[8] Id. The Board referenced these considerations in the final order applying enhanced prudential standards to GECC. See 80 FR 44111, 44117 (July 24, 2015).
[9] 79 FR at 71772.
[10] See 80 FR at 44125.

tion based on the relevant facts and circumstances, consistent with the safety and soundness of the firm. As shown in these examples, this would include, among other things, consideration of the firm's size, complexity, risk profile, and scope of operations, including its capacity to implement the advanced approaches rule; a balancing of the cost to implement advanced approaches systems against the added risk management value; whether the firm's risks are captured by a parent banking organization's systems; and other relevant facts.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR VITTER FROM JANET L. YELLEN

Q.1. Ms. Yellen, is the Federal Reserve Board involved in negotiating international insurance standards for entities beyond those you supervise?

A.1. The Federal Reserve participates in the International Association of lnsurance Supervisors (IAIS) as the supervisor of nonbank systemically important financial institutions and savings and loan holding companies with significant insurance activities. Along with members from the Federal Insurance Office and the National Association of lnsurance Commissioners, we advocate for the development of international standards at the IAIS that meet the needs of the our domestic insurance market and consumers. Standards developed at the IAIS are not self-executing, or binding on the U.S. insurance companies unless adopted by the appropriate U.S. regulators in accordance with applicable domestic laws and rulemaking procedures. The IAIS standards could apply to entities that we do not supervise if they were adopted as law or regulation by the appropriate authorities in a particular jurisdiction. This is true of all supervisors who participate at the IAIS since no insurance supervisor has global authority.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR HELLER FROM JANET L. YELLEN

Q.1. During your July 15, 2015, testimony in the House Committee on Financial Services you briefly indicated some vagueness on the path forward regarding the development of domestic insurance capital standards for companies in the United States. On April 1, 2015, you wrote a letter to me stating: "we are committed to inviting public comment on a draft proposal through a formal rulemaking process." I request your confirmation that it is your final decision to develop domestic insurance capital standards through formal rulemaking and public comment and not by an order.

A.1. Thank you for the opportunity to clarify. The response provided to you in my letter dated April 1, 2015, is accurate. We are committed to a formal rulemaking process in the development of a domestic insurance capital standard. Issuance of a final rule will commence after we assess the feedback given during the Notice of Proposed Rulemaking.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR SASSE FROM JANET L. YELLEN

Q.1. In 2013, Senator Crapo asked then Chairman Bernanke to list bipartisan financial regulatory reforms that Congress should consider enacting. Bernanke responded by mentioning end-user issues, the swaps push out, and regulatory relief for small financial institutions. Certainly everyone can agree that Dodd-Frank is not perfect. Can you list bipartisan financial regulatory reforms that you believe Congress should enact?

A.1. The core Dodd-Frank Act and Basel III reforms have made the global and U.S. financial systems more resilient. These core reforms include much stronger capital requirements and stress testing for large banking firms; strong liquidity requirements for large banking firms; a new resolution regime for systemically important financial institutions (SIFIs) and improvements to the resolvability of SIFIs; central clearing and margin requirements for over-the-counter derivatives; and the creation of the Financial Stability Oversight Council.

I believe these reforms have made the financial system significantly more stable, but we have more work to do. Some of the remaining steps include: (i) finalization of a few remaining Dodd-Frank Act reforms, such as swap margin rules and single-counterparty credit limits for large bank holding companies; implementation of the Net Stable Funding Ratio (NSFR) in the United States to reduce risks from short-term wholesale funding in our banking system; and continued improvements to the resolvability of our largest and most complex firms, including through issuance by the Board of a long-term debt proposal and continuing work by the Board and the FDIC to improve resolution planning by these firms.

The Board has supported targeted financial regulatory reforms in the past few years, including amendments to the Dodd-Frank Act provisions that address treatment of end users in the swap margin rules and changes to the Collins Amendment of the Dodd-Frank Act to better enable the Board to design capital requirements for insurance holding companies as well as provisions to expand the scope of coverage of our Small Bank Holding Company Policy Statement. The Board continues to support additional targeted relief for small banking organizations, such as exempting banking firms with less than $10 billion in assets from the Volcker rule and the incentive compensation provisions of the Dodd-Frank Act. As I have previously stated, I would also support a modest increase in the $50 billion threshold in section 165 of the Dodd-Frank Act, so long as such modest increase did not reduce the Board's authority to apply an appropriate set of prudential standards on any firms that fell below the new threshold.

Q.2. I'm very concerned about the troubling developments in Greece, including their inability to keep their fiscal house in order. Over the long-term horizon, are there parallels that exist now or that could develop between the United States and Greece that would trouble you? What steps could we take now to prevent these parallels from developing?

A.2. Greece's current fiscal and economic situations are difficult. However, there are no real parallels between Greece and the United States. Greece's precarious fiscal position prior to the crisis left it ill-equipped to use fiscal policy to buffer the effects of the recession, which was particularly problematic as Greece could not avail itself of its own monetary policy because it is a member of the euro area. In addition, its access to financial markets was hampered by a lack of trust in Greek fiscal institutions. It is important to note that Greece's troubles reflect much more than just its fiscal position. In sum, the events in underscore the value of sound structural policies, Government finances, and macroeconomic institutions.

Q.3. My understanding is that the Financial Stability Board's proposed methodologies for designating asset manager companies and mutual funds as G–SIFIs, as proposed in the FSB's March 2015 report, "Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions" uses size thresholds that singles out only U.S. entities. Is this true and is there a risk that designating only U.S. entities would create competitiveness concerns for the U.S.?

A.3. Under the March 2015 report of the Financial Stability Board (FSB), materiality thresholds would be used to provide an initial filter of nonbank, non-insurance (NBNI) entities that would be subject to further analysis to determine whether such entities should be designated as NBNI global systemically important financial institutions (NBNI G–SIFIs). Thus, while NBNI entities that exceed the thresholds would be subject to further analysis, they would not necessarily be designated as NBNI G–SIFIs. It is important to note that none of the thresholds are tied to a firm's place of domicile or incorporation; an entity from any jurisdiction could qualify for further analysis.

The March 2015 proposal described two possible materiality thresholds that could be used exclusively or in combination to evaluate asset management companies. Under the first option, an asset manager would be subject to further assessment if its balance sheet exceeded a particular threshold (e.g., $100 billion). Under the second option, an asset manager would be subject to further assessment if it had more than a particular amount of assets under management (e.g., $1 trillion).

Two possible materiality thresholders were also proposed for traditional investment funds. Under the first option, a traditional investment fund would be subject to further assessment if (1) its net asset value (NAV) exceeded $30 billion and it had balance sheet leverage of three times NAV or (2) the assets under management of the fund exceeded $100 billion. Under the second option, a traditional investment fund would be subject to further analysis if its gross assets under management exceeded $200 billion, unless it can be demonstrated that the fund is not a dominant player in relevant markets.

On July 30, 2015, the FSB announced that it will wait to finalize the assessment methodologies for NBNI G–SIFIs until further work on financial stability risks from asset management activities is completed. This will allow further analysis of potential financial

stability issues associated with asset management entities and activities to inform the revised NBNI methodology.

Q.4. I am concerned that international regulators do not understand the unique aspects of our financial system. For example, Basel III's capital framework severely limits the amount of mortgage servicing asset banks can hold without paying a significant capital charge. Many think it doesn't make sense to draw such an arbitrary line, especially when it comes at such a cost to community banks. Banks in my State tell me that the Basel III negotiators ignored or failed to understand the important role of community banks in the United States financial system. That's cause for deep concern. Are there areas where you believe the FSB has ignored or failed to understand aspects of our U.S. financial system, for example in Basel III's treatment of community banks?

A.4. The Federal Reserve recognizes the critical role community banking organizations play in the U.S. economy, and the revised regulatory capital rule (rule) puts in place a regulatory regime that takes into account their business model and economic function, as well as the reduced risks to U.S. financial stability presented by community banks.

Prior to issuing the final rule, the agencies conducted a pro forma impact analysis as of March 31, 2012. The analysis, which incorporated the rule's revised treatment of mortgage servicing assets (MSAs), indicated that more than 90 percent of bank holding companies with assets under $10 billion that met the existing capital requirements at the time would meet the minimum common equity tier 1 (CET1) capital ratio of 4½ percent and that more than 80 percent of such bank holding companies would meet the fully phased-in common equity plus capital conservation buffer level of 7 percent.[1] Based on data publicly reported from these institutions on the Consolidated Financial Statements for Holding Companies (FR Y-9C), as of July 31, 2015, more than 95 percent of these bank holding companies would exceed a 7 percent CET1 capital ratio.[2]

With regard to MSAs in particular, as noted in the preamble to the final rule, the Federal banking agencies' capital rules have long limited the inclusion of MSAs and other intangible assets in regulatory capital. This is because of the high level of uncertainty regarding the ability of banking organizations to realize value from these assets, especially under adverse financial conditions.

Under the final rule, certain deferred tax assets (DTAs) arising from temporary differences, MSAs, and significant investments in the capital of unconsolidated financial institutions in the form of common stock are each subject to an individual limit of 10 percent of CET1 capital elements and are subject to an aggregate limit of 15 percent of CET1 capital elements. The amount of these items in excess of the 10 and 15 percent thresholds are to be deducted from

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[1] See Attachment A "FRB Impact, Methodology, and Assumptions" to Michael S. Gibson's testimony on Basel III before the Committee on Banking, Housing, and Urban Affairs on November 14, 2012, available at *http://www.federalreserve.gov/newsevents/testimony/gibson20121l14a2.pdf*. The final rule implementing the Regulatory Capital Rules, 78 FR 62018 (October 11, 2013) is available at: *http://www.gpo.gov/fdsys/pkg/FR2013-11-29/pdf/2013-27082.pdf*.

[2] FR Y-9C data is publicly available from the National Information Center, available at: *http://www.ffiec.gov/nicpubweb/nicweb/nichome.aspx*.

CET1 capital. Amounts of MSAs, DTAs, and significant investments in unconsolidated financial institutions that are not deducted due to the aforementioned 10 and 15 percent thresholds must be assigned to the 250 percent risk weight.[3]

The rule's treatment of MSAs contributes to the safety and soundness of banking organizations by mitigating against MSA market value fluctuations that may adversely affect banking organizations' regulatory capital base.

Moreover, the financial crisis demonstrated that the liquidity—in the form of sales, exchanges, or transfers—of MSAs may become unreliable at a time when banking organizations are especially in need of such liquidity. Furthermore, the Federal Deposit Insurance Corporation, as receiver of failed insured depository institutions, has generally found MSAs to be unmarketable during periods of adverse economic and financial conditions for a variety of reasons related to the size of the mortgage portfolio and contingent liabilities arising from selling representations and warranties associated with MSAs.[4]

The Federal Reserve is mindful of community banking organizations' concerns about aggregate regulatory burden, including both safety and soundness and consumer regulation. In that regard, several elements of the revised capital rule only apply to large banking organizations and do not apply to community banking organizations. Specifically, banking organizations that qualify as advanced approaches Board-regulated institutions (those with $250 billion or more in consolidated total assets or $10 billion or more in consolidated total on-balance-sheet foreign exposures) are subject to the countercyclical capital buffer, supplementary leverage ratio, capital requirements for credit valuation adjustments, and disclosure requirements.[5] Banking organizations with trading assets and liabilities of at least $1 billion or 10 percent of its total assets are subject to market risk capital requirements.[6] Community banking organizations also are not subject to the enhanced standards that larger bank holding companies face related to capital plans, stress testing, liquidity and risk management requirements, and the global systemically important banking organization surcharge. In addition, consistent with recent statutory changes, the Federal Reserve expanded the applicability of its Small Bank Holding Company Policy Statement, which has the effect of exempting virtually all bank holding companies and savings and loan holding companies with less than $1 billion in total consolidated assets from the Federal Reserve's regulatory capital rules.[7]

Q.5. Securities and Exchange Commissioner Dan Gallagher recently argued that "it remains the height of regulatory hubris to assume that not only is there a single regulatory solution to any

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[3] See 79 FR 62018 (October 11, 2013), available at *http://www.gpo.gov/fdsys/pkg/FR-2013-11-29/pdf/201327082.pdf.* See also "Final Rule on Enhanced Regulatory Capital Standards—Implications for Community Banking Organizations", available at *http://www.gpo.gov/fdsys/pkg/FR-2013-11-29/pdf/2013-27082.pdf.*

[4] See 79 FR 62018 (October 11, 2013), available at *http://www.gpo.gov/fdsys/pkg/FR-2013-11-29/pdf/201327082.pdf.*

[5] Id.

[6] See 78 FR 76521 (December 18, 2013), available at *http://www.gpo.gov/fdsys/pkg/FR-2013-12-18/pdf/201329785.pdf.*

[7] See 80 FR 20153 (April 15, 2015) available at: *http://www.gpo.gov/fdsys/pkg/FR-2015-04-15/pdf/201508513.pdf.*

given problem facing our markets, but that a handful of mandarins working in an opaque international forum can find those perfect solutions." He argues that when regulators get things wrong, they risk things going wrong everywhere because of the regulatory international cooperation. He cites Basel's classification of residential mortgage backed securities as lower-risk as an example, which partially led to the housing bubble and subsequent financial crisis. Given this example, is there a risk that increasing international regulations actually increases systemic risk by creating a firm homogeneity that's shaped by regulation?

If firms are all subjected to similar regulatory standards—a "one-size-fits-all approach"—won't their balance sheets end up looking the same, and thus subject to the same risk?

A.5. It is important for financial regulation to be tailored to the business mix, risk profile, size, and systemic footprint of individual financial firms.

The Federal Reserve is a strong supporter of gradating the stringency of supervision and regulation to the size and systemic footprint of individual banking firms. And we have been doing what we can with our existing legal authority to do that kind of tailoring, including with respect to the enhanced prudential standards for large bank holding companies in section 165 of the Dodd-Frank Act. We have already done quite a bit of tailoring in this area to make sure that the most systemic banking firms are subject to a much tougher regulatory and supervisory framework than regional banking firms, and we are analyzing whether there is more that we can do.

The Federal Reserve's commitment to regulatory tailoring is also manifest in our support of Congressional efforts to modify the Collins Amendment in the Dodd-Frank Act to better enable us to design a regulatory framework for insurance holding companies that is appropriately tailored to the business of insurance. We appreciate the work of Congress to give us this flexibility through the passage of The Insurance Capital Standards Clarification Act of 2014. Similarly, we would not support any international insurance capital standard that is not appropriately tailored to the business of insurance.

The Federal Reserve participates in various international standard setting and policymaking bodies—including the Basel Committee on Banking Supervision (BCBS), the Financial Stability Board (FSB), and the International Association of Insurance Supervisors (IAIS). Our work in these organizations is designed in significant part to achieve greater comparability across jurisdictions in the core prudential supervisory and regulatory frameworks that apply to internationally active financial firms. Well-designed international prudential frameworks for large, globally active financial firms should promote global and U.S. financial stability, provide a more level playing field for internationally active U.S. financial firms, and enhance supervisory cooperation and coordination among global supervisors. The Federal Reserve is committed in its international regulatory work to ensure that any global standards work well for U.S. financial firms and U.S. financial markets. Moreover, no global standard has binding effect in the United

States unless and until a U.S. regulatory authority goes through appropriate domestic notice-and-comment processes.

Q.6. Capital regulations for insurance companies is an important issue that has a significant impact on insurance policyholders in my State.

This April, Mark Van Der Weide, Deputy Director for the Federal Reserve's Division of Banking Supervision and Regulation, explained that the Federal Reserve supports developing an International Capital Standard (JCS) because it can promote financial stability and "help provide a level playing field for global financial institutions."

I'm concerned that efforts to "level the playing field," will "level" the field by hurting U.S. insurance companies and their policyholders, by forcing them to comply with Europe's overly stringent insurance regulations. As Dr. Adam Posen recently argued at a hearing with the Senate Banking Committee, the FSB's efforts to "extend Solvency II, the European Commission's regulation for insurance firms, to global application" will be harmful for U.S. insurance policyholders, because it "tries to add on capital holding requirements of Government bonds and short-term assets akin to what is (rightly) required for banks." He goes on to argue that European insurers are now "using the FSB to impose it on the U.S., Japanese, and other competing insurers."

Are there aspects of Solvency II would be harmful if they were imposed on U.S. insurers?

Are there other areas where you believe the FSB has ignored or failed to understand aspects of our State-based insurance regulatory system?

What is the Federal Reserve doing to ensure that international insurance standards do not encroach on the U.S. State-based insurance system and that other countries don't use the FSB and the IAIS to impose stringent and senseless regulations on U.S.-based insurers?

A.6. The Federal Reserve participates as a member of the Financial Stability Board (FSB) and International Association of Insurance Supervisors (IAIS). Along with other organizations from the United States including the Federal Insurance Office and the National Association of Insurance Commissioners, the Federal Reserve advocates for the development of international standards that best meet the needs of the U.S. insurance market. The details of these international standards are still being determined. The FSB's work to date has primarily focused on the identification and development of policy measures for Globally Systemically Important Insurers (G–SIIs) including through the adoption of an assessment methodology built by the IAIS. The IAIS continues to work on developing policy measures to be applied to G–SIIs.

The Federal Reserve would not support any international insurance standard that is not appropriately tailored to the business of insurance and in the best interest of the United States insurance market. Aspects of Solvency II that could be problematic include its reliance on models built by the regulated companies and its accounting systems market value basis.

The international insurance standards currently under development at the IAIS are not self-executing or binding on the U.S., either at the State or the Federal level. They would only apply in the U.S. if adopted by the appropriate U.S. regulators in accordance with applicable domestic rulemaking procedures. The Federal Reserve is working to ensure that any standard adopted allows for the equitable treatment of U.S.-based insurers operating abroad. None of the standards are intended to replace the existing legal entity risk-based capital requirements that are already in place within the State-based regulatory regime.

Q.7. Insurance experts have levied a number of criticisms against the Financial Stability Board as it relates to the international regulatory process. This includes that the FSB designates insurance companies as globally systemically important before the FSOC designates them as systemically important, concerns about the unaccountable process by which the FSB arrives at its decision to label global systemically important insurers, the lack of a clear "off-ramp" for companies to lose their designation, and the risk that international regulations undermine our State-based regulatory system.

What FSOC or FSB reforms are you prepared to support on these issues?

A.7. The IAIS, in coordination with the FSB, developed a proposed methodology and framework for measuring the systemic footprint of global insurers. IAIS made public its proposed designation framework and methodology for global systemically important insurers (G–SIIs) multiple times for public comment. Any insurance company, and any member of the public, had the opportunity to comment on the proposal. The Federal Reserve strongly supports public transparency in the methods and processes that international organizations use to identify systemically important financial firms.

Importantly, IAIS and FSB decisions about the identification of global systemically important insurers are not binding on the United States. FSOC makes its own independent decisions on designating nonbank financial firms, using the statutory standards set forth in the Dodd-Frank Act. I would note that the IAIS and FSB use a somewhat different standard to make designation decisions than does the FSOC. The international organizations focus on a firm's global systemic footprint and primarily use an algorithm to make their decisions, whereas the FSOC focuses on impact on U.S. financial stability and uses a more judgment-based, firm-specific approach.

With respect to the FSOC, I am firmly committed to promoting transparency and accountability in connection with the FSOC's activities. To implement its designation authority, FSOC initially developed a framework and criteria and sought public comments twice on the framework. After publishing guidance, FSOC began the process of assessing individual companies from a list of companies that met the quantitative criteria set out in the guidance. Throughout the fall of 2014, FSOC engaged in outreach to stakeholders regarding the designations process. Based on that outreach, FSOC identified changes to the designations process that would en-

able earlier engagement with companies under review and increase transparency to the public, without compromising the FSOC's ability to conduct its work and protect confidential company information. These new processes went into effect in February. We will continue to work with the FSOC and the Congress to ensure that the process for designations is transparent and accountable.

The FSOC's designation of a nonbank financial firm is not intended to be permanent. Dodd-Frank Act provides that FSOC annually review designations to make sure that they remain appropriate, and take into account significant changes at the firms. At the time of designation, firms are given a detailed explanation as to the specific factors that led to their designation. Firms can use that information, as well as the public criteria set forth by FSOC, to guide their efforts to reduce their systemic footprint.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR MENENDEZ FROM JANET L. YELLEN

Q.1. Before the financial crisis under President Bush, our country saw policies of "trickle-down economics," focused on tax benefits for individuals at the top of the distribution and budget cuts for everyone else. The results were predictable—incomes grew at the very top, but stagnated for everyone else.

Then, during the crisis and recession, families in the middle and at the bottom were hit particularly hard. So for the vast majority of families, it's been a long time since they've seen a meaningful raise. Now, our economy is recovering, but we haven't reached the point yet where growth feels truly broad-based.

Like most Americans, I don't begrudge financial success, but I'm concerned when the vast majority of people in our country feel they are not sharing in economic growth, and when widening disparity makes it harder for ordinary working families to move up the ladder.

In balancing the Fed's dual mandate of creating jobs and fighting inflation, how does the Fed account for the very different ways Americans are experiencing the same economy, depending on where they are on the income and wealth spectrum?

A.1. The Congress has instructed the Federal Reserve to pursue a dual mandate, which involves promoting both maximum employment and price stability. Generally speaking, these objectives pertain to the overall national situation. The Federal Reserve will aim, to the best of its ability, to deliver the strongest labor market consistent with its 2 percent inflation objective. In doing so, we will be setting the best possible macroeconomic backdrop for all groups to attain the greatest prosperity that can be sustained. To be sure, a range of other policy steps outside the realm of monetary policy may be appropriate to achieve additional objectives, but such policy steps are not within the remit of the Federal Reserve.

Q.2. How does the Fed factor in wage history when looking for signs of when to tighten? Meaning, if average working families have gone a long period without real wage growth, would that call for waiting longer to tighten instead of raising rates at the first sign of an increase?

A.2. Wage data are one of many sets of indicators that we consult in determining the appropriate stance of monetary policy. In principle, wage behavior can be informative about both aspects of our dual mandate—price stability and maximum employment. If wage growth is weak, that may be a sign both that labor markets are in a relatively slack condition, and thus that the maximum employment aspect of our mandate is not fulfilled; and it may be a sign that inflation pressures will be less intense. The symmetric statements could be made if wage growth were strong. That said, many factors affect wages, including productivity growth, global competition, the nature of technological change, and trends in unionization, that are outside of the Federal Reserve's control. For such reasons, wages are but one of many indicators that policymakers consult for evidence of how close or far we are from achieving our dual mandate.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR DONNELLY FROM JANET L. YELLEN

Q.1. Chair Yellen, in addition to your comments about the shadow banking system, are there other developments in the global or domestic economy that you are monitoring for potential risks to financial stability?

Many people are rightly focused on Greece and China, but I worry about the economic obstacles we do not see coming. Should we be worried about increasing corporate debt, a liquidity crisis, or is it something else entirely? In other words, what are the less obvious threats to economic and financial stability that you are watching closely?

A.1. As you know, since the financial crisis and recession of 2007–2009, we have put in place a comprehensive system to monitor the financial system for building vulnerabilities. The financial system and the broader economy will always be buffeted by shocks that are unexpected or that cannot be mitigated by policymakers, including, as you point out, events abroad. However, the potential for these shocks to grow and spread is greater when the financial system is more vulnerable. This effect was on full display during the last recession, when losses on risky mortgages led to problems in the financial system that ultimately impeded the ability of creditworthy businesses and households to finance investments.

We judge that financial vulnerabilities in the U.S. financial system overall continue to be about where they have been for the past 6 months—at a moderate level. Factors suggesting that the financial system remains robust include the extremely strong capital and liquidity positions of the largest banking organizations relative to recent history and modest debt growth among households. Among factors suggesting increasing vulnerabilities are, as you pointed out, the continued rapid clip of borrowing by lower-rated businesses and stretched valuations among a number of assets, including commercial real estate.

Liquidity has indeed been an issue raised by policymakers, market participants, academics and others. In particular, the concern is that liquidity, especially in fixed-income markets, is now more likely to deteriorate significantly even under moderate stress. How-

ever, a variety of metrics do not suggest a deterioration in day-to-day liquidity, with some mixed evidence that may point to less resilient liquidity. This evidence is described in greater detail in July's *Monetary Policy Report*.[1] In addition, on July 13, 2015, the Federal Reserve, together with the Commodity Futures Trading Commission, the Securities and Exchange Commission, and the Department of Treasury published a joint report examining the events in the Treasury market on October 15, 2014—an episode when Treasury yields moved dramatically over a brief span of time.[2] The Federal Reserve, together with other financial regulatory agencies, is continuing to study and monitor developments in market liquidity.

[1] See *http://www.federalreserve.gov/monetarypolicy/files/20150715_mprfullreport.pdf.*
[2] See *http://www.treasury.gov/press-center/press-releases/Documents/Joint_Staff_Report_Treasury_10-15-2015.pdf.*

Additional Material Supplied for the Record

For use at 8:30 a.m., EDT
July 15, 2015

Monetary Policy Report

July 15, 2015

Board of Governors of the Federal Reserve System

Letter of Transmittal

Board of Governors of the
Federal Reserve System

Washington, D.C., July 15, 2015

The President of the Senate
The Speaker of the House of Representatives

The Board of Governors is pleased to submit its *Monetary Policy Report* pursuant to section 2B of the Federal Reserve Act.

Sincerely,

Janet L. Yellen

Janet L. Yellen, Chair

Statement on Longer-Run Goals and Monetary Policy Strategy

Adopted effective January 24, 2012; as amended effective January 27, 2015

The Federal Open Market Committee (FOMC) is firmly committed to fulfilling its statutory mandate from the Congress of promoting maximum employment, stable prices, and moderate long-term interest rates. The Committee seeks to explain its monetary policy decisions to the public as clearly as possible. Such clarity facilitates well-informed decisionmaking by households and businesses, reduces economic and financial uncertainty, increases the effectiveness of monetary policy, and enhances transparency and accountability, which are essential in a democratic society.

Inflation, employment, and long-term interest rates fluctuate over time in response to economic and financial disturbances. Moreover, monetary policy actions tend to influence economic activity and prices with a lag. Therefore, the Committee's policy decisions reflect its longer-run goals, its medium-term outlook, and its assessments of the balance of risks, including risks to the financial system that could impede the attainment of the Committee's goals.

The inflation rate over the longer run is primarily determined by monetary policy, and hence the Committee has the ability to specify a longer-run goal for inflation. The Committee reaffirms its judgment that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve's statutory mandate. Communicating this inflation goal clearly to the public helps keep longer-term inflation expectations firmly anchored, thereby fostering price stability and moderate long-term interest rates and enhancing the Committee's ability to promote maximum employment in the face of significant economic disturbances. The maximum level of employment is largely determined by nonmonetary factors that affect the structure and dynamics of the labor market. These factors may change over time and may not be directly measurable. Consequently, it would not be appropriate to specify a fixed goal for employment; rather, the Committee's policy decisions must be informed by assessments of the maximum level of employment, recognizing that such assessments are necessarily uncertain and subject to revision. The Committee considers a wide range of indicators in making these assessments. Information about Committee participants' estimates of the longer-run normal rates of output growth and unemployment is published four times per year in the FOMC's Summary of Economic Projections. For example, in the most recent projections, FOMC participants' estimates of the longer-run normal rate of unemployment had a central tendency of 5.2 percent to 5.5 percent.

In setting monetary policy, the Committee seeks to mitigate deviations of inflation from its longer-run goal and deviations of employment from the Committee's assessments of its maximum level. These objectives are generally complementary. However, under circumstances in which the Committee judges that the objectives are not complementary, it follows a balanced approach in promoting them, taking into account the magnitude of the deviations and the potentially different time horizons over which employment and inflation are projected to return to levels judged consistent with its mandate.

The Committee intends to reaffirm these principles and to make adjustments as appropriate at its annual organizational meeting each January.

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Note: Unless otherwise stated, the time series in the figures extend through, for daily data, July 9, 2015; for monthly data, June 2015; and, for quarterly data, 2015:Q1. In bar charts, except as noted, the change for a given period is measured to its final quarter from the final quarter of the preceding period.

Summary

The overall condition of the labor market continued to strengthen over the first half of 2015, albeit at a more moderate pace than in 2014. So far this year, payroll employment has increased by about 210,000 on average per month compared with the robust 260,000 average in 2014, and the unemployment rate has declined about ¼ percentage point to 5.3 percent in June, close to most Federal Open Market Committee (FOMC) participants' estimates of its longer-run normal level. Other measures of labor market activity also point to ongoing improvement in labor market conditions even as they continue to suggest that further improvement is needed to achieve the Committee's maximum employment mandate. In particular, the labor force participation rate has generally been holding steady but nevertheless remains below most assessments of its trend, and the number of people working part time when they would prefer full-time employment has declined further but remains elevated. And, while some measures of labor compensation are starting to rise more rapidly, they nevertheless remain consistent with the view that labor resources likely are still not being fully utilized.

Consumer price inflation remains below the FOMC's longer-run goal of 2 percent. The price index for personal consumption expenditures (PCE) edged up only ¼ percent over the 12 months ending in May, held down by the pass-through of a sizable decline in crude oil prices over the second half of last year. However, consumer energy prices appear to have stabilized in recent months. Changes in the PCE price index excluding food and energy items, which are often a better indicator of where overall inflation will be in the future, also remained relatively low; this index rose 1¼ percent over the 12 months ending in May, partly restrained by declines in the prices of non-energy imported goods. Meanwhile, survey-based measures of longer-run inflation expectations have remained relatively stable; market-based measures of inflation compensation have moved up somewhat from their lows earlier this year but remain below levels that prevailed until last summer.

Real gross domestic product is reported to have been little changed in the first quarter of this year. Some of this weakness likely reflected temporary factors that will reverse over the coming quarters. Indeed, a number of recent spending indicators suggest that economic activity increased at a moderate pace in the second quarter. The economic expansion continues to be supported by rising incomes resulting from ongoing job gains, accommodative monetary policy, and generally favorable financial conditions. Furthermore, the sizable drop in oil prices since last summer has been a substantial benefit to households, although the negative side of that decline has been quite evident in cutbacks in the energy sector of our economy. In addition, the sluggish pace of economic activity abroad, together with the appreciation of the dollar, has weighed on net exports.

The Committee expects that, with appropriate policy accommodation, economic activity will expand at a moderate pace and labor market conditions will continue to move toward levels the Committee judges to be consistent with its dual mandate of maximum employment and price stability. In addition, the Committee anticipates that, with stable inflation expectations and strengthening economic activity, inflation will rise gradually over the medium term toward the Committee's 2 percent objective. Those expectations are reflected in the June Summary of Economic Projections (SEP), which provides projections of the individual FOMC participants and is included as Part 3 of this report.

Domestic financial conditions have generally remained supportive of economic growth. After having declined notably in 2014, longer-

term interest rates have increased somewhat, on net, over the first half of the year, but they remain at historically low levels. Broad measures of U.S. equity prices have been little changed, on balance, this year after having risen considerably in recent years. Credit flows to large nonfinancial businesses have remained solid, and financing generally appears to have become available to small businesses as well. Credit conditions for households have been mixed: While the availability of mortgage loans continues to expand gradually, mortgages remain relatively difficult to obtain for some individuals, and credit card lending standards and terms are tight for borrowers with below-prime scores. Meanwhile, auto and student loans continued to be widely available, and outstanding balances of such loans have continued to rise significantly.

Financial vulnerabilities in the United States overall have remained moderate since the previous *Monetary Policy Report*. Capital and liquidity positions at the largest banking firms have remained strong, maturity transformation outside the banking system has continued to trend lower, and debt growth by the household sector has been modest. Valuation pressures in many fixed-income markets, while having eased, have remained notable; prices and valuation measures for commercial real estate have increased further; and borrowing by lower-rated businesses has continued at a rapid rate. Although market participants have expressed concerns about the resilience of liquidity during stress events, a variety of metrics do not suggest a significant deterioration in market liquidity; the Federal Reserve is watching developments closely. Foreign developments, such as the situation in Greece and financial conditions in China, could pose some risks to the United States if they lead to broader strains in those regions.

The FOMC has continued to judge that a high degree of policy accommodation remains appropriate to support continued progress toward maximum employment and price stability. As a result, it has maintained the exceptionally low target range of 0 to ¼ percent for the federal funds rate and has kept the Federal Reserve's holdings of longer-term securities at their current elevated levels to help maintain accommodative financial conditions. The Committee has reiterated that in deciding how long to maintain the current target range for the federal funds rate, it will consider a broad set of indicators to assess realized and expected progress toward its objectives. Since its April meeting, the Committee has stated it anticipates that raising the target range for the federal funds rate will be appropriate when it has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term. In the June SEP, most policymakers anticipated that these conditions would be met sometime this year. The Committee continues to expect that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

The Federal Reserve has continued to plan for the eventual normalization of the stance and conduct of monetary policy, including by testing the operational readiness of the policy tools to be used. The FOMC remains confident that it has the tools it needs to raise short-term interest rates when doing so becomes appropriate.

Part 1
Recent Economic and Financial Developments

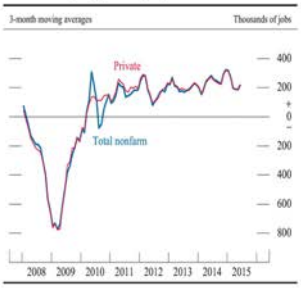
Labor market conditions continued to improve over the first half of 2015, although at a more moderate pace than last year. Gains in payroll employment since the start of the year have averaged close to 210,000 per month, somewhat below last year's average pace, while the unemployment rate edged down slightly to 5.3 percent in June, close to most Federal Open Market Committee (FOMC) participants' estimates of its longer-run normal level. Since last summer, a steep drop in crude oil prices has exerted downward pressure on overall inflation, and price increases for other goods and services have been subdued, partly reflecting declines in prices for imported non-energy goods. The price index for personal consumption expenditures (PCE) increased only ¼ percent during the 12 months ending in May, a rate that is well below the FOMC's longer-run objective of 2 percent; the index excluding food and energy prices was up 1¼ percent over this period. Survey-based measures of longer-run inflation expectations have been fairly stable, whereas measures of inflation compensation derived from financial market quotes, while up from their lows earlier this year, remain below the levels that prevailed prior to last summer. Meanwhile, real gross domestic product (GDP) was reported to have been little changed in the first quarter of this year. Some of this weakness likely was the result of temporary factors, and recent indicators suggest that economic activity picked up in the second quarter; even so, the pace of output growth appears to have slowed so far this year, on average, relative to its pace last year. The economic expansion continues to be supported by rising real incomes driven by gains in employment and, recently, lower oil prices; by improving consumer and business confidence; and by accommodative monetary policy and generally favorable financial conditions. However, the low level of oil prices also pushed down investment spending in the energy sector early this year, and sluggish growth abroad and the higher foreign exchange value of the dollar have weighed on U.S. exports.

Domestic Developments

The labor market has continued to improve but at a more gradual pace . . .

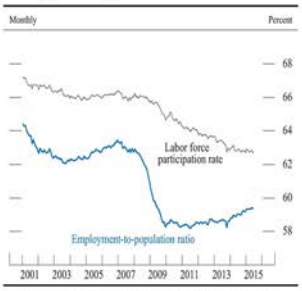
Labor market conditions strengthened further over the first half of 2015 but at a more moderate pace than last year. Payroll employment gains have averaged about 210,000 per month so far this year, a solid pace but down from an average of 260,000 jobs per month in 2014 (figure 1). The unemployment rate has continued to edge lower and reached 5.3 percent in June, ¼ percentage point lower than in December; in 2014, the unemployment rate declined more rapidly. In addition, the share of unemployed who have been out of work for more than six months has declined noticeably this year. After falling steeply during the recession and the early part of the recovery, the labor force participation rate has remained roughly flat since late 2013,

1. Net change in payroll employment



Source: Department of Labor, Bureau of Labor Statistics.

2. Labor force participation rate and employment-to-population ratio



NOTE: Both series are a percent of the population aged 16 and over.
SOURCE: Department of Labor, Bureau of Labor Statistics.

although it ticked lower in June (figure 2). The continued stability of the participation rate likely represents cyclical improvement relative to its declining trend, which reflects ongoing demographic trends such as the aging of members of the baby-boom generation into their retirement years. With employment rising and the participation rate holding steady, the employment-to-population ratio edged up further over the first half of this year. Furthermore, the job openings rate has continued to move up this year and now stands above its pre-recession level, and the quits rate, which is often considered a measure of workers' confidence in labor market opportunities, has remained at relatively high levels. Unemployment insurance claims are now very low.

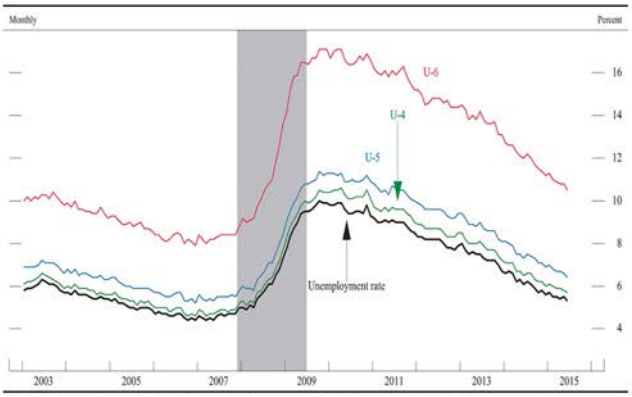
. . . and some labor market slack remains . . .

With these improvements, the labor market has shown further progress toward the Committee's maximum employment mandate. Nevertheless, as described in the box "Slack in the Labor Market," other labor market indicators are consistent with more slack in resource utilization than is indicated by the unemployment rate alone. In particular, although these measures have improved, the participation rate remains below most assessments of its trend, and the share of workers who are employed part time but would like to work full time is still high; in large part for this reason, the more comprehensive U-6 measure of labor underutilization remains elevated relative to the unemployment rate (figure 3).

. . . while compensation has shown some signs of accelerating . . .

As the labor market has continued to improve, increases in some measures of hourly labor compensation have begun to pick up but, nonetheless, remain relatively subdued. The employment cost index (ECI) for private-industry workers, which measures both wages

3. Measures of labor underutilization



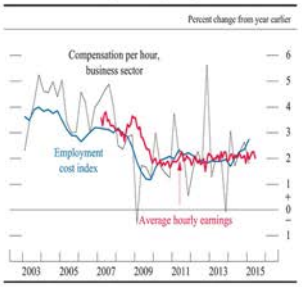
NOTE: U-4 measures total unemployed plus discouraged workers, as a percent of the labor force plus discouraged workers. Discouragedworkers are a subset of marginally attached workers who are not currently looking for work because they believe no jobs are available for them. U-5 measures total unemployed plus all marginally attached to the labor force, as a percent of the labor force plus persons marginally attached to the labor force. Marginally attached workers are not in the labor force, want and are available for work, and have looked for a job in the past 12 months. U-6 measures total unemployed plus all marginally attached workers plus total employed part time for economic reasons, as a percent of the labor force plus all marginally attached workers. The shaded bar indicates a period of business recession as defined by the National Bureau of Economic Research.
SOURCE: Department of Labor, Bureau of Labor Statistics.

and the cost of employer-provided benefits, rose 2¾ percent over the 12 months ending in March, up from gains of about 2 percent that had prevailed over the past few years (figure 4). Two other prominent measures of compensation—average hourly earnings and business-sector compensation per hour—have increased a bit more slowly than the ECI over the past year and have shown little sign of acceleration. Since the recession began, the gains in all three of these measures of nominal compensation have fallen well short of their pre-recession averages, and growth of real compensation has fallen short of productivity growth over much of this period. That said, the drop in energy prices boosted real wage growth over the past year.

. . . and productivity growth has been especially weak

Labor productivity in the business sector is reported to have declined in both the fourth

4. Measures of change in hourly compensation



NOTE: The average hourly earnings data series begins in March 2007 and extends through June 2015. The compensation per hour and employment cost index data extend through 2015:Q1. For business-sector compensation, change is over four quarters; for the employment cost index, change is over the 12 months ending in the last month of each quarter; for average hourly earnings, change is from 12 months earlier.
SOURCE: Department of Labor, Bureau of Labor Statistics.

Slack in the Labor Market

Gauging how far the economy is from the Federal Reserve's congressionally mandated objective of maximum employment—that is, estimating the amount of slack (or underutilized resources) in the labor market—is of central importance for monetary policy decisions. The most common and straightforward measure of labor market slack is the unemployment rate gap—the deviation of the unemployment rate from its longer-run sustainable level, or natural rate. By this measure, labor slack has narrowed significantly, and, according to many estimates of the natural rate, the economy may be near maximum employment. However, other measures of labor utilization—including the labor force participation rate and the share of workers employed part time who would like to work full time—have shown less improvement and may represent additional margins of labor market slack that should be considered when assessing progress toward maximum employment.

The natural rate of unemployment is unobserved and necessarily uncertain. At present, most Federal Open Market Committee (FOMC) participants estimate the longer-run normal level of the unemployment rate to be between 5.0 and 5.2 percent, while the Congressional Budget Office's (CBO) current estimate of the natural rate is 5.4 percent.[1] The natural rate is thought to be influenced by frictions in the labor market that prevent firms and workers from quickly forming employment relationships, and some analysts have suggested that these frictions have increased since the Great Recession because of a greater mismatch between the skills demanded by firms and those provided by job seekers or because long spells of unemployment have made some job seekers less employable.[2] Others have argued that these factors do not necessarily imply a higher natural rate of unemployment.[3] Moreover, the natural rate may have *fallen* in recent years because of a shift in the composition of the labor force toward individuals with lower average unemployment rates.[4]

Even if we could accurately measure the natural rate, the unemployment rate gap may at times be an insufficient measure of slack. The measured unemployment rate includes only persons who do not have a job, are available to work, and are actively looking for a job. It excludes persons who may want a job but are not actively searching; these individuals are counted as being out of the labor force instead. The labor force participation rate (the fraction of the population either employed or counted as unemployed) has fallen steeply since the start of the recession. Much of this decline—at least half, by many estimates—likely reflects demographic changes, and another portion of the decline may be related to developments that have contributed to longer-run secular declines in labor force participation among younger adults and working-age men; the portion of the decline due to these factors likely would have occurred even in the absence of a recession. However, the severity of the Great Recession and, especially, the sluggishness of the recovery may nonetheless have discouraged many more persons from looking for work and thus contributed to the steep decline in the participation rate in recent years.[5]

Figure A plots the actual participation rate against estimates of its trend level from the CBO and from a model developed by Federal Reserve System staff and featured in the fall 2014 edition of the *Brookings*

1. The FOMC participants' estimate is the central tendency of the longer-run unemployment rate as presented in the Summary of Economic Projections that is included as Part 3 of this report. The full range of participants' estimates is from 5.0 to 5.8 percent. Estimates from the CBO are provided in Congressional Budget Office (2015), *The Budget and Economic Outlook: 2015 to 2025* (Washington: CBO, January), www.cbo.gov/publication/49892.

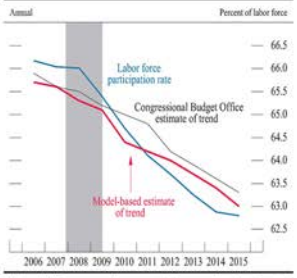
2. One study estimates that the efficiency of job matching deteriorated during the recession and, by 2012, had recovered only incompletely; see Regis Barnichon and Andrew Figura (forthcoming), "Labor Market Heterogeneity and the Aggregate Matching Function," *American Economic Journal: Macroeconomics*. Another study argues that the long-term unemployed will continue to have a low likelihood of finding employment; see Alan B. Krueger, Judd Cramer, and David Cho (2014), "Are the Long-Term Unemployed on the Margins of the Labor Market?" *Brookings Papers on Economic Activity*, vol. 48 (Spring), pp. 229–99, www.brookings.edu/~/media/Projects/BPEA/Spring-2014/2014a_Krueger.pdf?la=en.

3. As evidence of less efficient matching, some analysts point to the elevated level of job vacancies relative to unemployed persons. However, vacancies may also be elevated because it has become more profitable for firms to post vacancies as labor's share of income has declined, as shown in Andrew Figura and David Ratner (2015), "The Labor Share of Income and Equilibrium Unemployment," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, June 8), www.federalreserve.gov/econresdata/notes/feds-notes/2015/labor-share-of-income-and-equilibrium-unemployment-20150608.html. For evidence supporting the view that the long-term unemployed may be no less employable than the short-term unemployed because both the long- and short-term unemployed tend to have the same influence on wages, see Christopher Smith (2014), "The Effect of Labor Slack on Wages: Evidence from State-Level Relationships," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, June 2), www.federalreserve.gov/econresdata/notes/feds-notes/2014/effect-of-labor-slack-on-wages-evidence-from-state-level-relationships-20140602.html.

4. Demographic changes, all else being equal, would push down the natural rate relative to its pre-recession level, as shown in Daniel Aaronson, Luojia Hu, Arian Seifoddini, and Daniel G. Sullivan (2014), "Declining Labor Force Participation and Its Implications for Unemployment and Employment Growth," Federal Reserve Bank of Chicago, *Economic Perspectives*, vol. 38 (Fourth Quarter), pp. 100–38, https://www.chicagofed.org/publications/economic-perspectives/2014/4q-aaronson-etal.

5. For a discussion of secular trends in labor force participation that predated the recession, see Stephanie Aaronson, Tomaz Cajner, Bruce Fallick, Felix Galbis-Reig, Christopher L. Smith, and William Wascher (2014), "Labor

A. Labor force participation rate



NOTE: All series are annual averages. For the annual participation rate in 2015, the average through June is plotted. The shaded bar indicates a period of business recession as defined by the National Bureau of Economic Research.

SOURCE: Labor force participation rate from published data, Bureau of Labor Statistics; Congressional Budget Office estimate of trend derived from "Key Inputs in CBO's Projection of Potential GDP" and population projections from the January 2015 Budget, as well as Census estimates of population for 2013 and earlier years; model-based estimate from Aaronson and others (2014), "Labor Force Participation: Recent Developments and Future Prospects," Brookings Papers on Economic Activity (Fall), pp. 197-275.

Papers on Economic Activity.[6] Both estimates of the trend capture the influences of demographics and long-running secular changes on the participation rate. Using either estimate, the actual participation rate is at present further below its trend than would be expected given the unemployment rate gap. As a result, at present the unemployment rate gap may understate how much slack remains in the labor market. As job prospects improve further, the participation rate should continue to converge toward its trend, and this excess slack should also diminish.

Additionally, the fraction of workers who report working part time but who want a full-time job (the share of people working part time for economic reasons, or the PTER rate) remains higher than would be expected given other measures of labor market utilization. For example, figure B plots the PTER rate with a prediction of what the PTER rate would be if it moved with the unemployment rate in its historically typical fashion. Although the PTER rate has declined somewhat as the unemployment rate has fallen, it remains higher than would be expected given the current level of the unemployment rate. As with the participation rate, some of the movement in the PTER rate may reflect a longer-term trend—such as a shift in employment toward service-producing industries, which tend to employ more part-time workers as a share of their workforce.[7] However, the share of involuntary part-time workers remains elevated in most industries and for most demographic groups, suggesting that at least some of the still-elevated PTER rate is due to weak labor demand. If so, then involuntary part-time workers represent another margin of labor market slack not captured by the unemployment rate.

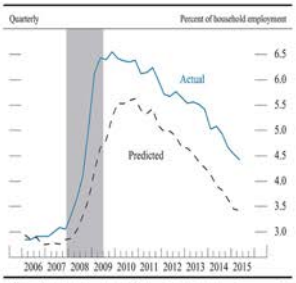
To be sure, there is considerable uncertainty about the magnitude of any additional labor market slack represented by each of these elements. However, it seems likely that they do reflect additional slack not measured by the unemployment rate, which should also be considered when judging how far employment is from its maximum sustainable level.

Force Participation: Recent Developments and Future Prospects," *Brookings Papers on Economic Activity* (Fall), pp. 197–275, www.brookings.edu/~/media/Projects/BPEA/Fall-2014/Fall2014BPEA_Aaronson_et_al.pdf?la=en. For evidence suggesting that the decline predominantly reflects weak labor demand, see Christopher J. Erceg and Andrew T. Levin (2014), "Labor Force Participation and Monetary Policy in the Wake of the Great Recession," *Journal of Money, Credit and Banking*, vol. 46 (October), pp. 3–49.

6. Model estimates refer to published estimates from Aaronson and others, "Labor Force Participation: Recent Developments," in note 5; estimates from the CBO are derived from supplementary economic data and projections in Congressional Budget Office, *Budget and Economic Outlook*, in note 1.

7. See Rob Valletta and Catherine van der List (2015), "Involuntary Part-Time Work: Here to Stay?" FRBSF Economic Letter 2015-19 (San Francisco: Federal Reserve Bank of San Francisco, June 8), www.frbsf.org/economic-research/publications/economic-letter/2015/june/involuntary-part-time-work-labor-market-slack-post-recession-unemployment; and Tomaz Cajner, Dennis Mawhirter, Christopher Nekarda, and David Ratner (2014), "Why Is Involuntary Part-Time Work Elevated?" FEDS Notes (Washington: Board of Governors of the Federal Reserve System, April 14), www.federalreserve.gov/econresdata/notes/feds-notes/2014/why-is-involuntary-part-time-work-elevated-20140414.html.

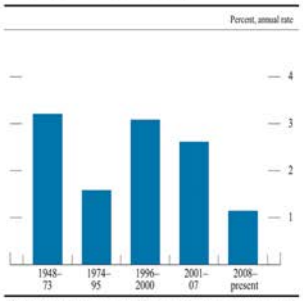
B. Part time for economic reasons



NOTE: The dashed line depicts fitted and simulated values from regression of the part-time for economic reasons rate on the unemployment rate and three lags of the unemployment rate over the period from 1994 to 2007. The shaded bar indicates a period of business recession as defined by the National Bureau of Economic Research.

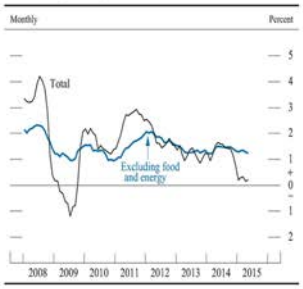
SOURCE: Department of Labor, Bureau of Labor Statistics.

5. Change in business sector output per hour



NOTE: Changes are measured from Q4 of the year immediately preceding the period through Q4 of the final year of the period. The final period is measured from 2007:Q4 through 2015:Q1.
SOURCE: Department of Labor, Bureau of Labor Statistics.

6. Change in the chain-type price index for personal consumption expenditures



NOTE: The data extend through May 2015; changes are from one year earlier.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

quarter of 2014 and the first quarter of 2015, as the recovery in hours worked progressed even as output growth slowed. Over such short periods, however, productivity growth is often quite volatile, both because of difficulties in measuring output and hours and because other transitory factors may affect productivity growth from quarter to quarter. Taking a longer view, output per hour in the business sector has risen at an average annual rate of 1¼ percent since the recession began in late 2007, a gain that is modest by historical standards (figure 5). The relatively slow pace of productivity growth since 2007 reflects, in part, the sustained weakness in capital investment over the recession and recovery period; consequently, productivity gains may improve in the future as investment in productivity-enhancing capital equipment and research and development strengthens.

A plunge in crude oil prices has held down consumer prices . . .

Overall consumer price inflation has slowed to near zero over the past year, well below the FOMC's longer-run objective of 2 percent. In May, the 12-month change in the overall PCE price index was only ¼ percent, down from 1¾ percent in May 2014 (figure 6). This deceleration importantly reflects the sharp drop in oil and farm commodity prices over this period as well as declines in non-energy import prices. However, energy prices have stabilized in recent months, with the result that one-month changes in overall PCE prices have firmed somewhat.

After plunging in the second half of 2014, the spot price of crude oil moved up somewhat in the first half of 2015, reflecting in part a sharp decline in investment in the U.S. energy sector. Over the past few weeks, prices have moved lower as both U.S. and foreign oil production have been stronger than expected and as concerns about global growth persist. As of early July, at below $60 per barrel, the spot price of Brent crude oil remains at about half

of its mid-2014 peak (figure 7). Moreover, oil futures prices suggest that market participants expect only a moderate increase in oil prices over the next couple of years as global demand firms and North American supply growth slows. The large cumulative drop in crude oil prices was fully passed through to lower retail prices for gasoline and other energy products early this year. More recently, gasoline prices have increased somewhat, although prices at the pump remain at levels substantially below those of last summer.

Food commodity prices have fallen considerably from their levels of a year ago, and the gradual pass-through of these costs to the retail level has led to declines in consumer food prices over the first five months of this year. Meanwhile, non-oil import prices have been declining sharply so far this year, reflecting lower commodity prices as well as the rise since last summer in the exchange value of the dollar (figure 8).

. . . and outside of the energy and food categories, inflation has remained subdued

Inflation for items other than food and energy (so-called core inflation) has remained relatively low. Core PCE prices rose about 1¼ percent over the 12 months ending in May, down slightly from its year-earlier pace. Falling import prices likely held down core inflation over the past year, and lower oil prices and easing prices for commodities more generally may have played a role in holding down firms' costs and prices. In addition, ongoing slack in labor and product markets has likely placed downward pressure on inflation, although with the improving labor market, the effect of this factor likely is waning.

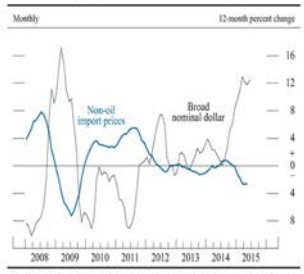
Survey-based measures of longer-term inflation expectations have remained stable . . .

Because inflation expectations likely factor into wage- and price-setting decisions, the

7. Brent spot and futures prices

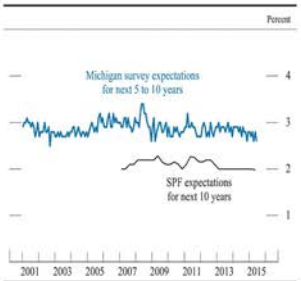
NOTE: The data extend through July 9, 2015.
SOURCE: NYMEX.

8. Non-oil import prices and U.S. dollar exchange rate



SOURCE: Department of Labor, Bureau of Labor Statistics; Federal Reserve Bank of New York, Statistical Release H.10, "Foreign Exchange Rates."

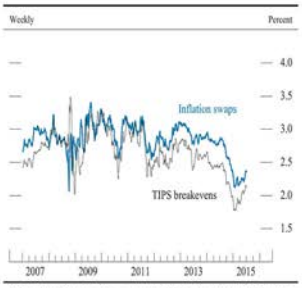
9. Median inflation expectations



NOTE: The Michigan survey data are monthly. The SPF data for inflation expectations for personal consumption expenditures are quarterly and extend from 2007:Q1 through 2015:Q2.

SOURCE: University of Michigan Surveys of Consumers; Federal Reserve Bank of Philadelphia, Survey of Professional Forecasters (SPF).

10. 5-to-10-year-forward inflation compensation



NOTE: The data are weekly averages of daily data and extend through July 9, 2015. TIPS is Treasury Inflation-Protected Securities.

SOURCE: Federal Reserve Bank of New York; Barclays; Federal Reserve Board staff estimates.

Federal Reserve tracks a variety of indicators of these expectations. Survey-based measures of longer-term inflation expectations have been quite stable over the past 15 years. Readings on inflation expectations over the next 5 to 10 years, as reported in the University of Michigan Surveys of Consumers, have continued to move within a narrow range, and, in the Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, the median expectation for the annual rate of increase in the PCE price index over the next 10 years has been unchanged at 2 percent (figure 9). Furthermore, in the Survey of Primary Dealers, conducted by the Federal Reserve Bank of New York, distributions of inflation expectations 5 to 10 years ahead have also remained stable.

. . . while market-based measures of inflation compensation have declined since last summer

In contrast, market-based measures of longer-term inflation compensation—derived from inflation swaps or from differences between yields on nominal Treasury securities and Treasury Inflation-Protected Securities (TIPS)—declined noticeably between the middle of 2014 and early this year, and, while they have retraced part of that decline in recent months, they remain below the levels that prevailed prior to last summer (figure 10). Deducing the sources of changes in inflation compensation is difficult because such movements reflect not only expected inflation, but also an inflation risk premium—the compensation that holders of nominal securities demand for bearing inflation risk—as well as other factors. Nevertheless, one cannot rule out a decline in inflation expectations among market participants since last summer.

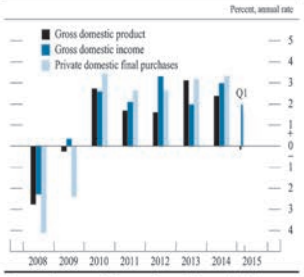
Economic activity slowed earlier this year

Real GDP is reported to have been little changed in the first quarter of this year after

increasing 2½ percent in 2014 (figure 11). Some of this weakness likely reflected temporary disruptions due to unusually severe winter weather and a labor dispute at West Coast ports; in addition, residual seasonality in some components of GDP may have held down measured first-quarter growth.[1] Both of these factors would tend to boost measured GDP growth over the remainder of the year. Indeed, a number of recent spending indicators suggest that economic activity rose moderately in the second quarter.

However, some of the slowdown in GDP growth relative to its pace last year likely reflects somewhat more persistent factors. In particular, expectations that the relative strength of the U.S. economy will lead to an earlier normalization of monetary policy than in our trading partners have contributed to a substantial appreciation of the dollar over the past year. The appreciation, combined with sluggish foreign growth, is weighing on the demand for U.S. exports. And the sizable drop in oil prices since last summer has led to marked cutbacks in investment in the energy sector of our economy even though those

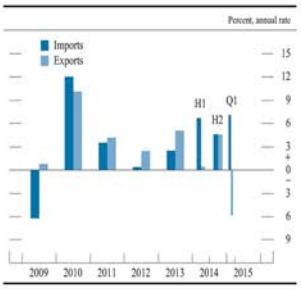
11. Change in real gross domestic product, gross domestic income, and private domestic final purchases



Source: Department of Commerce, Bureau of Economic Analysis.

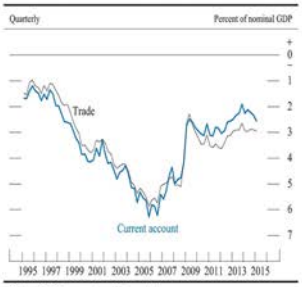
1. *Residual seasonality* is the presence of a predictable seasonal pattern in data that have already been seasonally adjusted. For recent discussions of this issue, see Jason Furman (2015), "Second Estimate of GDP for the First Quarter of 2015," *Council of Economic Advisers Blog*, May 29, https://www.whitehouse.gov/blog/2015/05/29/second-estimate-gdp-first-quarter-2015; and Charles E. Gilbert, Norman J. Morin, Andrew D. Paciorek, and Claudia R. Sahm (2015), "Residual Seasonality in GDP," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, May 14), www.federalreserve.gov/econresdata/notes/feds-notes/2015/residual-seasonality-in-gdp-20150514.html. The Bureau of Economic Analysis discusses its plans to revise seasonal adjustment procedures for GDP in its upcoming annual revision in Stephanie H. McCulla and Shelly Smith (2015), "Preview of the 2015 Annual Revision of the National Income and Product Accounts," Bureau of Economic Analysis, *Survey of Current Business* (June), www.bea.gov/scb/pdf/2015/06%20June/0615_preview_of_2015_annual_revision_of_national_income_and_product_accounts.pdf.

12. Change in real imports and exports of goods and services



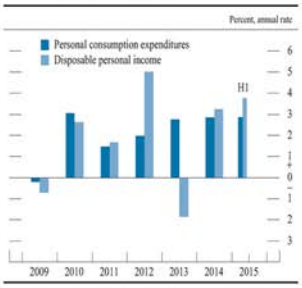
SOURCE: Department of Commerce, Bureau of Economic Analysis.

13. U.S. trade and current account balances



NOTE: GDP is gross domestic product.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

14. Change in real personal consumption expenditures and disposable personal income



NOTE: The reading for 2015:H1 is the annualized May/Q4 change.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

price declines have been a substantial benefit to households. These factors also contributed to the 2¾ percent annual rate of decline in industrial production in the first five months of this year. Despite the drag on production from these headwinds, the economic expansion continues to be supported by accommodative financial conditions—including the low cost of borrowing for many households and businesses—and by increases in households' real incomes spurred by continuing job gains and the earlier decline in oil prices.

Net exports were a substantial drag on real GDP growth in the first quarter

Exports fell markedly in the first quarter, held back by lackluster growth abroad, the appreciation of the dollar, and transitory factors, including the West Coast port labor dispute (figure 12). In contrast, imports grew briskly in the first quarter, supported in part by the stronger dollar. As a result, net exports were an unusually large drag on real GDP growth. Trade data through May suggest that exports recovered from their first-quarter drop and import growth slowed, pointing to a small negative contribution from net exports in the second quarter. The current account deficit widened a bit to 2.6 percent of nominal GDP in the first quarter of this year but remains near its narrowest readings since the late 1990s (figure 13).

Gains in income and wealth are supporting consumer spending . . .

The rate of growth in consumer spending slowed during this year's harsh winter but has picked up in recent months. Smoothing through these monthly fluctuations, real consumer spending increased at an average annual rate of 2¾ percent over the first five months of this year, about the same as its average pace over 2014 (figure 14). The ongoing improvement in the labor market has supported income growth, and low gasoline prices have boosted households' purchasing power. As a result, real disposable personal income—that is, income after taxes and adjusted for price changes—increased at an

annual rate of nearly 4 percent over the first five months of this year, a slightly faster pace than in 2014.

Coupled with low interest rates, the rise in incomes has reduced debt payment burdens for many households. The household debt service ratio—that is, the ratio of required principal and interest payments on outstanding household debt to disposable personal income—has remained at a very low level by historical standards.

Consumer spending growth also continues to be supported by increases in household net worth. Over the first half of this year, broad measures of U.S. equity prices were little changed, on balance, after having risen considerably in recent years, and house prices moved up further (figure 15). Buoyed by cumulative increases in home and equity prices, aggregate household net worth has risen appreciably from its levels during the recession and its aftermath to more than six times the value of disposable personal income (figure 16).

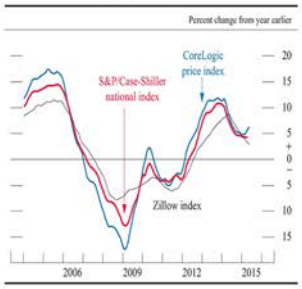
. . . as is credit availability for consumers that remains generally favorable

Consumer credit has continued to expand this year (figure 17). Auto and student loans remain widely available even to borrowers with lower credit scores, and outstanding balances of such loans expanded significantly through May. Credit card borrowing slowed early this year, likely reflecting weak retail activity, but has rebounded in recent months. However, credit card availability remains unusually tight for borrowers with below-prime credit scores.

Consumer confidence remains high

Indicators of consumer sentiment suggest that confidence among households remains high. The Michigan survey's index of consumer sentiment—which incorporates households' views about their own financial situations as well as broader economic conditions—moved up noticeably over the second half of 2014 as

15. Prices of existing single-family houses



NOTE: The data for the S&P/Case-Shiller index extend through April 2015. The data for the Zillow and CoreLogic indexes extend through May 2015.

SOURCE: CoreLogic Price Index; Zillow; and the S&P/Case-Shiller U.S. National Home Price Index ("Index"). Note that the S&P/Case-Shiller Index is a product of S&P Dow Jones Indices LLC and/or its affiliates and has been licensed for use by the Board. Copyright © 2015 S&P Dow Jones Indices LLC, a subsidiary of the McGraw Hill Financial Inc., and/or its affiliates. All rights reserved. Redistribution, reproduction and/or photocopying in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. For more information on any of S&P Dow Jones Indices LLC's indices please visit www.spdji.com. S&P® is a registered trademark of Standard & Poor's Financial Services LLC and Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC. Neither S&P Dow Jones Indices LLC, Dow Jones Trademark Holdings LLC, their affiliates nor their third party licensors make any representation or warranty, express or implied, as to the ability of any index to accurately represent the asset class or market sector that it purports to represent and neither S&P Dow Jones Indices LLC, Dow Jones Trademark Holdings LLC, their affiliates nor their third party licensors shall have any liability for any errors, omissions, or interruptions of any index or the data included therein.

16. Wealth-to-income ratio

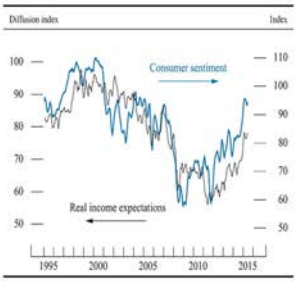
NOTE: The series is the ratio of household net worth to disposable personal income.

SOURCE: For net worth, Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States"; for income, Department of Commerce, Bureau of Economic Analysis.

17. Changes in household debt

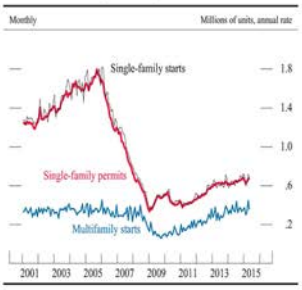
NOTE: Changes are calculated from year-end to year-end, except 2015 changes, which are calculated from Q1 to Q1.
SOURCE: Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

18. Indexes of consumer sentiment and income expectations



NOTE: The data are three-month moving averages and extend through June 2015. Consumer sentiment is indexed to 100 in 1966. Real income expectations are calculated as the net percent of survey respondents expecting family income to go up more than prices during the next year or two.
SOURCE: University of Michigan Surveys of Consumers.

19. Private housing starts and permits



NOTE: The data extend through May 2015.
SOURCE: Department of Commerce, Bureau of the Census.

oil prices plunged and labor market conditions improved and has remained upbeat so far this year (figure 18). Responses to the Michigan survey's question about households' expectations of real income changes over the next year or two have also moved up over the past year to their highest levels since before the recession.

The pace of homebuilding has improved only slowly

The recovery in residential investment continued at a gradual pace over the first half of this year. Smoothing through the effects of harsh winter weather, single-family housing starts have edged up since last summer, while sales of new and existing homes have been trending up, on balance, over the past year (figures 19 and 20). In addition, multifamily construction activity has recovered to its pre-recession level, reflecting a shift in demand toward rental units. All told, real residential investment looks set to post a moderate gain over the first half of the year. Nevertheless, overall construction activity remains well below its pre-recession levels, likely due to a rate of household formation that, notwithstanding tentative signs of a recent pickup, has generally run quite low relative to demographic norms since the recession.

The slow advances in single-family construction and home sales have likely been supported, at least to some degree, by low interest rates and a gradual easing in mortgage credit. In the April Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS), banks reported having eased lending standards for a number of categories of residential mortgage loans in the first quarter.[2] Even so, loans remain difficult to obtain for potential borrowers with low credit scores as well as for any potential borrowers that cannot meet a number of other requirements, such as fully documenting their income and meeting debt-to-income ratios. Meanwhile, for

2. The SLOOS is available on the Board's website at www.federalreserve.gov/boarddocs/snloansurvey.

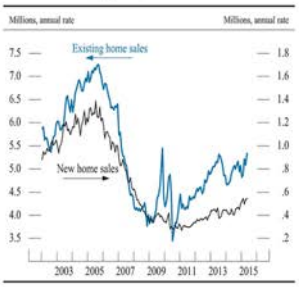
qualified borrowers, interest rates for 30-year fixed mortgages remain near their historical lows despite having moved up somewhat, on net, over the first half of the year (figure 21). Increases in house prices and mortgage rates have been balanced out by rising household incomes, with the result that standard measures of housing affordability have stayed flat at relatively high levels over the first half of this year. With the number of mortgage originations for home purchase still well below pre-crisis levels, aggregate net mortgage debt growth has continued to be quite sluggish.

Overall business investment has turned down as investment in the energy sector has plunged

Business investment (that is, private nonresidential fixed investment) fell at an annual rate of 2 percent in the first quarter, reflecting a sizable decline in investment in the equipment and structures used in the drilling and mining sector (figure 22). The number of drilling rigs in operation has fallen precipitously this year in response to the earlier steep drop in crude oil prices, and a number of oil and gas companies have announced plans to cut capital expenditures this year. As a result, activity has also slowed markedly in sectors that supply oil production companies, including steel and certain types of machinery. The drop in drilling and mining investment subtracted more than ½ percentage point from first-quarter real GDP growth, and, with the contraction in that sector continuing, it likely took a similar amount off of GDP growth in the second quarter.

Business outlays for structures outside of the energy sector also declined in the first quarter, while spending on equipment and intellectual property products (E&I) increased at a modest 3½ percent annual rate. Forward-looking indicators, such as orders and shipments of capital goods and surveys of business conditions, point to continued modest gains in E&I investment in the second quarter. Overall business investment has been supported by low interest rates and generally accommodative

20. New and existing home sales

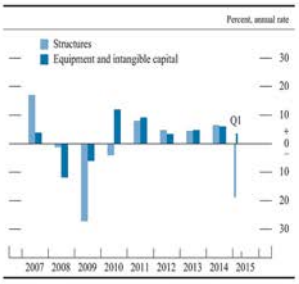


NOTE: The data extend through May 2015. "Existing home sales" includes single-family, condo, townhome, and co-op sales.
SOURCE: For new single-family home sales, Census Bureau; for existing home sales, National Association of Realtors.

21. Mortgage rates and housing affordability

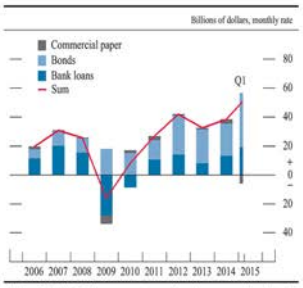
NOTE: The housing affordability index data are monthly through April 2015 and the mortgage rate data are weekly through July 8, 2015. At an index value of 100, a median-income family has exactly enough income to qualify for a median-priced home mortgage. Housing affordability is seasonally adjusted by Board staff.
SOURCE: For housing affordability index, National Association of Realtors; for mortgage rates, Freddie Mac Primary Mortgage Market Survey.

22. Change in real private nonresidential fixed investment



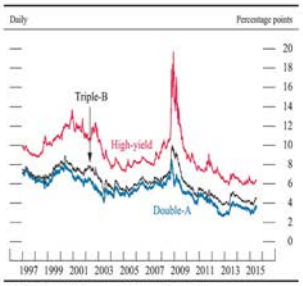
SOURCE: Department of Commerce, Bureau of Economic Analysis.

23. Selected components of net financing for nonfinancial businesses



NOTE: The data for the components except bonds are seasonally adjusted.
SOURCE: Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

24. Corporate bond yields, by securities rating



NOTE: The yields shown are yields on 10-year bonds.
SOURCE: BofA Merrill Lynch Global Research, used with permission.

financial conditions but has been held back by slowing business output growth, which reflects, in part, weakening exports by domestic businesses due to the stronger dollar.

Corporate financing conditions were generally favorable

Financing conditions for nonfinancial firms remained solid in the first half of the year. Although corporate profits as reported by the Bureau of Economic Analysis declined in the first quarter, profitability stayed high, and default rates on nonfinancial corporate bonds were generally low. Nonfinancial businesses have raised substantial amounts of funds in bond, equity, and loan markets so far this year, in part to finance a recent pickup in mergers and acquisitions activity (figure 23). Bond issuance by both investment- and speculative-grade firms has remained quite strong, as firms continued to take advantage of historically low interest rates (figure 24). Commercial and industrial loans on banks' books have expanded at a solid pace this year, in part reflecting narrower loan spreads. Meanwhile, financing conditions for small businesses continued to improve, although the growth of small business loans remained subdued, evidently reflecting still-tepid demand for credit from small business owners. In the first quarter, some banks with loans to firms in the oil and gas drilling or extraction sectors indicated they were reducing existing lines of credit to these firms and tightening standards on new loans or lines of credit.

In the commercial real estate (CRE) sector, financing remained broadly available. CRE loans on banks' books increased appreciably this year through May, consistent with stronger loan demand and a further easing of lending standards reported in the April SLOOS. Banks also reported that, over the past 12 months, they had eased spreads, increased maximum loan sizes, and extended the maximum maturity on such loans. Issuance of commercial mortgage-backed securities

(CMBS) continued to be robust, and the spreads of CMBS rates over Treasury rates remained narrow.

The drag from federal fiscal policy has waned . . .

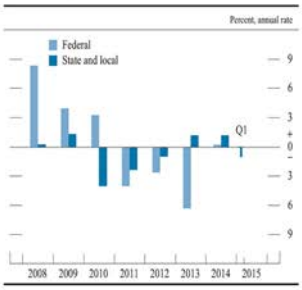
Fiscal policy at the federal level had been a factor restraining GDP growth for several years. However, the contractionary effects of fiscal policy changes eased appreciably last year as the restraining effects of the 2013 tax increases abated, transfers increased from the Affordable Care Act, and federal purchases flattened out after falling sharply from 2011 through 2013 (figure 25).

The federal unified deficit narrowed further this year, reflecting both previous years' spending cuts and an increase in tax receipts resulting from the ongoing economic expansion. Federal receipts have edged up to around 18 percent of GDP, their highest level in more than a decade (figure 26). Meanwhile, nominal federal outlays as a share of GDP have flattened out at about 20 percent, still a little above the levels that prevailed before the start of the recession. As a result, the budget deficit currently stands at about 2½ percent of GDP, down considerably from its peak at nearly 10 percent during the recession. Overall federal debt held by the public stabilized as a share of GDP in 2014 and early 2015, albeit at a relatively high level (figure 27).

. . . and state and local government expenditures are rising anemically

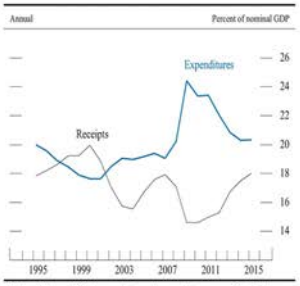
The expansion of economic activity and further gains in house prices—which should help boost property tax revenues over time—continue to support a gradual improvement in the fiscal positions of most state and local governments. Consistent with slowly improving finances, states and localities expanded employment slightly, on average, over 2014 and the first half of this year

25. Change in real government expenditures on consumption and investment



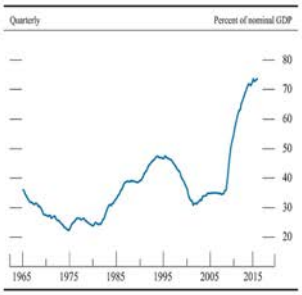
SOURCE: Department of Commerce, Bureau of Economic Analysis.

26. Federal receipts and expenditures



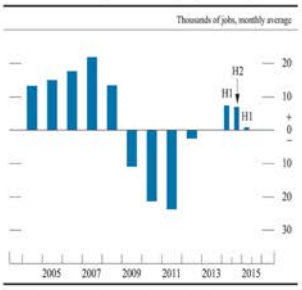
NOTE: Through 2014, receipts and expenditures are for fiscal years (October to September); gross domestic product (GDP) is for the four quarters ending in Q3. For 2015, receipts and expenditures are for the 12 months ending in May, and GDP is the average of 2014:Q4 and 2015:Q1. Receipts and expenditures are on a unified-budget basis.
SOURCE: Office of Management and Budget.

27. Federal government debt held by the public



NOTE: The data for gross domestic product (GDP) are at an annual rate. Debt held by the public is debt held at the end of the period.
SOURCE: For GDP, Department of Commerce, Bureau of Economic Analysis; for federal debt, Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

28. State and local government employment change



SOURCE: Department of Labor, Bureau of Labor Statistics.

following several years of declines (figure 28). In addition, these governments have increased outlays for construction projects somewhat over this period.

Financial Developments

Market expectations for the path of the federal funds rate over the next several years declined . . .

Despite the continued improvement in labor market conditions, market participants' expectations for the path of policy rates over the next several years shifted downward in the first half of 2015. Contributing to this shift were weak data on real economic activity in the first quarter of this year and Federal Reserve communications that were seen as more accommodative than expected—including the downward revisions to FOMC participants' projections for the federal funds rate, real GDP growth, inflation, and the longer-run unemployment rate, particularly in March. On balance, market-based measures of the expected path of the federal funds rate through late 2016 have flattened. The expected timing of the initial increase in the federal funds rate has been pushed out from mid-2015 toward the end of the year, although the expected pace of increases in the federal funds rate after 2016 is now somewhat faster. In the Survey of Primary Dealers and the Survey of Market Participants conducted by the Federal Reserve Bank of New York just prior to the June FOMC meeting, respondents judged that the initial increase in the target federal funds rate was most likely to occur at the FOMC's September 2015 meeting, about one quarter later than they had expected last December.[3] Meanwhile, as the anticipated date of the beginning of normalization has become closer, measures of policy rate uncertainty based on interest rate derivatives have continued to edge higher.

3. The results of the Survey of Primary Dealers and of the Survey of Market Participants are available on the Federal Reserve Bank of New York's website at www.newyorkfed.org/markets/primarydealer_survey_questions.html and www.newyorkfed.org/markets/survey_market_participants.html, respectively.

. . . and longer-term Treasury yields have remained low

Yields on longer-term Treasury securities have risen notably since early February, reversing the downward trend over the previous 13 months. However, they remain at historically low levels (figure 29). On net, yields on 10- and 30-year nominal Treasury securities are 16 basis points and 43 basis points, respectively, above their levels at the end of 2014. The increases were most pronounced in longer-horizon forward rates. For example, the five-year forward rate five years ahead rose 42 basis points over the first half of 2015 and in early July after falling nearly 2 percentage points in 2014. U.S. Treasury yields continued to be especially sensitive to foreign monetary policy and political developments and movements in core European sovereign yields (for more details, see the section "International Developments"). Uncertainty about long-term interest rates has also risen somewhat amid higher realized volatility of long-term yields, fluctuations in oil prices, and uncertainties surrounding the global outlook.

Consistent with moves in the yields on longer-term Treasury securities, yields on 30-year agency mortgage-backed securities (MBS)—an important determinant of mortgage interest rates—have increased about 20 basis points, on balance, so far in 2015 (figure 30).

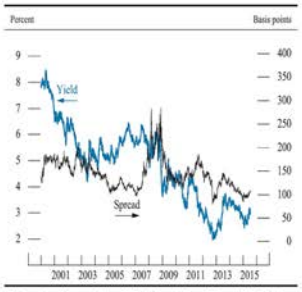
Liquidity conditions in the Treasury and agency MBS markets were generally stable . . .

Indicators of Treasury market functioning remained broadly stable over the first half of 2015. While market commentary increasingly pointed to a possible deterioration in liquidity in these markets, a variety of liquidity metrics—including bid-asked spreads and bid sizes—have displayed no notable signs of liquidity pressures over the past half-year. Moreover, Treasury auctions generally continued to be well received by investors. (See the box "Liquidity Conditions in the Bond Market.")

29. Yields on nominal Treasury securities

NOTE: The Treasury ceased publication of the 30-year constant maturity series on February 18, 2002, and resumed that series on February 9, 2006.
SOURCE: Department of the Treasury.

30. Yield and spread on agency mortgage-backed securities



NOTE: The data are daily. Yield shown is for the Fannie Mae 30-year current coupon, the coupon rate at which new mortgage-backed securities would be priced at par, or face, value. Spread shown is to the average of the 5- and 10-year nominal Treasury yields.
SOURCE: Department of the Treasury; Barclays.

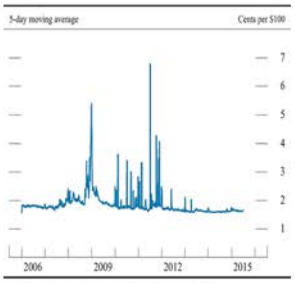
Liquidity Conditions in the Bond Market

A growing number of market commentaries have recently noted that liquidity conditions in fixed-income markets have deteriorated somewhat in recent years. They point to events like the "flash rally" on October 15, 2014, in which the Treasury market experienced elevated intraday volatility, as a worrisome sign of liquidity deterioration in even the most liquid fixed-income market. In response to a set of special questions in the June Senior Credit Officer Opinion Survey on Dealer Financing Terms (SCOOS), over four-fifths and about two-fifths of the dealer respondents characterized current liquidity and market functioning in the secondary markets for nominal Treasury securities and corporate bonds, respectively, as having deteriorated over the past five years.[1] Respondents attributed the deterioration primarily to securities dealers' decreased willingness to provide balance sheet resources for market-making purposes as a result of both regulatory changes and changes in internal risk-management practices. Furthermore, many investors have also noted potential risks to Treasury market functioning posed by high-frequency trading (HFT), which is now employed by most market participants.[2] Coincident with the changes in trading technologies, the composition of market participants has changed over the past decade, with proprietary HFT firms now accounting for the majority of trading volumes in the electronically brokered interdealer Treasury market. As discussed in the recently released interagency staff report on the events of October 15, such changes to market making, automated trading, and participation—many of which predate recent regulatory initiatives—have likely altered the nature of Treasury market liquidity in recent years.[3]

Despite these increased market discussions, a variety of metrics of liquidity in the nominal Treasury market do not indicate notable deteriorations. For example, bid-asked spreads for the on-the-run 10-year Treasury security have remained at levels comparable with or even slightly narrower than those observed before the recent financial crisis (figure A). A measure of market depth has shown notable variation since the data became available in 2010 and is currently around its average level in 2010 and 2011 (figure B). Both measures may have been affected by the increased presence of HFT strategies in the nominal Treasury market, as firms employing such strategies tend to submit orders close to prevailing market prices but with small order sizes, which might partially explain the narrower bid-asked spreads in recent years.

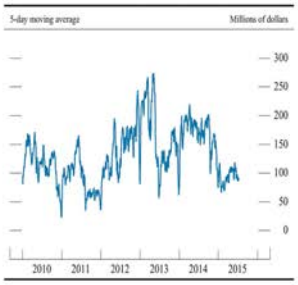
In addition to the two measures discussed earlier, SCOOS respondents also cited market turnover as another metric reflective of the deterioration in liquidity conditions. Indeed, the ratio of primary dealer trading volumes to outstanding Treasury securities has been declining since 2008 (figure C). Nonetheless, part of this decline may reflect institutional changes in the Treasury market, including the Federal Reserve's asset

A. Bid-asked spreads for 10-year on-the-run Treasury notes



SOURCE: Staff calculations using data from EBS BrokerTec.

B. Market depth for 10-year on-the-run Treasury notes



NOTE: Market depth is defined as the average top three bid and asked quote sizes.
SOURCE: Staff calculations using data from EBS BrokerTec.

1. The SCOOS is available on the Board's website at www.federalreserve.gov/econresdata/releases/scoos.htm.

2. High-frequency trading refers to computerized trading using proprietary algorithms that often rely on low-latency technology. For a description of the growth of automated trading—HFT in particular—and the associated benefits and risks, see Treasury Market Practices Group (2015), "Automated Trading in Treasury Markets," white paper (New York: TMPG, June), www.newyorkfed.org/tmpg/TPMG_June%202015_automated%20trading_white%20paper.pdf.

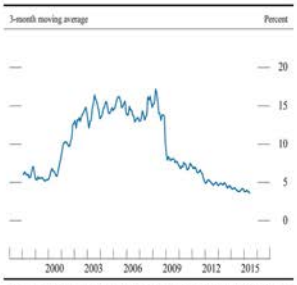
3. U.S. Department of the Treasury, Board of Governors of the Federal Reserve System, Federal Reserve Bank of New York, U.S. Securities and Exchange Commission, and U.S. Commodity Futures Trading Commission (2015), *Joint Staff Report: The U.S. Treasury Market on October 15, 2014* (Washington: Treasury, Board of Governors, FRBNY, SEC, and CFTC, July), www.treasury.gov/press-center/press-releases/Documents/Joint_Staff_Report_Treasury_10-15-2014.pdf.

purchases; the growth of HFT; increased internalization of dealer flows, in which dealers seek to match buyers and sellers across various internal desks before accessing liquidity in interdealer markets; and rising demand from buy-and-hold investors.

Although the bid-asked spread and market depth remained generally stable in recent years, one concern is that these metrics could change sharply during times of market stress. Some investors cautioned that, while proprietary HFT firms can contribute to improved liquidity during normal times by placing orders with narrow bid-asked spreads, they have limited capital to absorb price shocks and could choose to withdraw from the market during periods of turbulence, potentially exacerbating the deterioration in liquidity. All told, while the current level of liquidity in the on-the-run interdealer market seems healthy, some aspects of price movements and liquidity metrics in this market warrant careful monitoring.

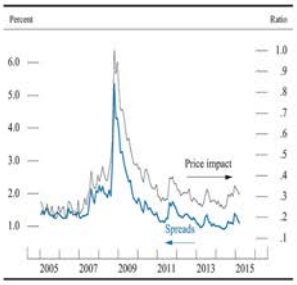
Similar to the Treasury market, a range of conventional liquidity metrics in corporate bond markets also generally do not point to a significant deterioration of market liquidity in recent years. For example, effective bid-asked spreads have remained low, and measures of the price impact, such as Amihud's illiquidity measure, have been fairly stable (figure D). In contrast, the proportion of large-sized trades has remained low since the financial crisis, particularly for speculative-grade bonds, and turnover has declined somewhat as the growth of total bonds outstanding has outpaced the growth of trading volume (figure E). However, as in the case of Treasury securities, it is unclear whether declines in corporate bond trade size and market turnover necessarily indicate a deterioration in liquidity.

C. Nominal Treasury turnover



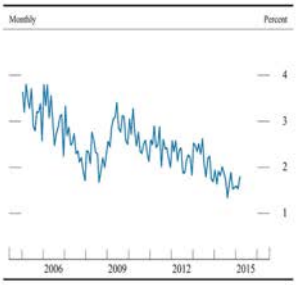
NOTE: Turnover is calculated as three-month moving averages of daily primary dealer trading volumes divided by nominal Treasury securities outstanding.
SOURCE: Federal Reserve Board, FR-2004, Government Securities Dealers Reports.

D. Median bid-asked spreads and market impact for corporate bonds



NOTE: Bid-asked spreads are estimated based on the autocovariance of bond returns. Market impact is the Amihud (2002) measure, which is defined as the monthly average of the ratio of the absolute value of percentage price changes to transaction volume.
SOURCE: FINRA, TRACE, via Wharton Research Data Service (WRDS); Mergent Corporate FISD Daily Feed (FITF).

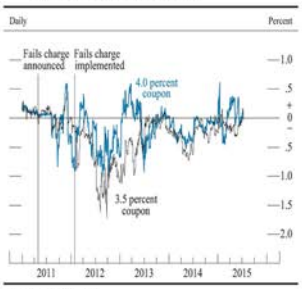
E. Median turnover of corporate bonds



NOTE: Monthly turnover is total trading volume in the month divided by the amount outstanding for the bond.
SOURCE: FINRA, TRACE, via Wharton Research Data Service (WRDS); Mergent Corporate FISD Daily Feed (FITF).

Some analysts raised concerns that the rise of buy-and-hold investors and the decline in dealer inventories relative to the outstanding amount over the past few years may have negatively affected the prospects for liquidity conditions in the corporate bond market, especially during episodes of financial stress. So far, however, corporate bond market liquidity as captured by conventional measures has not experienced substantial deterioration during recent episodes of stress in fixed-income markets, such as the sharp increase in Treasury rates in the summer of 2013 or the flash rally of October 15, 2014.

31. Dollar-roll-implied financing rates (front month), Fannie Mae 30-year current coupon



SOURCE: J.P. Morgan.

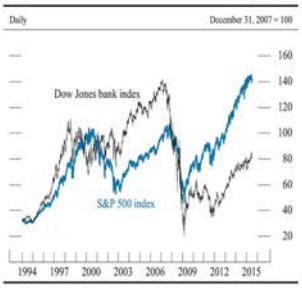
As in the Treasury market, liquidity conditions in the agency MBS market were generally stable. Dollar-roll-implied financing rates for production-coupon MBS—an indicator of the scarcity of agency MBS for settlement—suggested limited settlement pressures in these markets over the first half of 2015 (figure 31).

. . . as were short-term funding markets

Conditions in short-term dollar funding markets also remained broadly stable during the first half of 2015. Both unsecured and secured money market rates have stayed at modestly higher levels since late 2014 but continued to be close to the average rates observed since the federal funds rate reached its effective lower bound. Secured money markets generally functioned smoothly, but rates in these markets experienced some volatility in the first half of 2015, particularly around quarter-ends, consistent with moderate quarter-end funding pressures. Unsecured offshore dollar funding markets generally did not exhibit signs of stress.

Money market participants continued to focus on the ongoing testing of the Federal Reserve's monetary policy tools. The overnight reverse repurchase agreement (ON RRP) operations have continued to provide a soft floor for money market rates, and the combination of term and ON RRP operations supported these rates around quarter-ends.

32. Equity prices



SOURCE: Bloomberg.

Broad equity price indexes and stock market volatility were both little changed, on net, and risk spreads on speculative-grade corporate bonds narrowed slightly

Despite higher interest rates and notable declines in Wall Street analysts' projections for corporate earnings, broad measures of U.S. equity prices were little changed, on balance, over the first half of the year (figure 32). Stock prices for firms in the utilities sector, which are more sensitive to interest rates, fell substantially. Implied volatility for the S&P 500 index, as calculated from options

prices, was little changed, on net, and remained below its historical median level.

Corporate bond spreads for investment-grade firms were little changed and stayed close to their historical average levels. Spreads for speculative-grade bonds narrowed modestly—in part because of improvements for energy firms—and are somewhat below their historical norms. (For further related discussion, see the box "Developments Related to Financial Stability.")

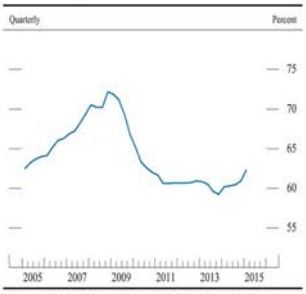
Bank credit expanded and bank profitability improved slightly

Aggregate credit provided by commercial banks increased at a solid pace in the first quarter of 2015 (figure 33). The expansion in bank credit reflected moderate loan growth coupled with continued expansion of banks' holdings of securities. The growth of loans on banks' books was generally consistent with the SLOOS reports of increased loan demand for most loan categories and further easing of lending standards for real estate loans over the first quarter of 2015. Meanwhile, delinquency and charge-off rates continued to improve across most major loan types.

Measures of bank profitability remained below their historical averages but improved slightly in the first quarter of 2015 (figure 34). Several subcomponents of noninterest income increased, although declining net interest margins continued to put downward pressure on the profitability of banks. Equity prices of large domestic bank holding companies (BHCs) have increased modestly, on net, since the end of last year (figure 32). Credit default swap (CDS) spreads for large BHCs were about unchanged on balance.

The M2 measure of the money stock has increased at an average annualized rate of about 6 percent since January, somewhat faster than the pace of nominal GDP growth. Demand for liquid deposits and currency has continued to boost M2 growth.

33. Ratio of total commercial bank credit to nominal gross domestic product



SOURCE: Federal Reserve Board, Statistical Release H.8, "Assets and Liabilities of Commercial Banks in the United States"; Department of Commerce, Bureau of Economic Analysis.

34. Profitability of bank holding companies

NOTE: The data, which are seasonally adjusted, are quarterly.
SOURCE: Federal Reserve Board, FR Y-9C, Consolidated Financial Statements for Bank Holding Companies.

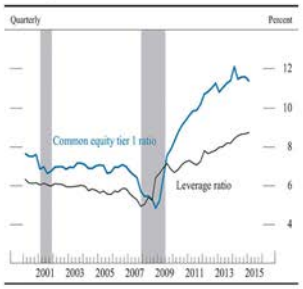
Developments Related to Financial Stability

Financial vulnerabilities in the U.S. financial system overall have continued to be moderate since the February *Monetary Policy Report*. Capital and liquidity positions at the largest banking firms have remained at high levels relative to recent historical standards, and debt growth in the household sector has been modest. However, valuation pressures in many fixed-income markets, while having eased, have stayed notable, prices and valuations for commercial real estate have increased further, and underwriting standards for leveraged loans are still a concern. Moreover, borrowing by lower-rated businesses has continued at a rapid rate. Market participants have expressed a concern that liquidity, especially in fixed-income markets, is now more likely to deteriorate significantly even under moderate stress. However, a variety of metrics do not suggest a deterioration in day-to-day liquidity, with some mixed evidence that may point to less resilient liquidity. The Federal Reserve is watching related developments closely. (See the box "Liquidity Conditions in the Bond Market.")

The financial sector now is likely more resilient to possible adverse events largely because of the increased capital held by the largest banking firms, which reduces the potential spillovers to the macroeconomy from losses in the banking sector (figure A). Regulatory capital ratios of the largest banks are high by recent historical standards, and the stress tests mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 as well as the accompanying Comprehensive Capital Analysis and Review, both of which were completed in April 2015, show that the 31 participating firms would maintain capital ratios above required minimums through a severe recession during a nine-quarter projection horizon. Higher forward-looking capital positions reflect, in part, a decrease in the average credit risk of loans, although underwriting standards have weakened in certain segments. Large firms' liquidity ratios have also improved with the initial phase-in of new liquidity regulations. Estimates of duration gaps for these firms suggest that they have lower sensitivities to higher interest rates than smaller banking firms. All banks, however, face considerable uncertainty regarding the sensitivity of their deposits to rising interest rates, and supervisors have been working with firms to manage this potential risk.

At insurance companies and broker-dealers, capital positions are also relatively high. In addition, secured borrowing and financing by dealers continue to decline, suggesting less short-term funding both for financing clients and for financing inventories that can be used to provide liquidity in markets. The stock of private, short-term, money-like instruments, which form funding intermediation chains that may be vulnerable to runs, has generally hovered at relatively high levels in the past couple of years, though well below crisis peaks. A decline in repurchase agreements has coincided with growth in uninsured deposits. Assets in money market funds have held about steady since the Securities and Exchange Commission finalized reforms in July 2014 to mitigate the funds' susceptibility to investor runs. The reforms are required to be fully implemented by late 2016, and it will be important to monitor their effects.

A. Regulatory capital ratios at top 25 bank holding companies



NOTE: Prior to 2014:Q1, the numerator of the common equity tier 1 ratio is tier 1 common capital. Beginning in 2014:Q1 for advanced approaches bank holding companies and in 2015:Q1 for all other bank holding companies, the numerator is common equity tier 1 capital. The shaded bar indicates a period of business recession as defined by the National Bureau of Economic Research.

SOURCE: FR Y-9C (top panels).

Valuation measures in most asset markets remain notable, but they are less pronounced in some sectors given the low level of long-term real Treasury yields. Credit markets have been reflecting some signs of reach-for-yield behavior, as issuance of speculative-grade bonds continues to be strong, yields are low, and credit spreads are somewhat narrow by historical standards. Issuance of leveraged loans, while robust, declined in the first half of 2015 on a year-over-year basis. Market participants continue to point to the leveraged lending guidance as having affected the market. Indicators of the underwriting quality of leveraged loans in recent months show a modest improvement, but, overall, underwriting standards

remain weak. The share of loans—mostly those for middle-market companies—originated by nonbank lenders reportedly has increased a bit further.

Valuation pressures in commercial real estate are rising as commercial property prices continue to increase rapidly, and underwriting standards at banks and in commercial mortgage-backed securities have been loosening. For residential real estate, prices have risen most rapidly in areas where they fell most in the wake of the financial crisis, and aggregate valuation measures remain close to historical norms. In addition, dealers' responses to the March and June Senior Credit Officer Opinion Survey on Dealer Financing Terms suggest that client demand for secured funding of commercial and residential mortgage-backed securities has been increasing in recent quarters.

Stock prices were little changed, on net, even as earnings forecasts fell and interest rates rose. The equity risk premium—the gap between the expected return and the real 10-year Treasury yield—narrowed further and is now close to historical norms. The possibility that term premiums could revert sharply to more normal levels continues to be a potential risk for asset prices, especially if this reversion were to occur in the absence of positive news about economic growth. Moreover, ongoing concerns that liquidity could deteriorate unexpectedly, in combination with the growth in assets of mutual funds that hold less liquid bonds, suggest that a jump in long-term rates that in turn sparked large bond fund redemptions might amplify volatility. That said, the risk of fire sales is mitigated to some extent by the lower leverage in the financial system.

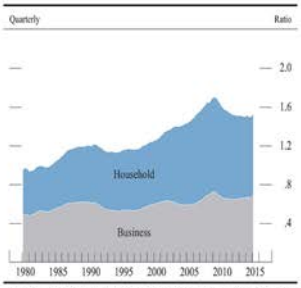
The ratio of private nonfinancial sector credit to gross domestic product (GDP) is significantly below its peak in 2009 and likely remains below a trend-adjusted level (figure B). The household debt-to-GDP ratio has receded to early 2000 levels. Recent modest increases in household debt continue to mostly reflect the sluggish increases in mortgages for prime borrowers. However, auto and student lending, even to financially fragile households, continued apace, though these are smaller components of total household debt. Measures of leverage for the aggregate nonfinancial business sector have been rising, and they are near the high end of their multidecade range for speculative-grade and unrated firms, indicating a buildup of vulnerabilities.

Large banking firms generally have only limited exposure to areas of the financial system with more notable vulnerabilities, such as segments of the bond and equity markets, and their actions are not contributing materially to higher vulnerabilities in those sectors. Large banking firms' direct net exposures to Greece are low, although financial vulnerabilities from the situation could become more concerning if large European counterparties were weakened by a significant deterioration in peripheral European countries.

As part of its efforts to improve the resilience of the financial system, the Federal Reserve Board and other federal banking agencies finalized a rule last year that introduced a liquidity coverage ratio. The rule requires large and internationally active banking organizations to hold a certain minimum amount of high-quality liquid assets—such as central bank reserves and government and corporate debt—that can be converted easily and quickly into cash. Since the February *Monetary Policy Report*, the Federal Reserve Board proposed an amendment to that rule that would allow limited amounts of certain general obligation state and municipal bonds to qualify as high-quality liquid assets if they meet the same liquidity criteria that currently apply to corporate debt securities.[1] The proposed rule would maintain the strong liquidity standards of the liquidity coverage ratio rule while providing banking organizations with the flexibility to hold a wider range of instruments that would qualify as high-quality liquid assets.

1. For the proposed amendment, see Board of Governors of the Federal Reserve System (2015), "Liquidity Coverage Ratio: Treatment of U.S. Municipal Securities as High-Quality Liquid Assets," *Federal Register*, vol. 80 (May 28), pp. 30383–89, www.gpo.gov/fdsys/pkg/FR-2015-05-28/pdf/2015-12850.pdf.

B. Private nonfinancial sector credit-to-GDP ratio



SOURCE: Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

Municipal bond markets functioned smoothly, but some issuers remained strained

Credit conditions in municipal bond markets have generally remained stable since the end of last year. Over that period, the MCDX—an index of CDS spreads for a broad portfolio of municipal bonds—increased slightly, while ratios of yields on 20-year general obligation municipal bonds to those on comparable-maturity Treasury securities moved down a bit.

Nevertheless, significant financial strains were still evident for some issuers. In particular, Puerto Rico, which continued to face challenges from subdued economic performance, severe indebtedness, and other fiscal pressures, could reportedly seek to restructure at least part of its debt.

35. 10-year nominal benchmark yields in advanced foreign economies

NOTE: The data extend through July 9, 2015.
SOURCE: Bloomberg.

International Developments

Sovereign bond yields are higher . . .

After declining, on balance, during the first few months of the year, sovereign yields in the advanced foreign economies (AFEs) began to climb rapidly in late April (figure 35). In Germany, long-term yields traded at record lows in mid-April, in part in response to the initiation of the public-sector purchase program of the European Central Bank (ECB). However, the 10-year government bond yield subsequently rose about 60 basis points. Most of this rise appeared to reflect an increase in the term premium, which had likely become very low earlier in the year. However, the timing of this increase has no clear explanation. The rise in German yields also appeared to reflect higher expected short-term rates, which rose, at least in part, in response to euro-area inflation data that came in higher than had been expected. (For more discussion, see the box "Monetary Policy and Interest Rates in Advanced Economies.") More recently, however, German yields have moved back down some in reaction to developments in Greece.

Monetary Policy and Interest Rates in Advanced Economies

During 2014, economic prospects in the United States improved, while in some major advanced foreign economies (including the euro area and Japan), data on economic activity disappointed and concerns about deflationary pressures increased. As economic outlooks diverged, so did monetary policies. The Federal Reserve wound down and, in October, concluded the asset purchase program that began in September 2012. In contrast, the Bank of Japan (BOJ) and the European Central Bank (ECB) announced further expansions of their asset holdings (figure A). In October, the BOJ increased the pace of its asset purchases (primarily Japanese government bonds, but also some shares of exchange-traded stock funds and real estate investment trusts) and reiterated that its goal was to raise inflation to 2 percent. In September, the ECB reduced its key policy rates, with the deposit rate falling to negative 0.2 percent, and announced plans to purchase two kinds of private-sector securities: covered bonds and asset-backed securities. Then, in January of this year, the ECB announced an expansion of its asset purchases to include public-sector securities, raising its total asset purchases to €60 billion per month. The ECB indicated that it intends to continue that pace of purchases through September 2016 or until its Governing Council believes that euro-area inflation is on track to meet the target of below, but close to, 2 percent.

Policy easing abroad contributed to a decline in market expectations for future policy rates, especially in the euro area, relative to those in the United States (figure B). The divergence of policy expectations was accompanied by a significant increase in the foreign exchange value of the dollar from mid-2014 to March of this year. That dollar appreciation has likely contributed to the drag that U.S. net exports have exerted on U.S. economic growth in recent quarters. In addition, the rise in the dollar's value has lowered U.S. import prices and thus put downward pressure on U.S. consumer price inflation.

Long-term interest rates abroad declined during 2014 and early 2015 (figure 35). Those declines reflected not only shifting expectations of the path of policy interest rates, but also reductions in the term premiums required by investors to hold longer-term assets. Central bank asset purchases—both expectations of those purchases and their later commencement—appear to explain some, but not all, of the decline in term premiums. Term premiums on German bonds continued to decline following the start of ECB asset purchases in March, and German 10-year bond yields fell to near zero by early April. Since then, however, term premiums and yields on German 10-year bonds have risen sharply, on net, as market participants reassessed the sustainability of the previous substantial declines. These movements in foreign yields and term premiums appear to have spilled over to U.S. yields and term premiums.

Some of the pickup in long-term interest rates abroad since mid-April also likely reflected a modest rebound in market expectations of future policy rates in those countries. Data showed continued economic recovery in the euro area and solid growth in Japan, and the stabilization in oil prices after previous sharp declines reduced concerns over deflation in the advanced foreign economies. Still, market expectations, as implied by quotes from overnight index swaps, suggest that policy rates will remain near zero for quite some time in the euro area and Japan, even as monetary policy begins to normalize in the United States and the United Kingdom (as shown in figure B).

A. Central bank assets in selected advanced economies

SOURCE: For the euro area, European Central Bank and Eurostat; for Japan, Bank of Japan and Cabinet Office of Japan; for the United States, Federal Reserve Board and Bureau of Economic Analysis.

B. December 2017 expected policy rates

NOTE: The data are three-day moving averages of one-month forward rates from overnight index swap quotes.
SOURCE: Bloomberg and staff calculation.

36. U.S. dollar exchange rate against broad index and selected groups of major currencies

NOTE: The data, which are in foreign currency units per dollar, extend through July 9, 2015.
SOURCE: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

37. Equity indexes for selected foreign economies

NOTE: The data extend through July 9, 2015.
SOURCE: For Japan, Tokyo Stock Price Index (TOPIX); for the euro area, Dow Jones Euro STOXX Index; for China, Shanghai Composite Index; all via Bloomberg.

Sovereign yields rose even more in other euro-area countries, especially in Greece. Since the previous report, negotiations among the Greek government, other European authorities, and the International Monetary Fund (IMF) over official financial assistance to Greece have been protracted. In late June, Greek authorities decided to hold a referendum on their creditors' proposals, stalling negotiations and resulting in the cash-strapped Greek government missing a payment of €1½ billion in principal to the IMF. With fears of a potential exit from the euro area and acute problems at Greek banks accelerating withdrawals of Greek bank deposits, Greek authorities declared a bank holiday and imposed capital controls. Negotiations resumed after Greek citizens voted to reject the creditor proposals, but the closure of the banks contributed to a further deterioration of economic conditions in Greece. Over the previous weekend, Greece and its creditors reached a preliminary agreement to begin negotiations on a new financing and adjustment program, subject to Greece completing several prior actions. Greek sovereign spreads spiked at the end of June, and Italian and Spanish sovereign spreads rose modestly. These spreads have since retraced substantially; as a result, Greek spreads remain somewhat wider since mid-February, and Italian and Spanish spreads are little changed.

. . . and the dollar remains well above levels of a year ago

The foreign exchange value of the dollar rose appreciably in the second half of 2014 and early 2015. It has changed little, on balance, since then (figure 36). The dollar is stronger against emerging market economy (EME) currencies since February, as U.S. yields have risen and concerns about economic prospects for the EMEs mounted.

Equities in Europe and Japan have moved higher this year, buoyed by encouraging macroeconomic data (figure 37). The Nikkei increased roughly 15 percent, boosted by stronger-than-expected consumer price releases

and strong corporate earnings in addition to continued quantitative easing. EME equity prices are also generally higher. Notably, the Shanghai Composite index has been unusually volatile. It soared 60 percent in the first five months of 2015, reportedly reflecting repeated monetary policy easing measures and increased investor leverage. However, since mid-June, the index has dropped about 20 percent, on net, even while Chinese authorities have introduced a number of measures to stem the decline, including the People's Bank of China providing direct liquidity support to fund stock purchases.

In numerous foreign economies, economic growth stepped down in the first quarter

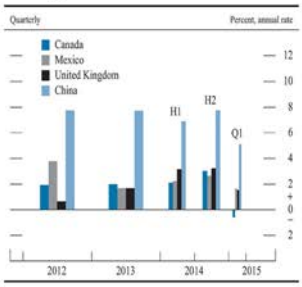
Economic growth slowed in the first quarter in many of our main trading partners (figure 38). In China, weakness in exports and the real estate sector led to a significant step-down in GDP growth in the first quarter. Weak exports also constrained growth in Mexico and the United Kingdom. GDP contracted around ½ percent in Brazil. And, in Canada, real GDP also contracted in the first quarter, in part because lower oil prices weighed on investment in the energy sector and severe winter weather depressed consumption. Recent economic data for the second quarter have been mixed.

By contrast, in the euro area and Japan, economic growth picked up during the first quarter of 2015, and data thus far point to solid growth during the second quarter (figure 39). Growth in these economies continues to receive support from highly accommodative monetary policies and lower commodity prices. Nevertheless, the situation in Greece remains a concern for the euro area.

After falling significantly at the beginning of the year, foreign inflation began to recover but remained low

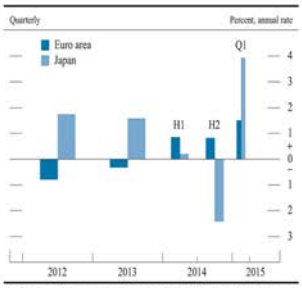
Largely reflecting the plunge in oil prices last year, headline inflation fell further early in the year in the AFEs and the EMEs. However, as

38. Real gross domestic product growth in selected foreign economies



SOURCE: For Canada, Statistics Canada; for Mexico, Instituto Nacional de Estadistica Geografia e Informatica, from Haver Analytics; for the United Kingdom, Office for National Statistics; for China, staff estimates based on data from CEIC Data.

39. Real gross domestic product growth in selected advanced foreign economies



SOURCE: For the euro area, Eurostat; for Japan, Cabinet Office Government of Japan.

energy prices rebounded during the first half of the year, monthly foreign inflation readings also began to turn up. Nevertheless, 12-month inflation in a number of major trading partners remained substantially below their central banks' target, including in the euro area, Japan, and the United Kingdom.

In response, foreign central banks maintained highly accommodative monetary policies

A number of foreign central banks eased monetary policy. Some central banks cut policy rates, including those in Canada, China, India, and Korea. In several cases, including in Denmark, Sweden, and Switzerland, these cuts included moves that left policy rates negative. In addition to cutting benchmark rates, the People's Bank of China also lowered the reserve requirement ratio. The ECB launched a program to purchase public-sector securities, and the Bank of Japan continued to purchase assets at a rapid pace. Meanwhile, the Bank of England kept its policy rate at the historically low level of 0.5 percent, where it has been since March 2009.

Part 2
Monetary Policy

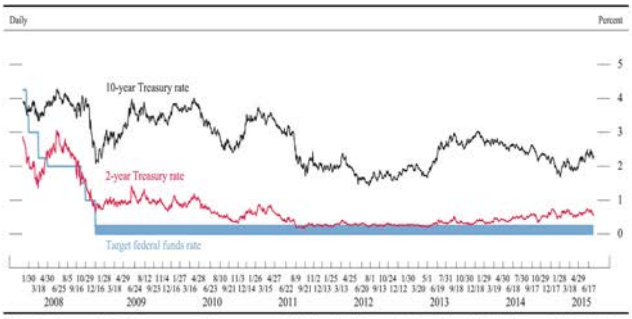
To support further progress toward maximum employment and price stability, the Federal Open Market Committee (FOMC) has kept the target federal funds rate at its effective lower bound and maintained the Federal Reserve's holdings of longer-term securities at sizable levels. At its two most recent meetings, the Committee indicated that it will be appropriate to raise the target range for the federal funds rate when it has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term. The Federal Reserve has continued to plan for the eventual normalization of monetary policy, including by testing the operational readiness of the policy tools to be used.

To support further progress toward its statutory objectives, the FOMC has kept the target federal funds rate at its lower bound . . .

The FOMC has maintained the target range of 0 to ¼ percent for the federal funds rate to support continued progress toward its statutory objectives of maximum employment and price stability (figure 40). The Committee has further reiterated that, in determining how long to maintain this target range, it will assess realized and expected progress toward its objectives. This assessment will continue to take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. Based on its assessment of those factors, the Committee maintained the judgment at its January meeting that it could be patient in beginning to normalize the stance of monetary policy, and it stated at its March meeting that a start of the normalization process remained unlikely at its April meeting.[4] Chair Yellen indicated that, subsequent to the April meeting, the FOMC

4. See Board of Governors of the Federal Reserve System (2015), "Federal Reserve Issues FOMC Statement," press release, January 28, www.federalreserve.gov/newsevents/press/monetary/20150128a.htm; and Board of Governors of the Federal Reserve System (2015), "Federal Reserve Issues FOMC Statement," press release, March 18, www.federalreserve.gov/newsevents/press/monetary/20150318a.htm.

40. Selected interest rates



NOTE: The 2-year and 10-year Treasury rates are the constant-maturity yields based on the most actively traded securities. The dates on the horizontal axis are those of regularly scheduled Federal Open Market Committee meetings.
SOURCE: Department of the Treasury; Federal Reserve Board.

would determine the timing of the initial increase in the target federal funds rate on a meeting-by-meeting basis, depending on its assessment of incoming economic information and its implications for the economic outlook.[5]

Specifically, the FOMC anticipates that it will be appropriate to raise the target range for the federal funds rate when it has seen further improvement in the labor market and is reasonably confident that inflation will move back to its 2 percent objective over the medium term. While the Committee has not decided on the timing of the initial increase in the target range for the federal funds rate, according to the June Summary of Economic Projections (SEP), 15 of the 17 policymakers anticipated that conditions may warrant a first increase in the federal funds rate target sometime this year. (The June SEP is included as Part 3 of this report.)

The Committee has reiterated that, when it decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent. Even after the initial increase in the target federal funds rate, the Committee's policy is likely to remain highly accommodative in order to support continued progress toward its objectives of maximum employment and 2 percent inflation.

In addition, the Committee continues to anticipate that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run. As pointed out by Chair Yellen in her recent press conferences, FOMC participants provide a number of explanations for this view, with many citing the residual effects of the financial crisis.[6] These effects are expected to ease gradually, but they are seen as likely to continue to constrain spending and credit availability for some time.

. . . and stressed that its policy decisions will be data dependent

In her recent speeches and press conferences, Chair Yellen emphasized that, while the return of the federal funds rate to a more normal level is likely to be gradual, forecasts of the appropriate path of the federal funds rate are conditional on individual projections for economic output, inflation, and other factors, and the Committee's actual policy decisions over time will be data dependent. The FOMC does not intend to embark on any predetermined course of tightening following an initial decision to raise the federal funds rate target range. Accordingly, if the expansion proves to be more vigorous than currently anticipated and inflation moves higher than expected, then the appropriate path would likely follow a higher and steeper trajectory; conversely, if conditions were to prove weaker, then the appropriate trajectory would be lower and less steep.

The size of the Federal Reserve's balance sheet has remained stable

The Committee has maintained its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities (MBS) in agency MBS and of rolling over maturing Treasury securities at auction. This policy, by keeping the Federal Reserve's holdings of longer-term securities at sizable levels, is expected to help

5. See Board of Governors of the Federal Reserve System (2015), "Transcript of Chair Yellen's FOMC Press Conference," March 18, www.federalreserve.gov/mediacenter/files/FOMCpresconf20150318.pdf; and Board of Governors of the Federal Reserve System (2015), "Transcript of Chair Yellen's Press Conference," June 17, www.federalreserve.gov/mediacenter/files/FOMCpresconf20150617.pdf.

6. See Board of Governors, "Transcript of Chair Yellen's FOMC Press Conference," March 18, and Board of Governors, "Transcript of Chair Yellen's Press Conference," June 17, in note 5.

maintain accommodative financial conditions by putting downward pressure on longer-term interest rates and supporting mortgage markets. In turn, those effects are expected to contribute to progress toward both the maximum employment and price-stability objectives of the FOMC.

After the conclusion of the large-scale asset purchase program at the end of October 2014 and with the continuation of the Committee's reinvestment policy, the Federal Reserve's total assets have held steady at around $4.5 trillion (figure 41). Holdings of U.S. Treasury securities in the System Open Market Account (SOMA) have remained at $2.5 trillion, and holdings of agency debt and agency MBS at $1.8 trillion. Consequently, total liabilities on the Federal Reserve's balance sheet were largely unchanged.

Given the Federal Reserve's large securities holdings, interest income on the SOMA portfolio has continued to support substantial remittances to the U.S. Treasury Department. The Federal Reserve provided $96.9 billion of such distributions to the Treasury in 2014 and $21.7 billion during the first quarter of 2015.[7] Remittances total over $500 billion on a cumulative basis since 2008.

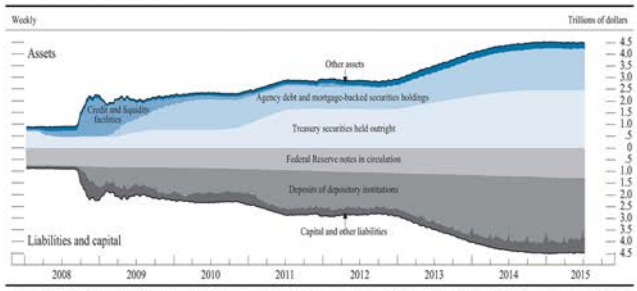
The FOMC continued to plan for the eventual normalization of monetary policy . . .

FOMC meeting participants have continued their discussions about the eventual normalization of the stance and conduct of monetary policy.[8] The participants

7. See Board of Governors of the Federal Reserve System (2015), "Federal Reserve System Publishes Annual Financial Statements," press release, March 20, www.federalreserve.gov/newsevents/press/other/20150320a.htm; and Board of Governors of the Federal Reserve System (2015), *Quarterly Report on Federal Reserve Balance Sheet Developments* (Washington: Board of Governors, May), www.federalreserve.gov/monetarypolicy/files/quarterly_balance_sheet_developments_report_201505.pdf.

8. See Board of Governors of the Federal Reserve System (2015), "Minutes of the Federal Open Market Committee, March 17–18, 2015," press release, April 8, www.federalreserve.gov/newsevents/press/monetary/20150408a.htm; and Board of Governors of the Federal Reserve System (2015), "Minutes of the Federal Open Market Committee, April 28–29, 2015," press release, May 20, www.federalreserve.gov/newsevents/press/monetary/20150520a.htm.

41. Federal Reserve assets and liabilities



NOTE: "Credit and liquidity facilities" consists of primary, secondary, and seasonal credit; term auction credit; central bank liquidity swaps; support for Maiden Lane, Bear Stearns, and AIG; and other credit facilities, including the Primary Dealer Credit Facility, the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, the Commercial Paper Funding Facility, and the Term Asset-Backed Securities Loan Facility. "Other assets" includes unamortized premiums and discounts on securities held outright. "Capital and other liabilities" includes reverse repurchase agreements, the U.S. Treasury General Account, and the U.S. Treasury Supplementary Financing Account. The data extend through July 8, 2015.

SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

emphasized that, during the early stages of policy normalization, it will be a priority to ensure appropriate control over the federal funds rate and other short-term interest rates. Consequently, the discussions involved various tools that could be used to control the level of short-term interest rates, even while the balance sheet of the Federal Reserve remains very large, as well as approaches to eventually normalizing the size and composition of the Federal Reserve's balance sheet.

As was the case before the crisis, the Committee intends to adjust the stance of monetary policy during normalization primarily through actions that influence the level of the federal funds rate and other short-term interest rates. The Committee indicated that, when economic conditions warrant the commencement of policy firming, the Federal Reserve intends to continue to target a range for the federal funds rate that is 25 basis points wide, set the interest rate it pays on excess reserves (the IOER rate) equal to the top of the target range for the federal funds rate, and set the offering rate associated with an overnight reverse repurchase agreement (ON RRP) facility equal to the bottom of the target range for the federal funds rate. The Committee will further allow aggregate capacity of the ON RRP facility to be temporarily elevated to support policy implementation and will use other tools, such as term operations, as necessary. The Committee expects that it will be appropriate to reduce the capacity of the facility fairly soon after it commences policy firming. Regarding the balance sheet, the Committee intends to reduce securities holdings in a gradual and predictable manner primarily by ceasing to reinvest repayments of principal on securities held in the SOMA. The Committee noted that economic and financial conditions could change, and that it was prepared to make adjustments to its normalization plans if warranted. (For more information, see the box "Policy Normalization Principles and Plans: Additional Details.")

. . . including by testing the policy tools to be used

The Federal Reserve continued to test the operational readiness of its policy tools, conducting daily ON RRP operations and a series of term RRP operations. At its March meeting, the Committee approved further tests of term RRP operations over quarter-ends through January 2016.[9] In addition, the Federal Reserve conducted two further series of Term Deposit Facility (TDF) operations. In these TDF operations, the Federal Reserve eliminated the three-day lag between the execution of an operation and settlement that existed in previous tests. These operations showed that bank demand for term deposits continues to be strong even for incremental increases in yield.

To date, testing has progressed smoothly, and, in particular, short-term market rates have generally traded above the ON RRP rate, which suggests that the facility will be a useful supplementary tool for the FOMC in addition to the IOER rate to control the federal funds rate during the normalization process. Overall, testing operations reinforced the Federal Reserve's confidence in its view that it has the tools necessary to tighten policy at the appropriate time.

9. See Board of Governors, "Minutes of the Federal Open Market Committee, March 17–18, 2015," in note 8.

Policy Normalization Principles and Plans: Additional Details

Over the past four years, the Federal Open Market Committee (FOMC) has discussed ways to normalize the stance of monetary policy and the Federal Reserve's securities holdings. The discussions have been part of prudent planning and have not been meant to imply that the move toward normalization would necessarily begin soon. In June 2011, the Committee made public a first set of normalization principles.[1] In light of subsequent changes in the System Open Market Account (SOMA) portfolio and enhancements in the tools the Committee will have available to implement policy during normalization, the Committee concluded that some aspects of the eventual normalization process would likely differ from those specified earlier. Accordingly, in September 2014, the FOMC announced that all participants but one had agreed on the following principles and plans for policy normalization:[2]

- The Committee will determine the timing and pace of policy normalization—meaning steps to raise the federal funds rate and other short-term interest rates to more normal levels and to reduce the Federal Reserve's securities holdings—so as to promote its statutory mandate of maximum employment and price stability.
  - When economic conditions and the economic outlook warrant a less accommodative monetary policy, the Committee will raise its target range for the federal funds rate.
  - During normalization, the Federal Reserve intends to move the federal funds rate into the target range set by the FOMC primarily by adjusting the interest rate it pays on excess reserve (IOER) balances.
  - During normalization, the Federal Reserve intends to use an overnight reverse repurchase agreement (ON RRP) facility and other supplementary tools as needed to help control the federal funds rate. The Committee will use an ON RRP facility only to the extent necessary and will phase it out when it is no longer needed to help control the federal funds rate.
- The Committee intends to reduce the Federal Reserve's securities holdings in a gradual and predictable manner primarily by ceasing to reinvest repayments of principal on securities held in the SOMA.
  - The Committee expects to cease or commence phasing out reinvestments after it begins increasing the target range for the federal funds rate; the timing will depend on how economic and financial conditions and the economic outlook evolve.
  - The Committee currently does not anticipate selling agency mortgage-backed securities as part of the normalization process, although limited sales might be warranted in the longer run to reduce or eliminate residual holdings. The timing and pace of any sales would be communicated to the public in advance.
- The Committee intends that the Federal Reserve will, in the longer run, hold no more securities than necessary to implement monetary policy efficiently and effectively, and that it will hold primarily Treasury securities, thereby minimizing the effect of Federal Reserve holdings on the allocation of credit across sectors of the economy.
- The Committee is prepared to adjust the details of its approach to policy normalization in light of economic and financial developments.

At the March 2015 FOMC meeting, all participants agreed to provide the following additional details on the principles and plans for policy normalization.[3] When economic conditions warrant the commencement of policy firming, the Federal Reserve intends to:

- Continue to target a range for the federal funds rate that is 25 basis points wide.
- Set the IOER rate equal to the top of the target range for the federal funds rate and set the offering rate associated with an ON RRP facility equal to the bottom of the target range for the federal funds rate.
- Allow aggregate capacity of the ON RRP facility to be temporarily elevated to support policy implementation; adjust the IOER rate and the parameters of the ON RRP facility, and use other tools such as term operations, as necessary for appropriate monetary control, based on policymakers' assessments of the efficacy and costs of their tools. The Committee expects that it will be appropriate to reduce the capacity of the facility fairly soon after it commences policy firming.

1. See Board of Governors of the Federal Reserve System (2011), "Minutes of the Federal Open Market Committee, June 21–22, 2011," press release, July 12, www.federalreserve.gov/newsevents/press/monetary/20110712a.htm.

2. See Board of Governors of the Federal Reserve System (2014), "Federal Reserve Issues FOMC Statement on Policy Normalization Principles and Plans," press release, September 17, www.federalreserve.gov/newsevents/press/monetary/20140917c.htm.

3. See Board of Governors of the Federal Reserve System (2015), "Minutes of the Federal Open Market Committee, March 17–18, 2015," press release, April 8, www.federalreserve.gov/newsevents/press/monetary/20150408a.htm.

Part 3
Summary of Economic Projections

The following material appeared as an addendum to the minutes of the June 16–17, 2015, meeting of the Federal Open Market Committee.

In conjunction with the Federal Open Market Committee (FOMC) meeting held on June 16–17, 2015, meeting participants submitted their projections of the most likely outcomes for real output growth, the unemployment rate, inflation, and the federal funds rate for each year from 2015 to 2017 and over the longer run.[10] Each participant's projection was based on information available at the time of the meeting together with his or her assessment of appropriate monetary policy and assumptions about the factors likely to affect economic outcomes. The longer-run projections represent each participant's assessment of the value to which each variable would be expected to converge, over time, under appropriate monetary policy and in the absence of further shocks to the economy. "Appropriate monetary policy" is defined as the future path of policy that each participant deems most likely to foster outcomes for economic activity and inflation that best satisfy his or her individual interpretation of the Federal Reserve's objectives of maximum employment and stable prices.

FOMC participants generally expected that, under appropriate monetary policy, growth of real gross domestic product (GDP) in 2015 would be somewhat below their individual estimates of the U.S. economy's longer-run normal growth rate but would increase in 2016 before slowing to or toward its longer-run rate in 2017 (table 1 and figure 1). Participants generally expected that the unemployment rate would continue to decline in 2015 and 2016, and that the unemployment rate would be at or below their individual judgments of its longer-run normal level by the end of

10. The incoming president of the Federal Reserve Bank of Philadelphia assumed office after the June FOMC meeting, on July 1, and a new president of the Federal Reserve Bank of Dallas has yet to be selected. Blake Prichard and Helen E. Holcomb, first vice presidents of the Federal Reserve Banks of Philadelphia and Dallas, respectively, submitted economic projections.

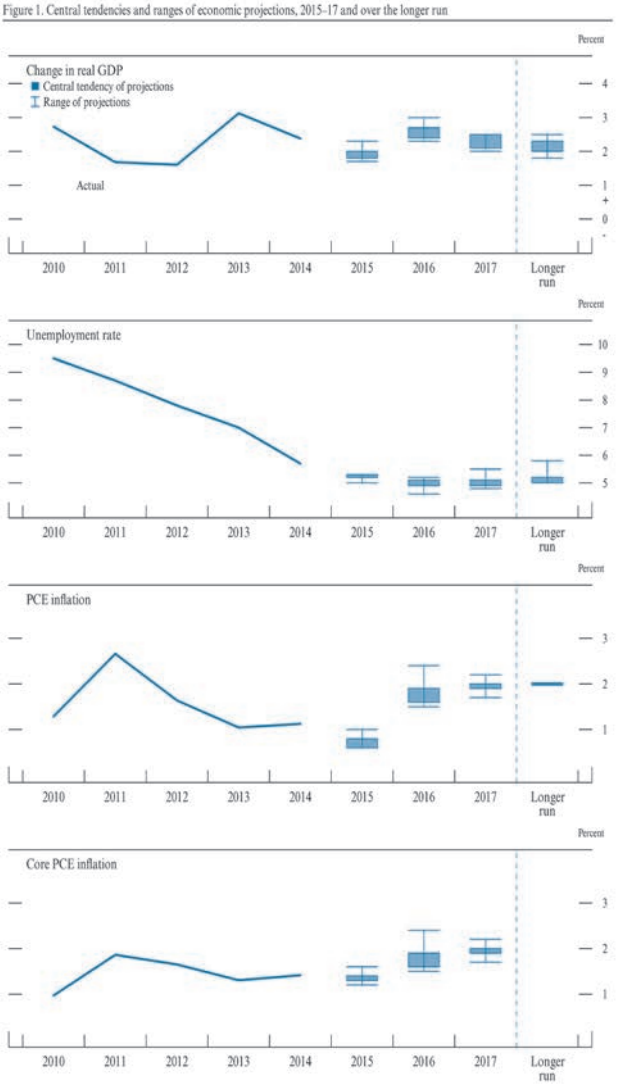
Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, June 2015
Percent

Variable	Central tendency[1]				Range[2]			
	2015	2016	2017	Longer run	2015	2016	2017	Longer run
Change in real GDP	1.8 to 2.0	2.4 to 2.7	2.1 to 2.5	2.0 to 2.3	1.7 to 2.3	2.3 to 3.0	2.0 to 2.5	1.8 to 2.5
March projection	2.3 to 2.7	2.3 to 2.7	2.0 to 2.4	2.0 to 2.3	2.1 to 3.1	2.2 to 3.0	1.8 to 2.5	1.8 to 2.5
Unemployment rate	5.2 to 5.3	4.9 to 5.1	4.9 to 5.1	5.0 to 5.2	5.0 to 5.3	4.6 to 5.2	4.8 to 5.5	5.0 to 5.8
March projection	5.0 to 5.2	4.9 to 5.1	4.8 to 5.1	5.0 to 5.2	4.8 to 5.3	4.5 to 5.2	4.8 to 5.5	4.9 to 5.8
PCE inflation	0.6 to 0.8	1.6 to 1.9	1.9 to 2.0	2.0	0.6 to 1.0	1.5 to 2.4	1.7 to 2.2	2.0
March projection	0.6 to 0.8	1.7 to 1.9	1.9 to 2.0	2.0	0.6 to 1.5	1.6 to 2.4	1.7 to 2.2	2.0
Core PCE inflation[3]	1.3 to 1.4	1.6 to 1.9	1.9 to 2.0		1.2 to 1.6	1.5 to 2.4	1.7 to 2.2	
March projection	1.3 to 1.4	1.5 to 1.9	1.8 to 2.0		1.2 to 1.6	1.5 to 2.4	1.7 to 2.2	

Note: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The March projections were made in conjunction with the meeting of the Federal Open Market Committee on March 17–18, 2015.

1. The central tendency excludes the three highest and three lowest projections for each variable in each year.
2. The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.
3. Longer-run projections for core PCE inflation are not collected.

Figure 1. Central tendencies and ranges of economic projections, 2015–17 and over the longer run



NOTE: Definitions of variables are in the general note to table 1. The data for the actual values of the variables are annual.

2017. Participants anticipated that inflation, as measured by the four-quarter percent change in the price index for personal consumption expenditures (PCE), would be appreciably below 2 percent this year but expected it to step up next year, and a substantial majority of participants projected that inflation would be at or close to the Committee's goal of 2 percent in 2017.

As shown in figure 2, all but two participants anticipated that further improvement in economic conditions and the economic outlook would make it appropriate to begin raising the target range for the federal funds rate in 2015. The economic outlooks of individual participants implied that it likely would be appropriate to raise the target federal funds rate fairly gradually over the projection period in order to promote labor market conditions and inflation the Committee judges most consistent with attaining its mandated objectives of maximum employment and stable prices. Most participants continued to expect that it would be appropriate for the federal funds rate to stay appreciably below its longer-run level for some time after inflation and unemployment are near mandate-consistent levels, reflecting the effects of remaining headwinds holding back the economic expansion, and other factors.

Most participants viewed the uncertainty associated with their outlooks for economic growth and the unemployment rate as broadly similar to the average level of the past 20 years. Most participants also judged the level of uncertainty about inflation to be broadly similar to the average level of the past 20 years, although some participants viewed it as higher. In addition, most participants continued to see the risks to the outlook for economic growth and for the unemployment rate as broadly balanced, though some viewed the risks to economic growth as weighted to the downside. A majority of participants saw the risks to inflation as balanced; of the five who did not see inflation risks as balanced, four saw risks as tilted to the downside.

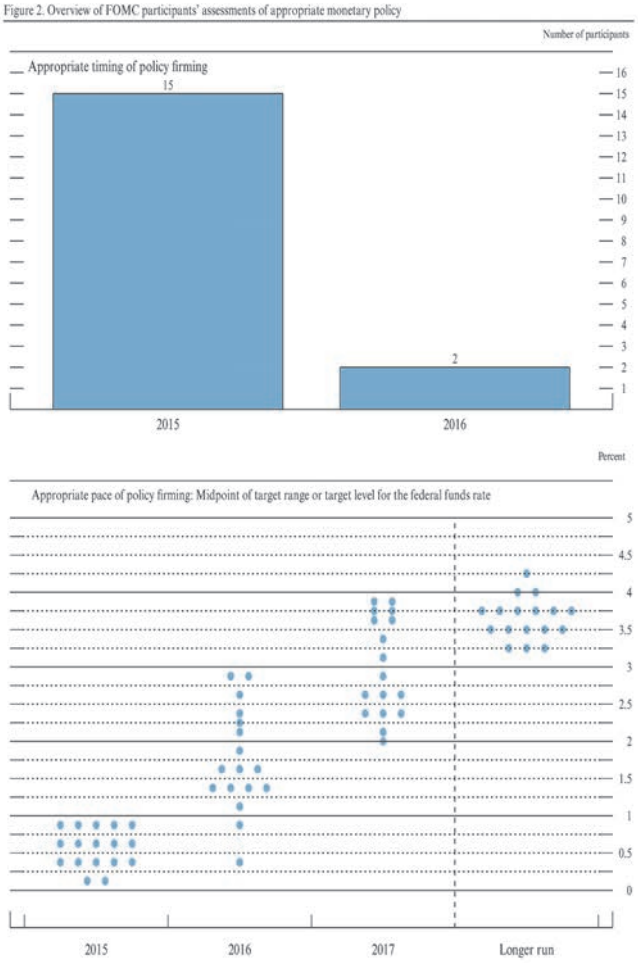
The Outlook for Economic Activity

Participants generally projected that, conditional on their individual assumptions about appropriate monetary policy, real GDP would grow slowly in the first half of 2015, but that this near-term weakness would give way to growth in 2016 that exceeds their estimates of its longer-run normal rate; most participants expected real GDP growth to slow in 2017 to rates at or near their individual estimates of the longer-run rate. Participants generally regarded the weakness in economic activity in the first half of this year to be temporary and pointed to a number of factors that they expected would contribute to solid output growth through 2016, including improving labor market conditions, strengthened household and business balance sheets, waning effects of the earlier increases in the exchange value of the dollar, a boost to consumer spending from low energy prices, diminishing restraint from fiscal policy, and still-accommodative monetary policy.

Compared with their Summary of Economic Projections (SEP) contributions in March, all participants revised down their projections of real GDP growth for 2015, but many expected the economy to make up at least some of the shortfall over the remainder of the forecast period. Beyond the near term, changes in participants' forecasts were small. The central tendencies of participants' current projections for real GDP growth were 1.8 to 2.0 percent in 2015, 2.4 to 2.7 percent in 2016, and 2.1 to 2.5 percent in 2017. The central tendency of the projections of GDP growth in the longer run was unchanged from March at 2.0 to 2.3 percent.

Most participants projected that the unemployment rate would continue to decline through 2016, and nearly all projected that by the fourth quarter of 2017, the unemployment rate would be at or below their individual judgments of its longer-run normal level. The central tendencies of participants' forecasts for the unemployment rate in the fourth

Figure 2. Overview of FOMC participants' assessments of appropriate monetary policy



NOTE: In the upper panel, the height of each bar denotes the number of FOMC participants who judge that, under appropriate monetary policy, the first increase in the target range for the federal funds rate from its current range of 0 to ¼ percent will occur in the specified calendar year. In March 2015, the numbers of FOMC participants who judged that the first increase in the target federal funds rate would occur in 2015 and 2016 were, respectively, 15 and 2. In the lower panel, each shaded circle indicates the value (rounded to the nearest ¼ percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run.

quarter of each year were 5.2 to 5.3 percent in 2015, and 4.9 to 5.1 percent in both 2016 and 2017. Compared with the March SEP, participants' projections for the unemployment rate edged up in 2015 but were little different over the medium term. Several participants indicated that the differences from their March projections for the unemployment rate over the medium term were modest in part because of the monetary policy response that they incorporated into their forecasts to mitigate an otherwise weaker trajectory for expenditures.

Figures 3.A and 3.B show the distribution of participants' views regarding the likely outcomes for real GDP growth and the unemployment rate through 2017 and in the longer run. Some of the diversity of views reflected participants' individual assessments of a number of factors, including the effects of lower oil prices on consumer spending and business investment, the extent to which dollar appreciation would affect real activity, the rate at which the forces that have been restraining the pace of the economic recovery would continue to abate, the trajectory for growth in consumption as labor market slack diminishes, and the appropriate path of monetary policy. Relative to the March SEP, the dispersion of participants' projections for real GDP growth in 2015 narrowed considerably, reflecting in part the release of the national income and product accounts data for the first quarter of this year, which were not available when the FOMC met in March.

The Outlook for Inflation

All participants projected headline PCE inflation to come in at or below 1 percent this year—mostly due to the temporary effects of earlier declines in energy prices and decreases in non-energy import prices—but to climb to 1½ percent or more in 2016. A sizable majority of participants expected that headline inflation would be at or close to the Committee's goal in 2017. Most participants projected only a slight decline in core PCE inflation this year and anticipated a gradual rise over the remainder of the forecast period. Relative to the March SEP, participants' projections for PCE inflation changed very little. The central tendencies for PCE inflation were 0.6 to 0.8 percent in 2015, 1.6 to 1.9 percent in 2016, and 1.9 to 2.0 percent in 2017; for core PCE inflation, the central tendencies were 1.3 to 1.4 percent in 2015, 1.6 to 1.9 percent in 2016, and 1.9 to 2.0 percent in 2017. Factors cited by participants as likely to contribute to inflation rising toward 2 percent included stable longer-term inflation expectations, steadily diminishing resource slack, a pickup in wage growth, the waning effects of declines in energy prices, and still-accommodative monetary policy.

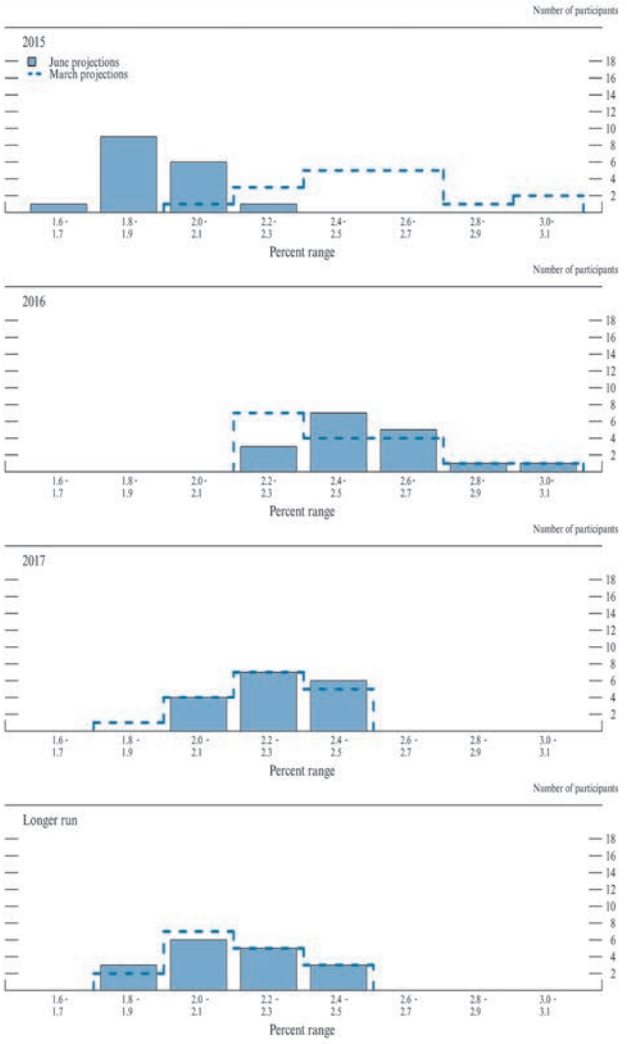
Figures 3.C and 3.D provide information on the distribution of participants' views about the outlook for inflation. The range of projections for PCE inflation in 2015 narrowed, albeit mostly on the basis of the lowering of just one projection; otherwise, the ranges of participants' projections for both headline and core PCE inflation were nearly identical to what was reported in March.

Appropriate Monetary Policy

Participants judged that it would be appropriate to begin normalization of monetary policy as labor market indicators and inflation moved to or toward values the Committee regards as consistent with the attainment of its mandated objectives of maximum employment and price stability. As shown in figure 2, all but two participants anticipated that it would be appropriate to begin raising the target range for the federal funds rate during 2015. However, a sizable majority projected that the appropriate level of the federal funds rate would remain below their individual estimates of its longer-run normal level through 2017.

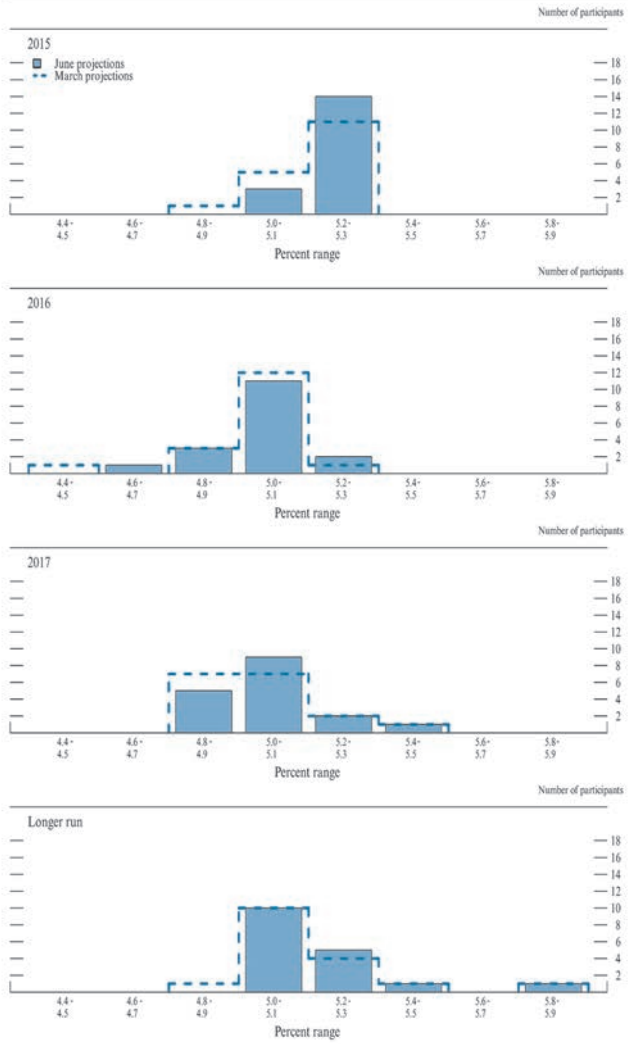
All but a few participants projected that the unemployment rate would be at or somewhat above their estimates of its longer-run normal level at the end of the year in which

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2015–17 and over the longer run



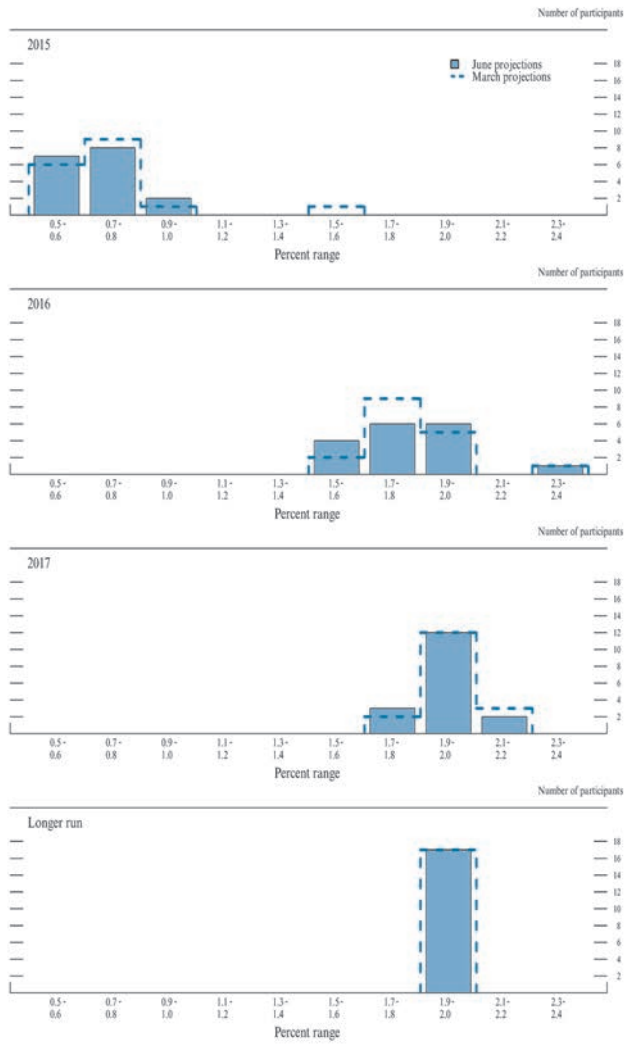
NOTE: Definitions of variables are in the general note to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2015–17 and over the longer run



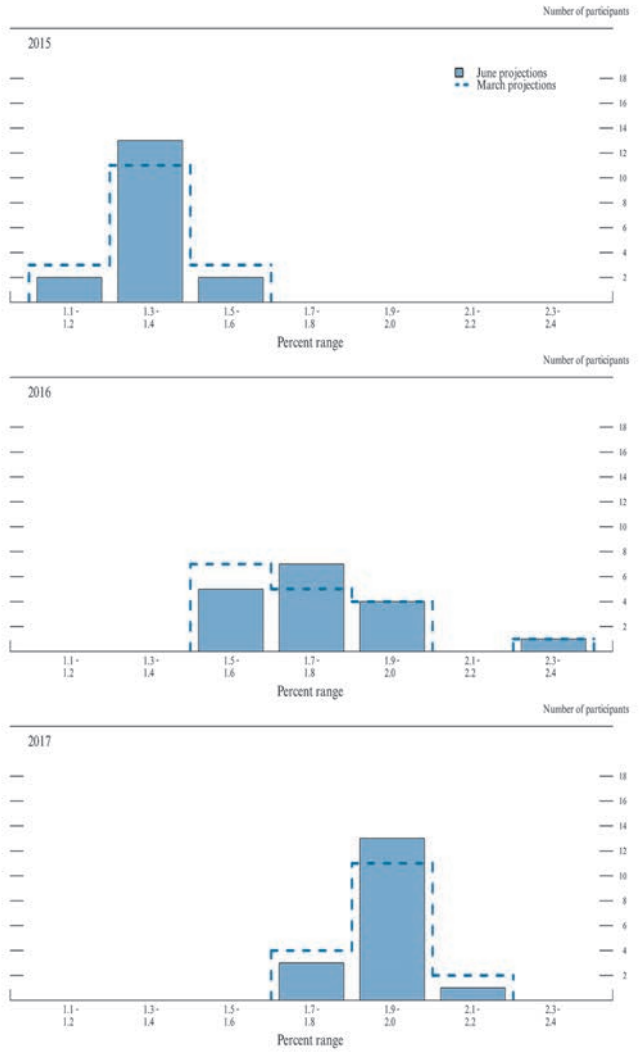
NOTE: Definitions of variables are in the general note to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2015–17 and over the longer run



NOTE: Definitions of variables are in the general note to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2015–17



NOTE: Definitions of variables are in the general note to table 1.

they judged the initial increase in the target range for the federal funds rate would be warranted, and all participants projected that unemployment would decline further after the commencement of normalization. All participants projected that inflation would be below the Committee's 2 percent objective that year, but they also saw inflation rising notably closer to 2 percent in the following year.

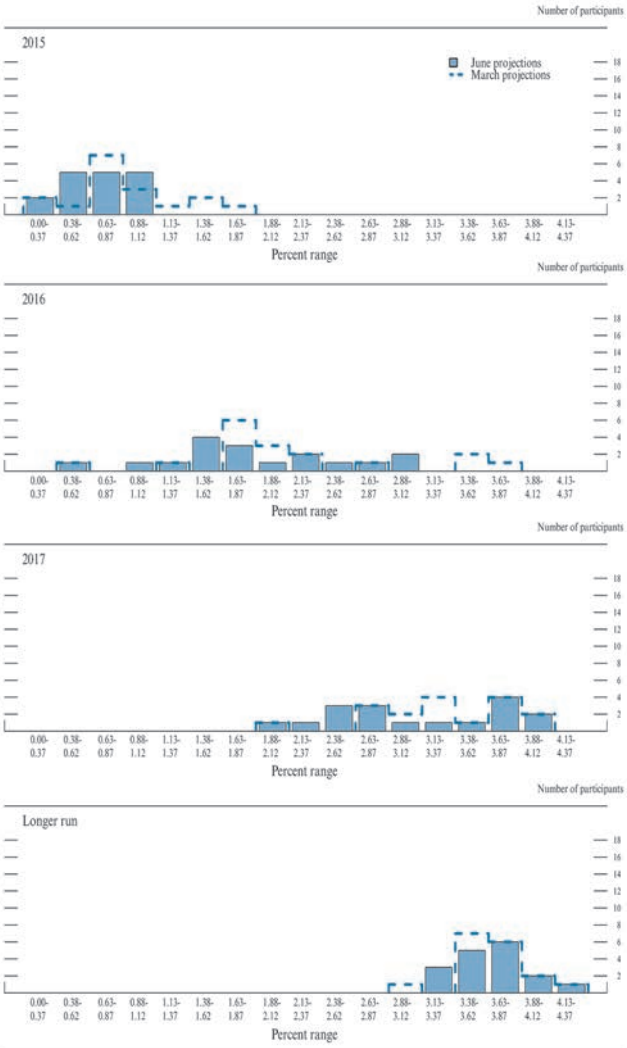
Figure 3.E provides the distribution of participants' judgments regarding the appropriate level of the target federal funds rate at the end of each calendar year from 2015 to 2017 and over the longer run. Relative to their March projections, most participants considered a lower level of the federal funds rate to be appropriate over some part of the projection period. The median projection for the federal funds rate at the end of 2015 was unchanged from March at 0.63 percent; however, the mean federal funds rate projection of 0.58 percent for that date was 19 basis points lower than in March. The median projections for the ends of 2016 and 2017 were 1.63 percent and 2.88 percent, respectively—both 25 basis points lower than in March. Compared with the March SEP, the dispersion of the projections for the appropriate level of the federal funds rate was a bit narrower over 2015 and 2016, and about the same as in March for 2017.

A sizable majority of participants judged that it would be appropriate for the federal funds rate at the end of 2017 to remain below its longer-run normal level, with about half of all participants projecting the federal funds rate at that time to be more than ½ percentage point lower than their estimates of its longer-run value. Participants provided a number of reasons why they thought it would be appropriate for the federal funds rate to remain below its longer-run normal level for some time after inflation and the unemployment rate were near mandate-consistent levels. These reasons included the expectation that headwinds that have been holding back the recovery would continue to exert some restraint on economic activity, that weak real activity abroad and the recent appreciation of the dollar were likely to persist and temper spending and production in the United States, that residual slack in the labor market would still be evident in some measures of labor utilization other than the unemployment rate, and that the risks to the economic outlook were asymmetric in part because of the constraints on monetary policy associated with the effective lower bound on the federal funds rate.

Relative to the March SEP, participants made at most modest adjustments to their estimates of the longer-run level of the federal funds rate. These changes left the median estimate of the longer-run normal federal funds rate unchanged from March at 3.75 percent; the central tendency for the federal funds rate in the longer run was 3.5 to 3.75 percent, also the same as in March.

Participants' views of the appropriate path for monetary policy were informed by their judgments about the state of the economy, including their estimates of the values of the unemployment rate and other labor market indicators that would be consistent with maximum employment, the extent to which labor market conditions were currently perceived to be falling short of maximum employment, and the prospects for inflation to return to the Committee's longer-term objective of 2 percent over the medium term. Also noted by participants were the implications of international developments for the domestic economy, the uncertainty regarding the reaction by economic decisionmakers to the beginning of policy normalization after a lengthy period with the federal funds rate at the effective lower bound, the economic benefits of limiting any associated disruptions in financial markets, and a general desire to practice risk management in setting monetary policy. In addition, some participants mentioned the prescriptions of various monetary policy rules as factors they considered in judging the appropriate path for the federal funds rate.

Figure 3.E. Distribution of participants' judgments of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate, 2015–17 and over the longer run



NOTE: The midpoints of the target ranges for the federal funds rate and the target levels for the federal funds rate are measured at the end of the specified calendar year or over the longer run.

Uncertainty and Risks

A large majority of participants continued to judge the levels of uncertainty attending their projections for real GDP growth and the unemployment rate as broadly similar to the norms of the previous 20 years (figure 4).[11] As in March, most participants saw the risks to their outlooks for real GDP growth as broadly balanced, although some participants again viewed the risks to real GDP growth as weighted to the downside. Those participants who viewed the risks as weighted to the downside cited, for example, concern about the limited ability of monetary policy to respond to negative shocks to the economy when the federal funds rate is at its effective lower bound, a fragile foreign economic outlook, and weak readings on productivity growth. A large majority of participants judged the risks to the outlook for the unemployment rate to be broadly balanced.

Participants generally agreed that the levels of uncertainty associated with their inflation forecasts were broadly similar to historical norms. A few policymakers indicated that their confidence in the likelihood of inflation moving toward the policy objective of 2 percent inflation had increased. In all, 11 participants viewed the risks to their inflation forecast as balanced, up from 8 in the March SEP. The risks were still seen as tilted to the downside by 5 participants who cited the possibility that the effects of the high exchange value of the dollar on domestic inflation could persist for longer than anticipated, that longer-term inflation expectations might coalesce on a lower level of inflation than assumed, or that, in current circumstances, it could be difficult for the Committee to respond effectively to low-inflation outcomes. Conversely, 1 participant saw risks to inflation as weighted to the upside, citing uncertainty about the timing and efficacy of the Committee's withdrawal of monetary policy accommodation.

Table 2. Average historical projection error ranges

Percentage points

Variable	2015	2016	2017
Change in real GDP[1]	±1.4	±2.0	±2.1
Unemployment rate[1]	±0.4	±1.2	±1.8
Total consumer prices[2]	±0.8	±1.0	±1.0

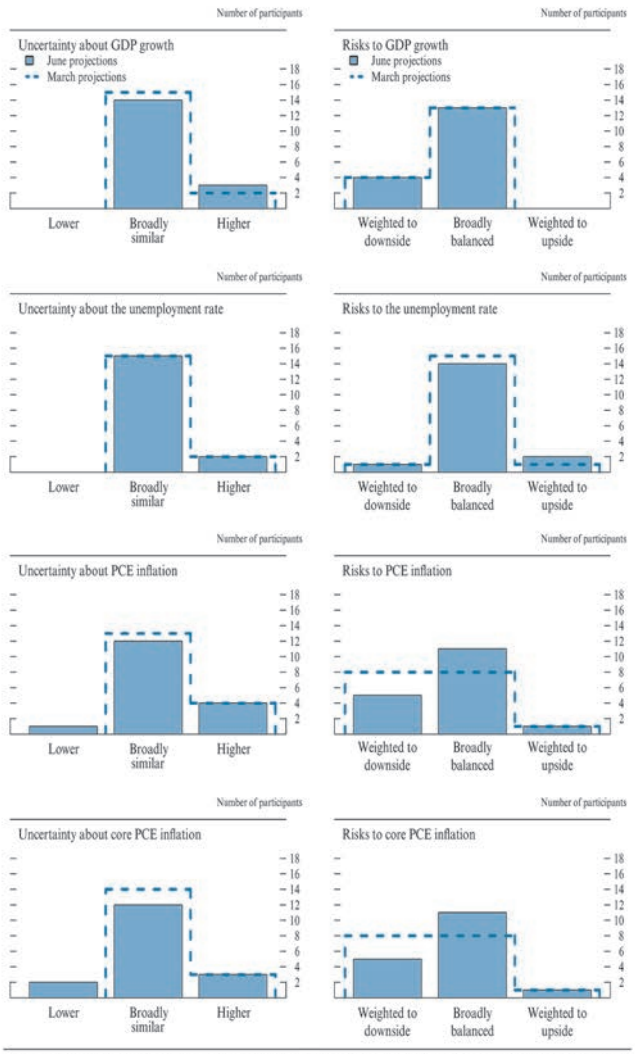
NOTE: Error ranges shown are measured as plus or minus the root mean squared error of projections for 1995 through 2014 that were released in the summer by various private and government forecasters. As described in the box "Forecast Uncertainty," under certain assumptions, there is about a 70 percent probability that actual outcomes for real GDP, unemployment, and consumer prices will be in ranges implied by the average size of projection errors made in the past. For more information, see David Reifschneider and Peter Tulip (2007), "Gauging the Uncertainty of the Economic Outlook from Historical Forecasting Errors," Finance and Economics Discussion Series 2007-60 (Washington: Board of Governors of the Federal Reserve System, November), available at www.federalreserve.gov/pubs/feds/ 2007/200760/200760abs.html; and Board of Governors of the Federal Reserve System, Division of Research and Statistics (2014), "Updated Historical Forecast Errors," memorandum, April 9, www.federalreserve.gov/foia/files/20140409-historical-forecast-errors.pdf.

1. Definitions of variables are in the general note to table 1.

2. Measure is the overall consumer price index, the price measure that has been most widely used in government and private economic forecasts. Projection is percent change, fourth quarter of the previous year to the fourth quarter of the year indicated.

11. Table 2 provides estimates of the forecast uncertainty for the change in real GDP, the unemployment rate, and total consumer price inflation over the period from 1995 through 2014. At the end of this summary, the box "Forecast Uncertainty" discusses the sources and interpretation of uncertainty in the economic forecasts and explains the approach used to assess the uncertainty and risks attending the participants' projections.

Figure 4. Uncertainty and risks in economic projections



NOTE: For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty." Definitions of variables are in the general note to table 1.

Forecast Uncertainty

The economic projections provided by the members of the Board of Governors and the presidents of the Federal Reserve Banks inform discussions of monetary policy among policymakers and can aid public understanding of the basis for policy actions. Considerable uncertainty attends these projections, however. The economic and statistical models and relationships used to help produce economic forecasts are necessarily imperfect descriptions of the real world, and the future path of the economy can be affected by myriad unforeseen developments and events. Thus, in setting the stance of monetary policy, participants consider not only what appears to be the most likely economic outcome as embodied in their projections, but also the range of alternative possibilities, the likelihood of their occurring, and the potential costs to the economy should they occur.

Table 2 summarizes the average historical accuracy of a range of forecasts, including those reported in past *Monetary Policy Reports* and those prepared by the Federal Reserve Board's staff in advance of meetings of the Federal Open Market Committee. The projection error ranges shown in the table illustrate the considerable uncertainty associated with economic forecasts. For example, suppose a participant projects that real gross domestic product (GDP) and total consumer prices will rise steadily at annual rates of, respectively, 3 percent and 2 percent. If the uncertainty attending those projections is similar to that experienced in the past and the risks around the projections are broadly balanced, the numbers reported in table 2 would imply a probability of about 70 percent that actual GDP would expand within a range of 1.6 to 4.4 percent in the current year, 1.0 to 5.0 percent in the second year, and 0.9 to 5.1 percent in the third year. The corresponding 70 percent confidence intervals for overall inflation would be 1.2 to 2.8 percent in the current year and 1.0 to 3.0 percent in the second and third years.

Because current conditions may differ from those that prevailed, on average, over history, participants provide judgments as to whether the uncertainty attached to their projections of each variable is greater than, smaller than, or broadly similar to typical levels of forecast uncertainty in the past, as shown in table 2. Participants also provide judgments as to whether the risks to their projections are weighted to the upside, are weighted to the downside, or are broadly balanced. That is, participants judge whether each variable is more likely to be above or below their projections of the most likely outcome. These judgments about the uncertainty and the risks attending each participant's projections are distinct from the diversity of participants' views about the most likely outcomes. Forecast uncertainty is concerned with the risks associated with a particular projection rather than with divergences across a number of different projections.

As with real activity and inflation, the outlook for the future path of the federal funds rate is subject to considerable uncertainty. This uncertainty arises primarily because each participant's assessment of the appropriate stance of monetary policy depends importantly on the evolution of real activity and inflation over time. If economic conditions evolve in an unexpected manner, then assessments of the appropriate setting of the federal funds rate would change from that point forward.

Abbreviations

AFE	advanced foreign economy
BHC	bank holding company
CDS	credit default swap
CMBS	commercial mortgage-backed securities
CRE	commercial real estate
ECB	European Central Bank
ECI	employment cost index
E&I	equipment and intellectual property products
EME	emerging market economy
FOMC	Federal Open Market Committee; also, the Committee
GDP	gross domestic product
IMF	International Monetary Fund
IOER	interest on excess reserves
MBS	mortgage-backed securities
ON RRP	overnight reverse repurchase agreement
PCE	personal consumption expenditures
RRP	reverse repurchase agreement
SEP	Summary of Economic Projections
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
SOMA	System Open Market Account
TDF	Term Deposit Facility
TIPS	Treasury Inflation-Protected Securities