

**THE FEDERAL RESERVE'S IMPACT ON
MAIN STREET, RETIREES, AND SAVINGS**

HEARING
BEFORE THE
SUBCOMMITTEE ON MONETARY
POLICY AND TRADE
OF THE
COMMITTEE ON FINANCIAL SERVICES
U.S. HOUSE OF REPRESENTATIVES
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THE FEDERAL RESERVE'S IMPACT ON MAIN STREET, RETIREES, AND SAVINGS

Wednesday, June 28, 2017

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON MONETARY
POLICY AND TRADE,
COMMITTEE ON FINANCIAL SERVICES,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:06 a.m., in room 2128, Rayburn House Office Building, Hon. Andy Barr [chairman of the subcommittee] presiding.

Members present: Representatives Barr, Williams, Huizenga, Pittenger, Love, Hill, Emmer, Davidson, Tenney, Hollingworth; Moore, Foster, Sherman, Kildee, and Vargas.

Chairman BARR. The Subcommittee on Monetary Policy and Trade will come to order. Without objection, the Chair is authorized to declare a recess of the subcommittee at any time.

Today's hearing is entitled, "The Federal Reserve's Impact on Main Street, Retirees, and Savings."

Before I get any further, I would like to take a moment of moment of personal privilege to talk about the tragic shooting that happened at the Republican Congressional baseball practice exactly 2 weeks ago today. Our thoughts and prayers remain with our friend and colleague, Steve Scalise, and his family, especially his wife Jennifer. Zach Barth, who is a good friend of Roger Williams' aide, was shot in the calf and is recovering well. We are happy to report he will be throwing out the first pitch at the Houston Astro's baseball game on July 4th, Independence Day, against the Yankees. I think Representative Williams had a lot to do with that.

Matt Mika, the Tyson's Foods employee, was shot multiple times. We are happy to say that he has been discharged from the hospital. And we commend the heroic actions of Crystal Griner, the Capitol Hill Police officer who was shot in the leg, and David Bailey, a special agent for the Capitol Police, who was also injured. And then our good friend, Roger Williams, the Vice Chair of this subcommittee, was injured. We are just so grateful for his recovery, and we are so glad to have him with us here today, 2 weeks after that incident.

I will now recognize myself for 3 minutes to give an opening statement.

Measured in terms of length, the Great Recession is hardly remarkable. At 18 months, it ties 5 others as our 8th longest recession. So what is remarkable about the Great Recession? In a word: severity. The Los Angeles Times documented how more than half

of adults lost a job or had a cut in pay or hours, and almost everybody's wealth fell.

Unfortunately, our recovery has not been great. Out of recession for 8 years, households and businesses continue to fall short of their potential. Every other postwar recession saw a considerably faster rebound.

Our questions for today's hearing are motivated by this disappointing economic performance. Why did the resilience of hard-working Americans go missing this time around? Did monetary policies contribute to or mitigate this disappointing recovery? And how did these policies affect our economy for savers, retirees, and Main Street?

Monetary policy was, at best, late to react. The New York Times reported that, "Federal Reserve officials were unaware in January 2008 that the economy had already entered a recession."

If monetary policy does not work, then our economy cannot work. This concern is more than academic. The Federal Reserve looked past monetary policy's fundamental service to our economy, that is providing clear price signals so the goods and services can easily find their most promising opportunities. Instead of strengthening fundamentals to rebuild our economy from the ground up, the Fed engineered a financial deflation from the top down. But the promised Keynesian nirvana never came. Households and businesses saw through the Fed's artificial economic sweeteners and focused, instead, on mitigating a new normal of rapidly mounting policy distortions.

America's hallmark confidence that tomorrow will be better than today went into retreat, cracking the very foundation of what was a reliably resilient economy.

Households and businesses watched almost \$14 trillion of potential income go down the drain since our recovery started in 2009.

Had we enjoyed a more resilient recovery, American households could have earned \$100,000 more income over the last 8 years. A decade of artificial monetary support put retirees at risk of seeing interest earnings fall short of expenses. And younger savers face the opposite problem of paying higher prices for their retirement savings. Returning to a monetary policy that simply eases the trade of goods and services wherever it shows promise would improve our economy for retirees, savers, and Main Street households and businesses. A better way is available, and we should act on it.

At this time, the Chair recognizes the ranking member of the subcommittee, the gentlelady from Wisconsin, Gwen Moore, for 5 minutes for an opening statement.

Ms. MOORE. Thank you so much, Mr. Chairman. And I want to associate myself with your comments with regard to those injured 2 weeks ago. I have used every opportunity to keep them in my thoughts and prayers. And it is good to be here. It is good to see our witnesses.

I know that retirement security is an extremely important issue facing Americans. We have baby boomers who are retiring every day. Every day, 10,000 people turn 65, and it creates real challenges for the country.

The Boomers, of course, are retiring with grossly insufficient savings. But you know what doesn't keep my up all night? The impact

of the Fed's crisis policy on retirement savings. I am not sure how it would have served retirees for the Fed to not have acted in the face of the Great Recession and to have allowed bread lines to come back or to further the Republican austerity agenda that all of our experience shows would have been disastrous for the economy.

You know what retirees need? They need the fiduciary rule that helps them save by making advisers put their clients' interests ahead of their own.

They need Medicaid, because they might find themselves in a nursing home. The massive Medicaid cuts that the Republican House, passed and the Republican Senate has right now under their jurisdiction, will absolutely devastate retirees. That is what keeps me up at night, not what the Fed did.

Savers need a robust CFPB making sure financial hucksters and fraudsters are not draining the hard-earned money of consumers. Savers need a strong Dodd-Frank Act that safeguards the financial market. The growth is not despite Dodd-Frank, it is because we have not had booms and busts, and markets are free from fraud. I am 100 percent confident that my Democratic colleagues and I are 100 percent on the side of savers.

I want to yield the balance of my time to Representative Foster.

Mr. FOSTER. Thank you, Mr. Chairman, and Ranking Member Moore.

I think one of the reasons that we have a lot of—both parties talking past each other in a lot of these things and often coming up with imaginary scenarios of what might have happen. It is one of the realities of politics that you don't get controlled experiments the way you do in science.

You can't restart and set up a parallel universe and find out what would have happened without the aggressive monetary actions by the Fed during a crisis. It would be a very interesting experiment. We don't have it, so we are stuck with imagined alternate scenarios.

But I think when I look at the debate over monetary policy, the big problem is that we are not looking enough at the distributional consequences of this. There was what was, to me, a very influential paper on MIP actually from the Federal Reserve entitled, "Doves for the Rich, Hawks for the Poor, Distributional Consequences of Monetary Policy," that came out in 2016. And it makes the point that, over the course of a business cycle, if you decide which one of the two elements of the dual mandate you are going to emphasize, it has real distributional consequences.

And the other side of the coin is that even if you are focusing only on aggregate numbers like total GDP growth or household net worth, the distributional elements of that are very important in how fast our economy grows.

To put it sort of bluntly, the reaction of our economy in a macro sense is very different if you give additional dollars to someone with higher net worth than someone who is part of a working family, that the working family is much more likely to let the money circulate in the local economy; the high net worth person is much likely to turn the money over to their funds manager and send a big fraction of it offshore under the standard advice of diversifying and risk.

And so I think that we have to more and more in our debate look at distributional effects. I would very much like to see the Federal Reserve every quarter come out with not just the aggregate household net worth but by quintiles or even percentiles, because I think that would very much illuminate the debate and, I think, yield a higher level of understanding of what the real constraints are on economic growth in this country.

Thank you. I look forward to the hearing.

I yield back.

Chairman BARR. The gentleman yields back. And the gentlelady yields back.

And as I said before, we are so grateful for the well-being and recovery of our good friend, Roger Williams, the Vice Chair of the subcommittee. And the Chair now recognizes the gentleman from Texas, Roger Williams himself, a Main Street businessman who suggested the topic of this hearing, for 2 minutes for an opening statement.

Mr. WILLIAMS. Thank you, Chairman Barr, and Ranking Member Moore.

As a point of privilege, I would like to echo the remarks you made about the tragic events that unfolded 2 weeks ago. I would also like to thank Chairman Hensarling, and the members of this committee and their staff, for the support my office has received during these difficult times.

As I have said many times, events like this might slow us down, but we cannot let them deter us from doing the important work our constituents sent us here to do. So I want to, again, say thank you, Mr. Chairman, for your kind words.

The economy of the United States is the largest in the world. At \$18 trillion, it represents a quarter share of the global economy. Since 1854, Americans have seen their economy fall under recession 33 times. And as Chairman Barr noted earlier, the most recent recovery has been slow with sluggish growth and policies that have hurt Main Street America.

Consequently, one of those policies requires the Federal Reserve to pay higher rates to banks that have excess reserves. Required reserves alone provide \$110 billion in funding, less than 3 percent of the current \$4.5 trillion Federal balance sheet. The troubling spike in excess reserves held at the bank has ballooned to over \$2 trillion. According to former Fed Chairman Bernanke, banks are not going to lend out the reserves at a rate lower than they could earn at the Fed. Essentially, Mr. Bernanke is admitting that the Fed is paying above market interest.

The excess money being held in reserve is just sitting there, not being let out, not serving an economic purpose. Clearly, the Fed has stepped far outside of the bounds of a conventional balance sheet in terms of both funding sources and size.

So, Mr. Chairman, I look forward to discussing this further with the witnesses today, and I yield back the balance of my time.

Chairman BARR. The gentleman yields back.

Today, we welcome the testimony of Dr. Norbert Michel, a research fellow at the Heritage Foundation. His research focuses on financial markets, financial regulations, and monetary policy. He previously taught finance, economics, and statistics at Nicholls

State University's College of Business. Dr. Michel earned his bachelor's degree from Loyola University, and his Ph.D. in economics from the University of New Orleans.

Dr. Paul Kupiec is a resident scholar at the American Enterprise Institute, where he specializes in systemic risk management, and regulation of banks and financial markets. Previously, he was the Director of the Center for Financial Research at the FDIC and has also worked at the International Monetary Fund, Freddie Mac, JPMorgan, and the Board of Governors of the Federal Reserve System. Dr. Kupiec earned his bachelor's degree from George Washington University, and a doctorate in economics from the University of Pennsylvania.

Dr. Karen Dynan is currently a nonresident senior fellow at the Peterson Institute for International Economics. Her research focuses on fiscal and other types of macroeconomic policy, consumer behavior, and household finances.

She previously served as Assistant Secretary for Economic Policy and Chief Economist at the U.S. Department of the Treasury. She also will be a professor of economics at Harvard starting in July. Dr. Dynan received her Ph.D. in economics from Harvard, and her bachelor's degree from Brown.

Alex Pollock is a distinguished senior fellow at the R Street Institute, where he specializes in financial systems and central banking, economic cycles, financial crises, and the politics of finance. He previously was a resident fellow at the American Enterprise Institute, and was also President and CEO of the Federal Home Loan Bank of Chicago. Mr. Pollock earned his bachelor's degree from Williams College, his master's of philosophy from the University of Chicago, and his master's of public administration from Princeton University.

Each of you will be recognized for 5 minutes to give an oral presentation of your testimony. And without objection, each of your written statements will be made a part of the record.

Dr. Michel, you are now recognized for 5 minutes.

**STATEMENT OF NORBERT J. MICHEL, SENIOR RESEARCH
FELLOW, THE HERITAGE FOUNDATION**

Mr. MICHEL. Chairman Barr, Ranking Member Moore, and members of the subcommittee, thank you for the opportunity to testify today.

I am a senior research fellow in financial regulations and monetary policy at the Heritage Foundation, but the views that I express in this testimony are my own, and they should not be construed as representing any official position of the Heritage Foundation.

The Federal Reserve has a much better reputation among economists than with the general public. And even though I am an economist, I have to side with the public on this one. Monetary policy is not working for Main Street America. And my remarks will provide four specific examples of why Americans need Congress to fix monetary policy.

First, the Fed has not tamed the business cycle. When the Fed is no longer given a free pass on the Great Depression, and the entire Fed era is compared to the entire pre-Fed era, neither the fre-

quency nor severity of recessions has decreased. Even when the period between the two World Wars is excluded, updated data suggests that the average length of recessions, as well as the average time to recover from recessions, has been slightly longer during the postwar period than during the pre-Fed period. In many cases, the apparent decline in postwar volatility is literally a figment of the data.

Second, the Fed has not tamed inflation unless one defines price stability in a way that is extremely favorable to what the Fed has done. For instance, the variability in inflation has declined in the postwar period, but the average rate of inflation is much higher than it was before the Fed was founded.

Estimates of the annual CPI show that the average inflation rate prior to the Fed was only about 0.2 percent, whereas the average rate since the Fed has been more than 3 percent, and the variability has only dropped one percentage point. Perhaps more importantly, the Fed has been actively trying to stamp out the good type of deflation that a growing productive economy normally produces. The Fed simply doesn't want to let prices fall, even when they should.

Main Street Americans understands that when the Fed constantly fights the Walmart business model, it makes it harder for them to earn a living.

Third, an inflated opinion of the Fed's ability to control every aspect of the economy is what contributed to our recent housing boom and the consequent bust, likely worsening massive job losses, millions of home foreclosures, and billions of dollars in lost wealth.

In the early 2000s, the Fed actively and openly tried to keep its Fed funds target rate below what it viewed as the natural Fed funds rate. The Fed thought that it could use the higher productivity to further boost employment without increasing inflation, so that is what it tried to do. And residential construction grew from supporting about 5½ million jobs at the end of the 1990s to almost 7½ million jobs at the peak of the cycle in 2005.

When the crash hit, housing-related employment fell substantially down to 4½ million by 2008. This means that roughly 75 percent of the drop in total U.S. employment was housing related, and the Fed simply shares some of this blame.

Several measures suggest that the Fed's policy stance was excessively tight at exactly the wrong period, thus worsening the downturn. And the Fed openly admits that starting in 2008, it sterilized emergency lending and large-scale asset purchases with the explicit intent of ensuring that those purchases would not spill over into increased private lending, and did so out of concern for its Fed funds target and inflation target, but it should have been worried about preventing aggregate demand from collapsing, and it completely failed on this front.

Fourth, as a result of the Fed's extraordinary efforts, taxpayers are left shouldering the risk of more than \$4 trillion in long-term securities sitting on the Fed's balance sheet with very little to show for it, all while a select group of financial firms received more than \$16 trillion in credit at subsidized rates. The Fed's policies have helped drive demand for safe assets through the roof, thus contrib-

uting to historically low interest rates. They have also crowded out private investment and contributed to less affordable housing.

And I have left out of my oral remarks any critique of the Fed's regulatory failures, particularly those that blessed Fannie Mae and Freddie Mac mortgage-backed securities with a preferred position in bank's required capital framework.

Congress would not be fulfilling its responsibility if it allows the Fed to continue operating under its existing ill-defined mandates where it has essentially become a broker, allocating credit to preferred sectors of the economy.

And I look forward to answering your questions.

[The prepared statement of Dr. Michel can be found on page 74 of the appendix.]

Chairman BARR. Dr. Kupiec, you are now recognized for 5 minutes.

**STATEMENT OF PAUL H. KUPIEC, RESIDENT SCHOLAR,
AMERICAN ENTERPRISE INSTITUTE**

Mr. KUPIEC. Chairman Barr, Ranking Member Moore, and distinguished members of the subcommittee, thank you for convening today's hearing. It is an honor for me to testify before the committee today.

I am a resident scholar at the American Enterprise Institute, but this testimony represents my personal views. There is little doubt that the Federal Reserve is the most powerful agency in government. The Fed's decisions have important impacts on the lives of every American, and yet, the Fed's decisions are made by unelected officials with only limited oversight by Congress.

Few Members of Congress are deeply schooled in the arcane details of monetary theory, and those who are schooled face a full-time job just keeping abreast of the ever-changing fashions in central banking. Economists and central bank officials are continually refining the thinking that guides their policy prescriptions.

In addition, Congressional Members who dare to question the propriety of the Fed's monetary policy decisions know full well that they will be charged with the mythical crime of attacking the Fed's independence.

Countercyclical monetary policy is, at its core, a redistribution mechanism. To stimulate the economy, the Fed lowers interest rates, thereby reducing the income of savers with the hope of encouraging other groups to borrow and increase their spending. The monetary policy works as planned. It generates growth benefits that more than offset the redistribution. But in the current recovery, the theory did not work out as planned.

The economy has continually performed below Fed growth targets. Moreover, the income and wealth redistributions caused by the Fed's post-crisis monetary policies have been exceptionally large and unusually prolonged.

There is little doubt that unconventional monetary policies like near zero interest rates, interest on bank reserves, and quantitating operations have had important impacts on the distribution of income and wealth in America.

My written testimony includes analysis that shows that those on the less well-heeled side of Main Street, of which there are many

in America, have seen fewer gains and a weaker recovery compared to the benefits that policies have generated for a wealthy minority of Americans.

Under post-crisis monetary policies, households near the top of the income distribution have received most of the wage gains as well as the QE-generated gains in stock and home values. At the same time, households outside of the top income bracket saw their wages stagnate, and those living off fixed income retirement savings saw their incomes decline.

Households trying to save have had to accept near zero returns on prudent investments or gamble by investing in equity markets inflated by Fed QE programs. Fed policies benefited banks by sharply reducing their funding costs. At the same time, bank customers saw the markup they pay on bank loans and services increase. And few seem to realize that the largest banks are now more reliant on cheap, taxpayer-guaranteed deposit funding than they were at the start of the crisis.

Had unorthodox generated the income growth that was anticipated, the Fed's policy experiments would have been suspended years ago without generating the public dismay that has sparked today's audit-the-Fed movement. To be clear, the Fed's mandate to maintain price stability and maximum sustainable employment does not include any explicit obligation to consider wealth or income redistribution when formulating policy. And the current mandate is probably sensible given the fact that monetary policy is truly a blunt instrument. But the Fed is mistaken if it assumes that it will be insulated from Congressional intervention when a large share of the electorate becomes disillusioned with the Fed's performance.

The need for a more comprehensive Congressional discussion on the impacts of the Fed's monetary policy decisions is long overdue. But thus far, Congress has been unable to catalyze this discussion. The modest size of Congressional staff provides Members with limited resources to gauge the Fed on technical discussions on monetary policy, nor is it clear that proposed legislation such as the Federal Reserve Transparency Act of 2017 will adequately address these issues. When engaged to investigate controversial financial issues, GAO studies are rarely conclusive. Congress needs a new approach.

My recommendation is that Congress consider a simple procedural change that could, without any new legislation, help to level the playing field. After the Fed delivers its written Humphrey-Hawkins testimony, but before scheduling the Fed Chair's testimony, the Congress could hold hearings in which outside experts evaluate the Fed's written testimony.

After such hearings, they would allow the Congress additional time and expert resources to prepare oversight questions for the Fed Chair subsequent to the Humphrey-Hawkins hearing. My guess is there is at least an even chance that once the Fed's written testimony is subjected to expert opinion and outside review before the Fed Chair testifies, that the Fed will find it preferable to anticipate and address controversial issues in its written testimony. Especially if the Congress encourages nonaligned experts to focus on issues with which they are concerned.

Thank you for the opportunity to testify today, and I look forward to your questions.

Thank you.

[The prepared statement of Dr. Kupiec can be found on page 49 of the appendix.]

Chairman BARR. Thank you. .

Dr. Dynan is now recognized for 5 minutes.

STATEMENT OF KAREN DYNAN, NONRESIDENT SENIOR FELLOW, PETERSON INSTITUTE FOR INTERNATIONAL ECONOMICS

Ms. DYNAN. Thank you.

Mr. Chairman, Ranking Member Moore, and members of the subcommittee, thank you for the opportunity to testify today. I will make five points on how the Federal Reserve's policies have affected Main Street retirees and savers.

First, accommodative monetary policy since the recession has produced a strong economic recovery in the United States. The lower interest rates resulting in the Fed's actions reduced borrowing costs for households and businesses. They also enabled homeowners to refinance their mortgages, leaving them with more money for other things. This spurred additional spending, leading to yet more hiring and more income.

Real GDP is now 17 percent above its recession low point, and the unemployment rate is at its lowest level since 2001. Indeed, as noted in a recent OECD report, our economic recovery has been stronger than in most other countries, with the report attributing our better performance partly to the best monetary policy support.

My second point is that while the employment effects of the Fed's actions have differed across people, everyone has benefited from more job growth. Someone who found a new job after being laid off during the recession undoubtedly benefited more from the Fed's efforts to restore a healthy labor market than a neighbor who had a stable job.

That said, the effects of a stronger labor market were not limited to unemployed people who found jobs. Employed people were more likely to see wage increases and to find better opportunities with other firms. The additional income generated by new and better jobs boosted household spending, helping businesses do more hiring and expand in other ways.

I want to particularly emphasize the importance of restoring a healthy labor market to small businesses, because they account for so much employment, and they were hit hard during the recession. I think small businesses would have faced far greater struggles in recent years if demands for their products had been weaker because monetary policy was not sufficiently supportive.

Third, the effects of monetary policy on savers have differed across people. Lower interest rates have hurt some savers by reducing their interest income, but have helped some savers by boosting stock and home prices.

Increases in stock and home prices in recent years have added tens of trillions of dollars to household wealth.

Overall, a relatively small amount of wealth, around 5 percent, is in interest-paying accounts, but there are differences across the

income distribution. For retirement-age households, middle- and upper-middle income households are the most exposed to interest income losses. While we should not minimize the hardship suffered by some in this group, research has shown that the financial losses of the group from 2007 to 2011 amounted to less than 10 percent of its income.

In addition, many savers, among them many retirees, are also borrowers, which meant they benefited directly from lower interest rates.

Furthermore, the strong labor market fostered by monetary policy enhanced retirement security by reducing forced early retirements.

My fourth point is that while the Federal Reserve should be accountable to Congress for its actions, some of the provisions in the CHOICE Act would impair its ability to support a strong economy and low and stable inflation. Studies have demonstrated that economies perform best when monetary policies are insulated from short-term political pressures. But regular GAO audits of monetary policy might discourage the FOMC from taking the actions needed to create maximum employment and stable prices particularly on unpopular actions.

Furthermore, closely tying the FOMC's actions to strict predetermined rules would hinder its ability to appropriately react to adverse developments given the complexity of our economy.

My fifth and final point is that too many Americans have not saved enough for retirement, and various aspects of Federal policy apart from monetary policy should be used to enhance financial security.

One way to raise retirement saving is to increase access to tax-deferred workplace retirement savings accounts. For example, Congress could adopt a proposal developed by the Brookings Institution and the Heritage Foundation under which firms would automatically enroll workers without a plan in an individual retirement account with an option, of course, to opt out of that plan.

We should also protect the Labor Department's new fiduciary rule to help savers, large and small, get a fair shake in financial markets. It is common sense to require financial advice to be in the best interest of savers.

And we need to protect savers from investment fraud, including older households who seem particularly vulnerable to such abuses. To do so, among other things, we should preserve the powers of the Consumer Financial Protection Bureau.

Thank you very much, and I look forward to your questions.

[The prepared statement of Dr. Dynan can be found on page 42 of the appendix.]

Chairman BARR. Thank you. And now, Mr. Pollock, you are recognized for 5 minutes.

STATEMENT OF ALEX J. POLLOCK, DISTINGUISHED SENIOR FELLOW, R STREET INSTITUTE

Mr. POLLOCK. Thank you, Mr. Chairman, Ranking Member Moore, and members of the subcommittee.

I couldn't agree more with Dr. Dynan that the Fed needs to be accountable to the Congress. I am going to discuss one particular

way in which that accountability should take place: relative to savings.

There is no doubt at all that among the important effects of the Federal Reserve's actions since 2008, up to now, has been expropriation of American savers, and that makes things especially difficult for many retirees. This, of course, has been done through the imposition of negative real interest rates on savings through a remarkably long period of 9 years. Negative interest rates would be expected from the central bank in the crisis mode. This morning, we talked a lot about the crisis, but the crisis ended 8 years ago. After that, the Fed wanted to inflate asset prices to achieve a so-called wealth effect.

Well, house prices bottomed 5 years ago, and they are back up over their bubble peak. The stock market is at all-time highs. So what is the Fed doing, still forcing negative interest rates on savers at this point? The Fed should be required to explain that to Congress.

I recommend that Congress require a formal savers impact analysis from the Federal Reserve at each discussion of its policies and plans with the committees of jurisdiction.

Under the CHOICE Act, this would be quarterly. This analysis would discuss, quantify, and talk about the plans of the Fed as they relate to savings and savers so that these can be balanced with other relevant factors.

The Fed endlessly announces to the world its intention to create perpetual inflation at 2 percent, which is equivalent to a plan to depreciate savings at the rate of 2 percent a year.

Against that plan, what are savers getting? The FDIC's June 2017 report shows the average interest rate on savings accounts is 0.06 percent. The average Money Market deposit account rate is 0.12 percent, and in no case can savers get their real yield anywhere near zero, that is to say, near the inflation rate.

In other words, thrift, prudence, and self-reliance, which is what we should be encouraging, instead are being strongly discouraged.

As Congressman Foster said a minute ago, we have to think about distributional consequences of the Fed's actions—I agree with that. Overall, speaking of distribution, the Fed has been taking money from savers in order to give it to borrowers. This benefits borrowers in general, but in particular, it benefits highly leveraged speculators in financial markets and speculators in real estate.

More importantly, it benefits the biggest borrower of all, the government itself. Expropriating savers through the Federal Reserve is a way of achieving unlegislated taxation. One term for this is financial repression, and financial repression is what we have.

By my estimate, the Federal Reserve has taken since 2008 about \$2.4 trillion from savers. The specific calculation is shown in the table, which is included in my written testimony, which compares normal, based on the 50-year average of real interest rates, to those that we have had since 2008. We multiply by the savings base, and to repeat the answer, it is \$2.4 trillion.

Now, there can be no doubt that taking \$2.4 trillion from some people and giving it to other people is a political act. As a political act, it should be openly and clearly discussed with the elected Rep-

representatives of the People who have the constitutional responsibility for the nature of money.

In this context, it is an obvious fact that the Fed is just as bad at economic and financial forecasting as everybody else. It has no special insight into the future, and since it can't see the future, it must be rely on theories.

Dr. Kupiec said they are refining their thinking on theories. I say they keep changing the theories. Grown-up substantive discussions with the Congress about which theories the Fed is supplying, what the alternatives are, who the winners and losers may be, and what the implications for political economy and political finance are, just as the CHOICE Act suggests, would be a big step forward in the accountability of the Federal Reserve. And a key part of these discussions, I again suggest, should be a formal savers' impact analysis.

Thank you very much for the chance to share these views.

[The prepared statement of Mr. Pollock can be found on page 93 of the appendix.]

Chairman BARR. Thank you, Mr. Pollock, and your time has expired.

And the Chair now recognizes himself for 5 minutes.

Mr. Pollock, your testimony that Federal Reserve policies, and near zero interest rate policy since 2008 have deprived the American people savings to the tune of \$2.4 trillion is certainly a depressing analysis of the failure of Fed policies post-recession. And I think even Dr. Dynan acknowledged that Fed policies have punished at least certain savers or certain Americans in the economy.

But I want to focus on, for a moment, the comments from my colleague, Mr. Williams, who talked about interest on excess reserves and the policy of the Fed paying interest on excess reserves.

As you know, the FOMC's primary monetary policy tools are now interest on excess reserves and reverse repos, not open market operations.

Interestingly, in 2013, former Fed Chairman Ben Bernanke said, "Banks are not going to lend out the reserves at a rate lower than they could earn at the Fed." So essentially, in effect, Mr. Bernanke is admitting that the Fed is paying above market rates through interest on excess reserves (IOER).

Do you agree with Chairman Bernanke that paying IOER is effectively paying banks to not deploy capital into the real economy? And if so, what are the consequences for Main Street Americans?

We will start with Dr. Michel.

Mr. MICHEL. Thank you. I do agree. You have a large pile of money sitting there, and anyone who has a large pile of money has choices in what to do with it. So if you have given them an above-market rate, they are going to probably go to that spot. Right? And that is all that is going on here.

You have essentially diverted money from the real economy for a very small number of very large banks, and that does not help Main Street America. It does not help anybody but those large banks.

Chairman BARR. Dr. Kupiec, in my discussions with the members of FOMC, both Governors and district bank presidents, some have defended Fed policies by arguing that IOER is not diverting

access to capital in the real economy in a material way. What would you say in response to that?

Mr. KUPIEC. It is not just excess reserves. It is all bank reserves they pay interest on, which is problematic. It is problematic because without paying interest on excess reserves, the Federal fund rate, which is the rate that banks trade excess reserves at, would be zero. And it would be zero for the foreseeable future, because there are so many excess reserves that the Fed has generated through QE operations.

So until excess reserves come down to a level far, far smaller than they are, the Fed has to do something to control the short-term interest rate. And how it does that is it puts a floor over it by setting the IOER, which is now at 1 percent. It is not 25 basis points anymore. It is a real number.

Those benefits do not pass on to depositors and banks, because banks have excess liquidity in deposits. They don't have to pay to raise new deposits. So deposit rates haven't risen, and they are unlikely to rise for a long time. This whole mechanism distorts the way the market works.

The Federal funds market is not working the way it worked before the crisis, and the Fed is still targeting the Federal funds rate to set monetary policy. So there is kind of a disconnect here in how the whole system is operating.

Chairman BARR. Mr. Pollock, in addition to the zero low interest rate policies punishing savers, do you concur with the argument that the Fed policy of paying interest on reserves, paying interest on excess reserves, is diverting capital away from the real economy?

Mr. POLLOCK. I do, Mr. Chairman. I think we have to look at the classic theory of reserves, which is they were supposed to, by definition, be zero interest bearing and, therefore, banks tried to get out of holding them by lending out their money. That is the classic theory of the bank multiplier through high-powered money.

Chairman Bernanke, in a brilliant political move, got the act changed to be able to pay interest rates on reserves.

My interpretation is that is because the Fed itself wanted to act as the financial intermediary where it could draw the resources into itself and allocate the credit, which it did, to mortgages and to financing the government.

Chairman BARR. Dr. Kupiec, really quickly, we know that the balance sheet is now \$4.5 trillion. Do the American people have anything to be concerned about, with this oversized balance sheet?

Mr. KUPIEC. The Fed has to decide what to do with its balance sheet. One of the reasons it has to control the Federal funds rate is that it doesn't want to sell off Treasury securities. If that were to spook the long-term rate, then the long-term rates would jump, the stock market could risk calamity, and that kind of policy decision really isn't in their playbook right now.

So they are stuck looking at long-term interest rates. As long as they do that, they are going to have to pay banks to keep the interest rates up. Banks are going to be low to pass these benefits on to savers. And so I think it is a problem.

Chairman BARR. My time has expired.

And the Chair now recognizes the distinguished ranking member, Congresswoman Moore, for 5 minutes.

Ms. MOORE. And thank you so much, Mr. Chairman.

Again, these are always extraordinary opportunities for the committee to hear from the best and brightest in the financial services industry, and I appreciate your appearance here today.

I would like to direct my question to you, Dr. Dynan. This committee is often very critical of the Fed for its dual mandate, and there is a constant cry for us to eliminate the mandate that talks about increasing employment.

So I am wondering if you can elaborate a little bit on the accommodative monetary policy of lowering those interest rates in order to avoid the employment versus the Fed doing nothing or doing something else.

Ms. DYNAN. Thank you, Congresswoman Moore.

With regard to the dual mandate, I think the two sides of the mandate really go hand in hand. The soft employment conditions that we have had in recent years are mirrored by disinflationary or deflationary forces, which contribute to the softer economy.

In general, if you expect prices to fall in the future, you are going to defer spending today. So ignoring these forces is not the way to address an economy where a demand is falling short of where it should be.

I should say, in this particular case, low inflation has been a particular problem, because we had a debt crisis where people were overleveraged. Traditionally, one way in which debt burdens are reduced is that inflation erodes them because they are usually defined in nominal terms.

So I think the Fed's efforts to both support employment, produce maximum employment, and to raise inflation to their targeted 2 percent—

Ms. MOORE. Ms. Dynan, I am really specifically interested in the comments you made in your written testimony about the 86 consecutive months of private sector job growth, and is that a worthwhile tradeoff with regard to whatever interests, income may have been enjoyed by savings?

Ms. DYNAN. As I noted in my testimony, you don't want to minimize the hardship of anyone who has suffered as a result of lower interest income. But I will say that the Fed needs to act in the interest of the economy as a whole, and the effects of strong job creation have been really enormous for the American public as a whole. And as I explained in my testimony, really, that strong job growth benefits everyone in the economy.

Ms. MOORE. Thank you so much.

The name of this hearing talks about the suffering the seniors have felt with regard to monetary policy of the Fed.

I am wondering if you can comment, or elaborate a little bit more on the fiduciary rule and the impact that may have on protecting seniors?

You mentioned in your testimony that \$17 billion has been lost as a result of—and the advice not being given appropriately to seniors. And you also mentioned provisions of the CHOICE Act that you think would materially impair the Fed's ability to support a strong economy and stable inflation. Would you comment on that?

Ms. DYNAN. Yes. I worked on the fiduciary rule when I was in the Administration. I think it is very important to make sure that savers both large and small get a fair shake in financial markets.

It is just common sense that we should require financial advice to be in the best interest of the saver. There are some very big opportunities for abuses, particularly when someone is coming out of a job and they have a 401(k), and they have been given advice under one standard in which the financial advisers need to adhere to stringent rules and, suddenly, they are being approached by people who want them to roll this money over to IRAs, and those people have conflicts of interests. And that is where, really, the \$17 billion number comes from.

So I think it is very important that we protect the fiduciary rule, and it is very important that we fight off attempts to weaken it, because I think it would harm savers.

With regard to the CHOICE Act, as I mentioned in my testimony, the main concerns I have are about the provisions that require regular GAO audits of the Fed as well as the provision that ties monetary policy decisions closely to a pre-determined Taylor Rule. I think that both would undermine the Fed's ability to support a strong economy.

Ms. MOORE. Thank you so much. My time has expired.

Chairman BARR. The gentlelady's time has expired.

The Chair now recognizes the Vice Chair of the subcommittee, Mr. Williams from Texas.

Mr. WILLIAMS. Thank you, Mr. Chairman.

I want to thank all of you for your testimony today. I appreciate that.

I am a Main Street guy, a small business owner back in Texas. I go so far back, that I borrowed money at 20 percent interest. And I can tell you, today, it is tough on Main Street.

Dr. Michel, on page 14 of your testimony, you talk about how the central bank's policy stance was excessively tight at exactly the wrong time. You go on to say that the Fed's policies prolonged the recession. You said, paying interest on excess reserves is bizarre. And can you go into more detail on why the 2008 policy was wrong then and why it is still wrong today?

Mr. MICHEL. Sure. It was wrong then, because the whole idea behind expanding monetary policy during the crisis is that there would be more lending and more economic activity. The Fed acknowledged that they were using interest on excess reserves to prevent that money from getting out there. I'm not making this up. They have told us this. That doesn't make any sense.

If you have a crisis and you want to expand the economy, and you want to stop a downturn, you don't do anything to stop that money from getting out there. You do everything you can to get it out there. So that was exactly the wrong time to do that.

As far as now, what you have is, essentially, \$2 trillion in excess reserves by the largest banks, and we have nothing to show for what we have done, but we have that money sitting there. And we are paying—the Fed projects that they will pay almost \$30 billion of interest this year to those banks, and that will rise up to, under their projections, almost \$50 billion, \$50 billion by 2019.

That is not community banks getting that money. That is not Main Street Americans and average wage workers getting that money. That is money that is not being productively used. It is almost an overt bailout. And if it was the Treasury doling that money out, it would be an overt bailout.

Mr. WILLIAMS. Let me follow through on that. You just said the Fed projects that it would pay \$27 billion in interest on these excess reserves reaching nearly \$50 billion by 2019, mostly going to large domestic and foreign banks. So now that the balance sheet has grown from the \$900 billion pre-crisis to \$4.5 trillion today, we see this money basically being diverted from the private sector to the Federal Government.

So how does this hurt Main Street America, when someone wants to start a new business or get a loan? Because, frankly, when you combine these Fed policies with the heightened new regulatory standards under Dodd-Frank, I can see why we haven't had sustained economic growth of 3 percent.

Mr. MICHEL. No, this represents credit that has been allocated to someone outside of the productive sector of the economy. So it represents an opportunity lost. It represents money that they don't have to start their new businesses or to finance their existing businesses.

It is very hard to quantify the exact number of jobs and things like that, but what we know that it is a diversion from the real sector of the economy.

Mr. WILLIAMS. The American Dream, and who gets hurt, at the end, is the consumer.

Mr. Kupiec, as the Fed raises target interest rates, it must make increasingly large interest payments to banks, correct?

Mr. KUPIEC. That is correct.

Mr. WILLIAMS. So can you go into more depth quickly on how dealing with the excess reserves has the potential to increase our national debt?

Mr. KUPIEC. Yes. As long as excess reserves are large and the Fed needs to raise short-term interest rates, the only way they can do it—they could do it in two ways.

They could raise rates by selling off the Treasuries they have in their \$4.5 trillion portfolio, but that would be such a change to financial markets that it would spook long-term rates in the stock market, and it would risk causing another financial problem there, another crisis.

So they are kind of stuck with that and letting that roll off slowly, which means the reserves stay in the banking system. Banks are willing to keep the reserves in the system and not lend them out as long as they are being paid on that money. And the higher the interest the Fed wants to set the short-term Federal funds rate, the higher the rate it has to pay banks on their reserves. It is just as simple as that.

So as they go through the cycle and raise rates, what is going to happen is they are going to pay banks more and more money, and it is going to impact the Federal Government deficit. Because the money that the Fed earns on its Treasury portfolio, it uses for operations. Part of the expense of the operations is now paying banks interest on their reserves. And so the Fed will give back to

the Treasury smaller and smaller surpluses until it would directly impact the Federal deficit.

And as the Fed raises rates, if excess reserves don't decline, it is going to have a bigger and bigger impact on the deficit. And we are going to be talking about it in this committee, but you are going to be talking about it in the Budget Committees too. It is going to be an issue. It is there.

Mr. WILLIAMS. Thank you for your testimony.

I yield back.

Chairman BARR. The gentleman yields back.

The Chair now recognizes the gentleman from Michigan, Mr. Kildee, for 5 minutes.

Mr. KILDEE. Thank you, Mr. Chairman. And thanks for holding this hearing, and to the ranking member as well for helping to lead this.

And thank you to the members of the panel. It is a very important discussion.

Dr. Kupiec, I want to return to a point that you made in your opening testimony that had, I think, addressed in part what Ranking Member Moore was raising, and that is this issue of what is happening in the employment sector relating directly to the Fed's dual mandate.

And I think it was your testimony that while there has been positive job growth, most of the wage gains, in terms of household income, have been concentrated by people at the upper end of the economic spectrum. And I wonder if you might explore for a moment how Fed policy would impact that particular aspect of income distribution?

Mr. KUPIEC. Yes. First of all, let me say, I don't think any of the distributional effects of the monetary policy that have come about have ever been intended. I think the Fed did what it thought it had to do to spark a recovery. And I think the income distributional impacts are all unintended consequences. And again, they probably wouldn't have shown up if monetary policy worked and sparked growth quickly.

The problem is it didn't work the way they thought it might. The recession was way worse, and these policies have continued on for many, many years now. And so they have had big and noticeable effects on income distribution.

The wage gains come from the Fed's own 2013 survey of consumer finance, which shows that the household income of the very highest deciles of the income distribution are the ones that receive the biggest gains.

And through 2013, the middle of the distribution actually had 5 percent losses in household income.

Mr. KILDEE. Yes. And I think we—obviously, the data speaks for itself, and we clearly would agree on that.

I guess the question that I have is, because this discussion has to do specifically with Fed policy, to what extent is that phenomena attributable—and I ask the other panelists to maybe weigh in on this as well—to Fed policy as opposed to other drivers: globalization; technology; the relatively low rate of unionization in private sector employment—

Mr. KUPIEC. You can attribute it to lots of things, but what you need to add on top of that is it is not just what happened to wages. It is what happened to the—when the Fed started QE policies to actually bid up asset and home prices, and those benefits also go to the highest income earners, because they are the ones that have the houses and the financial assets.

And, again, I don't think any of this was designed to help the wealthy, but I am saying, if you look back over the last 9 years, it is pretty clear in the data that the wealthy did a lot better from these policies than the poor, or even the very middle-class, the vast majority.

Mr. KILDEE. Maybe if the others could answer and then fold into that question about the extent to which low- and moderate-income households benefit from interest-based income or asset sources as opposed to other assets, other income sources?

Dr. Dynan, if we could start with you?

Ms. DYNAN. Thank you very much. I want to build on what Dr. Kupiec was saying. His analysis of the 2013 survey of consumer finances is correct, but it has been 4 years since that survey data was collected.

If you look at more recent data on the distribution of wages, you can see that wage gains are now concentrated at the lower end of the distribution as would be expected given that we are at the tail end of an economic recovery.

I also want to say, first of all, with regard to asset holdings, housing is a really important part of the nest egg of middle-class households. So they did, in fact, benefit tremendously from the \$7 trillion of wealth, of housing wealth, that has been created since house prices hit their low point during the recession.

I also want to say that recent research on the effects of expansionary monetary policy on the income distribution coming out of the Brookings Institution has shown that it does not raise inequality. That, in fact, the effects through job creation are really dominant and that offsets some of the other aspects that Dr. Kupiec was talking about.

Mr. KUPIEC. I want to make a factual point. The U.S. Census Bureau says that the income distribution got more unequal in 2014, 2015, the last one out. According to the U.S. Census Bureau, there was no reversal in the income distribution.

Ms. DYNAN. If I can just make a point on that point.

Income inequality—the wealthier households were hit harder during the recession, because they held so many assets.

Mr. KILDEE. My time has expired.

Ms. DYNAN. So just as a rebound from that.

Mr. KILDEE. I certainly appreciate any documentation you might supply to support your arguments. Thank you.

Chairman BARR. The gentlemen's time has expired.

The Chair now recognizes the gentleman from North Carolina, Mr. Pittenger, for 5 minutes.

Mr. PITTENGER. Thank you, Mr. Chairman. And I thank each of you for being with us today, for your great expert witness and counsel to us in Congress as we walk through the many ways that we can help address these issues.

We have been out of this recession now for the last 8 years. We certainly have not seen the rebound for households, for small businesses. They have clearly fallen short of their potential. Every other post-war recession has certainly seen a greater and faster rebound. I would like to take a look at why this has occurred, particularly related to compliance issues and regulations and how they have had an effect in these policies and impacted Main Street, impacted the access to capital. It impacted the access to the capability of growth.

Dr. MICHEL, we will start with you and go down the row.

Dr. MICHEL. Sure. Regulatory? On the regulatory side?

Mr. PITTENGER. Yes, sir.

Dr. MICHEL. If you look at the timing of Dodd-Frank and Basel III, it couldn't have been any worse. You have an economy trying to recover and a banking sector trying to recover, and you impose stricter liquidity requirements, stricter capital requirements. You require them to hold onto more money as opposed to using it. There is only one way that is going to go when you look at the macro effect, and it is not up.

Mr. PITTENGER. Yes, sir Dr. Kupiec, would you like to comment?

Dr. KUPIEC. When you look at the data, and it is in my written testimony, as are the sources for the income and equality, there are cited there too, the data pretty clearly show that small business lending by banks is down. It is not up, it is down. It hadn't recovered at all.

Now, there is always an issue if whether that means that small businesses have no demand for loans, they just don't want money anymore, or is it a supply issue. Are the banks constrained? And, quite frankly, economists, no matter how we go—we could be at Harvard, we could be at Brookings, we could be at Heritage, we can't really figure out totally whether it is supply or demand. But I bet your hunch that regulation is playing a part is probably true. Was there a time when small businesses weren't very optimistic and conditions weren't good and they didn't have a strong demand for money, that was probably true at stages of the cycle too.

But you would think, in 9 years by now, small business lending at banks would have recovered and exceeded its levels prior to the crisis. And so that is a pretty good sign that something unhealthy is going on here in the financial system.

Mr. PITTENGER. In North Carolina, since 2010, we have lost 50 percent of our banks. And just in the last 2 months, we have had 3 additional banks which have had to merge because of the compliance and regulatory requirements. And certainly that has a direct effect on the access to capital and credit in the market. Mr. Pollock, would you like to comment?

Mr. POLLOCK. Thank you, Congressman. I think you are right about the regulatory burden. We know that expansions in regulatory bureaucracy always fall disproportionately hard on smaller organizations and on smaller banks.

We mentioned who benefited in terms of labor. We know some labor segments it benefited: its examiners who check on compliance officers who check on external auditors who check on internal auditors, all of whom are checking on somebody who is actually doing some work.

In the meantime, in the Federal Reserve's own balance sheet, we have a huge, very conscious, very intended by the Fed, huge resource allocation to take the funds and divert them to making house prices go up, securities prices go up, and to financing the government expenditures. That takes money away from the kinds of productive enterprises of which you are speaking.

Mr. PITTINGER. Yes, sir. To that end, extrapolate some more on what the Fed could be doing in its role in all of this, how it could effect a positive change?

Mr. POLLOCK. Congressman, in my opinion, the Fed has gotten itself in a tough situation with its big investment portfolios. It consciously set out to move the market up by creating huge market moving positions and now it wants to sell without putting the market down, and they can't do it. So they have a dilemma. But in my judgment, what they ought to be doing now, 8 years after the end of the recession, 5 years after the bottom of housing, is trying to get back to actual functioning of a market economy in the financial sector with market-set interest rates.

Mr. PITTINGER. Thank you. My time has expired. I appreciate your comments.

Chairman BARR. The gentleman's time has expired. And the Chair now recognizes the gentleman from California, Mr. Sherman, for 5 minutes.

Mr. SHERMAN. Take a minute to deal with the supposed war on savers, the war on seniors. First, most Americans have a lot more debt than they have invested in interest. So for most Americans, low interest rates work out pretty well. Seniors get only get 10 percent of their income from interest income. They get a lot more in terms of wealth increases when the stock market goes up, when real housing and other real estate prices go up.

So, in fact, the policies of the Fed have been beneficial to seniors, but there is a harkening for the good old days. Make American interest rates great again. I remember the good old days. You had 6 percent interest. If you had a million bucks in the bank, you were getting \$60,000, you felt good, you weren't invading your principal, and you were spending \$60,000, we had a 5 percent inflation rate, you were invading your principal. But it was hidden.

So the good old days basically were a way for people to feel good even while they were invading their principal by saying, well, you are only doing that in real terms. Nominally, you are keeping your nest egg intact. So the idea that taking out \$60,000 in interest and seeing the value of your nest egg decline by \$50,000 is somehow better than making \$10,000 in income and then having to invade your nest egg by \$40,000 or \$50,000 in order to support your standard of living is psychologically true but not economically true.

But what we have here—the mandate of the Fed is not to bring psychological benefits to savers. The mandate of the Fed is full employment and stable prices. Full employment means economic growth. And I would point out that, for example, the S&P Global found that, without—and this is just the third round of quantitative easing—1.9 million fewer jobs would have been created, implying an unemployment rate 1.3 percent higher. That is real economic growth just from that round.

But I am concerned about the interest on excess balances, because I don't want to encourage excess balances. Why should banks put their money in the Fed when there are so many deserving businesses in the 30th Congressional district. Dr. Dynan, we are paying banks 1¼ percent absolutely risk free for excess reserves. What do we do to get them to loan that money to deserving businesses, in the 30 seconds I have left?

Dr. DYNAN. Thank you. I appreciate your comments. And I will say I very much appreciate what you said at the beginning of your comments about perceptions. I think behavioral economists are looking into that and also about the fact that so many seniors do benefit directly from lower rates.

On the excess reserves, I think there are good questions to be asking about why banks aren't passing on those savings to the depositors.

Mr. SHERMAN. Why don't we tell them to we are not going to pay them interest on their excess balances, make them take that money and invest it in the private sector economy?

Dr. DYNAN. I am not enough of an expert on the technical issues involving excess reserves and interest on excess reserves to be able to explain why the Fed needs—

Mr. SHERMAN. I will go with the doctor sitting next to you on your right.

Dr. KUPIEC. I can tell you exactly why. Because if they stop paying any interest on excess reserves, banks would pay absolutely nothing and raise their rates on their deposits, charge for deposits, because they would have to make it the income source. Everybody would take deposits out of banks and put them in money market mutual funds, and the banking system would collapse. They have to keep the reserves in the banking system, because if the rate outside the bank—if they didn't pay anything at all, depositors would start getting charged through the roof to keep deposits at the banks. Banks are getting paid right now to hold people's deposits—

Mr. SHERMAN. You are saying the banks can't find another place to make 1¼ percent on their money?

Dr. MICHEL. Could I? I think Paul is—

Mr. SHERMAN. Mr. Pollock, I was going to call on you earlier.

Mr. POLLOCK. Thank you, Congressman. My answer is you take the interest on reserves to zero, where it always was, and thus you encourage loans. Now, why the Fed doesn't want to do that is because that will generate the inflation set up by their big QE investments, which is what they are trying to avoid.

Dr. DYNAN. If I may just add one more thing, I don't think that there is evidence that those excess reserves being held at the Fed are actually holding back the banks from making loans.

Chairman BARR. The gentlemen's time has expired. The Chair recognizes the gentleman from Arkansas, Mr. Hill, for 5 minutes.

Mr. HILL. Thank you, Mr. Chairman. I appreciate the opportunity to have this hearing. I want to echo some comments that, when it comes to the economic expansion, certainly in the 2nd Congressional district of Arkansas, which is Central Arkansas, Little Rock, there are only 4,400 more people employed since July of 2007—4,400 more people employed since July of 2007.

So the economic growth over the last 90-plus months has been not only subpart anemic, it has been certainly not shared by most of the country. In fact, many studies show that more than 50 percent of businesses and jobs are limited to just 20 counties in this country, all of which have an NFL franchise, except for Austin, Texas. So I call it kind of the “NFL effect.”

And I agree with Dr. Michel that nonmonetary policy structural impediments have been a real drag on productivity, business formation, and labor-force, participation. And those nonmonetary policies, structural impediments include all the comments you made about the capital and liquidity rules that have been impacted by Dodd-Frank on top of the economic conditions that we have had.

So I really think that the QE that we have talked so much about this morning, the multiple unconventional monetary policy that we have had, I don’t think the added GDP growth we have had, and the statistics have been thrown around here are measurably better. I think if we look with hindsight now, QE1 QE2, will not be proven to have been worth ballooning the balance sheet from \$900 billion to \$4.5 trillion.

So with that, I am interested in the panelist’s views on the preferred course now to shrink this balance sheet. As we have risen rates—actually, 10-year rates have backed up a little bit in the marketplace, which makes me think because of the dollar and the strength of the American economy, there is a high demand for Treasuries in the world, which would make me think that market conditions are actually right for shrinking the balance sheet.

And I am also concerned with the fact that we have seen the Fed become allocator of credit by buying 40 percent of the new issue mortgage-backed securities in this country. That is unheard of, has never been done before, and, I think, has terrible possibilities for GSE reform, the Federal budget deficit, the impact on credit markets. And I think there is—I read a story by one of the traders who was so shocked by the willy-nilly impact of buying mortgage-backed securities during the recovery period to the point that he wanted to apologize to taxpayers.

TARP was not the biggest bailout. Maybe QE1 and QE2 were the biggest bailouts to Wall Street through particularly the mortgage-backed securities market. So Dr. Michel, what would you suggest is the right way to shrink this balance sheet, if you were advising Chair Yellen and Governor Powell and others?

Dr. MICHEL. This may be where Paul and I differ a little bit. And I think that if you look at how QE was put into place, you have a roadmap for how to undo it. It was done in terms of the relative market—size to the relative overall market. It was done in a small fashion per month. And you remove interest on excess reserves. That does have an inflationary tendency. But as you sell assets, that has offsetting contractionary effect.

So the thing to do is both of those at the same time, and do it in a slow, gradual manner. Pre-announce it and start auctioning them off. And I don’t know that the number is as important as the announcement and the timing and the slow graded sort of manner in which you do it.

If you want to do it in exactly the amount that you purchased them, fine. Do it, \$50-, \$75 billion a month. But you have to make

the announcement, you have to start doing it slowly over time. And both at the same time have the offsetting interest on reserves being pared back so that you have the contractionary and expansionary effect going against each other so that don't see the high inflation and that you don't see the large contraction.

Mr. HILL. Do you think the Fed should limit its purchases in the future to Treasuries as opposed to other asset classes?

Dr. MICHEL. Possibly. It depends on the framework that we were talking about. But in general, I think that you still have the risk of saying that what we are doing by Treasuries only is allocating credit to the government in a preferred position over everybody else. So there is a question there that I would say it depends.

Mr. HILL. I yield back.

Chairman BARR. The gentleman's time has expired. The Chair recognizes the gentleman from Minnesota, Mr. Emmer.

Mr. EMMER. Thank you, Mr. Chairman, and thanks to the panel. You know, as I sit here, it is my second term in this place, and I listen to people who are brilliant, like you folks, come in and talk about the economy and numbers. And I wonder sometimes, have you ever been to Main Street? Because I will tell you what, the topic is about what the Fed has done to Main Street. And I think my colleague Mr. Williams was getting at it, because that is where he comes from. I think some people have been touching on it. But we have too many people who want to play with particular fact. And I don't have your degrees. I think you could say I graduated from the School of Hard Knocks. I am somebody who actually was a consumer and still am a consumer.

I think about the fact that my colleague French Hill just commented that we have some of the lowest employment participation in decades, that we are not producing the jobs that we should be producing. But everybody wants to say we got this incredible recovery. And it goes on and on.

Dr. Michel, can you tell me one good thing the Federal Reserve has done in the last decade?

Dr. MICHEL. In the last decade?

Mr. EMMER. Well, maybe that is not fair. Let's go back to 1913. Can you tell me one good thing they have done since 1913?

Dr. MICHEL. I am sure they have done something right somewhere. Maybe if we focused on the great moderation period, Volcker's second term, maybe up in there, something like that, I guess. That would be the highlight for me.

Mr. EMMER. Here is another thing you have to help me with is that up here I keep hearing about how studies have shown you have to insulate financial or monetary decisions from the political process. And yet somewhere in our genius somebody in a previous Congress decided that we were going to add maximum employment to this price stability thing when, in fact—again, I am just a simple guy from the Midwest—my understanding is that price stability will drive maximum employment. Isn't that correct, Dr. Kupiec?

Dr. KUPIEC. That used to be the theory, but theories change all the time. But I think Congress created the Fed. Congress is in charge of the Fed. And I think the whole issue is Congress needs to have these kinds of discussions with the Fed and have the Fed explain clearly how they are going to unwind their portfolio.

Why paying interest on reserves is a good idea, not a bad idea, you are asking us, but this is the kind of thing that the Fed should be really having a discussion about. That is what is missing.

Mr. EMMER. It is interesting. Again, I'm just a simple guy. We have gone from an economy that is based on wealth creation to an economy that is based on debt leverage. So an economy based on wealth creation is for everybody. Even the little guy or gal who goes down to the community bank or the credit union and gets a loan to start the next great idea. We are not starting new businesses like we used to. And yet I come here and I hear it is great.

They are doing wonderful things. In the time I have left, there is something that I want to talk to Mr. Pollock about, because you hit on it, and I think the chairman and/or his staff probably knew when you submitted your written testimony that this would get me all fired up. I don't know any other way to put it other than theft. But this 2 percent annual inflation rate, this target, Mr. Pollock, that is purely arbitrary, correct?

Mr. POLLOCK. It is Congressman, and it is a pure theory.

Mr. EMMER. And call it a hidden tax. Call it what you want. But you are stealing from my parents. You are stealing from all the Boomers who have saved and planned. And then I hear testimony that, you know what, people haven't saved enough. Where is the incentive? What are we doing?

Mr. POLLOCK. Congressman, you are absolutely right. And I will add that the Federal Reserve Act, as amended in 1977 with the so-called dual mandate, doesn't talk about steady inflation. It talks about price stability. The Fed itself made up the idea that it was going to redefine price stability to mean perpetual inflation.

Mr. EMMER. And isn't that somewhat subject to political pressure?

Mr. POLLOCK. Absolutely. That is why I said in my testimony, if I may repeat myself, that the nature of money is a political decision to be made by the Congress.

Mr. EMMER. And I appreciate you repeating yourself, because it is interesting to me that this is not more widely discussed outside of Washington, D.C., that the average person who is out there working hard, trying to play by the rules saving for their retirement, they have these insidious policies that are literally stealing the money from them while they are sleeping. And I think more people need to talk about it. And, frankly, the Administration, I think, needs to take a bigger a role in this.

Dr. KUPIEC. Some of the Fed Governors or presidents of the banks are arguing they need a higher inflation target to meet their high employment price stability bill.

Mr. EMMER. And some are also arguing we should make banks utilities which would completely frustrate the process. Thank you for your patience, Mr. Chairman.

Chairman BARR. I wish the gentleman's time had not expired, but it has expired. And now we move to the gentleman from Ohio, Mr. Davidson.

Mr. DAVIDSON. Thank you, Mr. Chairman. Thank you to our panel. I really appreciate your written testimony and what you have shared with us here. It's very tempting to pick right up where

Mr. Emmer left off, but I do have a couple of other questions, so maybe we can get back to that.

Dr. Michel, your testimony highlights a sense of humility and perspective about what is the proper scope of monetary policy. And you also highlighted—we didn't really see an incredibly good track record for the Fed. If you look at the decision to have the Federal Reserve in the system that we have today, is it a structural problem or is it a strategic problem?

Dr. MICHEL. I think it is a structural problem in the sense that we have way too much faith in our ability to sort of turn dials on the economy through monetary policy. And I think that the evidence bears out that this just doesn't work when we had almost exactly 100 years to experiment with this type of thing.

And recessions have not gotten shorter, recoveries have not gotten quicker, as we have just talked about what happens with inflation. So the idea—I will go quickly—that you can have this trade off between inflation and employment, that was an idea that started and I believe came to its peak in the 1960s. And I thought it was dead. Somehow it keeps coming back.

So, I don't think that there should be an employment mandate anywhere in there with the Fed. And I think they need to be more accountable for what they are doing, and in that sense it is a structural problem for sure. So maybe that answers your question. Yes, I think it is a structural issue in terms of, we have not properly defined what they should be doing and held them to account.

Mr. DAVIDSON. We have a lot of debate about this strategy or that strategy. But in a way, we have put in place a system. And to pick up where Dr. Pollock, you left off, a system that has a structure in place that preserves the status quo of inflationary which deflates the value of savings. It destroys the value of our money. If the purpose of money is to be a store of value, everything about the current structure erodes it.

And I might add that we are not doing ourselves any favors with fiscal policy. And if you could comment about the intersection, Dr. Kupiec, if you could talk about the intersection of fiscal policy and the fact that we borrow so much and the Fed's role in that?

Dr. KUPIEC. If you look at what has happened since the financial crisis, the whole idea of stimulative monetary policy is to get consumers to borrow and spend more and increase growth that way, and businesses to invest and spend more and increase growth that way, borrow and spend. But, really, who borrowed since the crisis is the Federal Government.

And there are some nice graphs in the back of my written testimony which show that the government borrowings are up almost 300 percent since the crisis, while the private sector level of borrowing is nowhere near that. And some parts of it it are pretty flat.

So, the whole monetary expansion has very much benefited the government in terms of keeping the cost of government borrowing exceptionally low for an exceptionally long period of time, and the Fed owns a lot of that. And without a doubt, that has been one of the big impacts. And now, as we move into a period where we want to raise rates, it is going to have an impact on the deficit in two ways. One, because we are going to have to pay banks more to keep these excess reserves.

And, two, if they were to sell off their bond portfolio and raise long-term interest rates, the Federal Government would have to refund those bonds, the ones that mature at much higher interest rates. And that is going to cause you guys headaches in the Budget Committee hearings. So that is kind of where we are right now, that these things are going to impact—they are going to feed back on the budget, and it is going to happen.

Mr. DAVIDSON. Thank you. And I will close with Dr. Pollock, just a question. But when we talk about this, what is the impact on the household? What is the impact on Main Street? Destroying the store of value in our money is a huge problem. And our fiscal path of bankrupting our country is a big problem.

Mr. POLLOCK. Congressman, I agree with your thoughts here. The longest-serving Federal Reserve Chairman, William McChesney Martin, called inflation, “a thief in the night.” The Fed has changed its ideas since then. And if I could—could I have 20 seconds, Mr. Chairman?

Chairman BARR. Well, the gentleman’s time has expired.

Mr. POLLOCK. All right. I don’t get 20 seconds, Congressman. I will tell you later.

Chairman BARR. We will have an opportunity for a second round.

Mr. DAVIDSON. My time has expired. I yield back.

Chairman BARR. I am sure you will have an opportunity, Mr. Pollock. And now the Chair recognizes the gentleman from Indiana, Mr. Hollingsworth.

Mr. HOLLINGSWORTH. Mr. Pollock, I will give you 20 seconds.

Mr. POLLOCK. Thank you very much. In ancient Greece, Dionysius, the tyrant of Syracuse, couldn’t pay his debt. So he expropriated all the silver coins from his citizens on pain of death and took the One Drachma coins and restamped them two Drachmas and gave them back to pay off the debt—thereby setting the pattern for inflation by governments in all future times.

Mr. HOLLINGSWORTH. Before we delve into a couple of questions, I wanted to reiterate something my colleagues have said. I found the use of the word “strong” in recovery almost an insult. And I think Hoosiers across the district would feel the same way back home. Certainly, this recovery hasn’t been strong. And to say it has been strong relative to the nadir of the recession is a misnomer. And to say it has been strong relative to other countries is just measuring who is the tallest dwarf in the room rather than a measure of real strength in the economy.

Dr. Kupiec, in reading your testimony, I really appreciated that you walked through kind of a lifetime consumption model and how lowering interest rates theoretically should move savers—or move down the preference line between saving and consumption and create more consumption. But have we really seen before what happens when interest rates are very low for a very long period of time and, rather, instead of allowing for the tradeoff consumption and saving, whether we are permanently altering the preferences themselves and expectations for rates in the future.

Dr. KUPIEC. Congressman, that is a great question, and the answer is, “no.” Back in December, we had an event at AEI where we had a noted historian, Dick Sylla, come in, who has actually written the book on the history of interest rates all the way back

to the Roman times. And in Dick's book, he did remark that he had never seen in history anywhere a period where interest rates were 0 or negative for such a long period.

So it is extraordinary, and it has a number of implications, because if you really think about it, the financial services industry is built on a model where interest rates are positive. They make investments at some higher rate to provide a service to consumers and take some spread. When interest rates get to 0 or below, there is no spread anymore.

So things like life insurance—all those things become problematic. They either have to directly charge more for it. And so this is an experiment that has far-reaching implications for the whole financial sector in how we move forward.

Mr. HOLLINGSWORTH. I think, if I could speak anecdotally, certainly millennials don't know what it is like to see interest rates at 7, 8, 9, 6, 5 percent. They think of mortgages. And when they hear 3½ percent, they think that is outrageously high. That must be usury, right? And the second question I really wanted to talk about, and it has been touched on before, but have we really started to see the cost of unwinding this balance sheet? Because one of the things that I really worry about is not just, as French Hill said, the mechanics, but also the crowding out of investment. As we start to unwind the investment in those Treasuries, it has to come from somewhere. It is going to come from the private sector, maybe some of it coming from abroad. But it is not going to be invested in the private sector. And I worry that we have not begun to see the significant costs.

We have seen very little benefit. Now we are going to start to see the significant cost in the future, and I wonder whether Dr. Michel might touch on that and Dr. Kupiec, and Mr. Pollock as well?

Dr. KUPIEC. I would say I agree with you. I think we are treading water at this point in time. And the Fed is starting slowly to try to engineer the old way they used to raise rates, the Federal funds rate, and they have to do it in a different mechanism. They don't want to sell off their long-term Treasury portfolio. They have not figured out how to do that yet, because it would spook, I think, longer-term rates if they did it in a big way. And if they announced a long-term program to sell it off, if it was slow enough that the economy could absorb it, maybe. But I think they are treading water, hoping there is no inflation now, things don't look so bad. But I really don't think the whole process of unwinding all this has been thought through. And I don't think the costs have actually shown up yet.

Mr. HOLLINGSWORTH. I will go to Mr. Pollock, because I want to ask Dr. Michel a question at the very end. Go ahead?

Mr. POLLOCK. Congressman, on the 0 interest rate question, I think the answer is long periods of negative real rates are a narcotic for financial markets, and it usually doesn't end well. You are absolutely right on the Fed's balance sheet. We are not seeing the cost on the unwinding, because they are not unwinding. They are still buying every month.

Mr. HOLLINGSWORTH. Right. And Dr. Michel, the last thing I want to talk about is, is it universally agreed upon by economists that inflation is a positive thing? Deflation exists, right? If price

levels were the same and productivity were increasing, we would see deflation, right?

Dr. MICHEL. Right. It is not universally agreed upon. So it is not universally agreed upon that it is a good thing. It is not universally agreed upon in that group, what rate it should be. And both of the those groups ignore something that we knew a very long time ago and somehow or another, as a profession, seemed to have forgotten, which is that you need less less money if the economy is more productive, not more. So you should have—there is a difference between a massive deflation in asset prices and a good deflation as the economy grows. We shouldn't be stamping that one out.

Mr. HOLLINGSWORTH. Perfect. Thank you so much. I yield back, Mr. Chairman.

Chairman BARR. The gentleman's time has expired. The Chair recognizes the gentelady from Utah, Mrs. Love.

Mrs. LOVE. Thank you so much for being here today. I just have a couple of questions. Dr. Michel, you state in your testimony that we should hold the Fed accountable for maintaining a stable inflation rate where the target rate is conditional on the rate of productivity growth so that inflation rises above its long-run rate only when there are productivity setbacks and it falls below its long-run rate only when there are exceptional productivity gains. Would you expand on that for me?

Dr. MICHEL. Sure. Think of something like, stable inflation under the Fed's current interpretation of it means you should have constant inflation all the time at 2 percent. That is the idea. And, of course, we don't really get 2 percent over the long-term. We get more like 4 percent. But leaving that aside, think of something like a supply shock that we had, say, in the 1970's with an oil embargo.

What happens is you have less oil, so everybody is hurting, and prices go up, and you see inflation across-the-board. It makes absolutely no sense to try to stick to an inflation target by taking more money out of the economy and, therefore, killing the people who don't have the fuel they need, right.

Mrs. LOVE. Right.

Dr. MICHEL. But that is what this constant low, "positive inflation" does in that environment. So you cannot let the Fed interpret price stability the way that they have, otherwise you get into that problem. And it is the same on the other side when you have productivity and prices should be declining.

Mrs. LOVE. Okay. Mr. Pollock, you say in your testimony that the Fed is just as bad as everyone else at economic and financial forecasting, despite having an army of Ph.D. economists who can run computer models as complicated as they choose. So why do you think the Fed is so bad at forecasting? And I want to get back to that, because you have a brilliant quote in your testimony that I want to get back to. But why do you think the Fed is so bad at forecasting?

Mr. POLLOCK. Thank you very much for liking my quote, Congresswoman. It is bad at forecasting because forecasting is about the financial and economic future, which is fundamentally uncertain. It is not like a physicist calculating the path of a planet using Newton's laws. This is about forecasting the interacting behavior, interacting strategies of governments, investors, consumers, entre-

preneurs. And no one, including the Fed, knows what is going to happen. And that is why they should not pretend to be philosopher-kings who know this, and why they should not be granted independence from the elected Representatives of the People.

Mrs. LOVE. Okay. So you have said that in our current national policy it is not one of savings and loans but one of loan and loan. And I want to know what that means for the average American. In other words, what does that mean for the young person who is still dealing with the high cost of education and paying off their student loan debts or the trucker who is trying to make ends meet and he is realizing that the cost of healthcare has continued to go up? What does that mean for the single mother who is just busting her chops every day to provide for her children?

Mr. POLLOCK. Congresswoman, without savings, there are no loans, in the end, or any investment or any growth, in the long run. Savings should be encouraged, and we have forgotten how to do that. Now, in certain circumstances, of course, it is more difficult to save than others. I mentioned in my testimony the old theory of the savings and loans, I am talking in the 1920s and 1930s, which were focused on low-income people and inducing them to save; it was a wonderful and right idea, in order to get control of their lives.

It is harder sometimes than others. But I used to have the historical savings contracts from the savings and loan I ran in which people promised to save \$2 a week, \$1 a week, \$5 a week. It was to establish the pattern and practice of savings which will stand you in good stead over time.

Mrs. LOVE. It is really interesting because as I speak to people in my district, I ask them if it is a lot easier or a lot more difficult to save for the future. And over and over and over again they tell me that it is absolutely impossible to have any savings, because every time they turn around and save something, there is something else that is coming out of it, and they can't keep up. I know my time has expired. But I just want to say this. You said that the notion of philosopher-kings is distinctly contradictory to the genius of the American constitutional design. That is a great quote. I yield back.

Mr. POLLOCK. Thank you very much.

Chairman BARR. Thank you. And the gentlelady's time has expired. The Chair now recognizes the chairman of our Capital Markets Subcommittee, the gentleman from Michigan, Mr. Huizenga.

Mr. HUIZENGA. Thank you, Mr. Chairman. And I am attempting to go back into Plato's Republic on this, again, as a Brown's child, approaching how we are going to deal with what lies in front of us. There are so many different directions to go. And I think I am going to need to lay out a couple of things. Something that I am very concerned about, and I know other members on this committee are, on both sides of the aisle, is income disparity. You look at where we are as a Nation. It is a real issue. And we have pockets of economic activity. My home county has a 2½ percent unemployment rate. Within my district, I house that county. I also house the poorest county in the State of Michigan, like one of the top 50 counties in the Nation when it comes to poverty. I house, just literally 25 miles north of where I live, the county that butts up to

this county with 2½ percent unemployment has double that, triple that. Quadruple that in the African-American community. We have a significant pocket of minorities that are there.

We are seeing older workforce participation and, really, frankly, underemployment among youth. So the workforce is getting older. Why? Because they are having to work longer. And this notion that seniors are doing great because the stock market's doing great, I just do not buy it. We are seeing IPOs at modern era lows. We are seeing a select few groups of people, whether they are Wall Street folks, whether they are qualified investors, folks who have a million dollars in value or net incomes of \$250,000. They are doing great. It is the other folks. It is the folks that we represent who are struggling, who are really kind of bumping along. And as we look, we have seen the other side others have thrown up a chart about. Loan activity is up. Oh, but if you dive into it, industrial loan activity is up. Small business loans are down.

And so we are losing the engine of economic activity on that grassroots micro basis for this larger scheme that has been painted out there. And it seems to me for—why would we keep trying this, certainly, at a minimum, underperforming system, if not failing system of stimulus, that is not reaching the people that it is intended to reach? Why do we keep doing it? Read Keynes. You all have, right? You probably are not on this committee if you have not read John Maynard Keynes at some point or another. He talks about short stimulus. Not 10 years. Not bumping up on the 10 years of this. And if monetary policy is not doing what it can to facilitate investments wherever they show this promise, lone American households and American businesses and American entrepreneurs just keep bumping up against this wall as they are trying to fulfill their potential.

That really, I think, ought to be concerning to all of us. And how do we unwind—getting back to my colleague from Arkansas—this? Because I am concerned. Just yesterday we had a phenomenal hearing. Two panels on market structure and where the market is going. And ultimately, it doesn't matter if we are not allowing the system to work for those who need it the most, which is our constituents, hardworking taxpayers who have felt like they have had nothing but headwinds coming at them from their own government with a monetary policy and a whole raft of other things, like tax policy and regulatory policy. And I am just very concerned about that. And I don't know, Dr. Kupiec, if you care to comment quickly?

Dr. KUPIEC. I think your concerns are well-founded. And I would say first that monetary policy is a blunt instrument. I don't think the Fed ever had the intention of causing the income redistribution that I think it has caused. I think it tried to do what it thought was right to resuscitate growth. And it had these unintended consequences. And at this point, I am not sure we all have answers on how you get out of this in the long run. I think there are going to be costs involved. But I think the point is—

Mr. HUIZENGA. As Keynes said, we are dead in the long run anyway, right?

Dr. KUPIEC. Well, no. I didn't say that exactly.

Mr. HUIZENGA. No. No. I know you didn't. Keynes did.

Dr. KUPIEC. Yes, he did. But I think the whole point is to encourage and not discourage better dialogue with the Fed on all these other issues that aren't just the top number GDP numbers, inflation numbers that tend to hide all that is going on underneath.

Mr. HUIZENGA. Thank you.

Chairman BARR. The gentleman's time has expired, and the Members have requested a second round of questioning for the witnesses. So with your indulgence, we will proceed with that second round. And the Chair recognizes himself now for an additional 5 minutes.

I wanted to follow up on the question related to the oversized balance sheet. Mr. Hollingsworth asked a series of very good questions about that. And he asked about the cost of unwinding and the potential of crowding out private investment. What other risks does an oversized balance sheet pose to Main Street America? What are those risks? And is there any way that the Fed can, as it unwinds, avoid those risks? We will just go down the line here. Dr. Michel?

Dr. MICHEL. One of the risks is that you are paying—literally paying these people on these assets. So if you look at what is going on with interest and excess reserves on the extra balances, under the Fed's projections, you are going to be seeing—taxpayers, rather, are going to be seeing that they are going to be paying large banks \$50 billion a year. That is a direct cost to people, and it is going to be a political nightmare when you have the Fed set up to continue paying these banks literally billions of dollars a year.

I will concede that we don't know exactly what is going to happen here. But I think when we talk about the recovery, the anemic recovery, you have to put it in context of, oh, and then there is some more to come, because we haven't unwound all this stuff.

Chairman BARR. And, Dr. Kupiec, as you answer this question, please amplify your testimony when you basically described a dilemma between, on the one hand, a need to normalize, and on the other hand, the economic downside of the Fed's only policy tool that it is using right now of increasing interest on excess reserves.

Dr. KUPIEC. That is the dilemma. They have this problem, in part—not in part, in total, because of the QE. And they bought enormous—billions of dollars—well trillions, actually, in assets, right, and they turned those into reserves. And for the bank to make that tradeoff, they paid the bank on reserves to keep reserves in the Fed. And now their only policy tool—they have two policy tools. They could start selling their Treasuries. If they sold their Treasuries, the market would react in a fairly big way, I think. They have such a large part of the Treasury in GSC market that long-run rates would react to any kind of unwinding announcement or something like that. And they don't want long-run rates to rise. We haven't recovered. We need a recovery still.

And so now they are sticking with their old instrument to keep—to tighten or to look—do whatever they are doing which raising the Federal funds rate, and it is not clear that that works the same way it used to work with all these excess reserves in the banking system. But that is the only other technique they have. Now, they could do repo operations and not pay on bank reserves, but then that would—repos, mutual funds can participate in, and that would move money out of the banking system into the mutual fund sys-

tem. And the Federal Reserve wouldn't want to do that. So they wouldn't want to do anything that disadvantaged the banking system relative to what they would call the so-called shadow banking system. So they are kind of stuck. If short-term market rates were to change anywhere else in the economy, they are going to have to pay banks to keep the money in the banking system and not migrate out. So I am sorry this—I know this sounds confusing, and I don't have an answer to the question. But it is sort of a quandary we have gotten ourselves into that—

Chairman BARR. My time is about ready to expire. So I have another question for Mr. Pollock, really quickly. Obviously, the loose monetary policy that has been pursued by the Fed was supposed so boost asset prices.

The idea was to goose these asset prices to make people feel wealthier, and the synthetic wealth was, in turn, supposed to cause households to spend more and, therefore, jump start the economy. That is, in effect, Dr. Dynan's testimony. Clearly, the results haven't been as projected. In the previous Administration, we didn't see a single year of GDP growth of 3 percent or greater. That is the first time that has happened since the Administration of Herbert Hoover. So clearly, the Fed's policies have not produced the result that they predicted. Can you respond to that analysis?

Mr. POLLOCK. Mr. Chairman, it has produced the result of goosing asset prices, just as you say. So we have had a huge boom in house prices, stock prices, and bond prices. The problem with an eternal monetary policy of that sort, which we could better call a market distortion, is those prices will not go up forever. Let's talk about house prices for just a second. High house prices may feel good if you own a house. It is terrible if you are a new family trying to buy a house. And when the overinflated house prices then go down, everybody will feel terrible.

Chairman BARR. My time has expired, and the Chair recognizes the gentleman from California, Mr. Sherman.

Mr. SHERMAN. Thank you, Mr. Chairman. I am glad you are doing a second round, but no Democrat can stay here past another 5 minutes. So I hope the second round is as nonpartisan as possible. We won't be here to inject our words of wisdom should that not be the case. The policies we have had over the last 5 or 7 years have given us the longest if not the fastest recovery.

House prices for the buyer are not the stated price. They are the mortgage payment that comes with that house. Can you afford the mortgage payment? So housing prices are not at an all-time high until we get normal interest rates, and then they will be. And then I think, as Mr. Pollock points out, some people are going to get hurt.

The gentleman from Michigan talks about the need to lend money to small business. We have a lot of money in capital. And it is all going to T bonds and highly safe instruments. And that is perhaps the responsibility of this committee, because we have this very efficient banking system that is told raise all this money, and it is insured by the Federal Government. And then we are telling them only lend it at prime, maybe prime plus 1, prime plus 2. The businesses in our district and your district that you want to get the loan, you wouldn't loan the money at prime plus 1. The pizzeria in

my district has a chance of going bankrupt. That is why we need prime plus 4, prime plus 5 loans. But we have a very efficient system that takes all the money and prohibits them from putting it in prime plus 5 loans. And instead, that money has to be given—it has to be loaned to a small business or a private equity or a venture capital. And then maybe it can get to a business that is doing something that is risky or different or small. We have a low—great target. It ought to be higher.

In my first statement, I pointed out the psychological benefit for seniors of living in a world with a 6 percent interest rate and a 5 percent inflation rate. Economists can tell them that they are eating into their capital. They don't think they are, and the mistake that they are making is wonderful. It makes them feel better. And that is very helpful. Also, we see that rents, salaries, and other things stick. But in inflation, you don't have to lower things. You can just keep them the way they are. And that is your method of lowering them. So it actually adds some ability to move prices up or down as the economy calls for. But the main reason we should have lower interest rates, which will lead to somewhat higher inflation rate, is we need the labor shortage that will give us rapidly expanding wages. IPOs are down. I don't know whether that is because our system for initial public offerings is worse or a private equity system is better.

But everything we can do to make initial public offerings work better, we ought to do in this committee. One of the witnesses said savings should be encouraged at all times. I disagree. You can't have too much savings, too little consumption. If you have that, then you have no—then demand is flat. You have unused capital resources. Nobody wants to borrow to build those capital resources. But the phrase savings should always be encouraged at least meets a particular political plan, which is lower taxes on the savers, those people who get a substantial portion of their income from savings, when the vast majority of Americans can't get a—don't have that savings. So it is only a small segment of the economy that gets a substantial portion of their income from savings. I would also point out that the after-tax inflation adjusted return in our current economy is 0 for those who don't want to take a credit risk. The yield on tips is a little bit over the inflation rate.

But then you pay taxes not only on the part that is a little bit on the inflation rate but also the part that just reimburses you for inflation. We have a lot of savings as evidenced by the fact that nobody is—that saver's reward after tax is roughly 0, and people are still willing to save. We ought to, perhaps, provide an inflation justified APR to lenders and to depositors. The information we calculate now is very exact and very complicated and very wrong in an economy in which there is inflation. Democracy versus bureaucracy, there is a lot of support in the elites in our society, for philosophers kings and Federal Reserve members and others to make the important decisions. And I will point out to this committee, if that bridge in Alaska had been a bureaucrat's decision, nobody here would have ever heard of it. The media focuses on attacks on decisions made by elected officials. And I am going to have to ask for a written response to this question, and that is how much capital gain or loss has the Fed incurred through QE? We know they

have made a lot of money on interest rate spread. But I assume if you bought long-term bonds in 2010 and 2011, you lost some money. So, Mr. Pollock, perhaps—is there just a number that you have, or should you answer for the record?

Mr. POLLOCK. I have written on that recently, Congressman. I will be glad to send you my article on the interest rate risk of the Fed, which I describe as the biggest savings and loan in the world.

Chairman BARR. The gentleman's time has expired. Thank you, Mr. Sherman. And now the Chair recognizes the gentleman from Arkansas again, Mr. Hill.

Mr. HILL. Thank you, Mr. Chairman. So continuing our discussion, I was looking at the value of QE1 and QE2 and PIMCO, for example, estimated that for spending \$4 trillion, we got \$40 billion in additional economic output, not a very good tradeoff. And I can remember being in banking back during QE1 and QE2 wondering what are we getting for this, as a banker, just as a private sector participant, when we—the first thing you learn when you have a losing position in an investment portfolio or a losing bond loan—a loan in a loan portfolio is, when in a hole, stop digging. And the Fed double-downed on digging as it went beyond QE1, QE2.

So now that we are here and we are talking about the impact on Main Street, I would say that, to your comment, Mr. Pollock, that, with a 6-year duration at the Fed now, you have set up, not a savings and loan, but one of the biggest hedge funds in the world. We have monetized the debt of the United States, we have inflated speculatively stock prices. We, in turn, with public policy, have moved people into index funds instead of making individual decisions about the individual quality of equities. And we have 0 interest rates and yet we have extended car lending from—when I started in banking, it was a 3-year loan. Now it is 72 months—at these low rates. And 40 percent of new cars are in a lease program, which is even higher than you can borrow at the bank and you don't own anything at the end of the term.

We have done commercial real estate lending, basically underwritten to a 125 debt service coverage ratio at 3 or 4 percent. And if rates normalize, think of the equity contribution those investors are going to have to make to maintain that 125 debt service covered ratio. We have hidden the budget deficit, the real impact on the budget deficient by the Fed's actions, and that will get worse as rates go up. So the impact on Main Street of the Fed's actions of the last decade are going to be immense. And they are essentially, in my view, all negative. And any benefit that occurred from them is modest. As evidenced by PIMCO's suggestion that, for \$4 trillion, we got \$40 billion of extra economic output. So when we try to reform the GSCs, Mr. Pollock, could you reflect on—since you have written on this subject, we have a 6-year duration, we own 40 percent of the government-issued, mortgage-backed securities, how is that going to impact our ability to reform the broken secondary mortgage market in this country, the Federal Government owning 40 percent of those securities?

Mr. POLLOCK. Congressman, I think that is an excellent point, and it gets in the way of reform, since we have the Federal Reserve owning the biggest position in Fannie and Freddie's mortgage-backed securities. We have the U.S. Treasury owning most of the

equity of Fannie and Freddie. And it gives us what I call the “government combine” in the housing finance business.

My subtitle is: who is the socialist? Between Fannie Mae, Freddie Mac, and the Federal Reserve, and the U.S. Treasury, there is a very tight and complex financial set of intercommitments and relationships, and it gets in the way of reform. But in my opinion, that shouldn’t stop us from reforming housing finance and Fannie and Freddie toward extracting the government from being the dominant and distortionary mortgage finance player and moving toward more private, more competitive market.

Mr. HILL. I appreciate that.

Dr. Kupiec, I think Governor Powell did lay out a very good long-term speech not long ago about the unwinding and set out some expectations and, really, in the market rates have improved, even anticipating this shrinkage.

So I do think, to Dr. Michel’s point, that if the Fed outlines a plan, that maybe the market would be more resilient than we think, and we should get on with it.

But Chair Yellen said something that she said that she felt that the balance sheet reduction should be delayed until we get the Fed funds rate up to a number that she would not say.

I would be interested in your view. Is there a range of Fed funds rate that would make it better for shrinking the balance sheet more directly?

Mr. KUPIEC. I wonder why the Fed funds rate means anything if it is the rate that the Fed pays on bank deposits, if that is the floor. So I don’t know what it reflects. It is an administered rate. So I am not entirely sure I understand why—they could set it at whatever rate they want it to tomorrow. Would the economy change any differently, immediately? I don’t think so.

Mr. HILL. Thank you very much.

I yield back.

Chairman BARR. The gentleman’s time has expired.

The Chair recognizes the gentleman from Texas, Mr. Williams.

Mr. WILLIAMS. Thank you, Mr. Chairman.

And with all due respect to my colleague from Arkansas, Mr. Hill, we have gone from 72 months to 84 months. So does anybody want to buy a car?

Dr. Michel, as Mr. Sherman suggested, if we stopped paying IOERs, would we be able to return to the Fed fund’s policy rate, do you think?

Mr. MICHEL. Oh, if we do?

Mr. WILLIAMS. Yes.

Mr. MICHEL. I would say yes at some point. I don’t know how quickly this happens. I don’t know how quickly they can fix it. I think you have to unwind the balance sheet and stop the interest on the excess reserve program and the overnight repurchase program, which is effectively very close to the same thing.

I think all of those things have to happen to get back to where you have a competitive—or anything like a competitive Federal funds rate market.

So, yes. I just don’t know how quickly you can do that. And I don’t know that they do either. If you go back and look at what happened, initially, when they said they were going to pay interest

on excess reserves, they said we are going to set this rate so that it is a floor on the Fed funds rate, as Paul mentioned. And what happened? It went straight past the floor. And then they said, oh, no, it is going to be a ceiling on the Federal funds rate, and now we are going to have a Federal funds target range instead of just a target.

So they have lost control of it because of what they did. And I don't think they fully understand or anybody fully understands exactly how and when that could be put back together.

Mr. WILLIAMS. Mr. Pollock, would you have a response to that?

Mr. POLLOCK. I think that if you could get away from the interest on reserves, it would help get back to the previous system of Fed funds targeting. But we have to remember, when it comes to the Fed setting interest rates, that just like the Fed doesn't know the future, the Fed doesn't know what the right interest rate is either, because no one knows that. That is why you have a market.

Mr. WILLIAMS. I remember when 16 percent was a good rate, so—

Mr. Chairman, I yield my time back.

Chairman BARR. The gentleman yields back.

The Chair recognizes the gentleman from Minnesota, Mr. Emmer.

Mr. EMMER. Thank you, Mr. Chairman. And thanks for submitting to another round of questions.

I want to talk about reform, believe it or not, if it is possible. Obviously, I am not a fan of what the Federal Reserve has been doing, but I do agree with Dr. Kupiec. I think well-intentioned people are trying to do the right thing.

You talked about procedural change in your initial testimony after the Humphrey-Hawkins, once you get the written testimony, have experts review it. I am just wondering if any of your colleagues—and, again, put it in this context: I do come from Main Street. And I think one or more of you in your testimony said earlier, there is a breakdown between those who are inside the Fed or actively working with the Fed and those who are on Main Street wondering what in God's name are they doing, and why can't we see what they are doing, and there must be something going on that isn't quite right, because we aren't feeling this great recovery that everybody tells us is there or at least it is hollow.

Are there other reforms? And maybe since, Dr. Kupiec, you gave one, how about Dr. Michel? Is there some other reform?

Mr. MICHEL. I have a list, several papers that have—I don't know, maybe 15 different ones.

But I think basically what you have to do is start one on the balance sheet, getting back to having a minimal footprint on the market, having them only do monetary policy in a very accountable way. I think that the approach and the format is the right way to go and that you make them benchmark against the rule.

Everybody says—well, they are all gone, but everybody says that the format would tie the Fed to a mechanical rule, and that is not true.

It would make them benchmark against a mechanical rule.

Mr. EMMER. Right, it wouldn't have—

Mr. MICHEL. So they could explain what they are doing and why they are doing it. And those are all positive approaches and improvements.

Mr. EMMER. Dr. Dynan, we probably don't see this exactly the same way. But in this context, I would think there has to be something that you have looked at that would be a helpful reform.

Ms. DYNAN. So, first of all, I think that Dr. Kupiec's idea is an interesting one. I certainly support giving Congress more time to review the monetary policy report written document before going to testimony. I think that could lead to a more constructive conversation.

I think moving to a quarterly frequency for the testimony is also a good idea. My main concern is, I do not support more aggressive measures that would undermine the Fed's—

Mr. EMMER. What about winding down the balance sheet? You would agree with that. We should be doing that at some point, right?

Ms. DYNAN. Oh, yes. And with that, I should say I agree with Dr. Michel's earlier comments that it is really, really important that it is done gradually, and it is done predictively and transparently. Because I think—I was not asked what I thought the dangers were, but I do think the biggest dangers of a surprise—and even what the Fed does and even what it says, if the market suddenly says, hey, I didn't understand what they are doing and now my view is totally different. I think that, too, would be very disruptive to financial conditions.

Mr. EMMER. Mr. Pollock, same question, but I also want to add for you, is it time, at the very least, to eliminate the dual mandate?

Mr. POLLOCK. Congressman, could I preface this by saying, I grew up in the City of Detroit near Schoolcraft Avenue. I think that could count as Main Street.

I think we need to understand the Fed actually has at least six different mandates, and they can't possibly do them all. They can't perform what those with great faith in the Fed have faith that they will perform. That is why I think the accountability issue is so important, and what I call a grown-up discussion with the Congress, not a media event, but a grown-up discussion of the true uncertainties, the true alternatives, of how much of what is going on is debatable theory. That is essential in my view, including as you know from my testimony, that I think we should require the Fed to focus on the impact on savers and savings, as well as on all the other important things.

Mr. EMMER. So if I am—if I go based on that, there are at least six different mandates. If we were going to give you the task of advising us, how would you rewrite the mandate for the 21st Century Fed? How would you rewrite it?

Mr. POLLOCK. I would take them very much back to the original idea—what the founders of the Fed did in 1913, which was the overwhelming mandate was to help deal with crises and then other than that be mostly out of the way and let the market work.

Mr. EMMER. Thank you.

Chairman BARR. The gentleman's time has expired.

The Chair recognizes the gentleman from Ohio, Mr. Davidson.

Mr. DAVIDSON. Thank you, Mr. Chairman.

Thank you all for taking some additional questions. To get near term and potentially practical, using conventional or unconventional means, is there anything the Fed could do to prevent a yield curve inversion? And if they could do it, should they? Anyone?

Mr. MICHEL. I believe that everyone shows overall that the Fed can do very little to ultimately make interest rates do whatever they want. So I would have to say no, I don't think that should be the goal. I think the goal should be getting back to a minimal footprint so that there is—so that there are as minimal distortions as possible from what they do. That is where I would come down on that.

Mr. DAVIDSON. Thank you.

Dr. Pollock?

Mr. POLLOCK. Congressman, they could start selling their mortgage-backed securities and long-term Treasury bonds, and that would push up the long end of the curve and prevent an inversion. They won't like it. That will cause big capital losses in the Federal Reserve itself, probably a large market-to-market insolvency. It would be interesting to see what would happen then.

Mr. DAVIDSON. Any other comments on that?

Mr. KUPIEC. What we have right now, I think, is very much a situation where the Fed really does control a lot of the term structure by its long-term holdings and its trying to control the short-term rate. So these are pretty much administered interest rates.

And if an inversion were to come and the problem there is normally, we think that reflects a looming recession. Why would you want them to hide the evidence? I am not sure that setting the rates would—if the rest—if the world were really tanking, I don't know that raising the long-term interest rate would help anybody.

Mr. DAVIDSON. That gets to the next question. So you just picked the next question is, so if they could manipulate the rates in this way and prevent the yield curve inversion, one way Dr. Pollock highlighted, dump assets in the long term, at least they certainly have plenty of them. It could be very market distorting, particularly if they are done rapidly, would that do what would be indicated? Would it avert a recession? This goes back to the whole limits of monetary policy. And so would it really do what it presumably be targeted at?

Mr. KUPIEC. Some medicines treat symptoms but they don't fix the underlying problem. They just mask them. So to the extent that you think the long-term interest rate is reflecting the real economy and something that is going on, manipulating long-term interest rate I don't think is going to fix the real economy. And if we were heading for a recession, I don't know why raising the long rate would do anything but make things worse. It might cosmetically hide the fact for a while, but I don't know why that would be in the Fed's interest to do that.

Mr. DAVIDSON. Okay.

Mr. MICHEL. And this is why they shouldn't be in this position in the first place.

Mr. DAVIDSON. Thank you.

Okay. And they are in this position, I think summing up, because you go back to the scorpion and the fox, an analogy. The Fed is in

this position because that is what they do. They exist, therefore, they must do something. And they can't resist the item passion to.

How do we get the structure in place that the things they do aren't inherently market distorting?

Mr. MICHEL. So no more emergency lending. Open market and no more primary dealer system, flexible system that lets everybody who is eligible for a current discount window come. So it is marketwide liquidity. That is the only thing they do, period. And a flexible inflation mandate, a flexible price stability mandate and that is it. That is all you let them do.

Mr. DAVIDSON. Thank you.

Mr. Chairman, I yield back.

Chairman BARR. The gentleman yields back.

The Chair recognizes our final questioner, the gentlelady from Utah, Mrs. Love.

Mrs. LOVE. Thank you. I just wanted to finish up some of the questioning that I was asking previously, so I appreciate the second round.

But I wanted to get back to, Mr. Pollock, what you were talking about in your statement in terms of if you believe that the Federal Reserve had superior knowledge and insight into the economic and financial future, you would possibly conclude that it should act as a group of philosopher kings and certainly, enjoyed the independent power over the country. You also mentioned that it is unable, as we have all seen, consistently predict the result of its tone actions, and there is no evidence that they have any special insight.

It is almost as if they are trying—it is worse than trying to predict the weather, because you are predicting interaction between private consumers, interaction between government and people. It is just the—it is incredibly monstrous.

And you also mentioned that not only—it is not really a dual mandate. It is literally six different mandates. And to be fair to the Federal Reserve, they cannot do it all. And it is irresponsible for us to say that they can do right by the American people by giving them, literally, an impossible task.

So here is what I wanted to ask: In order for consumers, households, and businesses to plan for the future and consume, save, invest most effectively, do they need to be confident that the prices will remain relatively constant over time? And do you believe that the Fed should spend more time on monetary policy and price stability as opposed to all of these other responsibilities that they have been given?

Mr. POLLOCK. Thank you, Congresswoman. I do. Again, that they have the policy of acting in a crisis, which is useful, which was their original 1913 mandate. They called it in those days, "to create an elastic currency."

But when you put on top of that the notion that they are going to, as people say, manage the economy, and manage interest rates, now long as well as short term, and know what the right inflation rate is, all of these things, they can't, in my judgment, possibly do it all, just as you suggest.

It is my belief that the Congress was right—and this was a Democratic Congress in 1977—with the Federal Reserve Reform

Act, to try to exert the control of Congress over the Fed. They wrote, "price stability." Now, we need to understand what price stability means. In my opinion, that is a long-term concept—

Mrs. LOVE. Right.

Mr. POLLOCK. —of price stability, which is, I think, best for consumers, investors, and economic growth.

That means in any short term, prices may be going up, or they may be going down. But on average, over the long term, they are something close to flat. That is where I believe we ought to go. Of course, there are great debates about all these things among economists, Congresswoman, proving once again, that economics is not a science, but a set of competing theories.

Mrs. LOVE. Okay. I know you want to add to that, so I am going to actually have you answer this question: If people understood everything that we were talking about, would you say that, in effect, the Fed would be doing more for maximum employment if they actually focused on price stability?

And I am going to have you answer that, Dr. Michel.

Mr. MICHEL. Yes. So yes, they would be. And what I was going to say is the great irony is that what Alex is talking about is exactly what used to take place before we had a Federal Reserve. The short-term price fluctuations were literally 1 percentage point greater than they had been since we had the Fed, but it would always come back to zero, the price level, more quickly. That is what we have gotten rid of. And the truth of the matter is that the Fed can do very little for long-term structural employment. The Fed has nothing to do with us having the lowest participation, labor-force participation rate that we have had since the 1970s. That is not the Fed's fault. They can't do anything other than stay out of the distortionary business by not messing around with so many things so that we don't have a worsening employment situation. They should not be focused on trying to change something that they can't change.

Mrs. LOVE. And I would be so bold as to conclude that this is a result of Members of Congress not being willing to take on the responsibilities that they have and pushing it over to the Fed so that if something happens, we are not the ones who are accountable. And we need to take that accountability back. We are the ones who are accountable to the American people, and so I am going to conclude with that.

Thank you.

Chairman BARR. The gentlelady yields back.

And I would like to thank all of our witnesses for their testimony today.

The Chair notes that some Members may have additional questions for this panel, which they may wish to submit in writing. Without objection, the hearing record will remain open for 5 legislative days for Members to submit written questions to these witnesses and to place their responses in the record. Also, without objection, Members will have 5 legislative days to submit extraneous materials to the Chair for inclusion in the record.

This hearing is now adjourned. Thank you.

[Whereupon, at 12:19 p.m., the hearing was adjourned.]

A P P E N D I X

June 28, 2017

**Testimony of Karen Dynan
Harvard University and Peterson Institute for International Economics¹**

**U.S. House of Representatives Committee on Financial Services
Subcommittee on Monetary Policy and Trade**

Hearing on “The Federal Reserve’s Impact on Main Street, Retirees, and Savings”

June 28, 2017

Mr. Chairman, Ranking Member Moore, and Members of the Subcommittee:

Thank you for the opportunity to testify on the important topic of how the Federal Reserve’s policies affect Main Street, retirees, and savers. In my testimony today, I would like to make five principal points:

1. Accommodative monetary policy since the Great Recession has produced a strong (albeit gradual) economic recovery in the United States—and a stronger recovery than would have occurred without accommodative monetary policy.
2. While the employment effects of accommodative monetary policy have differed across people, everyone has benefited from more job growth in the country and the greater increase in output that resulted.
3. The effects of accommodative monetary policy on savers and retirees have differed across people just as the effects of monetary policy on employment have differed across people. The lower interest rates associated with accommodative monetary policy have hurt some savers by reducing their interest income but have helped some savers by boosting prices of assets like stocks and houses.
4. The Federal Reserve should be accountable to the Congress for its actions, but some of the provisions in the CHOICE Act would materially impair the Federal Reserve’s ability to support a strong economy and low and stable inflation.
5. Achieving financial security in retirement is an important challenge for many Americans, and various aspects of federal policy apart from monetary policy can and should be used to enhance financial security.

Let me now elaborate on these five points.

1. *Accommodative monetary policy since the Great Recession has produced a strong (albeit gradual) economic recovery in the United States—and a stronger recovery than would have occurred without accommodative monetary policy.*

¹ More complete information about my background and current affiliations is provided in the attached resume. The views I express are my own and should not be attributed to Harvard University, the Peterson Institute for International Economics, or any of the other organizations with which I am affiliated.

The Federal Reserve has a dual mandate to use monetary policy to produce “maximum employment” and “stable prices.” In keeping with this mandate, the Federal Open Market Committee (FOMC) used accommodative monetary policy during the Great Recession and the subsequent slow recovery to boost job growth and bring down the unemployment rate. As people went back to work, output rose as well.

A key way in which accommodative monetary policy increases employment during and after recessions is by lowering interest rates. Lower interest rates enable businesses—both large and small—to borrow at a lower cost, and thereby to undertake more hiring and investment than they would otherwise. Lower interest rates also enable households to finance their purchases of houses and cars and other items more cheaply, so they can spend more; lower rates also enable households to refinance their mortgages with lower-cost loans, leaving them with more money to spend on other goods and services. Those increases in business and household spending lead to more hiring, more output, and more income—which in turn increases spending further. The result is a stronger economy.

Accommodative monetary policy by the Federal Reserve has played a critical role in a recovery that started slowly but has now become very strong. Recall that the United States suffered the worst downturn since the Great Depression. But real U.S. gross domestic product (GDP) is now 17 percent above its low point during the recession, and we have seen 86 consecutive months of private-sector job growth since employment began to recover in the spring of 2009. Almost 17 million private-sector jobs have been created since that point, and the unemployment rate, at 4.3 percent, is now at its lowest level since 2001. Measures of *under*-employment have also shown enormous improvement, and wage growth has started to pick up, although weak productivity growth and other factors are still holding wage growth below pre-recession norms. Meanwhile, consumer inflation has remained very subdued, with the most widely watched measures actually having declined a bit in recent months. The latest 12-month change in the personal consumption expenditures (PCE) price index, at 1.7 percent in April, was below the Fed’s target inflation rate of 2 percent.

Crucially, the economic recovery in this country has outpaced that in a number of other countries where central banks were unable or unwilling to pursue sufficiently expansionary monetary policy. For example, a recent report from the Organization for Economic Cooperation and Development (OECD) discussed how the recovery from the Great Recession in the United States has been among the strongest among OECD member countries.² The report attributed the success of the U.S. economic recovery partly to “robust monetary policy support.”

2. *While the employment effects of accommodative monetary policy have differed across people, everyone has benefited from more job growth in the country and the greater increase in output that resulted.*

Some people have undoubtedly benefited more than others from the Federal Reserve’s efforts to restore a healthy labor market in this country. For example, someone who found a new job after

² See Organization for Economic Cooperation and Development (2016), *Overview of the 2016 Economic Survey of the United States*.

being laid off during the Great Recession benefited more from accommodative monetary policy than a neighbor who was fortunate enough to have stable employment throughout the recession.

However, the benefits of the stronger labor market that was created by the Federal Reserve's actions have not been limited to the unemployed people who found jobs. Employed people were more likely to see increases in their wages and salaries and more likely to find better job opportunities with other employers. And the additional income generated by the new jobs and better jobs caused those workers to spend more on goods and services, which encouraged businesses to expand by hiring yet more people, buying new equipment, and building new plants or facilities. Likewise, more income from the stronger labor market helped people buy homes, creating a stronger housing market.

I want to particularly emphasize the importance of restoring a healthy labor market to small businesses. You are right to be concerned, in the focus of this hearing, about Main Street: Small businesses employ roughly half of all Americans and account for about 60 percent of gross job creation (that is, job creation before incorporating the effects of job destruction).³ In addition, research has shown that young businesses, which tend to be small businesses, are critical to innovative activity in this country.⁴ Moreover, small businesses experienced larger job losses than their larger counterparts during the Great Recession.⁵ But, small businesses would have faced far greater struggles in recent years if demand for their good and services had been weaker because monetary policy was not sufficiently accommodative. The stronger housing market fostered by accommodative monetary policy also benefited small businesses because small business owners often rely on home equity loans for financing; many of these proprietors found themselves cut off from this source of credit when their mortgages were under water following the housing bust, but the recovery in home prices has restored housing equity against which they can borrow.

3. *The effects of accommodative monetary policy on savers and retirees have differed across people just as the effects of monetary policy on employment have differed across people. The lower interest rates associated with accommodative monetary policy have hurt some savers by reducing their interest income but have helped some savers by boosting prices of assets like stocks and houses.*

Savers and retirees are affected by many aspects of our economy that are influenced by monetary policy. Therefore, understanding the full effects of accommodative monetary policy on savers and retirees requires careful analysis of many economic factors. In this testimony, I can provide only a rough sense of some of the considerations.

Some of the assets held by savers and retirees pay interest income, and the amount of that income depends on monetary policy as well as other forces. However, those assets represent a small share of all assets. Interest-bearing accounts—such as checking accounts, savings

³ See Bernanke, Ben S. (2010), "Restoring the Flow of Credit to Small Businesses."

⁴ See Decker, Ryan, John Haltiwanger, Ron Jarmin, and Javier Miranda (2014), "The Role of Entrepreneurship in US Job Creation and Economic Dynamism," *Journal of Economic Perspectives* 28(3).

⁵ See Ayşegül Şahin, Sagiri Kitao, Anna Cororaton, and Sergiu Laiu (2011), "Why Small Businesses were Hit Harder by the Recent Recession," *Federal Reserve Bank of New York Current Issues in Economics and Finance*.

accounts, CDs, money market deposit accounts, and call or cash accounts at brokerages—represent only about 5 percent of overall household assets according to recent research.⁶ Most household wealth is held through stocks, retirement accounts, business equity, and real estate. The returns on those assets also depend on monetary policy and other forces.

The accommodative monetary policy pursued by the Federal Reserve since the Great Recession has lowered the returns earned by savers and retirees on interest-bearing assets. But that policy has also boosted the returns on other types of assets held by savers and retirees. For example, stock prices have risen strongly in recent years, adding more than \$18 trillion to household wealth since the worst of the financial crisis in early 2009. And housing wealth, a particularly important part of the nest eggs of many older households, has risen by close to \$7 trillion since that time.

Recent research examining the experience of retirement-age households between 2007 and 2011 found middle- and upper-middle-class households are the most exposed to losses in interest income since low- and moderate-income households have few financial assets and the richest Americans tend to invest heavily in stocks.⁷ Although I am sure that some in the most exposed groups suffered as a result of their losses (and we should not minimize that hardship), the research found that financial losses experienced by these groups generally amounted to less than 10 percent of their total income over the period studied.

In addition, many savers (and among them many retirees) are also borrowers, and therefore they benefited directly from the lower interest rates resulting from accommodative monetary policy. For example, many homeowners were able to refinance into lower-cost mortgages after the Federal Reserve began to cut interest rates in 2007. According to the Survey of Consumer Finances, 43 percent of households with heads between the age of 65 and 74, and 14 percent of households with heads 75 or older, had mortgages on their primary residences in 2007.⁸

The importance to retirement security of a healthy labor market also deserves emphasis. The Federal Reserve's efforts to support the labor market raised incomes, which made saving for retirement easier than it would have been otherwise. Having a stronger labor market also reduced the number of forced, early retirements relative to what would have occurred if the high unemployment rate of the Great Recession had persisted longer, and it enabled more people to delay retirement to make up for the financial losses they suffered during the financial crisis. For many older workers, the benefits of being able to avoid unplanned retirements and to delay retirements when they chose (as well as the other benefits of accommodative monetary policy) were likely much larger than the costs of lower interest income.

⁶ See Haltom, Renee (2012), "[Winners and Losers from Monetary Policy](#)" Federal Reserve Bank of Richmond Econ Focus.

⁷ See Kocke, Richard W. and Anthony Webb (2013), "[How Has the Financial Crisis Affected the Consumption of Retirees?](#)" Center for Retirement Research at Boston College.

⁸ Bricker, Jesse, Arthur B. Kennickell, Kevin B. Moore, and John Sabelhaus (2012), "[Changes in U.S. Family Finances from 2007 to 2010: Evidence from the Survey of Consumer Finances](#)," *Federal Reserve Bulletin*.

4. *The Federal Reserve should be accountable to the Congress for its actions, but some of the provisions in the CHOICE Act would materially impair the Federal Reserve's ability to support a strong economy and low and stable inflation.*

The Federal Reserve was created by the Congress to implement monetary policy, and clearly the Federal Reserve should be accountable to the Congress for that implementation. At the same time, historical experience and formal studies have repeatedly demonstrated the importance of insulating monetary policy from short-term political pressures. For example, countries with less independent central banks tend to have higher inflation.⁹ Therefore, the ways in which the Federal Reserve is accountable to the Congress should be chosen carefully.

Current law requires significant accountability from the Federal Reserve, and additionally the FOMC has taken a number of important steps over the past decade to increase the predictability and transparency of its actions. For example, the Chair and other members of the FOMC regularly report and explain their decisions to Congress and the public through testimonies, press conferences and speeches; the FOMC releases minutes of its meetings to the public and publishes the economic projections of individual members on a quarterly basis; and the Federal Reserve posts information about its balance sheet and discount-window lending on its website. As a result, for example, the Congress and the public currently have a great deal of information about the FOMC's intentions with regard to the normalization of monetary policy in coming years.

While I think it is appropriate to consider whether additional steps could be taken to increase the accountability of the Federal Reserve in ways that would enhance the performance of the U.S. economy, some provisions in Title X of the CHOICE Act would produce the opposite result by undermining the Federal Reserve's independence in counterproductive ways.

In particular, the provisions that would allow the Government Accountability Office (GAO) to perform a so-called audit of the Federal Reserve's monetary policy decisions could create unhealthy political pressures that might hinder the FOMC's ability to act in the interest of the country. Reviewing monetary policy decisions is totally unlike traditional audits of financial statements. The excellent analysts at GAO have great experience in reviewing financial statements, and they perform a critical public service by auditing such statements from agencies across the government; however, the GAO analysts bring no special expertise to evaluating monetary policy decisions. And the process of reviewing those decisions in the way envisioned in the CHOICE Act could strengthen political pressures that might discourage the FOMC from taking the actions (particularly those that are unpopular) needed to achieve maximum employment and stable prices—for example, by raising interest rates if inflation moves significantly higher.

Also, the provisions of the CHOICE Act that would require the Federal Reserve to conduct monetary policy through strict, predetermined rules might also hinder the FOMC's ability to act in the interest of the country. Although the so-called Taylor Rule is a useful general framework for thinking about monetary policy and has been an important input to monetary policy decisions

⁹ See Federal Reserve Bank of St. Louis (2009), "[Central Bank Independence and Inflation](#)" *Annual Report 2009*.

in this country and others for a few decades, forcing the FOMC to closely tie its actions to a particular version of this rule would not enhance the Federal Reserve's ability to implement monetary policy effectively. Given the complexity of our economy and the speed at which adverse economic and financial developments can arise, the Federal Reserve needs to be able to react to all incoming information and to make ongoing judgments about the appropriate monetary policy actions for achieving maximum employment and stable prices.

5. *Achieving financial security in retirement is an important challenge for many Americans, and various aspects of federal policy apart from monetary policy can and should be used to enhance financial security.*

Although I believe that retirement security in this country is higher, not lower, because of the Federal Reserve's actions in recent years, there are still too many Americans who are not adequately prepared for retirement.

Although most people will receive Social Security benefits when they are older, and some will receive regular payouts from defined benefit pensions, those sources of income are generally not sufficient to make up for the step-down in earnings that occurs at retirement. As a result, many people need to accumulate financial assets while working in order to maintain a reasonable standard of living in retirement.

Unfortunately, many Americans seem to have a great deal of trouble saving: According to the 2013 Survey of Consumer Finances, only 53 percent of households reported having saved over the preceding year. Low- and moderate-income households have particularly limited amounts of accumulated financial assets. According to the 2013 Survey of Consumer Finances, among households with heads between the age of 45 and 54—by which age people should have been saving for some years—the typical household in the lowest quintile of the net worth distribution had financial assets that amounted to about one week of income and had liquid assets that amounted to only a few days of income. The typical household in the next highest quintile had 5½ weeks of income in financial assets and just over one week in liquid assets. It is thus perhaps no surprise that in Gallup polls in recent years, only about 40 to 50 percent of respondents reported being confident that they will have enough money to live comfortably in retirement.¹⁰

Research suggests that one of the most effective ways to promote retirement saving among less-sophisticated savers is by making enrollment in a tax-deferred workplace retirement savings account easy and automatic.¹¹ Yet, many Americans lack any type of access to such plans: Only 60 percent of American private-sector workers had employers that offered 401(k)s or similar retirement savings plans as of 2015.¹² One way that Congress could help to address this challenge is by passing legislation adopting the “auto-IRA” proposal developed by economists at the Brookings Institution and the Heritage Foundation. Under this proposal, firms would automatically enroll workers without access to a 401(k)-type plan in an Individual Retirement

¹⁰ Riffkin, Rebecca (2014) “More Americans Think They Will Retire Comfortably,” Gallup.

¹¹ See Chetty, Raj, John N. Friedman, Soren Leth-Petersen, Torben Neilsen, and Tore Olsen (2014), “Active vs. Passive Decisions and Crowdout in Retirement Savings Accounts: Evidence from Denmark,” *Quarterly Journal of Economics*.

¹² Bureau of Labor Statistics (2015) *National Compensation Survey*.

Account, with the option to opt out (and with the government providing tax credits to cover the administrative cost).

Another way in which federal policy could promote retirement security is by helping all savers, large and small, get a fair shake in financial markets. For example, to help stock investors receive the returns they deserve, the government currently has rules regarding insider trading and disclosures by corporations. Congress could help further by supporting rules that help savers, particularly those who are less sophisticated, get good financial advice. For example, the Department of Labor's fiduciary rule that went into effect earlier this month took an important step in this direction by requiring financial advice to be in the best interest of savers. The fiduciary rule was formulated through a careful and deliberative process that included extensive engagement with the financial industry and other concerned parties to make sure that it would be workable and beneficial to American savers. Many financial firms adjusted their internal systems to be consistent with the rule before it went into effect, and I am encouraged that that we already are seeing new, lower-cost financial products that appear to be springing up as a result of the rule.

Efforts by the Administration and Congress to weaken or repeal the new fiduciary rule would cause noticeable harm to many American savers. A study done by President Obama's Council of Economic Advisers, which drew from a dozen independent peer-reviewed studies, found that American workers and retirees were losing \$17 billion a year in Individual Retirement Accounts alone because of financial advice that was not in the best interest of savers.¹³

Congress could also promote retirement security by helping to protect Americans from financial fraud. Older Americans appear to be particularly susceptible to investment fraud and other predatory practices. The Consumer Financial Protection Bureau (CFPB) has taken a number of transparent, data-driven actions to curb such abuses. The CFPB has also done research and issued reports regarding the specific challenges faced by older Americans as they navigate our complicated financial system. Efforts by Congress to curtail the CFPB's tools would undermine its ability to engage in these important activities. Congress could also consider taking legislative steps to protect the credit records of older Americans who become victims of financial fraud.

¹³ See Council of Economic Advisers (2015) "[The Effects of Conflicted Investment Advice on Retirement Savings](#)."



Statement before the House Financial Services Subcommittee on Monetary Policy and Trade for hearing entitled “The Federal Reserve’s Impact on Main Street, Retirees, and Savings”

The Federal Reserve’s Credibility Problem on Main Street

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The American Enterprise Institute (AEI) is a nonpartisan, nonprofit, 501(c)(3) educational organization and does not take institutional positions on any issues. The views expressed in this testimony are those of the author.

Chairman Barr, Ranking Member Moore, and distinguished members of the subcommittee, thank you for convening today's hearing on the Federal Reserve's impact on main street, retirement and savings. I am a resident scholar at the American Enterprise Institute, but this testimony represents my personal views. My research is focused on banking, financial regulation, financial stability and systemic risk. My prior experience includes senior staff positions at the Federal Reserve Board, the IMF and the FDIC, including four years as chairman of the Research Task Force of the Basel Committee on Banking Supervision. It is an honor for me to be able to testify before the committee today.

There is little doubt that the Federal Reserve is the most powerful independent agency in government. The decisions of the Federal Reserve Board and the Federal Reserve's open market committee have important impacts on the lives of every American and to a lesser degree the citizens in foreign nations. Yet the Fed's decisions are made by unelected officials with little more than proforma oversight by the US Congress. For example, while the Federal Reserve's charter requires it to target price stability and maximum sustainable employment, the Fed unilaterally decided to define price stability as a 2 percent inflation rate without any input, debate or vocal push-back from the Congress. And today some Federal Reserve officials are publicly arguing that the Fed's inflation rate target may need to be increased to enable them to achieve their price stability mandate.¹

The historical timidity of Congressional oversight is completely understandable for any number of reasons. Few members of Congress are deeply schooled in the arcane details monetary theory. Even those in Congress with in depth subject matter knowledge will find it daunting to stay current with the ever-changing fashions in monetary policy. Economists and central bank officials are continually discovering serious flaws in the theories that guide their policy prescriptions. Moreover, Congressional members that question the propriety of the Fed's monetary policy decision making processes are often branded as economic hooligans who are out to destroy the Fed's mythical shield of "political independence".

Congress needs a new approach to facilitate its oversight of Federal Reserve operations. The current system in which the Federal Reserve, twice a year, submits boilerplate written Congressional testimony followed by hearings where the Fed's chairman does their best to dodge answering controversial questions, has proven to be inadequate given the power Congress has delegated to this agency.

The adequacy of Congressional oversight has become an especially controversial issue in recent years as the Federal Reserve initiated various "unconventional" monetary policies in an attempt to meet its dual mandate. Unconventional policies like near-zero interest rates, paying interest on bank reserves, and quantitative easing operations have had important impacts on the distribution of income and wealth in America. While countercyclical monetary policy is always at the core a redistributive mechanism, in this cycle the redistributive impacts have been so large that they are obvious to main street voters and their elected Congressional representatives.

In the redistribution that has occurred in the wake of the financial crisis, those on the less

¹ See, for example, John Williams, "Monetary Policy in a Low R-Star World," FRBSF Economic Letter, August 15, 2016.

fortunate side of main street have seen fewer gains and a weaker recovery compared to the perceived benefits afforded large “Wall Street” banks and the households living on the tony end of main street. Had unorthodox monetary policy generated the economic growth the public has been conditioned to anticipate, these policies would have been suspended years ago without generating the public disillusionment that has sparked today’s “audit the fed” movement.

The Federal Reserve mandate to maintain price stability and maximum sustainable employment does not include any explicit or implied legal obligation to consider the wealth or income redistribution consequences associated with Federal Reserve monetary policy operations. This omission is sensible given the undeniable fact that “monetary policy is a blunt instrument.” Still, in my view, the recent call for stricter Fed accountability can largely be attributed to the Fed’s inability to stimulate robust growth coupled the Fed’s shortsighted political calculus to avoid as far as possible any discussion of the wealth and income redistribution transfers that have occurred under its prolonged experiment with unconventional monetary policies.

The need for more detailed Congressional discussion of the potential impacts of unconventional monetary policy is long overdue. But at present, there is no practical way to catalyze such a discussion. The modest size of Congressional staff provides members with limited resources relative to the very large and highly compensated Federal Reserve staff that skillfully hones the controversial edges off all Federal Reserve testimony. Nor it is clear that proposed legislation such as the “Federal Reserve Transparency Act of 2017” will adequately address this issue.

Perhaps there is a simple change in procedure that, without any new legislation, could help to alleviate this long-standing problem. My suggestion is to require the Federal Reserve’s written Humphrey-Hawkins testimony by a prescribed date, and before scheduling the Fed chairman’s testimony, distribute the Fed’s written testimony to non-Fed experts, and hold hearing requesting their analysis of the Fed’s written testimony. This change of process would allow members of Congress additional time and access to additional expert resources to prepare their oversight questions for the Fed chairman’s subsequent Humphrey-Hawking’s hearings. There is at least an even chance that once the Fed’s written testimony is subjected to expert public review before it’s Chairman testifies, the Fed will be pressured into anticipating controversial issues in its written testimony, especially if the Congress encourages non-aligned experts to focus on issues of Congressional concern.

An outline of my testimony follows. In the following section I review popular theories of the so-called “monetary transmission mechanism”, or the mechanism through which Federal Reserve control over short term interest rates can be used to regulate economic growth. I provide this review as background for the analysis that follows, and to provide the reader with some perspective about how economists might have expected the Fed’s monetary policy to impact the economy. Section 2 reviews the evidence regarding the actual performance of the transmission mechanism on consumer saving and business investments over a period spanning the financial crisis, the great recession and the subsequent recovery. Section 3 discusses the benefits and costs of the Federal Reserve’s unconventional monetary policies from the perspective of main street America. All charts referenced appear at the end of the testimony.

1. The Monetary Transmission Mechanism

The textbook explanation of the mechanism through which the Federal Reserve controls economic growth is called the monetary transmission mechanism. The mechanism traces the impact of a change in the short term interest rate controlled by the Fed on consumption and investment decisions throughout the economy.

The Federal Reserve sets the overnight interest rates that banks charge to lend out their reserves. Reserves are essentially bank checking account deposits at the Federal Reserve. Before the financial crisis, the going interest rate for borrowing bank reserves was set through the interplay of bank supply and demand. Banks are required to maintain a minimum amount of reserves at the Fed. The minimum reserve amount is determined by the balance in bank customers' savings and demandable deposit accounts. Banks that have an excess of reserves over the required amount can lend these reserves to banks that have a shortage of reserves. The interest rate on loans of bank reserves is called the federal funds rate.

Before the financial crisis, the Fed controlled the federal funds rate by using open market operations to buy and sell Treasury securities from (to) banks. When the Fed purchases a Treasury security owned by a bank, the Fed pays for it by increasing the bank's reserve deposit balance at the Fed. Such a transaction directly increases excess reserves in the banking system which put downward pressure on the rate banks charge in the federal funds market. In contrast, when a bank buys a Treasury security from the Fed, it pays for the security using its reserve deposits at the Fed. This reduces the banks' excess reserve holdings which in turn puts upward pressure on the federal funds rate.

After the onset of the financial crisis, the Federal Reserve began purchasing a large amount of Treasury securities from banks. These purchases greatly increased banks' reserves to a degree that there was little or no demand for bank excess reserves because nearly all banks had a surplus of reserves. To keep the federal funds rate from falling to zero, in late 2008, the Fed began paying banks interest on their reserves. Initially the Fed planned on paying a higher rate of interest on excess reserve balances (the so called IOER rate), but the Fed quickly revised its policy and began paying banks 25 basis points on their entire reserve balances.² The rate the Fed pays on bank reserve balances sets a floor on the federal funds rate because no bank would lend their reserves out at a rate below the rate they could earn by keeping them on deposit at the Fed.³ Since late 2008, the Fed has controlled the federal funds rate using the rate it pays on bank reserves.

The federal funds rate is generally taken to represent an overnight risk free rate. A persistent expected reduction in the overnight risk free interest rates will impact longer maturity Treasury security yields via arbitrage. If the Fed reduces the federal funds rate and the rate reduction is expected to be maintained for some time, shorter-dated Treasury yields will decline. The mechanism is that banks bid up Treasury securities prices (forcing these securities yields down)

² The rate is still called the IOER rate even though the rate is actually paid on all reserve balances.

³ There are non-bank institutions that have reserve accounts at the Fed and who can also borrow and lend federal funds. These institutions (primarily GSEs) do not receive interest on their Fed reserve balances and may lend federal funds below the IOER rate.

until banks no longer earn an expected profit from purchasing these securities and financing them using a series of overnight federal funds loans. Through arbitrage, Federal Reserve targeted changes in the federal funds rate get transferred to the yields on longer-dated Treasury securities. The impact of a change in the Fed's federal fund rate target on the yields on long-term Treasury securities depends on investor expectations regarding the future path of the overnight federal funds rate as well as the impact the expected monetary policy change may have on future inflation rates (investor inflation expectations).

When the Fed raises or lowers the target federal fund rate, it (potentially) impacts the yields on all traded fixed-income securities. If the Fed lowers the target rate, short-term and intermediate-term Treasury security yields decline. The yields on long-dated securities will also decline if inflation expectation remain unchanged. The Treasury term-structure of yields in turn determines the yields on other traded debt securities including corporate bonds and asset-backed bonds with credit (default) risk.

A reduction in the target federal funds rate also typically produces a decline in the rates charged by banks for consumer and business loans. Banks typically prefer to lend to business and retail customers when the risk-adjusted margins on this lending exceeds the margin a bank can earn by lending excess reserves. An increase in bank excess reserves usually engenders an increase in supply of bank consumer and business credit and a corresponding reduction in bank business and consumer loan rates.

When interest rates decline, there are two effects that, in theory, stimulate aggregate demand and generate economic growth. In the textbook version of the monetary transmission mechanism, one effect of lower interest rates is an increase in consumption expenditures. The second is an increase in business investment.

The consumption channel

The level of interest rates impacts a households' decision regarding how its splits its current income between consumption and savings. Holding constant inflation expectations, when interest rates decline, the return on household savings declines making it less appealing for households to save out of current income.⁴ Alternatively, when interest rates decline, current consumption is less expensive in terms of the future expected consumption the household must forgo when they choose not to save for future consumption. The upshot is that, when interest rates decline, households are expected to decrease savings and borrow to increase their current consumption.

The prior paragraph describes the simplest version of the consumption "gears" in the theoretical monetary transmission mechanism. But the true story is more complex. The first complexity involves households whose income is primarily derived from fixed income investments—retirees living off of accumulated savings. For these households, who comprise an increasing share of households as the population ages, when the Fed cuts the federal funds target rate, their current

⁴ An alternative "permanent income hypothesis" explanation is that low interest rates increase the present value of a household's lifetime income because future income is discounted less heavily. If households seek to consume a constant fraction of their permanent income as some economic theories speculate, current consumption will increase because the interest rate reduction increases household permanent income.

household income declines. These households may choose to reduce rather than increase their consumption as the yield income on their investments decline.

A second complication is households whose consumption pattern is in part driven by a savings target. At some stage of the household life cycle, (one hopes) a household begins in earnest to save for retirement. The savings rate that is required to accumulate sufficient savings to fund a comfortable retirement depends on the level of interest rates. If interest rates are very low for a sustained period of time, households must channel a very large share of their current labor income into savings if they are to meet a retirement savings goal. The impact of low rates on savings under this channel are uncertain. For some households, a sustained reduction in the Fed's federal funds target could induce a reduction in consumption to achieve the household retirement saving target. However, for other households a rate reduction could make it impossible for some households to meet a savings target and instead induce the household to abandon prudent savings habits and consume more of their current income (see Box 1).

An additional complication regarding the consumption channel of the monetary transmission mechanism is the strength of household balance sheets. Even if lower interest rates tempt a household to reduce savings or to borrow to consume more today, the strength of the household's financial condition may prohibit it from borrowing. Many households that would prefer to borrow do not have access to credit because of the default risk they pose to lenders. Some households with weak credit ratings may be able to borrow at very high risk rates, but instead prefer to pay off debt (save) and build household equity to improve their credit quality to enable them to borrow at lower rates in the future. Credit constrained households may gain additional benefits from a reduction in rates if their household assets (primarily their home) appreciate in value as a consequence of reduced interest rates and thereby improve their access to credit.

The final complication I will mention are wealth effects for non-credit constrained households. For households with strong balance sheets including equity in their home and a portfolio of financial assets, a reduction in the federal funds target rate may generate sizeable capital gains in the market value of their home and financial assets. In addition, it may encourage these households to refinance mortgages and other consumer debt at more favorable interest rates. All of these effects will increase these households' current disposable income as well as their perceived permanent income. Such households may respond by increasing their current consumption.

The overall impact of a reduction of interest rates on household consumption is sum total of all households' response according to these and other channels that I have failed to recognize in my testimony. The mix in household responses that are actually observed is not easily identified when policies are implemented, and even after the fact, they are not readily identified in the aggregate data. In short, there is a lot of uncertainty about how much aggregate consumption will respond to a change in the target federal funds rate, and the response likely depends on the financial balance sheet strength and lifecycle age profile of households in the economy.

Box 1: Target Savings and Ultra-Low Interest Rates

Financial experts recommend that households accumulate savings for 25 years of retirement spending, consuming at a rate of 80 percent of household income the year before retirement. Some savings will come from social security benefits, but for most households, social security will not provide enough for a comfortable retirement.

Sustained low rates disrupt prudent household savings habits. The 2013 Federal Reserve Board Survey of Consumer Finances, conducted in the midst of the Fed's zero-interest rate policy, found a significant reduction in consumer retirement plan participation.¹ A more recent private sector survey found that 33 percent of Americans have no retirement savings, including 24 percent of those over age 55.²

To better understand the link between savings behavior and the level of interest rates, consider the saving decision of young household (age 25) with a starting income of \$50K. To keep things simple, assume that the household expects to earn \$2.5K more each year until age 45 when household income reaches \$100K per year where it until retirement at age 65. This earnings profile closely mirrors the US average for an individual with the equivalent of a 2-year post college degree.

To keep things simple, assume that future social security benefits remain unchanged and there is no inflation. Social security should provide this household about \$28K per year in retirement.³ The savings rate required during earning years to reach retirement goals depends on the interest rate.

If interest rates are 0, accumulated savings earn nothing, and total savings must equal \$2 million by age 65 to fund an 80 percent income replacement rate in retirement. Future social security lifetime benefits provide \$700K, leaving \$1.3 million to accumulate through private savings. To reach this goal at zero rates, the individual would have to save nearly 38 percent of pre-tax earnings each year until retirement.

When interest rates are slightly positive, say 2 percent instead of 0, the required savings rate, while steep, is less daunting. Because interest earned on savings accumulates, the individual's private retirement account must reach a little over \$1 million by age 65. This requires saving about 20 percent of each pre-tax dollar earned—slightly more than half the savings rate when interest rates are 0.

Extended periods of ultra-low rates not only put self-funded retirement out of reach for many households, but they also make it more difficult to build precautionary savings or purchase insurance against long-term hazards. Long-term insurance products like life insurance and long-term care insurance become unaffordable for most households.⁴ The lack of savings may force many to borrow from high-cost nontraditional sources like payday or auto-title lenders when they experience unanticipated expenses.⁵

Households that do decide to save in a low rate environment face pressure to invest in high-yield risky assets. This stretch for yield will put upward pressure on the price of risky assets—stocks, high-yield bonds, and real estate—and could create a price bubble that will deflate once interest rates normalize. Those that struggle to invest to build a financial nest-egg for the future in a near zero interest rate environment could well experience losses should their investments be whipsawed by changes in central bank monetary policy.

¹ <http://www.federalreserve.gov/pubs/bulletin/2014/pdf/scf14.pdf>

² <http://www.gobankingrates.com/retirement/1-3-americans-0-saved-retirement/>

³ \$28K is between the high and low estimates produced by on-line social security benefits calculators from government agencies, financial institutions, and the AARP.

⁴ <http://www.wsj.com/articles/life-insurers-pass-pain-of-low-rates-on-to-consumers-1458466210>

⁵ <http://csd.wustl.edu/Publications/Documents/RB14-13.pdf>

The investment channel

If businesses follow the rules laid out in economic textbooks, they will invest in activities that are profitable when expected future revenues exceed expected costs, when both are discounted at the firm's average cost of funding the project. Under this decision rule, presuming that lower federal funds target rates are passed on to business borrowers, business investment should increase when the Federal Reserve lowers its federal funds target rate because more investments will appear profitable when a business's cost of borrowing falls.

There are, of course, complications beyond the simple interest rate investment story. One complication concerns the financial conditions of businesses. When businesses have weak balance sheets and little in the way of acceptable collateral, they may have difficulty borrowing even if they have profitable investment opportunities. Business lending is risky, and banks may shy away from business loans unless there is ample collateral protection. In such cases, a reduction in rates may work through a second channel by improving the credit access of businesses whose collateral (such as real estate) increases in value as interest rates decline.

Another complication is the financial condition of banks. There is a significant body of evidence that suggests that banks are reluctant to lend after experiencing losses. This can be, in part, because the credit quality of their customer lending pool has deteriorated along with rising delinquency rates in their legacy loan portfolios. But, there is also evidence that banks are reluctant to lend after they experience non-lending related losses. Weak regulatory capital positions may be a limiting factor in some cases, but the empirical evidence suggests that capital adequacy issues are minor compared to the impact of a negative bank supervisory rating. On average, the evidence shows that banks post large reductions in their loan growth rates following a regulatory downgrade to a CAMELS 3 rating or below.⁵ This fact should not be construed as a criticism of bank examiners or the bank examination process. Quite the contrary. Bank examinations are designed to identify banks with safety and soundness issues and bank examiners have a duty to prevent weak banks from making risky loans that subsequently may cause losses for the deposit insurance fund. A well-functioning system of supervision must limit the lending growth of banks that are at risk of failing.

Aside from the financial condition issues that complicate the business investment transmission mechanism, there is growing evidence that many business managers apparently skipped their economics lectures on evaluating new business investments. A body of research has shown that many firms evaluate investments by discounting future cash flows using a management-set hurdle rate, not their firm's cost of raising new funds.⁶ Survey evidence finds that firms set investment hurdle rates between 12 to 15 percent for investments that are similar to their existing business lines, and significantly higher hurdle rates for new business ventures.

⁵ See Kupiec, Lee and Rosenfeld, (2017). "Does bank supervision impact loan growth?" *Journal of Financial Stability*, Vol. 28, pp. 29-48.

⁶ There are many references to support this claim. For example, Poterba and Summers (1995) "A CEO Survey of U.S. Companies' Time Horizons and Hurdle Rates", *MIT Sloan Management Review*, October; Meier and Tarhan, (2007). "Corporate Investment Decision Practices and the Hurdle Rate Premium Puzzle," http://papers.ssrn.com/sol3/papers.cfm?abstract_id=960161; Steve Sharpe and Gustavo Suarez (2014), "Why isn't Investment More Sensitive to Interest Rates: Evidence from Surveys, FEDS Working Paper No. 2014-002, Federal Reserve Board.

Moreover, the evidence from multiple countries suggests that business hurdle rates are “sticky” over time. Firms do not appear to adjust their hurdle rates in response to changes in central bank short-term interest rate targets. For example, a recent Federal Reserve Board study concludes that business investment hurdle rates have changed little since the 1980s despite large declines in the federal funds rate and nearly double-digit declines in corporate borrowing costs.⁷

The overall impact of a change in the Federal Reserve target interest rate on business investment is the aggregate sum all of these effects and likely other effects I have not mentioned. Again, it is nearly impossible to formulate an accurate prediction of how aggregate investment will actually respond to a reduction in target rates, especially in the climate of heightened uncertainty in a financial crisis.

2. Economic Performance under Unconventional Monetary Policies

Unconventional monetary policies began in the late summer of 2007 when the Fed lowered its policy rates and initiated special lending programs to both broaden and improve access to the Fed’s traditional lender of last resort facilities. On October 6, 2008, the Fed began paying interest on bank reserve balances. When it became clear that near zero interest rate policies and special lending programs would not jump start growth, the Fed undertook an aggressive series of asset purchases. These so-called quantitative easing programs were designed to boost financial asset prices and stem the decline in housing prices. It was anticipated that stabilizing home and financial asset prices would boost investor confidence and generate new consumption and investment demand through the wealth effect. The programs massively expanded the Federal Reserve’s balance sheet as well as bank excess reserve balances. Bank reserve balances (nearly all are excess reserves) increased from \$261 billion in late October 2008 to over \$2.8 trillion by the end of July 2014.

The massive Federal Reserve injection of liquidity put downward pressure on yields throughout the economy. The yield on Treasury securities declined at all maturities, with the largest declines posted on short-dated instruments (Chart 1).^{8, 9} The yield on corporate debt instruments declined as well (Chart 2). After an initial decline in early 2009, investment quality bond spreads relative to the 10-year constant maturity Treasury yield (Chart 3) remained firm until the Fed began its quantitative easing programs in 2011. Overall, Charts 1-3 show that the Federal Reserve’s unconventional monetary policies worked to reduce interest rates across nearly all instruments traded in corporate bond and Treasury markets.

The massive expansion in Federal Reserve liquidity put downward pressure on banks’ cost of funds (Chart 4¹⁰). Subsequent Federal Reserve QE operations maintained this pressure, and by early 2012, the national average rate banks paid on all common deposit products (Chart 5) was below the effective federal funds rate, and well below the 25 basis points banks’ earned on their reserves. Most banks could earn a profit by simply taking in customer deposits and holding them

⁷ S. Sharpe and G. Suarez, “Do CFOs Think Investment is Sensitive to Interest Rates? FEDS Notes, Sep 26, 2013.

⁸ All charts appear at the end of the testimony. When no source is mention, the charts are based on data reported by the Federal Reserve bank of St Louis in its FRED Economic Database.

⁹ Declines in Treasury securities yields posted early in months of the crisis (2007) reflected investor demand for default risk free assets a reduction in inflation expectations rather than expansionary monetary policy as the Fed was still increasing rates at this time.

¹⁰ The data source for Chart 4 is the FDIC’s Statistics on Depository Institutions.

as reserves.

Despite the historic Fed-engineered increase in liquidity and a substantial reduction in interest rates, households and business did not increase their borrowing to boost consumption or investment. Chart 6 plots estimates of the outstanding amounts of credit borrowed by households, nonfinancial businesses, and the federal government, where each sector's borrowing is measured relative to its outstanding credit balance in 2006Q1. The plots in Chart 6 show that the federal government sector was the only sector that took on substantial amounts of additional debt as interest rates declined. Chart 6 shows that it was late 2012 before nonfinancial business borrowings recovered to 2008 peak levels, and the level of outstanding home mortgage debt has yet to equal its pre-crisis peak. In contrast, by the end of 2016, the outstanding balance of federal government debt was 281 percent larger than the government debt balances in 2006.

Rather than respond to interest rate reductions by reducing savings and increasing consumption, households increased their savings (Chart 7). Net private sector business investment (Chart 8) declined. Business investment failed to recover to pre-crisis levels until 2013, and even then it remained weak, subsequently falling below pre-crisis levels where it remains in 2017Q1.

The impact of weak consumption and private investment demand is reflected in the level of real GDP (Chart 8). Growth in real GDP has been anemic and has yet to recover to trend path of real potential GDP. As a consequence of the decline and slow recovery of real GDP, real median family income (Chart 9) declined from a pre-crisis peak of \$70K to a low of \$64K before recovering to pre-crisis levels in 2015.

The Federal Reserve experiment with unconventional monetary policy may have made the great recession less severe, but thus far it has been ineffective in stimulating a robust recovery. The slow recovery has caused a prolonged period characterized by outright reductions in household median real incomes so it is understandable why many on main street may believe that the great recession continued for years longer than the NBER economists who date business cycles.¹¹

The continued inability of the Federal Reserve to meet its growth and inflation targets has understandably stoked enthusiasm among some elected officials for increased Federal Reserve oversight. Still, it is important to appreciate that countercyclical monetary policy is difficult "to get right." In fact, while modern central banks have much more data, hundreds of additional economists, and massive computing power, the 1959 Congressional testimony of Milton Freedman is still apropos: "it is so difficult as a technical matter in the present state of our knowledge to know what measures one ought to take at any given time."¹²

3. Has Unconventional Monetary Policy Benefited Main Street?

Did main street benefit from Federal Reserve unconventional monetary policies? To the extent that these policies prevented the great recession from turning into a second great depression, main street writ large benefited. Unfortunately, while Federal Reserve officials place great weight on this benefit when self-scoring their own crisis-response performance, no one really

¹¹ According to the NBER dating committee, the recovery from the great recession began in July 2009.

¹² U.S. Congress, Joint Economic Committee, Hearings, Employment, Growth, and Price Levels, Part 4 (86th Congress, first session, 1959, pp. 615-16.

knows what would have happened had the Fed taken a different approach in responding to the economic crisis. There are historical cases when neither the Federal Reserve nor Congress took any measures to counter a severe economic downturn and the economy recovered far more quickly than it has from the great recession.¹³

If main street were asked to score the Fed's performance, opinions would likely differ depending on who you asked. In the upscale parts of main street, folks are likely to think the Fed has done a good job at reviving the economy. However, folks living a more modest main street lifestyle are probably less likely to give the Fed high marks.

Initially consider the uneven nature of the recovery regarding household income. The 2013 Federal Reserve Survey of Consumer Finances¹⁴ (the latest survey available) reports that median income for the top 10 percent of earning households was \$183,400, up 5 percent from the 2010 survey median value for this decile. In contrast, households with incomes in the second quartile of the income distribution (25% to 49.9% in the income distribution), saw their median incomes fall by 5 percent over this period, to \$38,600. Among the overall population, only households in the upper 25 percent of the income distribution experienced a gain in median income.

The economic recovery since 2013 is unlikely to have reversed the inequalities reported in the 2013 Survey of Consumer Finances. In its reports, the US Census Bureau estimates that income inequality increased in 2013, 2014, and 2015.¹⁵ In addition, the Census Bureau has documented the uneven nature of the recovery in median incomes on a geographic basis (Chart 11).

It is impossible (as far as I know) to firmly establish specific cause and effect regarding specific impacts of the Fed's unconventional monetary policies.¹⁶ Still, I think most people would agree that the Fed's quantitative easing policies have been a force propelling risky financial asset prices, primarily stock prices, higher. QE-driven asset price inflation has pushed household financial asset holdings to new highs (Chart 12). But households must own financial assets if they are to benefit from financial asset price inflation, and financial assets holdings are concentrated in households in the upper deciles of the income distribution.

The 2013 Federal Reserve Survey of Consumer Finances reports that, in 2013, 48.8 percent of all families owned equity shares either directly or indirectly through mutual funds or retirement accounts. This percentage is down from 53.2 percent in 2007. When sorted by income, families in high income deciles are much more likely to own shares relative to families in lower income deciles.

While the Fed survey reports that fewer families held stocks directly or indirectly in 2013, the mean value of family stock holdings increased between 2010 and 2013 reflecting the concurrent increase in stock prices. When families are sorted by income, it is no surprise that families in high income deciles have much higher average stock holding than families in lower income deciles. It is probably also not surprising that families in higher income deciles saw the largest

¹³ See James Grant, *The Forgotten Depression: 1921: The Crash that Cured Itself*. Simon & Schuster, 2015.

¹⁴ "Changes in U.S. Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finance," *Federal Reserve Bulletin*, Vol 100, No. 4, September 2004.

¹⁵ United States Census Bureau, Household Income: 2013 (September 2014), and Household Income: 2015 (September 2016).

¹⁶ An exception is the federal funds rate which is closely controlled by Fed policies.

gains in the average value of their stock holding between 2010 and 2013.¹⁷ The data clearly show that benefits of the Fed's QE-catalyzed stock market rally have accrued to the wealthiest households.

There is little doubt that Federal Reserve policies also helped to resuscitate the housing market. The benefits from the QE-generated turnaround in the housing market have been more widely shared than the benefits of the stock market rally, but these benefits still vary widely across main street.

The 2013 Federal Reserve Survey of Consumer Finances reports that 65.2 percent of households owned their primary residence (down from 67.3 percent in 2010). For households that do own their primary residence, on national basis, the dollar value gains that have accrued to those who owned higher-priced properties exceeded the gains on cheaper residences (Chart 13). However, more expensive properties on average fell by larger dollar amounts during the crisis. By now, nationwide average prices in most segments of the housing markets have, by some estimates¹⁸, recovered to their pre-crisis values.

Conditions in local housing markets often differ from national trends. For example, in Lexington Kentucky (Chart 14 upper panel), median housing prices did not post sizeable declines in the crisis, and today all three median prices have posted significant gains over 2008 levels. In Milwaukee Wisconsin (Chart 14 lower panel), median home prices in each segment show a recovery pattern similar to the national trend. Median home prices in all price segments declined during the crisis and subsequently recovered (or nearly recovered) to pre-crisis levels. Unlike the national trend, the highest priced housing segment in Milwaukee county has shown weakness in recent months.

The Fed's QE-engineered housing market recovery greatly benefited large numbers of households. Many escaped negative home equity positions they faced earlier in the crisis (Chart 15). Still, improvements in the negative home equity positions of households have been distributed unevenly geographically (Chart 15) as well as across racial groups (Chart 16).

Aside from the unequal distribution of gains generated by the equity and home price appreciations that can be attributed, at least in part, to Federal Reserve quantitative easing, main street would also likely score the Federal Reserve's post-crisis performance on main street access to small businesses credit. Chart 18 show that bank small business lending¹⁹ has been especially weak during the recovery. Bank C&I small business lending only recently recovered to 2008 levels and small business loans backed by collateral other than farms or residential real estate remain far below 2008 peak level even today. While it is unclear whether the weakness in bank small business lending has been driven by supply constraints, or by lack of small business demand, but the data show that the Fed's unconventional monetary policies have not expanded bank credit to small businesses.

Federal Reserve polices have also engineered rate reductions for many common consumer loan products. Chart 19 shows that the interest rates banks charge on consumer credit products other

¹⁷ *Federal Reserve Bulletin*, Box 6.

¹⁸ All housing price and equity related estimates in my testimony are taken from the Zillow public website.

¹⁹ Commercial and Industrial loans, or loans backed by nonresidential real estate or farm collateral with outstanding balances less than \$1million.

than credit cards have declined more than 2 percentage points over the average rates banks charged on these products prior to the crisis. Yet the decline in the interest rates on consumer credit products are far smaller than the decline banks experienced on their cost of funds. Recall that by early 2012, the average price of all common consumer bank savings products was below the effective federal fund rate (Chart 5) which was itself well below the rate the Fed paid banks on their reserves. Chart 20 shows the spread between interest rates charged on common consumer credit products and the effective federal funds rate. The data in Chart 20 indicates that, post crisis, on average banks have been charging and continue to charge consumers a larger interest mark-up over bank cost of funds. The abundant liquidity and exceptionally cheap funding benefits the Federal Reserve has bestowed on banks has not been fully passed on to consumers.

The tally of benefits is short when consumers and small businesses consider the impact that unconventional Federal Reserve monetary policies have had on their banking relationships. For many years now, bank customers have earned virtually nothing on their bank deposits, while customers have at the same time faced larger mark-ups for bank borrowings. This lopsided benefits tally tips further in banks favor once you realize that, post-crisis, banks have become more reliant on taxpayer-insured deposits to fund their operations. My own recent research shows that a combination of factors, including the Federal Reserve paying interest on bank reserves, quantitative easing, and Dodd-Frank Act changes in the way deposit insurance is priced have created incentives for banks—especially large banks—to substitute insured deposit funding for nonguaranteed wholesale funding.

Chart 21 show a smoothed histogram²⁰ of the deposit-to asset ratio of all banks with assets greater than \$100 billion in December 2007 (blue) and December 2012 (red). Before the financial crisis (2007), large banks used less insured deposit funding and instead preferred to use cheaper wholesale funding sources like borrowed federal fund and repurchase agreements. The monetary policy and regulatory changes that have occurred since 2008 have made deposits a substantially cheaper source of bank funding relative to other sources, and banks have responded by swapping taxpayer insured deposit funding for wholesale funding.

The change documented in Chart 21 is important because it implies that the largest banks are now more dependent on taxpayer guarantees than they were pre-crisis. Deposits in large banks, while not all explicitly insured by the FDIC, are practically speaking fully insured, because of the large bank resolution process. The FDIC always sells the entire deposit franchise of a failing large bank to another large healthy banking institution. The FDIC covers whatever losses are necessary to make the transfer possible. Depositors in large banks never suffer any losses. Moreover, the FDIC's plan for exercising its orderly resolution authority reinforces the government deposit guarantee because the FDIC has pledged, if need be, it will use bank holding company assets to keep subsidiary banks open and operating.

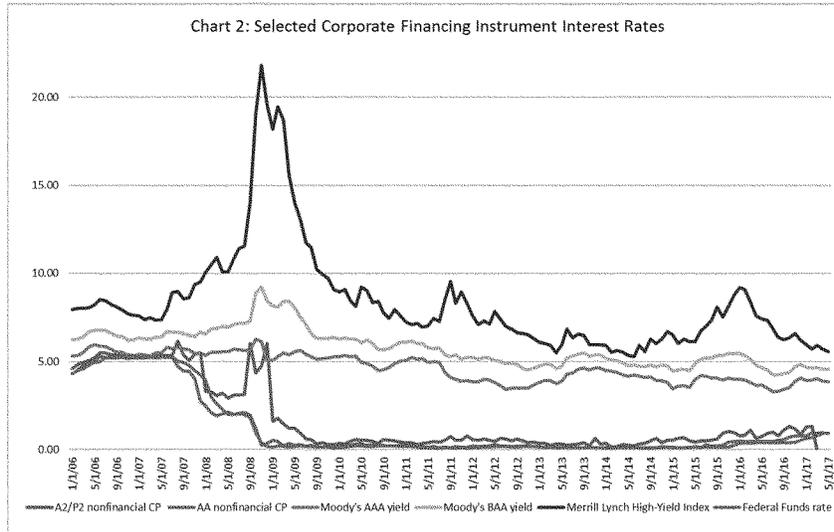
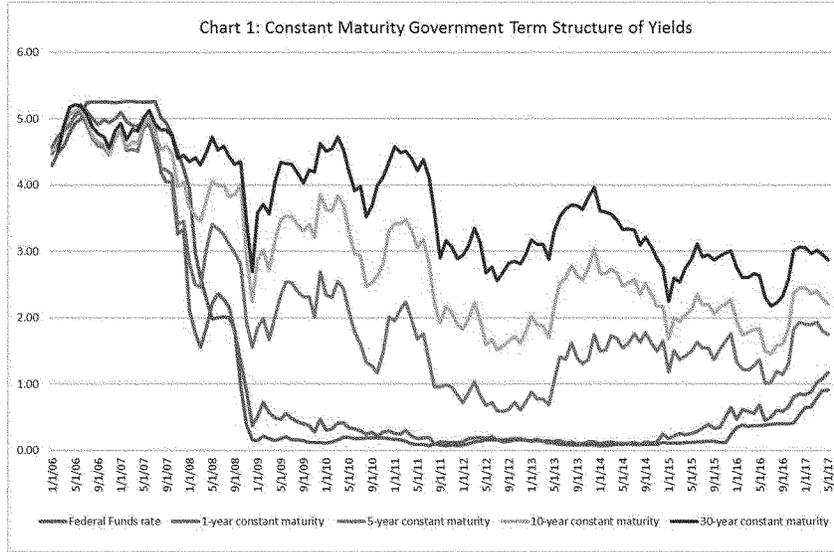
Through a combination of factors including the Federal Reserve's decision to pay interest on bank reserves, through the abundant liquidity the Federal Reserve has made available with QE operations, and from Dodd-Frank mandated changes in deposit insurance pricing, households now earn virtually nothing on their bank deposits, pay higher spreads when they borrow from

²⁰ To be more precise, the smoothed histograms are the kernel density estimates for the distribution of banks in the respective quarters.

banks, and have been unknowingly saddled with larger guarantee obligations to support large banks should they be at risk for failure in the future.

A final issue worth noting is that the Fed's current method for controlling the federal funds rate is likely to generate a new source of future controversy, both on main street and in the US Congress. The Fed cannot return to its pre-crisis method controlling the federal funds rate using open market operations as long as the banking system is flush with excess reserves. To achieve a target federal funds rate, the Fed must pay banks the target rate on banks' reserve balances. As the Fed raises target interest rates, it must make increasingly large interest payments to banks. This will directly reduce the surplus the Fed remits to the US Treasury and increase the federal budget deficit. This sounds like an issue that should be discussed with Congress.

CHARTS



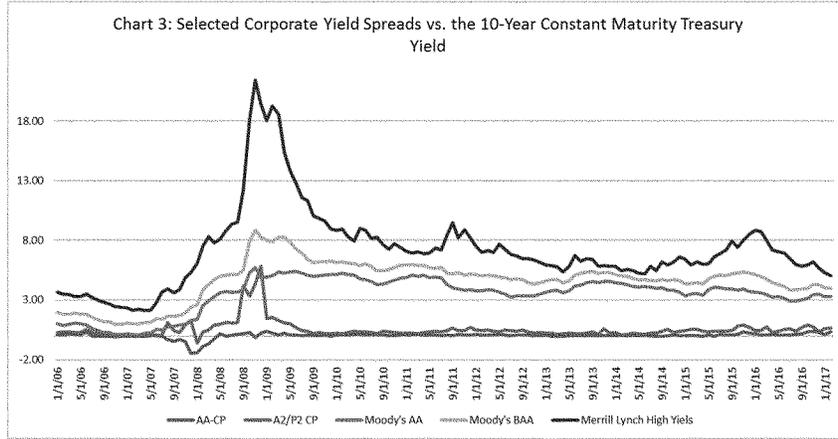


Chart 4: Bank Quarterly Cost of Funding Earning Assets

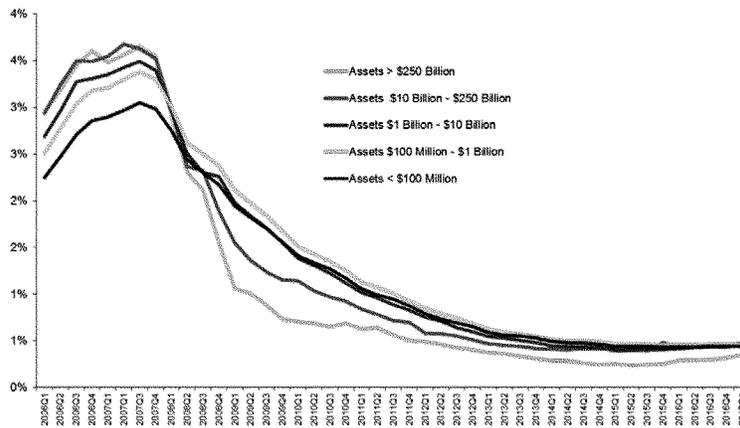


Chart 5: National Average Consumer Savings Rates vs. the Federal Funds Rate

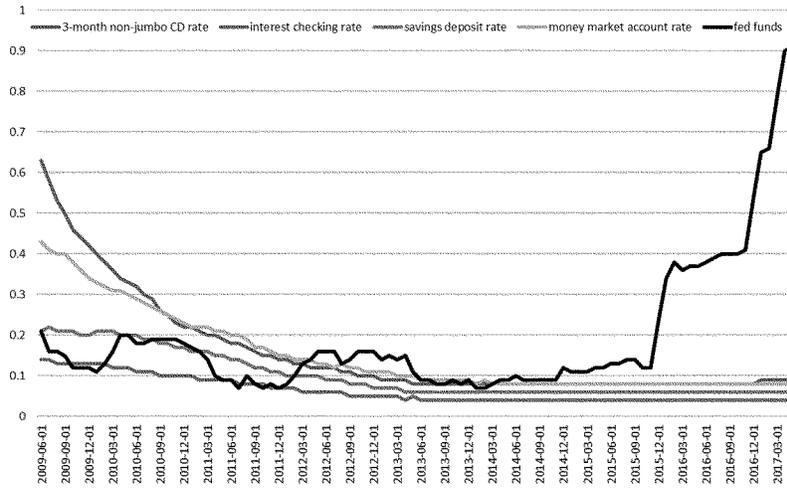
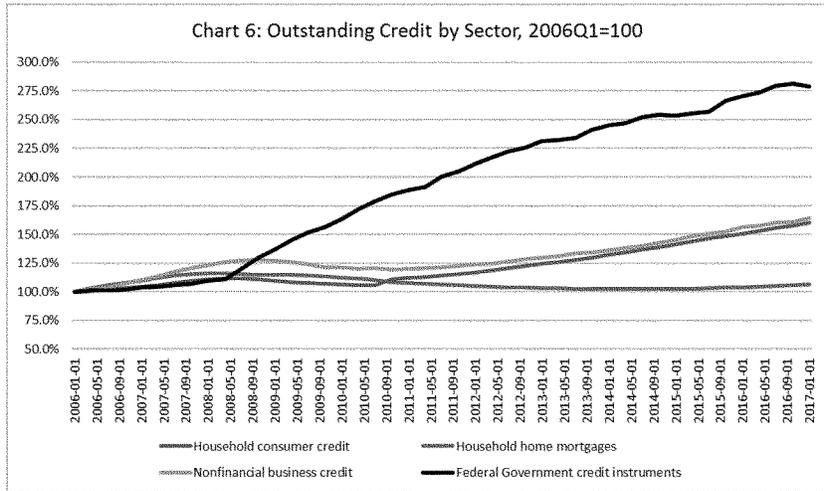
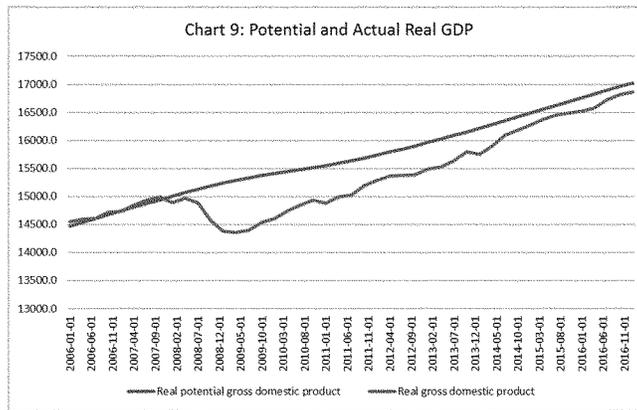
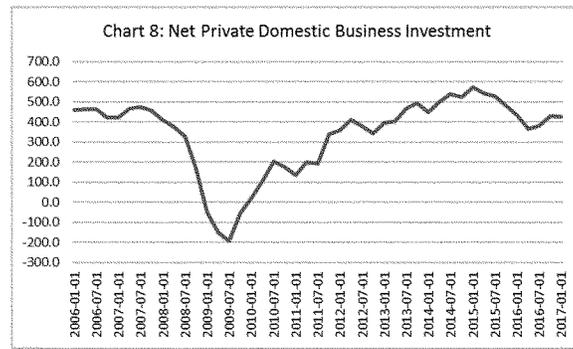
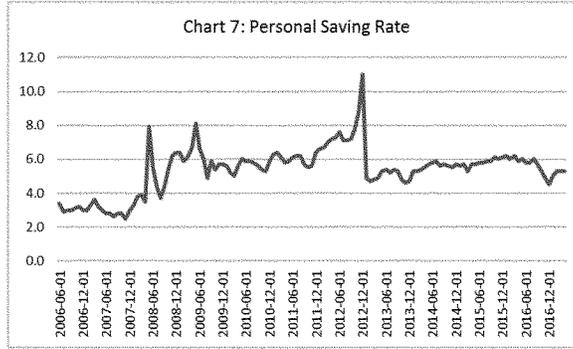


Chart 6: Outstanding Credit by Sector, 2006Q1=100





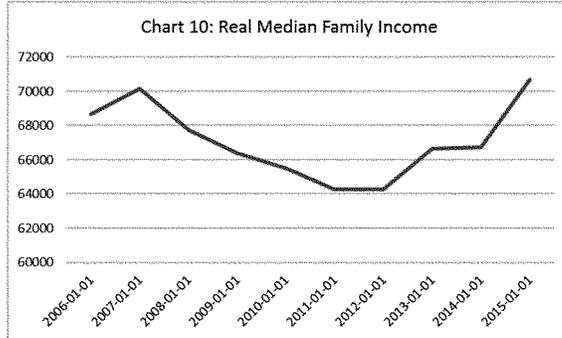


Chart 11: US Census Bureau Estimates of Median Income Gains by Region

Median Household
 (For information on confi
www.census.gov/program



*Change statistically differe
 Source: U.S. Census Bureau,

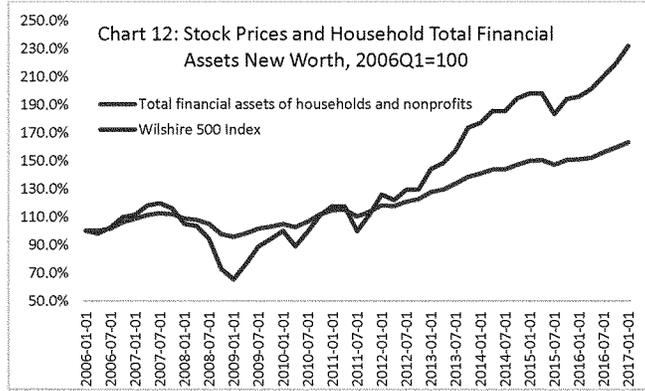


Chart 13: Zillow Estimates of National Median Home Market Values

Zillow Home Value metro by bottom, r

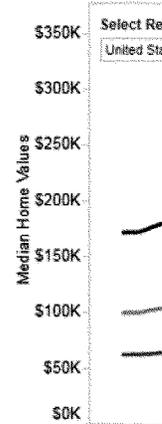
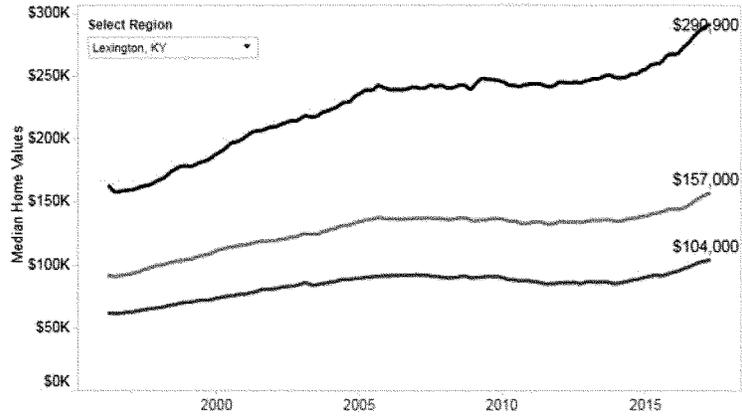


Chart 14: Zillow Estimates of Median Home Values for Selected Counties

Zillow Home Value Index, by Thirds Select a region below to view median home values in that metro by bottom, median and top thirds.



Zillow Home Value Index, by Thirds Select a region below to view median home values in that metro by bottom, median and top thirds.

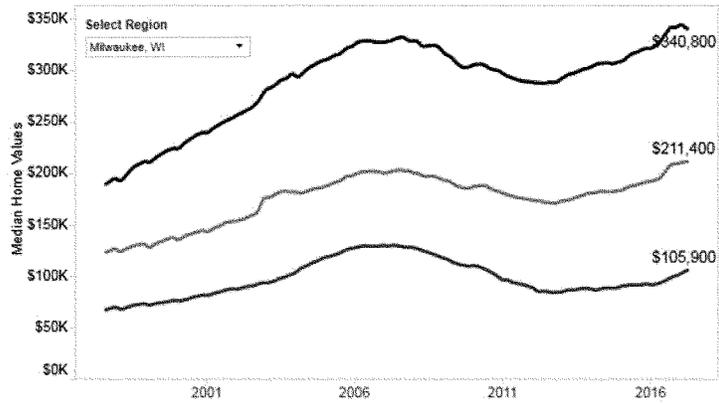


Chart 15: Zillow Estimates of US National Negative Equity Rate, 2016Q4

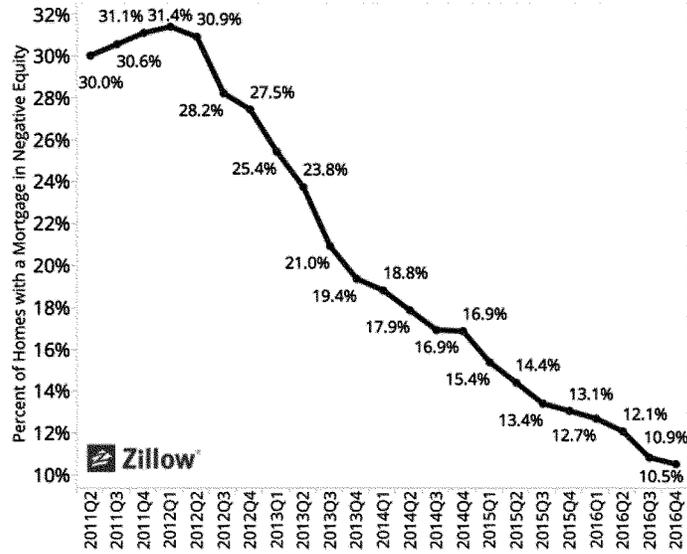
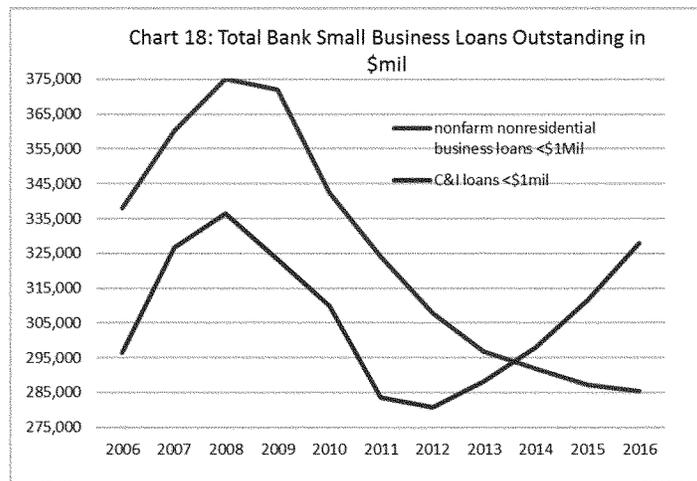
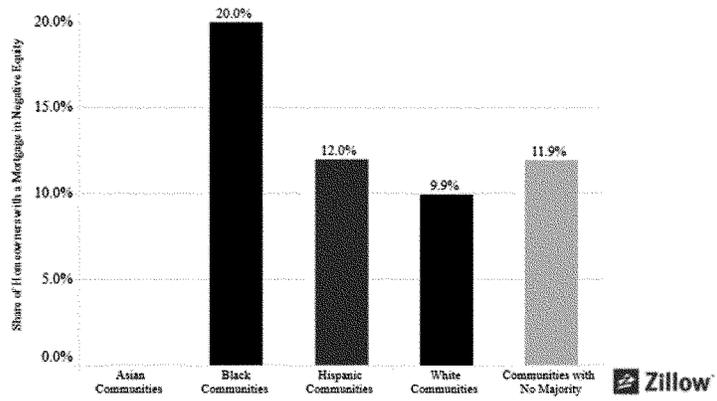


Chart 16: Zillow Estimates of Negative Equity in Selected Counties, 2016Q4

County
Bourbon County, KY
Clark County, KY
Fayette County, KY
Milwaukee County, WI

Source: Svenja Gudell, "Q4 slower rate," Zillow, <https://>

Chart 17: Zillow Estimates of Negative Equity by Race, 2016Q3



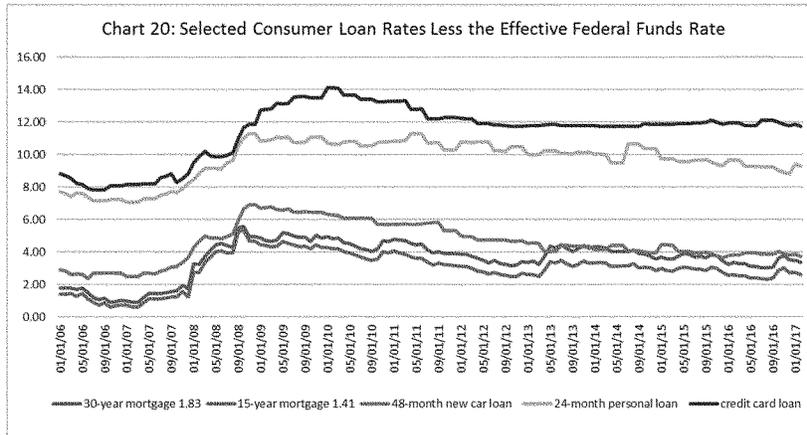
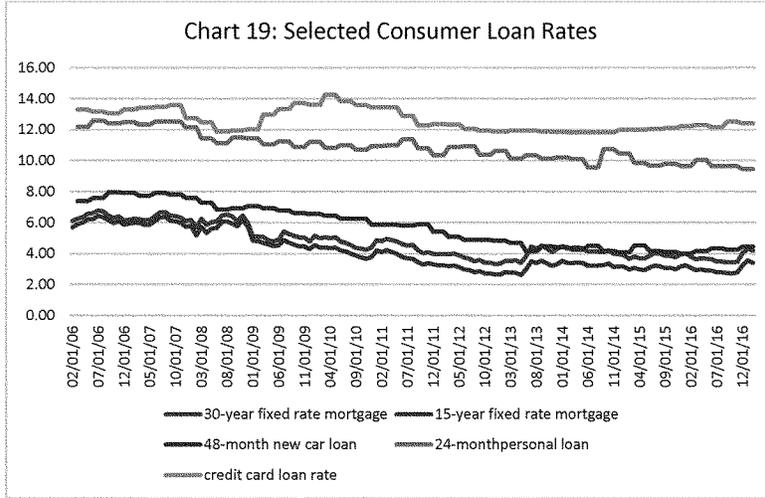
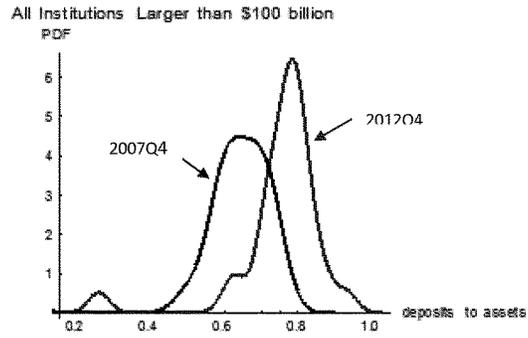


Chart 21: Large Bank Dependence on Insured Deposits



CONGRESSIONAL TESTIMONY

Main Street Needs Monetary Policy Reform More than Wall Street Does

Testimony before Subcommittee on Monetary Policy and Trade,
Committee on Financial Services

U.S. House of Representatives

June 27, 2017

Norbert J. Michel, PhD
Research Fellow in Financial Regulations
The Heritage Foundation

Central banks...will do wisely to lay aside their inexperienced ventures in half-baked monetary theory, meretricious statistical measures of trade and hasty grinding of the axes of speculative interests with their suggestion that by so doing they are achieving some sort of vague “stabilization” that will, in the long run, be for the greater good.

—H. Parker Willis,
first Secretary of the Federal Reserve Board,
principal architect of the
Federal Reserve System, 1936

Good monetary policy helps Main Street America—its workers, retirees, and savers—by ensuring that the economy does not stall due to an insufficient supply of money. It also ensures that the economy does not overheat due to an excessive supply of money. To accomplish this task, the Federal Reserve needs to supply the amount of money the economy needs to keep moving, no more and no less. It needs to do so in a neutral fashion, rather than allocate credit to preferred sectors of the economy. This standard dictates that the Fed maintain a minimal footprint in the market so that it does not create moral hazard problems, crowd out private credit and investment, or transfer financial risks to taxpayers. Finally, the Federal Reserve should conduct monetary policy in a transparent manner, with maximum

accountability to the public through their elected representatives. Through much of its history, and particularly since the 2008 financial crisis, the Federal Reserve has failed on all of these measures.

A central bank's policy failures are particularly damaging because money is the means of payment for all goods and services. The Fed's misguided policies have long distorted prices and interest rates, thus causing people to misallocate resources in ways that have exacerbated business cycles. The Fed's regulatory failures have also led to resource misallocation and increased moral hazard, a most unfortunate outcome given that a central bank does not need to be a regulator to conduct monetary policy. Aside from these regulatory failures' contribution to the 2008 crisis, the Fed's monetary stance was too accommodative, thus fostering overinvestment in areas people would not have otherwise invested in, such as housing. After the crash, the Fed failed to supply enough money when it was most needed, contributing to one of the worst crashes and slowest recoveries on record.

The Fed's post-crisis policies have also contributed to interest rates on safe assets remaining at historically low levels, mostly harming retirees and others who depend on such assets for their income. Simultaneously, the Fed has essentially been paying large financial institutions to refrain from lending to Main Street businesses by paying them risk-free

interest to sit on cash. These policies may very well have artificially boosted equity prices, thus sowing the seeds for another major disruption that could further damage the retirement savings of Main Street's workers. The Fed has been able to conduct these experimental monetary policies largely because Congress has given the Fed so much policy discretion. To correct these problems, Congress must first recognize that the Federal Reserve is not an indispensable part of the economy.

Too many policymakers view the Fed as a temple of scientists who know exactly which dials to turn to speed up or slow down the economy at precisely the right time, even though there is more than enough evidence to question this idea. Indeed, the minutes of the Federal Open Market Committee (FOMC) meetings frequently contain a list of reasons to doubt this proposition. For instance, in July 2015, long after the financial crisis and recession had passed, the FOMC minutes reported that:

The staff viewed the uncertainty around its July projections for real GDP growth, the unemployment rate, and inflation as similar to the average of the past 20 years. The risks to the forecast for real GDP and inflation were seen as tilted to the downside, reflecting the staff's assessment that neither monetary nor fiscal policy was well positioned to help the economy withstand substantial adverse shocks. At the same time, the staff viewed the risks around its outlook for the unemployment rate as roughly balanced.¹

So more than half a decade after it failed to prevent the worst economic slowdown since the Great Depression, the Fed still believed its monetary policies were unlikely to help the economy "withstand substantial adverse shocks." And the Fed's official view was that its economic forecasts were just as uncertain as they had been during the past two decades. These facts, along with the Fed's long-term track record, should put to rest the notion that the central bank can fine-tune the economy. Congress has an obligation to oversee the Fed, and it is clear that the Fed has not, even according to its

own projections, delivered on its economic promises. Congress should hold the Fed accountable, and ensure that it no longer has the discretion to "manage" the economy however it sees fit through some vague macroeconomic mandate.

The Fed Has Not Tamed the Business Cycle

It is widely believed that the Federal Reserve has tamed financial crises, business cycles, and inflation. In 1960, for example, economist Arthur Burns noted that the Federal Reserve had fulfilled its promise by helping to "ease the transition from the expanding to the contracting phase of business cycles."² More recently, Harvard professor Martin Feldstein noted that the Fed "[h]as learned from its past mistakes and contributed to the ongoing strength of the American economy."³ A close look at the evidence suggests that the conventional view should be re-evaluated. The savings and loan crisis, as well as the Great Depression and the recent Great Recession—two of the worst slowdowns in U.S. history—all happened on the Federal Reserve's watch.

Many claims of Fed success depend on comparisons of pre-WWI data to post-WWII data, but several studies suggest that data deficiencies caused key pre-Fed-era data to appear more volatile than their Fed-era counterparts. There is, in fact, evidence that the Fed has not been as effective as once thought in accomplishing its stabilization goals, and even some evidence that the Fed era has had more economic instability than there was before the Fed's creation.

Most modern macro-level data, as well as the procedures for compiling the data, did not exist before the Great Depression. The economists who began compiling these data series in the 1920s and the 1930s did the best they could to estimate data from earlier time periods, and they clearly understood that their approximations were rife with potential errors. For the most part, however, their warnings have gone unheeded, as the conventional view that business cycles have been tamed solidified.

The National Bureau of Economic Research (NBER), a nonprofit research organization consisting mostly of academic economists, provides the

1. Federal Reserve Board of Governors, Minutes of the Federal Open Market Committee, July 28–29, 2015, <https://www.federalreserve.gov/monetarypolicy/files/fomcminutes20150729.pdf> (accessed June 23, 2017).
2. In the 1970s, Burns became the Chairman of the Federal Reserve Board of Governors. See Arthur F. Burns, "Progress Towards Economic Stability," *The American Economic Review*, Vol. 50, No. 1, March 1960, pp. 1–19.
3. Martin Feldstein, "What Powers for the Federal Reserve?" *Journal of Economic Literature* (March 2010), <http://www.nber.org/feldstein/fedpowers.pdf> (accessed September 30, 2014).

official U.S. business cycle dates. These dates, starting with 1854, were first compiled during the Great Depression. The official dates show that economic expansions have become longer, and also that economic contractions have become both shorter and less frequent in the post-WWII era than before the creation of the Fed. Many economists have attributed this improvement to “better” economic stabilization policies employed in the postwar era, including those implemented by the Federal Reserve. Recently published research suggests, however, that such conclusions should be tempered because of problems with the prewar data.⁴

One contribution of this research is to simply remind people that the economists who compiled the NBER dates during the Depression provided us with a major caveat. The 1946 NBER book *Measuring Business Cycles*, a highly detailed description of the NBER’s original methodology, states:

This is not to say that the reference dates must remain in their present state of rough approximation. Most of them were originally fixed in something of a hurry; revisions have been confined mainly to large and conspicuous errors, and no revision has been made for several years. Surely, the time is ripe for a thorough review that would take account of extensive new statistical materials, and of the knowledge gained about business cycles and the mechanics of setting reference dates since the present chronology was worked out.⁵

The revisions were never made because NBER economists were diverted from that task in service of WWII-related economic problems.⁶ It is also incontrovertible that the NBER chose the pre-WWII business-cycle dates years before the procedures

described in *Measuring Business Cycles* were established.⁷ Statistically, the key problem is that the pre-1927 NBER dates are based on de-trended data, while the post-1927 dates are derived using data that include a trend.⁸ Properly accounting for this difference alters the NBER prewar dates and challenges the conventional wisdom that recessions have become shorter in the postwar period.

The evidence suggests that the data used to derive the official NBER dates systematically biases the NBER’s pre-WWII cycles so that they appear more severe, in several ways, than they really were. Alternative dates show that many of the “new prewar peaks are several months later than the NBER peaks and many of the new troughs are several months earlier.”⁹ The study’s main findings can be summarized as follows:

- The official NBER dates show a dramatic decline in the length of contractions over time. The new dates show that the average length of recessionary periods in the post-WWII period is slightly *longer* than the average for recessions that occurred prior to WWI.
- The new dates suggest that the average loss of economic output is similar in the post-WWII era relative to the typical loss prior to WWI. However, the length of time it took for the economy to return to its previous peak level was nearly three months *shorter* in the pre-WWI period.

The new dates confirm that recessions were indeed more frequent in the pre-WWI era relative to the post-WWII time frame. However, when *the entire* Federal Reserve period is compared to the full pre-Fed period, the frequency of recessions does not decrease. Regardless, even excluding the interwar

4. See, for example, Christina D. Romer, “Remeasuring Business Cycles,” *The Journal of Economic History*, Vol. 54, No. 3 (September 1994), pp. 573–609, and George Selgin, William Lastrapes, and Lawrence White, “Has the Fed Been a Failure?” *Journal of Macroeconomics*, Vol. 34 (2012), pp. 569–596. Also see Norbert J. Michel, “Federal Reserve Performance: Have Business Cycles Really Been Tamed?” Heritage Foundation Backgrounder No. 2965, October 24, 2014, <http://www.heritage.org/debt/report/federal-reserve-performance-have-business-cycles-really-been-tamed>; and, Norbert J. Michel, “Federal Reserve Performance: What Is the Fed’s Track Record on Inflation?,” Heritage Foundation Backgrounder No. 2968, October 27, 2014, <http://www.heritage.org/debt/report/federal-reserve-performance-what-the-feds-track-record-inflation>.

5. The original quote, included in Romer, “Remeasuring Business Cycles,” appears in Arthur F. Burns and Wesley C. Mitchell, *Measuring Business Cycles*, NBER, 1946, p. 95, <http://www.nber.org/chapters/c2983.pdf> (accessed August 21, 2014).

6. *Ibid.*, p. 574.

7. Romer, “Remeasuring Business Cycles,” p. 574.

8. The term “trend” generally refers to a long-term pattern in a data series separate from any cyclical or seasonal characteristics.

9. The study also notes that these conclusions hold up when using an alternative prewar index of industrial production, and also that a qualitative examination of news stories suggests that the new prewar dates match the perceived conditions of that time period better than the traditional NBER dates. Romer, “Remeasuring Business Cycles,” p. 575.

period, the new dates suggest that economic contractions were shorter, and recoveries were faster, in the pre-Fed era than previously believed.¹⁰ The study's author concluded:

Thus, the changes in recessions revealed by the new chronology do not show an obvious improvement in business cycles over time. Although the time separating contractions has become longer between the pre-World War I and postwar eras, recessions themselves have not on average become shorter, less severe, or less persistent over time.¹¹

Newer research even suggests that the NBER should reclassify four recessionary periods during the late 19th century as growth periods.¹² More generally, this study reports shorter recessionary periods between the Civil War and WWI. For example, the NBER dates show a recession lasting from October 1873 to May 1879 (by far the longest recession in the nation's history), but the newer research suggests the 1873 recession lasted only two years.

Another way of assessing stabilization policies is to examine the volatility in specific macroeconomic aggregates, such as unemployment and output, regardless of the official NBER business-cycle dates. Applying the Hodrick-Prescott filter, a widely used technique designed to better estimate the "true" trend in the data and capture short-term variation,¹³ to the standard historical GNP series (known as the Kuznets series), shows somewhat *more* output volatility in the Federal Reserve era than in the pre-Fed era. The percentage standard deviation of GNP from its Hodrick-Prescott filter trend is 5.06 from 1869

to 1914. This metric *increased* to 5.76 between 1915 and 2009.¹⁴ However, the same statistical technique reveals that GNP volatility declined to 2.55 percent in the post-WWII era, a dramatic decline from the pre-Fed period.¹⁵

Given the economic turmoil caused by the two world wars, many economists argue that the interwar period should be ignored. Consequently, the post-WWII figure is typically used as evidence that stabilization policies—both monetary and fiscal—have reduced economic volatility.¹⁶ Published research suggests, however, that even this claim should be re-evaluated because the standard pre-WWI estimates of output and employment overstate the volatility of the prewar economy. In general, this research shows that the apparent decline in postwar volatility (in both output and employment) is "a figment of the data."¹⁷ In fact, the prewar economy can look more than twice as volatile as the economy after WWII simply because of data problems.

Alternative Aggregates. During the 1920s and 1930s, economists estimated pre-WWI aggregates, such as for GNP and unemployment, but they were forced to approximate these figures without using the surveys and data-processing techniques employed now. Simon Kuznets and William Shaw compiled prewar GNP data, Edwin Frickey estimated prewar industrial output figures, and Stanley Lebergott approximated various labor statistics for the early 1900s. Although many researchers use these prewar data sets as if they were consistent with their postwar counterparts, newer studies have shown that doing so is unwise because the methods used to construct these prewar data series accentuate cyclical movements.¹⁸

10. These estimates do not include the contraction surrounding the 2008 financial crisis, an event which would only further strengthen the findings that prewar recoveries were faster than those during the postwar era.

11. Romer, "Remeasuring Business Cycles," p. 606.

12. Joseph H. Davis, "An Improved Annual Chronology of US Business Cycles Since the 1790s," *Journal of Economic History*, Vol. 66, No.1 (2006), pp. 103-121. It appears that this result is mainly due to a sharper (than Romer's) distinction between negative output growth and falling prices caused by beneficial productivity increases.

13. Robert M. de Jong and Neslihan Sakarya, "The Econometrics of the Hodrick-Prescott Filter," Ohio State University *Working Paper*, September 22, 2013, http://econ.ohio-state.edu/seminar/papers/131007_Sakarya.pdf (accessed September 4, 2014).

14. These statistics are reported using the standard Kuznets series. Selgin, Lastrapes, and White, "Has the Fed Been a Failure?" p. 575.

15. *Ibid.*

16. See, for example, J. Bradford DeLong and Lawrence Summers, "The Changing Cyclical Variability of Economic Activity in The United States," NBER *Working Paper* No. 1450, September 1984, <http://www.nber.org/papers/w1450.pdf> (accessed September 4, 2014).

17. Christina Romer, "Is the Stabilization of the Postwar Economy a Figment of the Data?" *The American Economic Review*, Vol. 76, No. 3 (June 1986), pp. 314-334.

18. Christina Romer, "New Estimates of Prewar Gross National Product and Unemployment," *Journal of Economic History*, Vol. 46, No. 2 (June 1986), pp. 341-352.

Gross National Product, Alternate Estimates. The standard prewar GNP series is the Kuznets series, published in 1961. Another widely used prewar series derives nearly all of its cyclical movements from the Kuznets series.¹⁹ The chief problem with the Kuznets series is that it derives prewar GNP (for 1869 to 1919) by relying on disaggregated commodity output data. Kuznets assumed that the percentage deviation of GNP from its trend in any given sector of the economy was equal to the percentage deviation from trend-in-commodity output for a corresponding sector.²⁰ As time progressed, it became possible to better evaluate this assumption, and research shows that correcting this issue results in new prewar GNP estimates that are only slightly more volatile than the official postwar series.

For instance, the original Kuznets GNP series shows a standard deviation from trend of 4 percent for 1893 to 1927. This figure is roughly twice as volatile as the 2.1 percent variation in the U.S. Commerce Department's official GNP series from 1951 to 1980. The estimates that adjust to account for the data bias, on the other hand, exhibit only a 2.8 percent standard deviation in GNP from trend between 1893 and 1927. Including the interwar period in these comparisons shows a post-Federal Reserve economy that is much *more* volatile (5.7 percent variation from trend) than it was in the pre-Fed period.²¹

It is true that the data also shows less overall volatility beginning in the mid-1980s. In fact, the period from Fed Chairman Paul Volcker's *second* term through the Greenspan-led Federal Reserve is typically referred to as "the great moderation." From 1984 to 2009, for instance, the official GNP series exhibited a standard deviation from trend of approximately 1.7 percent.²² Throughout this period, average inflation also declined to lower single digits, a welcome change from the high inflation of the

1970s. Many economists have credited the results of this era to the supposed improvement of the Fed's monetary policies.²³

Unemployment Rates, Alternate Estimates. The standard prewar unemployment series, published in its completed form in 1964, is the data set constructed by Stanley Lebergott.²⁴ Lebergott essentially estimated the prewar labor force and employment figures first, and then approximated the unemployment rate as a residual. There are several sources of excess volatility in these estimates, such as the reliance on disaggregated employment data for various sectors and types of workers. Lebergott also relied on the assumption that deviations from trend in employment were perfectly correlated with deviations from trend in output, an assumption that (it is now known) does not hold in the postwar data.

Research shows that correcting some of these issues results in unemployment rate estimates that are much less volatile than the original data set indicates. For instance, the original Lebergott series shows a standard deviation from trend of 2.5 percent for 1893 to 1927. The estimates that adjust to account for the data bias, however, exhibit only a 1.4 percent standard deviation from trend between 1893 and 1927.²⁵ The corrected figure is only moderately more volatile than the 1 percent variation from trend in the U.S. Bureau of Labor Statistics' official *post-war* unemployment rate series from 1951 to 1980.²⁶

Industrial Production, Alternate Estimates. The main pre-war *industrial production* series, another measure of economic output, was compiled by Edwin Frickey for 1860 to 1914. Similar to standard prewar GNP data, the Frickey series suggests that economic volatility has greatly declined in the postwar period. However, the Frickey series is based on a relatively small sample of commodities compared to the Federal Reserve's official

19. The other widely used series is the Kendrick/Gallman series. *Ibid.*, p. 342.

20. These prewar commodity output estimates were derived from William Shaw's estimates published in 1947. *Ibid.*

21. Selgin, Lastrapes, and White, "Has the Fed Been a Failure?" p. 575.

22. *Ibid.*

23. *Ibid.*, p. 579. Another view gives most of the credit for the moderation to a decline in the number or magnitude of negative economic shocks as well as financial innovation and other changes. For a list of studies supporting this position, see *ibid.*, pp. 579 and 580.

24. Romer, "New Estimates of Prewar Gross National Product and Unemployment," p. 343.

25. *Ibid.*, p. 345. Romer does not compare the full pre-Fed and post-Fed eras, but including the interwar years presumably increases the employment volatility in the post-Fed era, as it does with most macroeconomic variables.

26. Romer, "New Estimates of Prewar Gross National Product and Unemployment," p. 347. The period from 1951 to 1980 is as reported in Romer, and excludes the WWII period. Including the war years, of course, increases the variation in unemployment relative to the shorter post-WWII time frame.

(postwar) industrial production series.²⁷ Many studies have used the Frickey series as if it were the prewar version of the Fed's industrial production series, but research shows that these data sets are too different to combine in this manner. Alternatively, an "apples to apples" comparison of prewar to postwar periods that uses a consistent data series "[d]oes not reveal the dramatic damping of business cycle fluctuations apparent in the inconsistent series."²⁸

Without making any adjustments for the data deficiencies, the standard Frickey series suggests that output volatility fell from 8.84 percent between 1866 and 1914, to 6.43 percent between 1947 and 1982. On the other hand, a replication of the Frickey series in the postwar period shows that the standard deviation of output growth rates fell from 8.84 percent between 1866 and 1914, to only 8.62 percent between 1947 and 1982. The study concludes:

[A] substantial amount of the apparent stabilization of the postwar index of industrial production is due to improvements in the data. Depending on which series and measure are used, somewhere between half and all of the observed stabilization is the result of comparing inconsistent data.²⁹

Thus, deficiencies in several prewar aggregates have contributed to the perception that the economy was much more volatile before the founding of the Federal Reserve than during the post-WWII era. In addition to any of the sophisticated techniques that adjust the original prewar output and employment data, several basic time series metrics suggest that "the common belief that the cycle has become more protracted over time is simply not borne out by either the old or the new prewar estimates of GNP and unemployment."³⁰ Put differently, this line of research "challenge[s] the common belief that cycles in the forty years before the Great Depression were decidedly more severe than those in postwar era."³¹

Another Look at the Fed's Record on Inflation

The Bureau of Labor Statistics (BLS) was not around in the 1700s, but the best available estimates suggest that the standard deviation of the consumer price index (CPI) was 5.96 percent from 1790 to 1912, and then fell to 4.96 percent between 1913 and 2013. However, the average rate of the CPI itself went from 0.22 percent to 3.35 percent, calling into question whether the 1 percentage point reduction in variability was worthwhile. Similarly, while the variability in inflation declined after the Fed received a formal price stability mandate in 1977, the average rate of inflation has actually increased. For instance, the standard deviation in the CPI was only 2.78 percent from 1979 to 2013, but the average CPI was 3.74 percent during this period, even higher than its long-term average.

Consequently, the long-term purchasing power of the dollar has dramatically declined. Anyone not lucky enough to receive an automatic raise every year as the CPI crept up probably does not view the reduction in variability as a great improvement, no matter what macroeconomists think. Federal Reserve officials also seem to be thrilled with the idea of stamping out the good type of deflation that a growing capitalist economy would normally produce. Though virtually everyone in Main Street America understands exactly why the WalMart business model benefits them, the Fed appears bent on stamping out WalMart's low prices. For the Fed, deflation has become synonymous with depression, even though the empirical evidence suggests otherwise. Furthermore, the U.S. price level has become more difficult to forecast since WWII, casting serious doubt on the Fed's core view of its price-stability mission.

Some Basics on Inflation. The BLS publishes the CPI every month, and it is designed to broadly represent how much the average U.S. consumer spends on a market basket (a representative bundle) of goods and services. The Bureau of Economic Analysis provides the Personal Consumption Expenditure (PCE) index, a measure of prices based on personal consumption in the official National

27. Frickey's index forms the basis for many other prewar output estimates, too, so any errors found in the Frickey index likely exist in an entire class of prewar output measures.

28. Romer, "Is the Stabilization of the Postwar Economy a Figment of the Data?" p. 321.

29. *Ibid.*, p. 322.

30. Romer, "New Estimates of Prewar Gross National Product and Unemployment," p. 347.

31. *Ibid.*, pp. 344 and 345. For additional research both for and against this proposition, see Selgin, Lastrapes, and White, "Has the Fed Been a Failure?" p. 577.

Income and Product Accounts (NIPAs).³² The Federal Reserve currently focuses on the PCE index to gauge inflation, but it relied on CPI inflation prior to 2000.³³ The BLS provides official CPI figures dating back to 1913, and any price-level data prior to 1913 requires some type of approximation.

Regardless of the index used, high rates of inflation dilute the value of peoples' cash holdings and have been associated with stifled economic growth.³⁴ Nevertheless, there is no objective measure of what constitutes "high" inflation. The Fed officially "judges that inflation at the rate of 2 percent...is most consistent over the longer run with the Federal Reserve's mandate for price stability and maximum employment."³⁵ Although the Fed does define this policy goal, the Fed does not define *price stability* *per se*, a concept that also lacks an objective measure.

In general, price stability refers to inflation that is low or stable enough so that people can ignore inflation when they make economic decisions. In 1996, Fed Chairman Alan Greenspan stated that price stability means zero inflation "if inflation is properly measured."³⁶ Because many economists believe that official inflation numbers are biased slightly upward, Fed officials have set a positive value for its inflation target. In other words, if "true" inflation is zero, the official inflation numbers would still indicate some positive level of inflation, perhaps a bit higher than 1 percent.

Thus, consistently low rates of inflation are one type of price stability, although no particular statistical value precisely denotes *low* inflation. Similarly, low rates of *variation* in inflation are a type of price stability, but no specific value—regardless of which variability measure is used—objectively signifies that inflation is stable. Regardless, higher rates of inflation reduce purchasing power as time goes on, unless wages and rates of return adjust along with inflation.³⁷ Evidence suggests that, on average, income does tend to rise along with inflation over time, although distortionary short-run effects cannot be ignored.³⁸

Of course, for any given rate of nominal income growth, all else being equal, higher inflation reduces the purchasing power of money more than does lower inflation. Therefore, lower rates of inflation are clearly closer in spirit to price stability, even though there is little agreement on whether, for example, 1 percent or 3 percent is sufficiently low to declare inflation stable.³⁹ Thus, many economists have no problem with the fact that the average inflation rate in the Federal Reserve era is a few percentage points higher than it was prior to the Fed's founding. Federal Reserve policy has openly aimed at creating predictable "low" inflation to prevent a fall in the price level (deflation), and average inflation measures, from several different data sets, suggest that the Fed has succeeded in this policy goal.

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32. For more on the differences between the two indices, see Clinton P. McCully, Brian C. Moyer, and Kenneth J. Stewart, "Comparing the Consumer Price Index and the Personal Consumption Expenditures Price Index," Survey of Current Business, November 2007, http://www.bea.gov/scb/pdf/2007/11%20November/1107_cpipe.pdf (accessed September 9, 2014).
33. See James Bullard, "CPI vs. PCE Inflation: Choosing a Standard Measure," President's Message, Federal Reserve Bank of St. Louis, July 2013, <http://www.stlouisfed.org/publications/re/articles/?id=2390> (accessed September 9, 2014). In general, evidence does suggest that the PCE measure is superior to the CPI measure along several dimensions, such as capturing changes in consumers' year-to-year consumption patterns. See James Sherk, "Productivity and Compensation: Growing Together," Heritage Foundation Backgrounder No. 2825, July 17, 2013, <http://www.heritage.org/research/reports/2013/07/productivity-and-compensation-growing-together>.
34. Robert Barro, "Determinants of Economic Growth: A Cross-Country Empirical Study," NBER Working Paper 5698, August 1996, <http://www.nber.org/papers/w5698.pdf> (accessed October 3, 2014), and Javier Andres and Ignacio Hernando, "Does Inflation Harm Economic Growth? Evidence for the OECD," NBER Working Paper No. 6062, June, 1997, <http://www.nber.org/papers/w6062> (accessed October 3, 2014).
35. Board of Governors of the Federal Reserve System, "Current FAQs: Why Does the Federal Reserve Aim for 2 Percent Inflation Over Time?" http://www.federalreserve.gov/faqs/economy_14400.htm (accessed September 9, 2014).
36. Kevin L. Kliesen, "Is the Fed's Definition of Price Stability Evolving?" Federal Reserve Bank of St. Louis Economic Synopses No. 33 (2010), <https://research.stlouisfed.org/publications/es/10/ES1033.pdf> (accessed September 9, 2014).
37. The standard view in macroeconomics is that inflation does not itself reduce purchasing power because nominal incomes rise to keep pace with price increases. In the long run, money is "neutral" in that the nominal value does not have an effect on incomes or production. See N. Gregory Mankiw, *Principles of Economics* (Orlando, FL: Dryden Press, 1998), p. 623.
38. For the long-run effects, see Arthur M. Okun, William Fellner, and Michael Wachter, "Inflation: Its Mechanics and Welfare Costs," *Brookings Papers on Economic Activity* No. 2, 1975, pp. 351-401, <http://www.jstor.org/stable/pdfplus/2534106.pdf?&acceptTC=true&ipdConfirm=true> (accessed September 30, 2014). There is much more controversy over the distortionary impact that inflation can have on relative price changes in the short run. For more on this issue, see Laurence Ball and N. Gregory Mankiw, "Relative-Price Changes as Aggregate Supply Shocks," *The Quarterly Journal of Economics* (February 1995), pp. 161-193.
39. Moreover, many economists argue that unanticipated inflation is the main problem, whereas low, predictable rates of inflation allow people to easily adjust wages and prices.
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Using an approximation of the annual CPI, the average annual inflation rate before the establishment of the Fed was approximately 0.2 percent, whereas the average rate has been 3.35 percent in the Fed era. Furthermore, the average inflation rate in the post-WWII era has been 3.65 percent.⁴⁰

The annual price data also shows that from 1790 to 2013, not counting the Civil War years, the single highest inflation rate in the nation's history—20.49 percent in 1917—occurred on the Fed's watch. The (nearly indistinguishable) pre-Fed maximum rate of 20.02 percent occurred in 1813.⁴¹ An alternative data series, consisting of quarterly inflation rates from 1875 to 2010, also shows that the highest rates of inflation in the U.S. occurred after the founding of the Fed.⁴² Some of the highest inflation rates in recent history occurred between 1973 and 1975, and between 1978 and 1982, but these rates (ranging from 6 percent to 13 percent) did not exceed the high rates of the early Fed era. From 1917 to 1920, for instance, annualized inflation rates from some quarters approached 40 percent.⁴³ As one study notes:

Significantly, both of the major post-Federal Reserve Act episodes of inflation coincided with relaxations of gold-standard based constraints on the Fed's money creating abilities, consisting of a temporary gold export embargo from September 1917 through June 1919 and of the permanent closing of the Fed's gold window in 1971.⁴⁴

While average inflation rates have increased in the Federal Reserve era, the variability in inflation rates appears to have declined. For instance, the

Officer-Williams CPI series estimates that the standard deviation in inflation rates from 1790 to 1912 was 5.96 percent, while the standard deviation was 4.96 percent from 1913 to 2013. Because the full Federal Reserve era includes many unique economic problems between the two world wars, many economists focus only on the post-WWII economic data. In this narrower time period, from 1948 to 2013, the standard deviation was slightly less than 3 percent. This lower *postwar* variation is often cited as evidence that economic stabilization policies—both fiscal and monetary—have worked.

Post-WWII vs. Post-Dual Mandate. Some policymakers find it unjust to hold the central bank responsible for price stability before 1978 because the Fed did not yet operate under a *formal* price-stability mandate.⁴⁵ Splitting the post-WII time period into pre-mandate and post-mandate time frames, the CPI data reveal higher average inflation and a small reduction in variability after the mandate. The average inflation rate was 3.56 percent from 1948 to 1978, and 3.74 percent from 1979 to 2013. Variation fell from 3.03 percent to 2.78 percent in the post-mandate period. Thus, there was an increase in the average rate of inflation, and a decline in variability after Congress formally directed the Fed to focus on price stability. Economists generally view this reduction in variability as an increase in price stability.

Still, more sophisticated analyses show that, as these newly “stable” rates of inflation became the norm after WWII, a complicating factor known as *persistence* appeared in the inflation data.⁴⁶ Generally speaking, this term indicates that any external shocks tend to influence future changes in inflation

40. These CPI figures are referred to here as the Officer-Williams series. See Measuring Worth, “The Annual Consumer Price Index for the United States, 1774-2013,” 2014, <http://www.measuringworth.com/uscpicpi> (accessed October 16, 2014). The methodology for the series is found in Lawrence H. Officer, “What Was the Consumer Price Index Then? A Data Study,” University of Illinois at Chicago, undated, <http://www.measuringworth.com/docs/cpistudyrev.pdf> (accessed September 5, 2014).

41. CPI inflation has been estimated at approximately 25 percent in 1864.

42. This alternative series is referred to as the Balke-Gordon Series, and these figures are presented in Selgin, Lastrapes, and White, “Has the Fed Been a Failure?” The methodology for this series is found in Nathan Balke and Robert J. Gordon, “Appendix B Historical Data,” in Gordon, ed., *The American Business Cycle: Continuity and Change* (Chicago: University of Chicago Press, 1986), p. 788, <http://www.nber.org/chapters/c10036> (accessed September 10, 2014).

43. Selgin, Lastrapes, and White, “Has the Fed Been a Failure?” p. 571.

44. *Ibid.*

45. By the end of WWII, explicitly “dealing with inflation” was a key component of the Fed's macroeconomic stabilization policies, long before it received any such official mandate. See Arthur F. Burns, “Progress Towards Economic Stability,” *The American Economic Review*, Vol. 50, No. 1 (March 1960), p. 18. Congress amended the Federal Reserve Act in 1977 by changing Section 202 of Public Law 95-188 (November 16, 1977). See Norbert J. Michel, “The Fed at 100: A Primer on Monetary Policy,” Heritage Foundation *Background* No. 2876, January 29, 2014, <http://www.heritage.org/research/reports/2014/01/the-fed-at-100-a-primer-on-monetary-policy>.

46. Benjamin Klein, “Our New Monetary Standard: The Measurement and Effect of Price Uncertainty, 1880-1973,” *Economic Inquiry*, Vol. 13, No. 4, (1975), pp. 461-484.

for a longer time than would be expected in the absence of persistence. This trait has important implications for monetary policy because it means that it has become very difficult to improve upon a basic naïve forecasting model, which predicts that next period's inflation will be equivalent to last period's inflation.⁴⁷

In particular, the ability to predict inflation with various macroeconomic variables, such as “the unemployment rate, commodity prices, capacity utilization, the money supply, and interest rates,” has drastically declined since the mid-1980s.⁴⁸ That is, there is little empirical support for using anything other than inflation itself to guide forecasts. More broadly, the debate over persistence—its causes and its exact nature—is “part of the general debate on whether the relatively stable inflation that characterized the so-called Great Moderation period (1985 until the Great Recession) was due to lower volatility of the shocks (better luck) or less persistence in the effects of the shocks, which could be partly attributed to better policy.”⁴⁹

Possible explanations for the change in inflation include, among others, a change in the conduct of monetary policy after 1984, changes in the fundamental structure of the economy, a general improvement in financial intermediation, or changes to the nature of the shocks that occur in the economy.⁵⁰ Regardless, the statistical persistence in inflation means that the Fed has not, since at least the early 1970s, had a solid empirical basis for trying to exploit a tradeoff between inflation and unemployment.

Deflation Is Not Synonymous with Depression. A falling price level can be particularly

harmful when, for example, a drop in demand leads to a sort of deflationary spiral (widespread, rapid price decreases) from which businesses are unable to recover. Therefore, many economists argue that central banks should target positive inflation rates specifically because doing so helps to avoid deflation. For example, former Federal Reserve Chairman Ben Bernanke once noted that:

The sources of deflation are not a mystery. Deflation is in almost all cases a side effect of a collapse in aggregate demand—a drop in spending so severe that producers must cut prices on an ongoing basis in order to find buyers.⁵¹

Bernanke's view is conventional—in macroeconomics, deflation has become synonymous with depression. Nonetheless, evidence shows that deflation and severe economic contractions are separable. In fact, one study that surveyed nearly 20 countries documents “many more periods of deflation with reasonable growth than with depression, and many more periods of depression with inflation than with deflation.”⁵² There is no doubt that deflation can be harmful, but it is just as true that deflation can be the byproduct of a healthy, growing economy.⁵³

As business owners take advantage of new technology, for example, they produce more and more products at a lower cost, thus enabling consumers to buy more goods at lower prices. Still, in the U.S., average prices have rarely fallen since WWII even though the Fed did not have a formal inflation target until 2012. In fact, the annual CPI has fallen from its previous level only twice since 1950 (in 1955 and

47. See James Stock and Mark Watson, “Why Has U.S. Inflation Become Harder to Forecast?” *Journal of Money, Credit, and Banking*, supplement to Vol. 39, No. 1 (February 2007); Andrew Atkeson and Lee Ohanian, “Are Phillips Curves Useful for Forecasting Inflation?” *Federal Reserve Bank of Minneapolis Quarterly Review* (Winter 2001); and Maarten Dossche and Gerdie Everaert, “Measuring Inflation Persistence: A Structural Time Series Approach,” *European Central Bank Working Paper* No. 495, June 2005.

48. Atkeson and Ohanian, “Are Phillips Curves Useful for Forecasting Inflation?” p. 10.

49. Guido Ascari and Argia M. Sbordone, “The Macroeconomics of Trend Inflation,” *Journal of Economic Literature*, Vol. 52, No. 3 (September 2014), pp. 679–739.

50. Stock and Watson, “Why Has U.S. Inflation Become Harder to Forecast?”

51. Ben Bernanke, “Deflation: Making Sure ‘It’ Doesn’t Happen Here,” speech at the National Economists Club, Washington, DC, November 1, 2002, <http://www.federalreserve.gov/BOARDDOCS/Speeches/2002/20021121/default.htm#16> (accessed August 28, 2014).

52. Andrew Atkeson and Patrick J. Kehoe, “Deflation and Depression: Is There an Empirical Link?” *American Economic Review*, Vol. 94, No. 2 (2004), pp. 99–103. In fact, this study reports that the only episode in which there was a link between depression and deflation was the Great Depression. The time periods studied for the various countries all end in 2000, but start at different dates due to availability; 15 countries' series begin in the 1800s. Atkeson and Kehoe also note that Japan in recent years has “come close to having both a depression and a deflation.”

53. For more on this issue, see George Selgin, “Less Than Zero: The Case for a Falling Price Level in a Growing Economy,” *Institute of Economic Affairs*, London, 1997; and Michael D. Bordo, John Landon Lane, and Angela Redish, “Good versus Bad Deflation: Lessons from the Gold Standard Era,” *NBER Working Paper* No. 10329, February 2004, <http://www.nber.org/papers/w10329.pdf> (accessed September 23, 2014).

2009).⁵⁴ In both of these cases, the rate of deflation was less than 0.4 percent. Thus, to whatever extent the Fed has successfully influenced inflation, it has done so by virtually eliminating deflation—even the kind that is fully expected in a growing economy. Not only has the Fed's version of price stability prevented millions of people from fully enjoying the benefits of a well-functioning free-enterprise system, it has directly contributed to recent policy mistakes that likely prolonged and deepened a recession.

Slow and Steady Inflation Target Harms Main Street

The Fed now measures the success of its price-stability mandate against a 2 percent inflation target. The very low interest rates surrounding the 2008 financial crisis have spawned criticism of this view, often by economists who believe the Fed should target a *higher* inflation rate.⁵⁵ The rationale behind targeting a higher inflation rate hinges on the ability of monetary policy to stimulate the economy. One argument holds that higher inflation helps to increase employment because it reduces inflation-adjusted (“real”) wages. According to this view, while nominal wages rarely fall, inflation lowers the “real” cost of hiring workers, thereby “greasing the wheels” of the labor market.⁵⁶

A second argument for targeting higher inflation is that it can provide a central bank more flexibility to stimulate the economy through lowering interest rates when nominal interest rates are near zero (the *zero-lower-bound constraint*, so named because nominal interest rates cannot fall below zero). Proponents of this view hold that nominal interest rates should always remain high enough so that the Fed can adequately cut interest rates to stimulate the economy, particularly during a crisis but also during

normal business cycles.⁵⁷ Because nominal interest rates consist of a real rate of return plus an inflation premium, higher inflation would be expected to raise nominal interest rates, thereby leaving the Fed room to cut rates.

There are several problems with these ideas. First, the Federal Reserve does not have precise control over interest rates. The Fed can certainly influence interest rates but, as the last crisis shows, it can easily lose the ability to influence even the policy rate that it has the most influence over.⁵⁸ Aside from the question of how high nominal rates might have to be to ensure the Fed could still influence rates downward during a crisis, the Fed clearly *followed* rates downward after September 2007, when it began lowering its target federal funds rate from 5.25 percent to 1 percent in little more than one year. The Fed then had to ditch the idea of a single target rate in favor of a target *range* (from zero percent to 0.25 percent), while nearly abandoning interest rate targeting altogether.

In 2008, Fed Chairman Bernanke noted: “With respect to monetary policy, we are at this point moving away from the standard interest rate targeting approach and, of necessity, moving toward new approaches.”⁵⁹ If the Fed did have tight control over interest rates, there would have been no such sudden drop in rates—the Fed would have prevented them from falling in a manner that jeopardized its core approach to monetary policy. Instead, the rapid decrease in rates left the Fed searching for new ways to conduct policy. And if a nominal federal funds rate exceeding 5 percent provides insufficient room for the Fed to stimulate the economy and head off a downturn, short-term rates would have to (somehow) be kept well above their long-term average. The fact that the Fed does not have precise control over

54. Jonathan Spicer, “In Historic Shift, Fed Sets Inflation Target,” Reuters, January 25, 2012, <http://www.reuters.com/article/2012/01/25/us-usa-fed-inflation-target-idUSTRE80025C20120125> (accessed September 5, 2014). Using the PCE index, the annual price level has declined four times since 1950 (in 1974, 1980, 2008, and 2009).
55. See Anthony M. Diercks, “The Reader’s Guide to Optimal Monetary Policy,” Board of Governors of the Federal Reserve System, June 21, 2017, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2989237 (accessed June 23, 2017).
56. George A. Akerlof, William T. Dickens, and George L. Perry, “The Macroeconomics of Low Inflation,” *Brookings Papers on Economic Activity* No. 1, 1996, http://www.brookings.edu/-/media/Projects/BPEA/1996%201/1996a_bpea_akerlof_dickens_perry_gordon_mankiw.PDF (accessed October 2, 2014).
57. In the case of very low/near-zero nominal rates, this theory holds that inflation-adjusted (“real”) interest rates can be pushed down to negative values, even if the central bank simply raises the expected level of inflation.
58. Norbert J. Michel, “Fascination with Interest Rates Hides the Fed’s Policy Blunders,” Heritage Foundation *Issue Brief* No. 4500, December 15, 2015, <http://www.heritage.org/report/fascination-interest-rates-hides-the-feds-policy-blunders>.
59. Federal Reserve Board of Governors, Transcript of the joint Federal Open Market Committee and Federal Reserve Board of Governors meeting, held December 15–16, 2008, pp. 22 and 23, <https://www.federalreserve.gov/monetarypolicy/files/FOMC20081216meeting.pdf> (accessed June 23, 2017).

interest rates suggests that such a policy is a recipe for, among other problems, high inflation. There simply is no reason to believe that the Fed will be anything but powerless to change interest rates anytime it is faced with major changes in market interest rates.

Another problem is that, over time, average compensation tends to rise with productivity, which suggests that nominal wages do not need to fall in order help labor markets function smoothly.⁶⁰ Furthermore, if inflation makes nominal wage rigidity more palatable to workers, inflation may actually *perpetuate* nominal rigidity. The grease-the-wheels story also ignores the possibility that higher inflation might have the opposite effect on other aspects of the labor market, thus cancelling out any possible benefit from inflation. That is, inflation could also put “sand in the wheels” of the labor market by distorting *other* prices. Though this issue is not completely settled, there is evidence that these two effects—grease in the wheels versus sand in the wheels—may largely cancel each other out in labor markets.⁶¹

All of the arguments for constant inflation also ignore that even if the Fed could precisely hit a 2 percent (or higher) inflation target in all time periods, it would still distort prices throughout the economy and harm Main Street Americans. Aside from the fact that all workers do not automatically receive wage adjustments for inflation, choosing the “right” inflation target depends on supply side factors in the economy that dictate whether the overall price level should rise *or* fall. If, for instance, an oil shortage causes higher prices throughout the U.S. economy, it would make little sense for the Federal Reserve to curtail the money supply in hopes of lowering the inflation rate. This type of productivity setback, due to higher input costs, and the corresponding shortage of goods at higher prices, calls for an opposite movement away from the Fed’s long-term inflation target. To tighten, rather than loosen, the money supply at such a time would exacerbate the shortage for the sake of getting to a lower inflation rate.

On the other hand, if a drastic improvement in computer technology leads to lower prices throughout the economy, it would be unwise for the Fed to expand the money supply in hopes of raising the general price level. In such a case, productivity gains due to lower input costs allow firms to drop their prices, and the corresponding surplus of goods at lower prices calls for an opposite movement from the Fed’s long-term inflation target. To expand the money supply at such a time would exacerbate the surplus of goods for the sake of getting to a higher inflation rate. Expanding the money supply in the face of such productivity gains would likely lead to inflated profits and a corresponding overinvestment in certain sectors of the economy that, eventually, would exacerbate a downward economic cycle when expected additional demand fails to materialize. It appears that the Fed made exactly this mistake in the early 2000s, exacerbating the downturn in the national housing market that began in mid-2006.

Excessively Easy Monetary Policy: Early 2000s

The Fed has based its monetary policy on targeting the federal funds rate for years, and one key consideration in this process is where the Fed sets its target relative to the natural (or neutral) federal funds rate. The natural rate represents an equilibrium rate, whereby the supply and demand for investments and assets are in balance. Thus, pushing interest rates above (below) the natural interest rate can cause people to make fewer (more) investments/asset purchases than they would have made, thus decreasing (increasing) economic activity. If the Fed achieves a neutral policy stance, where the federal funds rate is equal to its natural rate, monetary policy will contribute very little to either booms or busts. One problem for policymakers is that the true natural rate can only be estimated.

Based on various estimates of the natural rate, evidence suggests that the Fed kept its federal funds rate target below the natural federal funds rate in the early 2000s, thus contributing to the housing

60. William Poole, “Is Inflation Too Low?” *St. Louis Federal Reserve Review*, July/August 1999, <http://research.stlouisfed.org/publications/review/99/07/9907wp.pdf> (accessed October 2, 2014). Poole also argues that nominal wage rigidity may cease to exist in a zero-inflation environment. See also Sherik, “Productivity and Compensation: Growing Together.”

61. Erica L. Groshen and Mark E. Schweitzer, “The Effects of Inflation on Wage Adjustments in Firm-Level Data: Grease or Sand?” Federal Reserve Bank of New York, November 1997, http://www.newyorkfed.org/research/staff_reports/sr9.pdf (accessed October 2, 2014). There is also evidence that inflation, when not uniformly and immediately transmitted to markets, can distort relative prices in other markets. See J. R. Kearl, “Inflation and Relative Price Distortions: The Case of Housing,” *The Review of Economics and Statistics*, Vol. 60, No. 4 (1978), pp. 609–614.

boom.⁶² During this period, the Fed recognized the exceptionally strong productivity gains in the U.S., but *chose* to be overly accommodative with its policy stance. Rather than allow prices to fall, the Fed expanded the money supply in the hope of being able to further boost the economy while also avoiding higher inflation. Essentially, the Fed believed the downward pressure on prices gave it a free pass to further expand the economy without causing too much inflation. Former Fed Chair Alan Greenspan explained this strategy in a 2004 speech at the American Economic Association meetings:

As a consequence of the improving trend in structural productivity growth that was apparent from 1995 forward, we at the Fed were able to be much more accommodative to the rise in economic growth than our past experiences would have deemed prudent. We were motivated, in part, by the view that the evident structural economic changes rendered suspect, at best, the prevailing notion in the early 1990s of an elevated and reasonably stable NAIRU [non-accelerating inflation rate of unemployment]. Those views were reinforced as inflation continued to fall in the context of a declining unemployment rate that by 2000 had dipped below 4 percent in the United States for the first time in three decades.⁶³

By 2003, at least some members of the FOMC discussed higher profits and, in particular, a rising housing market. For instance, during the March 18, 2003, FOMC meeting, Dallas Federal Reserve president Bob McTeer explained the views of one of the bank's board members as follows:

Single-family housing has been holding up, particularly at the lower and moderate price points.

One director felt that mortgage rates could rise by a percentage point or so, maybe even 2 points, from the current very low levels without having a strongly negative effect on housing demand. In her words, "Mortgage rates provide the nicotine to the housing industry, but job growth is the real source of nutrition."⁶⁴

In the December 9, 2003, meeting, an exchange between Kansas City Fed president Thomas Hoenig and Fed economist David Stockton further elaborates on what FOMC members were thinking:

We think that, going into 2006, we will have some continued acceleration in underlying potential output that is being driven by the speed-up in investment spending that we expect to get over the next two years. So we believe we can enter that year with a below-equilibrium funds rate and still not generate any acceleration of inflation until later in 2006.⁶⁵

The FOMC was clearly aware that it was overly accommodative due to the extraordinary increase in productivity, and it was clearly willing to maintain that policy stance so as long as inflation stayed (in its view) under control. Thus, the Fed's policy mistake was that, in an effort to further boost the economy, it failed to tighten in response to productivity growth in the early 2000s. The Fed chose to be more aggressive than usual in combatting a recession (the 2001 recession) *because* it believed the above normal productivity growth would dampen any inflationary pressure from its expansionary stance.

While it would be unfair to place all of the blame for the housing crash on the Fed's monetary policies, it is clear that the Fed accommodated the increased credit that was used to fuel the housing

62. See John B. Taylor, "Housing and Monetary Policy," NBER Working Paper 13682, December 2007, <http://www.nber.org/papers/w13682.pdf> (accessed June 23, 2017). Also see George Selgin, David Beckworth, and Berrak Bahadir, "The Productivity Gap: Monetary Policy, the Subprime Boom, and the Post-2001 Productivity Surge," *Journal of Policy Modeling*, Vol. 37 (2015), pp. 189-207. According to the measure in Selgin, Beckworth, and Bahadir, pp. 193 and 194, Fed policy was "easy during the 1970s (though less so in the immediate wake of the first oil supply shock) and excessively tight during Volcker's anti-inflation campaign. In the nineties policy was at first easy and then somewhat (though not dramatically) tight. At the time of the tech bubble crash, monetary policy appears to have been more-or-less neutral. Starting in 2002, however, it became increasingly easy, with the Productivity Gap reaching its lowest value in the sample period at the height of the housing boom." Selgin et al. also cite several additional studies with similar evidence that the Fed kept its policy rate below its natural rate during the early 2000s.

63. Alan Greenspan, "Risk and Uncertainty in Monetary Policy," Federal Reserve, January 3, 2004, <https://www.federalreserve.gov/BoardDocs/speeches/2004/20040103/default.htm> (accessed June 23, 2017).

64. FOMC Meeting Transcript, March 18, 2003, p. 54, <https://www.federalreserve.gov/monetarypolicy/files/FOMC20030318meeting.pdf> (accessed June 23, 2017).

65. FOMC Meeting Transcript, December 9, 2003, p. 22, <https://www.federalreserve.gov/monetarypolicy/files/FOMC20031209meeting.pdf> (accessed June 23, 2017).

boom. Thus, the Fed bears some responsibility for the housing crash and its collateral damage, namely massive unemployment, millions of home foreclosures, and billions of dollars in lost wealth. So many resources—including labor—were directed into housing and housing-related markets during the boom, that it has taken years for people to assimilate into other sectors of the economy. The BLS estimates that:

Demand for residential construction grew from supporting 5.5 million jobs, or 4.2 percent of all U.S. employment, in 1996, to 7.4 million jobs, or 5.1 percent of total employment, at the peak of the cycle in 2005. As the housing market crashed, residential-construction related employment fell substantially; it was at 4.5 million in 2008, accounting for only 3.0 percent of total U.S. jobs.⁶⁶

From January 2008 to December 2008, *total* nonfarm payrolls fell from approximately 138 million to 134 million, meaning that roughly 75 percent of the drop in employment was housing related.⁶⁷ Perhaps worse, the Fed compounded its earlier policy mistakes when the crisis hit, worsening the downturn.

Excessively Tight Monetary Policy: The Late 2000s

Pundits commonly claim that the Fed's interest rate target cuts, which the central bank started in September 2007, prove that monetary policy could

not have been too tight during the financial crisis.⁶⁸ Such claims are simply incorrect. Although there is a stubborn fascination with interest rate target decreases and increases, even among some economists, interest rate target changes alone cannot signify whether monetary policy is excessively loose or tight. In general, the extent to which monetary policy is loose or tight simply cannot be determined only by observing changes in the fed funds target, the level of nominal interest rates, or the growth rate in the various monetary aggregates.

Nominal interest rates depend on both the demand and supply of credit, and monetary aggregates can grow too slowly or quickly depending on the growth in demand for various types of assets.⁶⁹ In other words, simply looking at the growth in interest rates or monetary aggregates without respect to the public's demand for real assets provides a misleading picture of what the monetary authority may have accomplished. Regardless of whether the Fed's policy rate is above or below the natural interest rate, the Fed's job is to prevent an economic collapse (a precipitous drop in aggregate demand) by providing system-wide liquidity, and if it tightens in any way during a crisis it would most likely worsen the downturn.⁷⁰

In fact, tightening at the wrong time is one mistake that the Fed has made repeatedly. Milton Friedman once observed that: "After the U.S. experience during the Great Depression, and after inflation and rising interest rates in the 1970s and disinflation and falling interest rates in the 1980s, I thought the fallacy of identifying tight money with

66. Kathryn J. Byun, "The U.S. Housing Bubble and Bust: Impacts on Employment," BLS, Monthly Labor Review, December 2010, <https://www.bls.gov/opub/mlr/2010/12/art1full.pdf> (accessed June 23, 2017).

67. U.S. Bureau of Labor Statistics, All Employees: Total Nonfarm Payrolls [PAYEMS], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/PAYEMS>, June 24, 2017.

68. For instance, the Politico Wrongometer, reporting during the 2015 presidential debates, noted the following: "But what did the Fed do in 2008? It wasn't tightening money. The Fed actually cut rates repeatedly in 2008. Some economists have argued policy makers didn't cut rates fast enough given the economic conditions. But that's only 'tightening' if you measure it against the demand for liquidity and market expectations. It doesn't reflect the Fed's actual policy moves." See Politico Wrongometer: Our Policy Reporters Truth-Squad the Republican Debate, November 10, 2015, <http://www.politico.com/agenda/story/2015/11/fact-check-fox-business-gop-debate-000314> (accessed June 23, 2017).

69. As alluded to in previous sections of this testimony, another key concern for the Fed should be whether a "low and steady" inflation rate for final goods, as measured by the CPI, has caused businesses selling inputs to rapidly raise their prices to play catch-up with final goods, thus increasing the risk of a monetary policy-driven boom. For more on this issue, see George Selgin, "Between Fulsomeness and Pettifoggery: A Reply to Sumner," Cato Unbound, September 18, 2009, <https://www.cato-unbound.org/2009/09/18/george-selgin/between-fulsomeness-pettifoggery-reply-sumner> (accessed June 23, 2017).

70. See David Beckworth, "Yes, the Fed (Passively) Tightened in the Fall of 2008," Macro Musings Blog, December 3, 2015, <http://macromarketmusings.blogspot.com/2015/12/yes-fed-passively-tightened-in-fall-of.html> (accessed June 23, 2017).

71. See Jeffrey Rogers Hummel, "The Myth of Federal Reserve Control Over Interest Rates," Library of Economics and Liberty, October 7, 2013, <http://www.econlib.org/library/Columns/y2013/Hummelinterestrates.html> (accessed June 23, 2017).

high interest rates and easy money with low interest rates was dead. Apparently, old fallacies never die.⁷¹ Still, even a cursory look at the previous trend in the Fed's interest rate target suggests that the Fed's policy stance could have been excessively tight. The Fed started raising its target rate in the middle of 2004, and did not lower it again until September 2007 (it rose from 1 percent all the way to 5.25 percent). Importantly, the growth rate of nominal gross domestic product (NGDP), a measure of overall demand in the economy, started a downward trend in 2006, ultimately turning negative in the first quarter of 2008.⁷²

Some may argue that these are nontraditional measures of tightness, but the fact remains that the Fed is supposed to prevent the economy from collapsing and the mere fact that the Fed lowered its target rate in starting in September 2007 does not indicate that the policy stance was sufficiently accommodative. Regardless, even more traditional measures make a good case that monetary policy was too tight. For example, even though there was no dramatic decline in the monetary base (currency plus reserves) from 2005 through August 2008; the monthly rate of growth in the base was below the long-term average in 34 of 44 months (the rate turned negative in almost half of these months).⁷³ Similarly, the rate of growth in the St. Louis Fed's M1 Divisia index—an additional monetary aggregate—was below average in 38 of 44 months.⁷⁴ Again, these sorts of measures only supply a superficial gauge

of whether monetary policy was too tight or loose, because they ignore the public's demand for monetary assets, but aggregate demand did begin to fall at the end of this period.⁷⁵

Beyond these measures, other Fed actions suggest that the central bank's policy stance was excessively tight at exactly the wrong time, after the crisis hit. At the very least, the Fed's policies prolonged the recession. In particular, the Fed's decision to begin paying interest on excess reserves in October 2008, a policy that was admittedly designed to "sterilize" the expansionary effects of asset purchases, was ill-timed and ill-advised.⁷⁶ Indeed, given the Fed's objective of preventing a deep recession (a collapse in aggregate demand), the decision to begin paying interest on excess reserves (at above-market rates)⁷⁷ at this time was nothing short of bizarre.

In August 2007, at some of the earliest signs of a spreading financial crisis, the Fed made *net* purchases of Treasury securities to ease credit conditions (that is, to avoid a general contraction in bank lending) in short-term debt markets.⁷⁸ Subsequently, through September 2008, the Fed made approximately \$300 billion in emergency loans and sterilized these loans to *prevent* an overall increase in banks' reserves that could expand bank lending. That is, for every dollar it made in loans to financial institutions, it simultaneously sold a dollar of assets from its portfolio of Treasury securities. It did so for the sake of maintaining its federal funds rate and

72. U.S. Bureau of Economic Analysis, Gross Domestic Product [A191RP1Q027SBEA], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/A191RP1Q027SBEA>, June 24, 2017.
73. Author calculations based on the official data series. See Federal Reserve Bank of St. Louis, St. Louis Adjusted Monetary Base [BASE], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/BASE>, June 24, 2017.
74. Author calculations based on the official data series. See Anderson, Richard G. and Jones, Barry E., Monetary Services Index: M1 (alternative) [MSIM1A], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/MSIM1A>, June 25, 2017.
75. If, in fact, the monetary authority tends to offset changes in money demand (V in the equation of exchange, $MV=Py$) by altering the money supply (M), then corresponding measures of nominal spending (Py) should remain relatively stable. Incidentally, the growth rate in final sales accelerated rapidly in 2003. See George Selgin, "Guilty as Charged," Mises Daily Articles, November 7, 2008, <https://mises.org/library/guilty-charged> (accessed June 23, 2017).
76. See Norbert J. Michel and Stephen Moore, "Quantitative Easing, The Fed's Balance Sheet, and Central Bank Insolvency," Heritage Foundation Backgrounder No. 2938, August 14, 2014, <http://www.heritage.org/monetary-policy/report/quantitative-easing-the-feds-balance-sheet-and-central-bank-insolvency>.
77. Title II of the 2006 Financial Services Regulatory Relief Act (Public Law 109-351, October 13, 2006) authorized the Federal Reserve to pay interest on reserves, beginning in 2011, "at a rate or rates not to exceed the general level of short-term interest rates," and the 2008 Emergency Economic Stabilization Act (Public Law 110-343, October 3, 2008) accelerated the Fed's authority to pay these rates to 2008. The precise meaning of the term "not to exceed the general level of short-term interest rates" has sparked controversy. See George Selgin, "Is Federal Reserve Policy in Violation of the Law?" Foundation for Economic Education, September 9, 2016, <https://fee.org/articles/is-federal-reserve-policy-in-violation-of-the-law/> (accessed June 23, 2017).
78. See Ben Bernanke, *The Courage to Act: A Memoir of a Crisis and Its Aftermath* (W. W. Norton, 2015), pp. 143 and 144. Also see George Selgin, "Sterilization, Fed Style," December 4, 2015, Alt-M, <https://www.alt-m.org/2015/12/04/sterilization-fed-style/> (accessed June 23, 2017).

inflation targets.⁷⁹ As a result, the Fed's policies provided credit *only* to select firms rather than providing liquidity to the entire banking system, failed to prevent a collapse in aggregate demand, and likely prolonged the recession.

Government Credit Allocation Helps Some at Expense of Others

In December 2008, the Fed began the first of three rounds of quantitative easing (QE), large-scale asset purchasing programs whereby the Fed purchased long-term Treasuries and the mortgage-backed securities (MBS) of Fannie Mae and Freddie Mac that were (at that time) held by private financial institutions. By the end of 2014, the Fed had expanded its balance sheet by purchasing approximately \$2 trillion of long-term Treasuries and MBS, respectively. The Fed took its balance sheet from less than \$1 trillion to nearly \$5 trillion.

These purchases, ostensibly, were designed to inject liquidity into the banking system, thus preventing a collapse in bank lending and a simultaneous collapse in the economy. However, as these purchases created excess reserves in the banking system, the Fed chose to pay above-market interest rates on these excess reserves. As a result, instead of creating new money through additional lending and preventing (or lessening the severity of) a recession, the Fed's QE policies expanded *only* the amount of excess reserves in the banking system. Banks mostly held onto the cash that the Fed gave them when it executed all those securities purchases, so it is rather difficult to argue that these Fed policies did much of anything to expand the

economy or prevent a collapse. The Fed now projects that it will pay \$27 billion in interest on these excess reserves in 2017 (mostly to very large banks), with the amount rising to \$50 billion by 2019.⁸⁰

These policies have allocated credit to the housing and government sectors: By the end of the QE programs, the Fed held roughly 25 percent of outstanding Treasuries and nearly one-third of outstanding MBS.⁸¹ For a bit of additional perspective, the commercial banking sector's combined holdings of MBS and Treasuries is about \$1.7 trillion, almost half the amount held by the Fed.⁸² Any private financial institution that undertook such an expansion would come under intense scrutiny by the Federal Reserve, the primary regulator of all bank holding companies. At the very least, the Fed's actions have distorted prices in the housing market as well as the broader financial markets. Because an increase in demand for Treasuries, all else constant, puts upward pressure on their price, it also puts downward pressure on their interest rates. Thus, the Fed's policies, which increased the demand for low-risk financial assets, have certainly contributed to the low-interest-rate environment experienced since the financial crisis. Individuals with low-risk asset preferences, therefore, have suffered lower returns than normal partly because of the Fed's policies.

This balance sheet expansion by the Fed has diverted hundreds of billions of dollars in credit from the private sector to the federal government,⁸³ a twofold problem because the private sector allocates credit more efficiently than the government⁸⁴

79. Bernanke, *The Courage to Act*, pp. 237 and 238, and Selgin "Sterilization, Fed Style." Also see George Selgin, "Interest On Reserves, Part I," *Alt-M*, December 17, 2015, <https://www.alt-m.org/2015/12/17/interest-on-reserves/> (accessed June 23, 2017); George Selgin, "Interest on Reserves and the Fed's Balance Sheet," *Alt-M*, May 17, 2016, <https://www.alt-m.org/2016/05/17/interest-on-reserves-fed-balance-sheet/> (accessed June 23, 2017); and George Selgin, "IOER and Banks' Demand for Reserves, Yet Again," *Alt-M*, June 1, 2017, <https://www.alt-m.org/2017/06/01/ioer-and-banks-demand-for-reserves-yet-again/> (accessed June 23, 2017).

80. "Is the Federal Reserve giving banks a \$12bn subsidy?" *The Economist*, March 18, 2017, <http://www.economist.com/news/finance-and-economics/21718872-or-interest-fed-pays-them-vital-monetary-tool-benefits> (accessed June 23, 2017).

81. Richard W. Fisher, "Forward Guidance," remarks before the Asia Society Hong Kong Center, Federal Reserve Bank of Dallas, April 4, 2014, <http://www.dallasfed.org/news/speeches/fisher/2014/fs140404.cfm> (accessed June 24, 2017).

82. Board of Governors of the Federal Reserve System (US), Treasury and Agency Securities: Mortgage-Backed Securities (MBS), All Commercial Banks [TMBACBW027SBOG], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/TMBACBW027SBOG>, June 24, 2017.

83. Mark Perry, "The Fed's \$3.5T QE Purchases Have Generated Almost Half a Trillion Dollars for the US Treasury Since 2009," American Enterprise Institute, January 12, 2015, <http://www.aei.org/publication/since-2009-feds-qe-purchases-transferred-almost-half-trillion-dollars-treasury-isnt-gigantic-wealth-transfer/> (accessed June 23, 2017).

84. In some cases, during the crisis, the government even forced banks to take money against their objections. See James Gattuso, "Paulson and the Banks: What an Offer You Can't Refuse Looks Like," *The Daily Signal*, May 15, 2009, <http://dailysignal.com/2009/05/15/paulson-and-the-banks-what-an-offer-you-cant-refuse-looks-like/>; Nina Easton, "How the Bailout Bashed the Banks," *CNN Money*, June 22, 2009, http://money.cnn.com/2009/06/19/news/economy/trouble_with_tarp_bailout.fortune/index.htm?postversion=2009062107 (accessed June 24, 2017); and John A. Allison, *The Financial Crisis and the Free Market Cure: Why Pure Capitalism is the World Economy's Only Hope* (New York: McGraw Hill, 2013), pp. 170 and 171.

and because it does so without directly placing taxpayers at risk for financial losses.⁸⁵ Aside from distorting interest rates in credit markets, these policies have not made housing prices more affordable,⁸⁶ and it does not appear that they have appreciably decreased mortgage interest rates.⁸⁷

These policies exemplify why a neutral central bank, rather than an independent central bank, is desirable. For a central bank to remain neutral, it must keep a minimal footprint in the private sector. A central bank that, for instance, purchases nearly one-third of an asset class, cannot remain neutral. There is a fundamental speculative nature to all financial activity, a fact that further dictates that government agencies, including central banks, should undertake as little market activity as possible to maintain liquidity in the banking system. Although the Fed has episodically adhered to providing only system-wide liquidity, the Fed's lending policies have gone against such a sound prescription for the bulk of its history. In fact, judged against the classic prescription for a lender of last resort (LLR), the Fed's long-term track record is rather poor. Its LLR policies have frequently jeopardized its operational independence and put taxpayers at risk.⁸⁸

During the recent financial crisis the Fed allocated credit directly to a select few firms and also allocated credit to specific firms through several (officially) broader lending programs. For instance, the Fed provided a \$13 billion loan to Bear Stearns, one of the Fed's largest primary dealers, on March

14, 2008. The loan was repaid in days, but then the Fed provided a \$30 billion loan to facilitate JPMorgan Chase's acquisition of Bear Stearns. Shortly after this deal was completed, former Fed Chairman Paul Volcker remarked that this loan was "at the very edge" of the Fed's legal authority.⁸⁹

Separately, the U.S. Government Accountability Office (GAO) estimates that from December 1, 2007, through July 21, 2010, the Federal Reserve lent financial firms more than \$16 trillion through its Broad-Based Emergency Programs.⁹⁰ To put this figure in perspective: Annual gross domestic product (GDP) reached \$16.8 trillion in 2013, an all-time high for non-inflation-adjusted GDP in the U.S. During the crisis, the Fed created more than a dozen special lending programs by invoking its emergency authority under Section 13(3) of the Federal Reserve Act. The following three cases are just a few examples of the emergency lending carried out by the Fed in the wake of the 2008 crisis.⁹¹

- **Term Auction Facility (TAF), December 12, 2007.** The TAF was created to auction one-month and three-month discount window loans to depository institutions. Almost \$4 trillion was provided through the TAF between 2007 and 2010.
- **Term Securities Lending Facility (TSLF), March 11, 2008.** The TSLF was created to provide short-term loans to the Fed's primary

85. See Michel and Moore, "Quantitative Easing, The Fed's Balance Sheet, and Central Bank Insolvency."

86. Prior to the crash that began in 2006, the government's housing policies (well beyond the Fed's policies) proved to make housing less affordable, and starting in 2011, this trend has resumed. See, for example, the ratio of home prices to median income available on "America's Housing Market in Five Interactive Charts," *The Economist*, August 24, 2016, <http://www.economist.com/blogs/graphicdetail/2016/08/daily-chart-20> (accessed June 23, 2017).

87. Johannes Stroebel and John B. Taylor, "Estimated Impact of the Federal Reserve's Mortgage-Backed Securities Purchase Program," *International Journal of Central Banking*, June 2012, <http://www.ijcb.org/journal/ijcb12q2a1.pdf> (accessed June 23, 2017).

88. For a look at policies beyond the 2008 crisis, see Norbert J. Michel, "The Fed's Failure as a Lender of Last Resort: What to Do About It," *Heritage Foundation Backgrounder* No. 2943, August 20, 2014, http://www.heritage.org/report/the-feds-failure-lender-last-resort-what-to-do-about-it#_ftn35.

89. Lawrence H. White, "Ending The Federal Reserve System's Overreach Into Credit Allocation," House Financial Services Committee Testimony, March 12, 2014, <https://financialservices.house.gov/uploadedfiles/hhrg-113-ba19-wstate-lwhite-20140312.pdf> (accessed June 23, 2017). Later, the Fed created two similar special-purpose entities to complete the bailout of the American International Group (AIG).

90. U.S. Government Accountability Office, "Federal Reserve System: Opportunities Exist to Strengthen Policies and Processes for Managing Emergency Assistance," *Report to Congressional Addressees*, GAO-11-696, July 2011, p. 131, <http://www.gao.gov/new.items/d11696.pdf> (accessed June 23, 2017).

91. For a complete list, see U.S. Government Accountability Office, "Federal Reserve Bank Governance: Opportunities Exist to Broaden Director Recruitment Efforts and Increase Transparency," *Report to Congressional Addressees*, October 2011, GAO-12-18, p. 76, <http://www.gao.gov/new.items/d1218.pdf> (accessed July 3, 2014). See also, Lawrence H. White, testimony before the Subcommittee on Monetary Policy and Trade, Committee on Financial Services, U.S. House of Representatives, March 12, 2014, <http://mercatus.org/publication/ending-federal-reserve-system-s-overreach-credit-allocation> (accessed July 1, 2014).

dealers, and it was the first time during the crisis that the Fed provided funds to non-depository institutions. According to the GAO, many market participants believed that the TSLF was designed primarily to help Bear Stearns.⁹²

- **Primary Dealer Credit Facility (PDCF), March 17, 2008.** The PDCF provided overnight cash loans to primary dealers against “eligible collateral,” as defined by the Fed. Nearly \$9 trillion was loaned through the PDCF by 2010.

While Bear Stearns did use the PDCF before the Fed facilitated the Bear Stearns–J.P. Morgan merger, three other primary dealers—(1) Citigroup Global Markets, Inc.; (2) Merrill Lynch Government Securities, Inc.; and (3) Morgan Stanley & Co., Inc.—relied on the PDCF for more than double the amount that Bear Stearns borrowed.⁹³ Of more than 20 primary dealers, almost 80 percent of all the lending through the PDCF went to just these four firms.⁹⁴ Furthermore, the Fed made special concessions on the type of collateral accepted for these loans, and it provided PDCF loans at below market rates.⁹⁵

Prior to the Lehman Brothers failure in 2008, high-grade bonds and government-sponsored enterprise-backed securities accounted for nearly all of the collateral used in these types of borrowings. After the Lehman Brothers failure, however, the Fed accepted equities and speculative grade debt as collateral for PDCF loans.⁹⁶ The Fed clearly relaxed credit standards relative to what was normally accepted in this short-term lending market, and evidence also suggests that the Fed provided favorable rates on most of its emergency lending programs. *Bloomberg Markets* magazine estimates that

the Fed’s total emergency loans from 2007 to 2010 charged \$13 billion below market rates.⁹⁷

Charging below market rates to select firms, on suspect collateral, is the exact opposite of the classic LLR prescription. The goal should be to lend widely, as safely as possible, at high rates so that firms have every incentive to stop relying on the Fed for funds. Instead, the Fed effectively provided financial institutions with a source of subsidized capital for up to several years. These policies encouraged more risky behavior than would have otherwise taken place because the government accepted much of the downside risks for private firms (the well-known moral hazard problem), and they also crowded out private alternatives as the Fed essentially became a lender of *first* resort. Though difficult to quantify, these policies surely detracted from the number of income-producing jobs available in the private sector. Critics argue that the 2008 liquidity crisis was atypical because market participants had difficulty determining the value of various securities, thus justifying such policies, but the Fed has no particular advantage over anyone else in determining the market value of securities.

The Fed’s Failure as a Regulator

The Fed’s actions leading up to the 2008 crisis also highlight the central bank’s failure as a financial market regulator.⁹⁸ The U.S. central bank has been involved in banking regulation since it was founded in 1913, and it became the regulator for all holding companies *owning a member bank* with the Banking Act of 1933. When bank holding companies, as well as their permissible activities, became more clearly defined under the Bank Holding Company Act of 1956, the Fed was named their primary

92. U.S. Government Accountability Office, “Federal Reserve Bank Governance: Opportunities Exist to Broaden Director Recruitment Efforts and Increase Transparency,” p. 84.

93. Brian Sheridan, “Lender of Last Resort: An Examination of the Federal Reserve’s Primary Dealer Credit Facility,” University of Notre Dame Working Paper, April 2011, https://economics.nd.edu/assets/41471/brian_sheridan_lender_of_last_resort.pdf (accessed June 23, 2017).

94. *Ibid.*, p. 29.

95. Technically, the PDCF borrowing occurred in the short-term repurchase (or, repo) market.

96. After the Lehman failure, 26.4 percent of the collateral consisted of equity securities and 16 percent consisted of speculative grade bonds. See Sheridan, “Lender of Last Resort: An Examination of the Federal Reserve’s Primary Dealer Credit Facility,” p. 16.

97. Bloomberg derived these estimates based on data received from a Freedom of Information lawsuit. See Bob Ivry, Bradley Keoun, and Phil Kuntz, “Secret Fed Loans Gave Banks \$13 Billion Undisclosed to Congress,” *Bloomberg Markets*, November 27, 2011, <http://www.bloomberg.com/news/print/2011-11-28/secret-fed-loans-undisclosed-to-congress-gave-banks-13-billion-in-income.html> (accessed June 23, 2017).

98. For more on the Fed’s regulatory failures, see Norbert J. Michel, “A Roadmap to Monetary Policy Reforms,” *The Cato Journal*, Vol. 35, No. 2 (Spring/Summer 2015), pp. 315–329, <https://object.cato.org/sites/cato.org/files/serials/files/cato-journal/2015/5/cj-v35n2-9.pdf> (accessed June 23, 2017).

regulator. Under the 1999 Gramm-Leach-Bliley Act (GLBA), the Fed alone approved applications to become a financial holding company—and only after certifying that both the holding company and all its subsidiary depository institutions were “well-managed and well capitalized, and . . . in compliance with the Community Reinvestment Act, among other requirements.”⁹⁹

Although it would be unjust to place all of the blame on the Fed, the fact remains that the United States experienced major bank solvency problems during the Depression era, again in the 1970s and 1980s, and also during the late 2000s. At best, the Fed did not predict these crises, even though it was heavily involved (more so in the later crises) in regulating banks’ safety and soundness. In 2008, for example, Fed Chairman Bernanke testified before the Senate that “among the largest banks, the capital ratios remain good and I don’t anticipate any serious problems of that sort among the large, internationally active banks that make up a very substantial part of our banking system.”¹⁰⁰ Simply being mistaken about banks’ capital is one thing, but the Fed played a major role in developing these capital ratios used to measure safety and soundness.

In the 1950s the Fed developed a “risk-bucket” approach to capital requirements,¹⁰¹ and that method became the foundation for the Basel I capital accords, which the Fed and the Federal Deposit Insurance Corporation (FDIC) adopted for U.S. commercial banks in 1988. Under these capital rules, U.S. commercial banks have been required to maintain several different capital ratios above regulatory minimums in order to be considered “well capitalized.” According to the FDIC, U.S. commercial banks exceeded these requirements by 2 to 3 percentage points, on average, for the six years leading up to the crisis.¹⁰² The Basel requirements sanctioned, via low risk weights, investing heavily in MBS that contributed to the 2008 meltdown. Furthermore, the Fed was directly responsible for the recourse rule, a 2001 change to the Basel capital requirements that

applied the same low-risk weight for Fannie- and Freddie-issued MBS to highly rated private-label MBS.¹⁰³

Though any one of the other federal financial regulators could have made the very same mistakes, a central bank does not need to be a financial regulator in order to conduct monetary policy. Allowing the Fed to serve as a financial regulator increases the likelihood that policy decisions will be compromised as the Fed’s employees become embedded in the financial firms they are supposed to be overseeing. The fact that Dodd-Frank imposed a nebulous financial stability mandate on the Fed only increases this possibility. Aside from these recent changes, it is completely unnecessary for the U.S. central bank to serve in a regulatory capacity, and removing the Fed from its regulatory role would leave at least five other federal regulators that oversee U.S. financial markets. The Fed is now micro-managing even more firms than it was prior to the 2008 crisis, despite the fact that the central bank has repeatedly failed to predict, much less prevent, financial turmoil.

Conclusion

The Federal Reserve has not fulfilled the long-term promise of taming business cycles, and its overall track record on inflation is not much better. These facts alone require Congress to question the Fed’s mission and role. Given that the Fed’s credit allocation policies, regulatory failures, and monetary policy mistakes—after 100 years to gain experience—worsened the most recent boom and bust cycle, ultimately turning into one of the worst economic downturns in U.S. history, Congress would be derelict in its duty to the American public if it allowed the Federal Reserve to continue operating under its existing ill-defined statutory mandate. It is difficult to argue that the Fed’s recent policy actions accomplished anything than saving a favored group of creditors at the expense of all others. Providing liquidity broadly and refraining from sterilizing its operations—the opposite of what the Fed actually

99. D. Avraham, P. Selvaggi, and J. Vickery, “A Structural View of U.S. Bank Holding Companies,” *Federal Reserve Bank of New York Economic Policy Review*, July 2012, pp. 65–81, <https://www.newyorkfed.org/medialibrary/media/research/epr/12v18n2/1207avra.pdf> (accessed June 23, 2017).

100. “Fed Chairman: Some Small US Banks May Go Under,” *CNBC*, 28 February, 2008, <http://www.cnbc.com/id/23390252> (accessed June 24, 2017).

101. H.D. Crosse, *Management Policies for Commercial Banks* (Englewood Cliffs, NJ: Prentice-Hall, 1962), pp. 169–172.

102. J. Jablonski and M. Machaj, “The Regulated Meltdown of 2008,” *Critical Review* 21 (2–3), 2009, pp. 306 and 307.

103. See J. Friedman, and K. Wladimir, *Engineering the Financial Crisis: Systemic Risk and the Failure of Regulation* (Philadelphia: University of Pennsylvania Press, 2011). Also see Norbert J. Michel and John Ligon, “Basel III Capital Standards Do Not Reduce the Too-Big-to-Fail Problem,” *Heritage Foundation Backgrounder* No. 2905, April 23, 2014, <http://www.heritage.org/markets-and-finance/report/basel-iii-capital-standards-do-not-reduce-the-too-big-to-fail-problem>.

did—surely would have done more to benefit Main Street Americans.

Rather than hold the Federal Reserve accountable for these mistakes, policymakers appear to have put even more faith in the Fed's ability to influence interest rates and inflation, to tame business cycles, and to ensure the safety and soundness of financial markets. Meanwhile, economic growth remains anemic and people depending on low-risk assets for their income remain in a precarious position. Monetary policy under the current framework is clearly not working—if it were, people would have more confidence in the economy. To reform the nation's monetary policy, so that it works for Main Street Americans rather than a select few firms, Congress should, at the very least, take the following steps.

1. Require the Federal Reserve to normalize its operations by shrinking its balance sheet, ending the payment of interest on excess reserves, and closing down its overnight reverse repurchase facility.
2. Replace the primary-dealer system with a flexible open-market-operations process open to all parties currently eligible for borrowing at the discount window.
3. Hold the Fed accountable for maintaining a stable inflation rate, where the target rate is conditional on the rate of productivity growth, so that inflation rises above its long-run rate only when there are productivity setbacks (adverse supply shocks), and falls below its long-run rate only when there are exceptional productivity gains.
4. Ensure that all federal policies, including those of the Federal Reserve, remain neutral with respect to whichever mediums of exchange people decide to use.
5. Reduce both explicit and implicit guarantees by ending the Fed's emergency lending authority and ending the Fed's role as a financial regulator.

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Testimony of
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To the Subcommittee on Monetary Policy and Trade
Of the Committee on Financial Services
United States House of Representatives

Hearing on "The Federal Reserve's Impact on Main Street, Retirees, and Savings"
June 28, 2017

The Fed Should Be Required to Provide Congress a Regular Savers Impact Analysis

Mr. Chairman, Ranking Member Moore, and Members of the Committee, thank you for the opportunity to be here today. I am Alex Pollock, a senior fellow at the R Street Institute, and these are my personal views. I have spent more than four decades working in and on the banking system, including studying the role of central banks in both normal times and crises. I was President and CEO of the Federal Home Loan Bank of Chicago for twelve years, then worked on financial policy issues at the American Enterprise Institute, and moved to R Street last year.

I believe this hearing is examining a critical issue: What is the Federal Reserve doing to savers, notably including retirees?

To begin with my conclusion: Congress should require a Savers Impact Analysis from the Federal Reserve at each discussion of the Fed's policies and plans with the committees of jurisdiction. Under the CHOICE Act, this would be quarterly. This Analysis should quantify, discuss and project for the future the effects of the Fed's policies on savings and savers, so these effects can be explicitly considered along with other relevant factors.

Savings are essential to aggregate long-term economic progress and to personal and family financial well-being and responsibility. However, the American government's policies, including those of the Federal Reserve, have subsidized and over-emphasized the expansion of debt and have forgotten savings. The old theorists of savings and loans, to their credit, were clear that "savings" came first, and made possible the "loans." Our current national policy could be described instead of "savings and loans" as "loans and loans."

There is no doubt that among the very important effects of Federal Reserve actions from 2008 to now has been the expropriation of American savers, which has been especially painful for many retirees. This has been done through the imposition of negative real interest rates on savings during the

remarkably long period of nine years, from 2008 to now. Negative real interest rates would be expected in from the central bank in crisis mode, but it is a long time since that was over. The financial crisis ended in spring, 2009, and the accompanying recession ended in June, 2009, eight years ago. House prices bottomed in 2012, five years ago, and have re-inflated rapidly—as we speak, they are back up over their bubble peak. The stock market has been on a bull run since 2009 and is at all-time highs. A logical question is: what is the Fed doing, still forcing negative real interest rates on savers at this point? The Fed should be required to explain to Congress, with quantitative specifics, what it has done, what it thinks it is doing, and what it plans to do in this respect.

Consumer price inflation year-over-year in May, 2017 was 1.9%. The Federal Reserve endlessly announces to the world its intention to create perpetual inflation of 2%, which is equivalent to a plan to depreciate savings at the rate of 2% per year.

Against that plan, what yield are savers getting? The June, 2017 FDIC national interest rate report shows that the average interest rate on savings accounts is 0.06%. The national average money market deposit account rate is 0.12%, according to Bankrate, and the average 3-month jumbo certificate of deposit 0.11%. Savers can do better than the averages by moving their money to the higher-yielding banks and instruments, but in no case can they get their yield up to anywhere near the inflation rate or the Fed's annual inflation target. In the wholesale secondary market, for example, 90-day Treasury bills are yielding about 1%. And savers have to pay income taxes even on these paltry yields, making the negative real return worse.

Thrift, prudence, and self-reliance, which should be encouraged, are instead being discouraged.

The CHOICE Act would require in general that the Federal Reserve be made more accountable, as it should be. No government entity, including the Fed, should be exempt from the constitutional design of checks and balances. To whom is the Fed accountable? To the Congress, of course, which created it, can abolish or redesign it, and must oversee its tremendously powerful and potentially dangerous activities in the meantime. The Savers Impact Analysis is fully consistent with the provisions of the bill.

The CHOICE Act would also require that new regulations to provide “an assessment of how the burden imposed...will be distributed among market participants.” This excellent principle should also be applied to the Fed's reports to Congress of what they are doing. In particular, the Fed has been taking money away from savers in order to give it to borrowers. This benefits borrowers in general, but notably benefits highly leveraged speculators in financial markets and real estate, since it has made financing their leverage close to free. Even more importantly, it benefits the biggest borrower of all by far—the government itself. Expropriating savers through the Federal Reserve is a way of achieving unlegislated taxation.

By my estimate, the Federal Reserve has taken since 2008 about \$2.4 trillion from savers. The specific calculation is shown in the table at the end of this testimony. The table assumes savers could invest in six-month Treasury bills, then subtracts from the average interest rate on them the inflation rate, giving the real interest rate, which on average is -1.32%. This rate is then compared to the normal real interest rate, based on the 50-year average, giving us the gap the Fed has created between the actual real rates

to savers and the historically normal real rates. This gap, which has averaged 2.97%, is multiplied by the total household savings. This gives us by arithmetic the total gap in dollars.

Let me repeat the answer: \$2.4 trillion.

The Federal Reserve, I imagine, wishes to defend its sacrifice of the savers as a necessary evil, “collateral damage” in the course of pursuing the greater good. But there can be no doubt that taking \$2.4 trillion from some people and giving it to others is a political decision and a political act. As a clearly political act, it should be openly and clearly discussed with the Congress, quantifying the effects on various sections of savers, borrowers and investors, and analyzing the economic and social implications.

The effects of the creation and manipulation of money pervade society, transfer wealth among various groups of people, and can cause inflations, asset price inflations, and disastrous bubbles which turn into busts. The money question is inherently political—it is political economics and political finance we are considering. Therefore, in developing and applying the theories and guesses with which it answers the money question, the Federal Reserve needs to be accountable to the Congress.

If you believed that the Federal Reserve had superior knowledge and insight into the economic and financial future, you could plausibly conclude that it should act as a group of philosopher-kings and enjoy independent power over the country. But no one should believe this. It is obvious that the Fed is just as bad at economic and financial forecasting as everybody else is. It is unable to consistently predict the results of its own actions. There is no evidence that it has any special insight. This is in spite of (or perhaps because of) the fact that it employs hundreds of Ph.D. economists, can have all the computers it wants (having no budget constraint), and can write to run models as complicated as it chooses.

Moreover, the notion of philosopher-kings is distinctly contradictory to the genius of the American constitutional design.

Seen in a broader perspective, the Federal Reserve is an ongoing attempt at price fixing and central planning by committee. Like all such efforts, naturally it is doomed to recurring failure. It cannot know what the right interest rate is, and it cannot know how much of the losses of the bubble it is right to extract from savers.

Since the Fed cannot operate on knowledge of the future, it must rely on academic theories, in addition to flying by the seat of its pants. Its theories and accompanying rhetoric change over time and with changing personalities. Grown-up, substantive discussions with the Congress about which theories it is applying, what the alternative are, who the winners and losers may be, and what the implications are for political economy and political finance—just as the CHOICE Act suggests—would be a big step forward in accountability. Of course, we need to add a formal Savers Impact Analysis.

The table calculating the cost imposed on savers by the Fed’s nine years of negative real interest rates is on the next page.

Thank you again for the chance to share these views.

The Impact of The Fed on Savers
Negative versus Normal Real Interest Rates

Year	Average 6-month T-bill rates	% CPI	real 6 month T-Billyield	Total savings**	Total lost to negative real rates	Gap from normal* real to actual real rate	Total loss to savers
2008	1.63%	3.86%	-2.23%	\$ 7.84 T	\$ (174.6) B	3.88%	\$ (304) B
2009	0.28%	-0.36%	0.64%	\$ 7.74	\$ 49.2	1.02%	\$ (79)
2010	0.20%	1.64%	-1.44%	\$ 7.75	\$ (111.7)	3.10%	\$ (240)
2011	0.10%	3.16%	-3.06%	\$ 8.00	\$ (244.5)	4.71%	\$ (377)
2012	0.13%	2.07%	-1.94%	\$ 8.40	\$ (163.0)	3.60%	\$ (302)
2013	0.09%	1.46%	-1.37%	\$ 8.68	\$ (119.3)	3.03%	\$ (263)
2014	0.06%	1.62%	-1.56%	\$ 9.08	\$ (141.9)	3.22%	\$ (292)
2015	0.16%	0.12%	0.04%	\$ 9.54	\$ 4.0	1.62%	\$ (154)
2016	0.45%	1.26%	-0.81%	\$ 10.37	\$ (84.0)	2.47%	\$ (256)
2017 Q1	0.71%	2.54%	-1.83%	\$ 10.41	\$ (47.7)	3.49%	\$ (91)
Total/Average	0.35%	1.67%	-1.32%	\$ 8.78 T	\$ (1,033) T	2.97%	\$ (2,359) T

* Normal = 50-year average of 6-month Treasury Bill yields minus CPI inflation, 1958-2007, =1.66%

** Household savings consists of time and savings deposits, money market fund shares, and Treasury bills held by households

Source: Federal Reserve Statistical Release, Financial Accounts of the United States; R Street Analysis

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