Levy Economics Institute of Bard College

Conference Proceedings

26th ANNUAL HYMAN P. MINSKY CONFERENCE ON THE STATE OF THE US AND WORLD ECONOMIES

"America First" and Financial Stability

Blithewood
Annandale-on-Hudson, N.Y.
April 18–19, 2017

Organized by the Levy Economics Institute of Bard College

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These proceedings consist of edited transcripts of the speaker's remarks and summaries of session participants' presentations

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Welcome and Introduction

JAN KREGEL
Director of Research, Levy Institute

I am pleased to welcome you to the 26th Levy Economics Institute Conference on the State of the US and the World Economies. Dimitri Papadimitriou, who as president of the Institute would normally extend this welcome to you, sends his regrets that other obligations prevent his participation but not his best wishes for a lively, open-ended discussion in the tradition of Hy Minsky.

This year's conference takes place in an increasingly charged and divisive economic and political atmosphere. Sharp differences in approach are present within the new administration, within the majority party, and even within the opposition. It is a rather different environment than the one envisaged when planning for the conference started last September. I had originally proposed as a title "The New Administration Meets the New Normal: Economic Policy for Secular Stagnation." It was an obvious attempt to hedge our bets on the outcome of the election. After the election the first adjustment to the title was "Can the New Mercantilism Displace the New Normal? Economic Policy under the New Administration." As you can see, the final title eventually adopted the elocution proposed at the presidential Inauguration.

My intention was not to elicit recollection of the "America First" committee's support of isolation from the emerging European conflict in the 1930s. It was rather to recall that the phrase was first used, to my knowledge, by Franklin Roosevelt during his first election campaign.

Herbert Hoover had resolutely refrained from direct government support for the growing masses of the unemployed (although support was more than most give him credit for) for fear of interfering with the operation of the market mechanism in producing recovery from what was presumed to be a temporary cyclical downturn: "Recovery was just around the corner." When this did not occur as expected the blame was laid on foreign financial and political events eroding confidence.

For Roosevelt, Hoover's policy implied that "farmers and workers must wait for general recovery until some miracle occurs by which the factory wheels revolve again," but "no one knows the formula for this miracle." Instead, he argued in favor of direct measures to "restore prosperity here in this country by re-establishing the purchasing power of half the people of the country.... In this respect, I am for America first."

Instead of the miracle of a spontaneous market recovery, Roosevelt promised to take action to defend the condition of the "forgotten man" by offering him a "new deal" to protect from the ravages of bankers and industrialists. The simple substitution of "America Great" for "new deal" suggests an important similarity between the rhetoric and the target audience of the two campaigns.

It is instructive that in both cases the election was won with promises, creating a belief that appropriate actions would be forthcoming. We know from history how Roosevelt proceeded by experimentation, by trial and error, with what at the time were considered audacious, radical policies.

The question before us today is how the experimentation of the new administration may be directed to fulfill campaign promises.

It was not the specific measures of the "New Deal" (which did not even exist when Roosevelt entered the White House) to restore purchasing power of the farmers and workers, nor was it the organization by the federal government of the variously alphabetized institutions to implement these measures that were audacious. Rather, it was the recognition and acceptance of the fact that the federal government bore responsibility to ensure the well-being of the population. The New Deal thus represented a fundamental change in the role of government as a permanent actor in the economy. In a phrase suggested to Roosevelt by Rexford Tugwell, the role of government was to provide the coordination of economic activity, to produce a reconciliation of diverse individual objectives in a coherent "concert of interests"—what Galbraith's gifted pen would call "countervailing power."

This change was not driven by ideology—it is not clear that Roosevelt had one (although he was religious)—but was based on the recognition that the economic structure that had emerged from the first war was no longer composed of independent individual producers competing in free markets but rather one of increasingly large corporations who dominated markets through Schumpeterian innovation producing monopoly power as the normal state of affairs. In difference from Teddy the Trustbuster, and the progressive movement, the New Deal recognized the crucial role of the organizational ability of big business in increasing productivity, as well as the need to channel it to improve the conditions of the workingman.

Acting according to individual interests no longer guaranteed the greatest good for the greatest number, since the price system in competitive markets no longer was the basic principle of organization and distribution. The problem was how to ensure the organization of the new productive structure to achieve socially and politically acceptable results. The driving force here was more Veblen than Keynes, although it is perhaps easier to understand the point in terms of the circular flow charts that were common at the time: firms' labor costs are the source of firms' sales. The government was no longer to be the disinterested referee of classical liberalism but would have to become a player to ensure the results promised by innovation under free enterprise.

But it was not only the changing domestic economic structure that required a reconsideration of the role for government. The New Deal represented the democratic alternative, the "third way" of its time, seeking a political model that avoided both the Fascist and Communist solutions that at the time appeared to be the most successful responses to the Great Depression and had substantial domestic political support. Not only was this role for government radical, because of the international context, but [also] the reference point was with the authoritarian alternatives.

The conductor's score for the proposed "concert," eventually embodied in the National Industrial Recovery Act, was quickly cast as a "national plan" imposing centralized directives voiding the operation of the free enterprise laissez-faire system upon which the great nation had been built. Indeed, most of the New Deal was built on executive orders creating new agencies to produce regulations designed to coordinate the opposing interests of labor and industry.

What in current discussion is called the "administrative state," the calls to remove regulations and agencies to liberate free market initiatives were already present in the period. The criticism was thus not of the measures taken in support of the forgotten man; it was the fact that they were taken by the government. It became easy to make the argument against the "pretense of knowledge" rather than recognize the implications in the changed and changing economic structure as the "road to serfdom."

But, as Walter Lippmann pointed out in a book, *The Good Society*, written in the throes of the developing New Deal, this criticism of the New Deal is based on the same error as those liberals who adopt John Stuart Mill's conclusion that "laissez-faire, in short, should be the general practice: every departure from it, unless required by some great good, is a certain evil." For Lippmann, "the whole effort to treat laissez-faire as a principle of public policy, and then to determine what should be governed by law and what should not be, was based on so obvious an error… in thinking that any aspect of work or of property is ever unregulated by law…. In a community there is no such thing: all freedom, all rights, all property, are sustained by some kind of law. So the question can never arise whether there should be law here and no law there, but only what law shall prevail everywhere."

He goes on to make the point that the preservation of the regulations in place to preserve laissez-faire soon impedes freedom since it presumes "the prevailing social order is the only one that can be truly progressive." The regulations must not be confused with the aim of the "true liberal," which must be to provide regulation that resolves the social problems created by changes in the productive structure of the economy, by "the whole unresolved task of educating great populations, of equipping men for a life in which they must specialize, yet be capable of changing their specialty," and of providing support for those "who do not adapt themselves easily."

Thus we can give credit to the new administration's campaign for identifying a major problem facing a substantial share of the working population, while at the same time expressing doubts about whether it has recognized Lippmann's "obvious error" that simply eliminating regulations and reducing the role of government to provide individual freedoms for particular groups could remedy the secular stagnation from which they suffer.

Now, we must also admit that Roosevelt was a convinced budget balancer. Some of you will recall that Ronald Reagan channeled Roosevelt in his first campaign, only to follow Roosevelt's recantation in creating ever-increasing budget deficits in his efforts to provide for a "sunrise" economy. This is just another aspect of Lippmann's "obvious lesson" that has not been learned. Reducing the size of government is no more adequate than reducing regulation in achieving the promised objectives. Indeed, the failure of government to take on the responsibility to provide the necessary budget stimulus to support the purchasing power of households in the aftermath of the recent mortgage crisis and in maintaining recovery is one of the major reasons for the secular stagnation that we currently face. The recent recovery is exemplary in being historically slow, but also in that the contribution of federal support has been declining.

And it is important to remember that besides the failure of Hoover's promised "miracle" recovery to the problem there was not only a lack of purchasing power but also the maldistribution of purchasing power, which was a major theme of Roosevelt's campaign.

As noted above, as the campaign progressed, the European financial crises and the decisions of the major European countries to go off gold became more important in explaining the failure of the appearance of the miracle of recovery (yes, the "confidence fairy" was already present in the 1930s). In this regard, note an anniversary that we celebrate today. On April 18, FDR gave his approval to the Thompson Amendment to the Agricultural Adjustment Act (Part 8, Title III – Financing and Exercising Power Conferred by Section 8 of Article I of the Constitution: To Coin Money and to Regulate the Value Thereof), which gave the president the ability to take the US off the gold standard, which he eventually did on June 5th (Joint Resolution to Suspend the Gold Standard and Abrogate the Gold Clause, June 5, 1933, H. J. Res. No. 192, 73d Cong. 1st sess.). Note the important addition to the powers in the amendment: the suspension of the gold clause in private contracts. Roosevelt had been careful not to promise to maintain the gold standard, but his pledge to maintain a sound currency was so interpreted, and this action eliminated any support for the New Deal in financial circles, and the suspension clause cemented the belief of those who thought that the president had taken on dictatorial powers.

We finally come to the problem of foreign trade and foreign policy, which was as disputed then as today. Here also the influence of the new structure of production is important, as the interests of agricultural producers seeking foreign markets for their surpluses met the protectionist interests of manufacturing. It makes little difference if the reference is Say's law or Smith's bakers and candle makers, division of labor and innovation depend on reciprocity, and specialization imposes mutual dependence. "I shall therefore venture to acknowledge, that, not only as a man, but as a British subject, I pray for the flourishing commerce of Germany, Spain, Italy and even France itself"—this is Hume. One of the important aspects of the New Deal "concert" was that the orchestra was composed of foreign as well as domestic players, and while they could not be expected to buy up agricultural surpluses if they could not sell their manufactures in competition with US producers, if all were expanding then all could sell more agricultural goods and manufactures. Clearly, national self-sufficiency is a policy for a war economy, which is a planned economy. Trade restrictions as an attempt to steal purchasing power from foreigners are just as much an imposition on individual liberty as any other type of regulation. To this end we will have two panels dealing with the impact of the modern "America first" on Europe and South America.

The divisions and disputes that we contend with today, and which have contributed much to the current slow recovery, find their source in the failure to recognize Lippmann's "obvious error" of the blind belief that a reduction in regulation, in the administrative state, and the role of government will somehow restore a laissez-faire market liberalism that never existed and is inappropriate to the changing structure of production of the US and the global economy. This reflects Keynes's conclusion in his *General Theory*: "The outstanding faults of the economic society in which we live are its failure to provide for full employment and its arbitrary and inequitable distribution of wealth and incomes." These are the areas in which government action is not only appropriate but [also] necessary, because the tacit assumptions of classical analysis "are seldom or never satisfied, with the result that it cannot solve the economic problems of the actual world." But, "if we suppose the volume of output to be given, i.e. to be determined by forces outside the classical scheme of thought, then there is no objection to be raised against the classical analysis of the manner in which private self-interest will determine what in particular is produced, in what proportions the factors of production will be combined to produce it, and how the value of the final product will be distributed between them."

It is interesting that the problems that are faced by the new administration are so similar to those of the 1930s—lack of sufficient fiscal support to employment, income inequality, and the management of external trade and payments. Those of you who follow the Levy Institute's publications will note the similarity between this characterization of the problems facing recovery from the Depression and those identified in recent issues of our Strategic Analysis. While it would not be appropriate to recommend New Deal policies to the current environment, it would be appropriate to note that the current battle cry of reducing the size of government, of regulation, risks repeating Lippmann's obvious error, by failing to recognize the responsibility of government in dealing with the failure of social conditions to adapt to changing productive structures. In this regard, one cannot resist the opportunity to mention Minsky's proposal for an employer of last resort as a more modern substitute for the New Deal employment-creating measures that provides remedy for both the problems of government's fiscal support and personal employment.

There is one final area of similarity with the experience of the New Deal that it is important to raise. As you know, Minsky was the architect and inspiration of this conference series. In his planning notes for the first conference, which was held in November 1991 under the title "Restructuring the Financial Structure for Economic Growth," Minsky emphasized the importance of structural reform of the financial system as the prerequisite for more sustainable growth and employment. That conference took place in the aftermath of a major real estate crisis that produced considerable changes in the institutional structure of the financial system—some through the purging of unsustainable institutions, and others through regulatory and legislative responses. Minsky's idea was to bring economists from the academy and professionals and officials facing issues in private finance or in regulatory public policy to the Levy Institute to discuss a new institutional framework. At that time the discussion was centered on the attributes of universal banks relative to bank holding companies and whether it would be appropriate to allow nonfinancial corporations ownership of financial institutions. Hy contributed to this discussion with a number of policy pieces, most of which were not published but are available on the Minsky Archive through the Institute's website.

In consulting those papers you will see that Hy, despite my best efforts, was not attracted by the universal banking model. He instead opted for an adaptation of the bank holding company model in which each subsidiary dealing with a particular banking function would be separately capitalized from the holding company itself. This approach has more recently been under discussion in the Lawson report and the idea of what was there called "ring fencing." Tom Hoenig's recent proposals reflect some of these ideas.

But Hy's discussion went beyond barriers, to deal with the problem of deposit insurance, suggesting that while insurance might be maintained, it would be most appropriately applied to the asset side of the ring-fenced subsidiary than to its liabilities. He also was in favor of the introduction of community banks and organized a Levy project in that direction. Esther George, who will be speaking this morning, has taken a special interest in this topic.

By the end of the 1990s Hy was no longer present, but the debate on the economy's financial structure was again at center stage, unable to cope with the continuing crisis in mortgage financing created by the disappearance of traditional savings and loan banks and the continuous blurring of the strict Glass-Steagall lines of division between what were commercial banks, in name only, and investment banks, which had encroached on the retail payments system. Banks took on universal functions, but within a holding company structure, absent the separate capitalization Hy had proposed earlier. We all know the result of this silo-type structure in which it became increasing difficult for managers and regulators to understand the overall risk exposure and the resources available to meet potential losses.

The regulatory response to the failure of this structure has been a push for higher and higher regulatory capital in the hope that there will be enough to cover the resignation that the system will continue to produce ever-higher losses. In addition, regulators have imposed liquidity requirements in the form of asset characteristics. But, as Hy, following Keynes, had pointed out long ago, there is no characteristic of assets called liquidity; the ultimate source of liquidity is the ability to convert an asset into means of payment, and this depends on the issuers' access to the regulated banking system and of the banks to the Fed discount window. Unfortunately, in an attempt to shield taxpayers from loss, and constrain Fed independence to act in crisis, Dodd-Frank has sought to limit this crucial aspect of systemic liquidity that has resided in section 13 of the Federal Reserve Act.

But the most important point is that despite Dodd-Frank the overall financial structure has remained unchanged. I am sure that Hy would have considered this a mistake, noting that the push to higher capital ratios would eventually lead to the equivalent of 100 percent banking, which would neuter the ability of the financial system to undertake the risky financing that would be required to fund the productive capital structure of the system. I think he also would have noted that liquidity of assets is determined by the willingness and ability of regulated banks to take them on their balance sheets in exchange for more liquid liabilities—100 percent banks cannot do this. It is interesting that we are now starting to see criticisms, such as in the recent farewell speech of Dan Tarullo, of aspects of the Volcker rule reducing the liquidity of financial markets. Given that dealer spreads and minimum size are a function of dealer capital this should not be surprising. Higher capital requirements and higher liquidity requirements are in essence mutually contradictory.

So we are back to the initial question that Hy faced: how to change the institutional structure of choosing between the Hensarling emphasis on capital requirements, refining the holding company structure in the Hoenig proposal, or the Warren return to Glass-Steagall. All three proposals are currently in front of Congress. I am sure we will hear further discussion of these issues during the conference.

As in past years we invite you to take a look or take with you some of our publications, available at the desk in the back of the room, and would very much welcome your comments. This year there is an important addition. Three years ago the Institute started offering a two-year Master of Science in Economic Theory and Policy. Last year, the first graduating class closed out their year by launching a blog with the title The Minskys; you will also find a print of some of their contributions on the desk in the back of the room.

We welcome you. Enjoy the conference. We hope you will find the presentations and discussions thoughtful.

Thank you very much for your attention.

Speakers

ESTHER L. GEORGE

President and Chief Executive Officer, Federal Reserve Bank of Kansas City

The Federal Reserve and Monetary Policy

I'd like to thank the organizers of this year's Minsky Conference for inviting me to speak. The topics to be addressed at this event highlight a number of policy choices facing our nation today. The implications of those choices are far-reaching not only to the Main Streets of this country but also to economies around the world. Central bank monetary policies loom large among those policy choices.

Over the past 15 months, the Federal Open Market Committee (FOMC) has begun the process of gradually removing nearly a decade of monetary accommodation. That accommodation came in the form of both conventional interest rate policy, which lowered short-term rates to near zero, and a series of more unconventional policy actions—namely, large-scale asset purchases and forward guidance. The actions were both lauded and criticized. Indeed, in March 2009, one member of the FOMC commented on the very difficult situation of determining an appropriate policy response at that time, noting, "We're in a position where doing the right thing is not obvious."[1]

If doing "the right thing" was not obvious at that time, then the path to unwinding these extraordinary policy actions and returning to more conventional policy approaches is no less fraught with questions about the FOMC's decision-making framework. How will conventional and unconventional policy accommodation be removed and what are the implications? Is the process of normalizing policy "behind the curve?" What linkages exist between balance sheet adjustments and interest rates? What level of interest rates best supports long-run price stability?

My remarks today will not attempt to answer many of these important questions. Instead, I will focus on the process of policy normalization and its challenges, particularly as it relates to unwinding the Federal Reserve's balance sheet. I'll begin with the economic backdrop under which the FOMC is considering these policy adjustments.

The views I express are my own and are not necessarily shared by other participants on the FOMC.

The US Economic Outlook

For the most part, the economy looks to be on solid footing. Consumers are confident and they are spending, household balance sheets are in better shape, and house prices are rising. Employment has gained traction, bringing the unemployment rate down to 4.5 percent. Business investment and productivity growth have been somewhat sluggish for most of the recovery, but profitability has again increased. The energy and manufacturing sectors also are bouncing back with the stabilization in oil prices and the foreign exchange value of the US dollar. In general, the economy has come a very long way since the financial crisis that began nearly a decade ago and has weathered a number of shocks over the course of this lengthy expansion.

Despite the apparent health of the economy, risks are always on the horizon. Today, however, there is a sense that outcomes could actually be better than expected, rather than worse. For example, in the FOMC's latest Summary of Economic Projections, more participants now see risks that real GDP growth and inflation could be higher than forecast, rather than lower. This shift in risk assessment is in sharp contrast to the more pessimistic views that dominated past projections. Such an outlook has allowed the FOMC to continue the process of normalization.

Unwinding the Balance Sheet

Prior to the financial crisis, the business of setting monetary policy involved few moving parts. FOMC decisions could be steered with a fair amount of precision by the Federal Reserve's Open Market Desk and with a relatively modest amount of intervention in financial markets. There were other aspects to the process, but the tools and considerations were generally well understood and relatively straightforward.

Today, conducting monetary policy is considerably more complicated, owing in part to the size and composition of the Federal Reserve's balance sheet. Prior to the financial crisis and recession, the Fed's balance sheet was slightly less than $1 trillion, with a portfolio of short-term Treasuries. Over the period from 2009 to 2014, a series of large-scale asset purchases swelled the balance sheet to nearly $4.5 trillion, and the portfolio shifted to include mortgage-backed securities and long-term Treasuries.

These unprecedented actions were carefully considered, with a desire to boost economic activity. Faced with the prospect of potential nearer-term benefits, the associated costs were generally difficult to quantify and viewed to be well into the future, perhaps making them easier to discount. As a voting member who dissented in 2013, I believed these costs outweighed the benefits at that time.

The key challenge for monetary policy today is to unwind this large balance sheet in the least disruptive manner. It is an important step and one that the FOMC anticipated going back to June 2011, when exit strategy principles were initially framed. Following decisions to expand the balance sheet further, the FOMC revisited the exit strategy principles in 2014 and outlined its approach to monetary policy normalization in September of that year.

It is difficult to know with a high degree of confidence just how the economy and financial markets will react once the FOMC announces and then takes steps to reduce the size of its securities holdings. Some believe that the benefits of the actions that swelled the balance sheet were modest, and as a result, the costs of its unwinding also could be of little consequence to the broader economy. Others believe that the effects on the economy were substantial and that actions to reduce its size need to be taken with a great deal of care and caution. Of course, it is also possible that any benefits gained from the balance sheet expansion won't reverse when it shrinks. While evidence from a variety of sources and studies will inform decisions about possible effects and how to proceed, the implications for the economy are uncertain.

In addition, balance sheet actions have the potential to complicate interest rate policy. There is likely some trade-off between adjusting interest rates and shrinking the balance sheet, but the specifics of the trade-off are hard to quantify. This uncertainty and additional complexity raises the risk of a policy error or could spark a bout of financial market volatility.

Beyond the mechanics of shrinking a large balance sheet, establishing a sound framework for the timing of balance sheet adjustments will be important. To that end, the FOMC discussed at its most recent meeting in March various aspects of an appropriate decision-making framework to guide its actions.

Balance sheet adjustments will need to be gradual and smooth, which is an approach that carries the least risk in terms of a strategy to normalize its size. Importantly, once the process begins, it should continue without reconsideration at each subsequent FOMC meeting. In other words, the process should be on autopilot and not necessarily vary with moderate movements in the economic data. To do otherwise would amount to using the balance sheet as an active tool of policy outside of periods of severe financial or economic stress, and would increase uncertainty rather than reduce it.

Avoiding Monetary "Fine-Tuning"

Based on economic conditions, I would support beginning the process of reducing the balance sheet this year. This would further normalize the stance of policy and leave more highly liquid, safe securities available to the market. I do not favor prolonging action for the purpose of allowing inflation to overshoot the 2 percent goal or to press labor markets into a condition where they are overheating.

At the time the FOMC adopted the 2 percent inflation target in 2012, the unfamiliar nature and unknown consequences of large-scale asset purchases had piqued concerns about the implications for inflation expectations. Anchoring these expectations with a more explicit commitment to price stability was appropriate. I supported that decision. In the years following, however, inflation ran below the stated target—although at times only slightly below—and only recently has it moved above the target to 2.1 percent.

In its annual Statement on Longer-run Goals and Monetary Policy Strategy, the FOMC talks about the nature of its inflation objective. Specifically, inflation that persistently deviates above or below the 2 percent objective would be cause for concern, but monetary policy need not react to temporary deviations. Importantly, I do not interpret the strategy as calling for inflation to linger above 2 percent to make up for past shortfalls, but rather for inflation to move toward 2 percent in the long run without any deliberate overshooting. Continuing highly accommodative policy or adjusting monetary policy in response to modest shortfalls or overshoots from the inflation goal is an attempt at monetary fine-tuning that is often not practical and may ultimately prove costly.

Although inflation is running close to 2 percent today and is expected to remain there, the prices of different goods and services rise at very different rates. For example, services inflation has been running well-above 2 percent, and housing rents in particular have been playing a key role in moving inflation higher. By several measures, rents are rising faster than aggregate wages. Keeping monetary policy easy to achieve higher inflation has the potential to push rents still higher, negatively affecting a large percentage of households. Consequently, I am not as enthusiastic or encouraged as some when I see inflation moving higher, especially when it has been driven by a sector like housing. Inflation is a tax, and those least able to afford it generally suffer the most.

Such concentration and persistently rising prices in one area suggests the economy is struggling to reallocate resources. For housing, it could reflect several factors, such as tight lending standards faced by home builders and a scarcity of skilled craftsmen needed to construct homes. I expect the market to eventually solve for, or at least adapt to, such factors. Using monetary policy, however, to compensate for them could easily end up hurting the population the policy is intended to help.

Conclusion

Overall, I am encouraged by the start of the normalization process and want to see it continue. Resisting the temptation to react to near-term fluctuations in the data will be necessary. Looking ahead, we should expect inflation to move up and down around 2 percent. A modest decline in inflation or an overshoot may not necessarily warrant the monetary policy normalization process to slow or accelerate. Such attempts at monetary fine-tuning can easily backfire, so a more forward-looking view of inflation is needed. This is not uncommon and it is why many economists and policymakers emphasize the importance of inflation expectations. In fact, the FOMC also has long emphasized their importance, typically with specific mention in each FOMC statement.

The important factor is that the public, markets, and policymakers see the setting for monetary policy supporting the 2 percent inflation goal in the long run rather than expect a policy that tries to keep inflation squarely pinned at 2 percent under all circumstances.

While both the inflation rate and the unemployment rate are in range to meet the FOMC's objectives, the federal funds rate is far from its longer-run level and the balance sheet remains large, with reinvestment of maturing securities. Continuing along the path of normalization even in the face of uncertainty is necessary to achieving long-run objectives for the economy, including price stability and full employment on a sustained basis.

Note

1. Donald Kohn, FOMC meeting transcript, March 17–18, 2009.

Q&A

Q: I have seen some notes about the exchange rate for the dollar. Is this one of the targets for the FOMC?

EG: So your question is, how is the FOMC looking at the exchange rate for the dollar? The FOMC looks at the exchange rate of the dollar, as it does many economic variables, and is not targeting the dollar—we leave that to the Treasury. We're looking at the factors that Congress has mandated for us, and that is primarily looking to the long run for sustained growth in this economy, by looking at price stability and looking at how we can maximize employment in the process of doing that.

Q: Hi, President George. The conference is "America First," so we're going to be talking about Trump's fiscal policy, however it unfolds. But is it the assumption of the Fed that there will be a fiscal boost to aggregate demand and therefore that the inflation that we're talking about, there is a risk of it accelerating, with aggregate demand exceeding what the economy can handle—is that correct? And then, two, do you see any scenario where this could provide a jolt, say, to R-star [r*] and lift the neutral rate, and give the Fed some breathing room?

EG: Trying to gauge the impact of fiscal policy, as you know, is a challenge right now, and so in my own forecast I have not incorporated that…. Like others, though, as I noted, seeing where the risk to the outlook might be, I would say that poses a potential upside risk. We could see faster growth than has been forecast. We could see inflation moving higher. But that, I think, suggests "steady as we go" as the economy stands today, and we'll see how that unfolds. Those policies will be important. They will be consequential, one way or the other, in how that unfolds. To the point of will it raise what we believe to be the neutral long-run rate for Fed funds, I suspect that that could be a component. That has dominated a great deal of discussion, trying to figure out where we are headed—has that number come down relative to where it was? And I think you see in those summar[ies] of economic projections, there has been a downshift in looking at that longer-run measure. Whether we have permanently reached that state, I don't know—I think we'll have to see. If the economy actually can pick up relative to that trend rate of growth we have seen, that may in fact boost what that longer-run R-star [rate of interest] looks like.

Stephanie Kelton: I wanted to read you a quote that I ran across just yesterday. It's from Hyman Minsky's own work. In the context of discussion about unwinding the Fed's balance sheet, I just wondered if you could tell us to what extent, if any, considerations like these are things that the FOMC thinks about. So what Minsky wrote is this: "If we consolidate the books of all of the government agencies, then the Treasury debt held by the Federal Reserve Banks would appear as both an asset and a liability of the government. Such internal financial arrangements are usually ignored—the debt, to all practical purposes, does disappear once it enters the Federal Reserve [System]'s portfolio." So, when you think about unwinding, for all intents and purposes, once the Fed buys the bonds, it's as if the Treasury never issued them in the first place—[that] is the point that Minsky's making. Could you talk a little bit about to what extent you all think about this in terms of debt management and fiscal [policy]?

EG: The size of the balance sheet today—and I think as you think about consolidating the books of the Federal Reserve with the federal government: absolutely, in an accounting sense, that is what happens—you see that that is not a consequence to the taxpayer as a whole and how we think about the debt more generally. Remember, though, the objective of the central bank in undertaking these actions was to affect market functioning in some way. It was to pull out those safe assets, and the objective was to create what some call the "wealth effect"—to create more risk taking in the markets by virtue of the fact that you would create scarcity with those safe assets. And I think some would argue that's happened. We saw housing values begin to turn around and rise. In my part of the country, you saw farmland begin to take a quick step up, notwithstanding the rise in commodity prices. We've seen equity prices move up. So, to the extent that that was the objective, I think some would say we've seen that play out.

The reason I talk about [it is], not will it settle out in terms of an accounting sense of offsetting, but that unwind, then, is open to this debate that you see we're having about what the implications will be. Is the going in the same as the coming out? Will the pulling those safe assets out of the market to force risk then cause an unwinding of risk in some way as you see that go? So, for myself, I don't think we can know. I think the honest answer is, moving slowly to see how markets react to that is important. I do think, though, a central bank with a smaller footprint—and you will see this in some of the FOMC's earlier communications, returning to a smaller footprint, [having] only a balance sheet that's as large as needed to conduct more conventional types of policy—is where we should be headed. That timeline, of course, could be a long one.

Q: My question is with regard to the Fed's balance sheet. Do you have a professional preference on how it should be done? Should it be done through an active open-market operations sale of the securities, or let the securities retire? And related to this, depending on which method you use, is there a difference in terms of the efficacy of monetary policy?

EG: That question is very core to the discussion. My own preference—and again, the committee has had this conversation for some time—I was not particularly in favor of foreclosing the option of sales, but the committee has said in its normalization principles that it does not anticipate sales other than what it might take. So the focus is on what happens with those maturing securities—will you cease those reinvestments or will you try to smooth them? If you look at the maturity schedule in that portfolio, you will see it looks a little choppy. My own preference would be to start the process, and indicate how we will smooth that in some way. I think that makes sense. Some months you see a fair amount of those bonds maturing. We also know [that] as rates rise, those mortgage-backed securities are not likely to prepay in the way they had; that duration may extend. So I think we're going to have to have more conversations about how that works, but I do favor a smooth and gradual process, and then once we set it, let that work in the background and go about focusing on how short-term rates should be adjusted relative to the economy.

Q: You talked about the importance of looking at the market's reaction to changes in the balance sheet. There was even concern that when the Fed even began to speak about changing, the market might react. But it appears that the discussion over the last few weeks didn't cause that, as the minutes came out and such. So I am wondering how you interpret the market's nonreaction. And then second, I know you don't want to pay attention to one specific economic detail, but the latest CPI data was shocking to me in the sense that it was the first time the core CPI was actually down in quite a long period of time. At what point, if we get a second or third one like that, would you say, "Oh my god, we're having a risk of deflation again"?

EG: To your first point, about why the markets haven't reacted, I'll chalk that up to excellent communications from the Fed. [*Laughter*] I don't know. I think the Federal Reserve has tried to communicate clearly, and the idea of reaffirming its exit strategy principles back in 2014, from time to time revisiting those, I think has been an attempt to try to be very public—to try to communicate about what might happen. So, we'll see. I don't take that for granted. You know, maybe the markets are waiting to see further information, how much detail, and as the committee talks about this, obviously, more of that information will be forthcoming.

Your second question, about the CPI numbers: you're right, my answer is always going to be cautious about reacting to a single data point. I'll give you an example, though, of how I think about it in my job as a regional Fed president. So, watching that data tells me something happened over my shoulder—something in the past. And so engaging with the public—and I do that by visiting with labor groups, with community groups, with businesses in my region—to say, "Tell me what you see going forward." Because businesses are having to make decisions today for six months, twelve months out. That context is important in trying to understand, is that number something that suggests to me there's a turning point in the economy? Does it suggest, again, it's a blip? I'll need to see the second and third iterations of that. I tend to look at it more in that way. So I never ignore a single data point. *You* can't do that. But you do have to understand what might be driving that, and if it's not clear to you that this is the beginning of a turn, then this process of waiting for additional information can be important.

What I am cautious about, as it relates to our policy choices—and we had this experience over the last four or five years and we see it again in this first quarter, for example, we see growth softening; so as you look back, to say this has been a pattern—we've seen the first quarter soften and a bounce back in the second quarter—can we look though it? That is probably the most difficult and challenging thing, I think, for a policymaker: to keep an eye on the long run while trying to take in the signals that are happening today.

Q: During your talk you mentioned that while… inflation was about 2 percent, there were certain subsectors where it was far higher. The failure to anticipate the great financial crisis can partially be attributed to looking at overly consolidated sectors, where, though a sector as a whole might be performing fine, there were subsectors that had very unhealthy balance sheets. I was wondering what steps the Federal Reserve is taking in general to look at the more pertinent subsectors rather than these consolidated balance sheets that don't say much of anything.

EG: You raise a very important point, which is, aggregate numbers—aggregate measures—tell you something, and they are generally our best proxy for what the Federal Reserve has to be thinking about—that is, not specific sectors. We cannot channel and should not be channeling specific sectors of the economy. So aggregate measures are our best proxy to do that. But you raise a very important point, which is, not understanding what underlies those measures can be an Achilles' heel, and one of those was a buildup in leverage—issues in the mortgage market which today, I think, remain with us. Housing has not come back in the way that we might like to see it, given its importance to the economy.

So it is the job of the policymaker to look carefully at what some call the "microdata" to understand, again, as I just said, what is building up to those aggregates. In a regulatory sense, the Federal Reserve has an important job, and I think the theme of this conference around financial stability is something that policymakers worldwide have begun to pay more attention—to say there is an interplay. It doesn't do us any good to focus singularly on inflation and unemployment if the financial system itself is not stable. So it has put more attention on regulating and supervising the financial institutions. It has meant that we talk about that more holistically. And you will see that in FOMC minutes, the discussion of financial stability factors across many aspects of the economy to try to understand that.

I will just close, though, with this—and, again, this comes from my experience over several decades of supervising financial institutions—when you set conditions for risk, you are asking regulators to do more than I think is reasonable to try to stop that, to try to balance that relative to those incentives. So it all works together, and making sure that you are looking across those parts carefully is important, as you know.

Q: President George, thank you for being here today. My question would be, given that the Fed is planning on normalizing the size of the balance sheet, former Chairman Bernanke last year exposed for the Brookings Institute the benefits of the overnight reverse repo, as well as the interest on accessory serves to maintain a certain level of stability within the financial system. My question would be, then, if we are to normalize the size of the balance sheet, is that to prerecession levels or is that to a certain new level to maintain these two mechanisms?

EG: The mechanism that the Federal Reserve is using—and you referred to the overnight reverse repo—is a function of the large balance sheet and the fact that there are so many reserves in the banking system that you don't have the scarcity of reserves to move the interest rate. So today, the Federal Reserve has several rates it is targeting. It has interest on excess reserves; it has the overnight reverse repo, which serves as a sort of floor to that federal funds target rate. If you are to get back, though, to what the committee has said—that is, a smaller footprint, a balance sheet that is no larger than needed—yes, the balance sheet will be larger than when we went into the crisis. The economy has grown, and I suspect you will see a larger balance sheet. But it won't be $4.5 trillion, I doubt. And that will be, again, the challenge of the committee and its analysis to say what is that longer-run framework that will allow the Federal Reserve to conduct its policy in the least-disruptive manner, that intervenes in markets only to the extent that it needs to—that is where the committee is trying to get back to. The path along the way, as I noted here, is one that we will have to tread carefully and to continue to look at the outcomes we're getting in the economy.

Jan Kregel: If there are no more questions, I am going to abuse my position as chair to ask a few. To pick up on what I thought was a very interesting point about the use of the size of the balance sheet as a short-term policy tool, if we go [back], as I say to my daughter, a long, long time ago, there was a time when the Federal Reserve did in fact target or intervene at the long end of the curve. And there was a decision taken to suspend that policy and to move to emphasis on short-term rates and, effectively, eventually to the policy that we now have. If we look at QE, basically, QE was an attempt to influence the yield curve, and it was pretty straightforward what the Fed was attempting to do. So my question is, I quite understand that it's perfectly inappropriate to think about the size of the balance sheet as a short-term policy tool—I think just in terms of operations this would be impossible—but does this also mean that the Fed is again going back to the old position of leaving the longer end of the yield curve to be determined by the market?

EG: Well, implicitly, I think that's the case, unless there is a change in the long-run framework that the committee uses. And you would have seen, several meetings ago, a discussion about [that]. Last year the staff did a fair amount of work on thinking about what is the appropriate longer-run framework for monetary policy. If decisions are made to change that, you may find the committee targeting a different regime than it has been. But today, the approach we're taking is one that expects the movement in that short-term rate is going to set the path of interest rates. That's a challenge—to know, with this balance sheet, when you are trying to do both ends of the curve—and I will hear people express their concerns about what that will mean. So this is an experiment that we are moving out of, and I think [we] have not foreclosed thinking about what that long-run framework should be, as you know.

JK: Before we take this next question, I will ask the additional question that I had in mind. I note that you are leading the responsibility of the Fed in modernizing the US payment system. This is slightly offtrack from what we're thinking about but it's something that is of great interest to me in particular, so if you could just give us some indication of how the Fed views the rise of alternative mobile payment systems and things of that sort.

EG: Yes—happy to address that. This is an initiative the Federal Reserve undertook a couple of years ago with a paper that talked about strategies for modernizing the US payment system. The reason the Federal Reserve initiated this work was [to look] at the role that technology is playing in the economy today. It is quite natural today for people to do commerce by Internet—that is, to get on their laptops, whether you are an individual or a business, and conduct commerce. So making payments in a similar fashion was becoming increasingly demanded, and the demands for those payments were increasingly being met by nonbank entities—those outside of what we have come to know as being a special role, if you will, something Gerry Corrigan used to refer to as "bank special." He saw that connection to the payment system and a regulated entity being a component of the public's trust in the system for those payments.

The question is, this payment system is beginning to develop in a way that is fragmented. It is not an end-to-end sort of ability to transact payments, and we felt both on the technology side, the marketplace is going to respond to that, but on the security side it was essential that the public's trust in that payment system not be compromised. So the effort has been over the last two years to convene many, many players in that payment system. The traditional banks are at the table. We have consumer groups at the table. The merchants are there, the network providers, those innovators from Silicon Valley and other parts of the country—[all are] sitting at the table saying what would a faster payment in the United States look like? How would it be governed? What rules need to be adjusted relative to some of the legacy payments we have in this country? This summer, we expect that that task force will issue its report, [which] will talk about what the prospects are of achieving the kind of system in the United States that will serve us well, to think about some of the issues that we know have come out of other emerging networks over time. So this is an important component. People ask, is our involvement a way to limit innovation, to push against things like Bitcoins and digital currencies? And it's not at all the case; it is really one to say this country has always built off of its legacy systems. So we continue to issue a lot of cash. People find cash to be a relevant payment form, but they also increasingly want to use their mobile phones to make those payments. And so we look forward to that task force report coming out this summer. It will then be an opportunity for the Federal Reserve to respond to that relative to those desired outcomes we were looking for in the paper two years ago.

JK: One more question.

Q: Thank you. At a time where some companies are reportedly finding it hard to find qualified employees, at a time where the unemployment rate is seemingly near target, the… proportion of people who are employed, the participation rate, is relatively low, [and] long-term unemployment has, for some people, been a real problem. We've gone through something different over… the period of years of the recovery from the global financial crisis. How do you put all of these things into the soup to think about them?

EG: It's a very good question. So, the labor market has lots of moving parts too, as we talked about earlier. In fact, my staff in Kansas City have put together a labor market index to try to judge some 24 different variables, to say how we should be thinking about the health of that labor market versus the level of employment, versus the momentum with which jobs are coming on line. If there is one issue I hear consistently in my region, and my guess is around the country more generally, is how important the workforce and its skills will be to the future economy. And we're beginning to see that future economy unfold today, where the kinds of skills that are in demand seem to be in short supply. And so policies that will aim at trying to make sure that that workforce grows and it grows in a way that can meet the needs of the economy is going to be critical.

That, of course, is beyond the reach of monetary policy to solve, but I am no less interested in how those policies unfold. When I go around my region, I will hear, "We are short of skilled labor—people that can weld, people that can work in construction." We are short of skills for any number of kinds of jobs today. I visited a company last week that pointed out how many jobs they had on their payroll today that didn't exist two years ago. These are jobs that have replaced some but now we're requiring higher skills.

I am also encouraged when I go around my region and see colleges, to see elementary schools, high schools, that are beginning to think about this issue and beginning to think about how to work with young people to understand what their choices are and how to encourage those relative to the economy that we see unfolding. So it's a very important issue, I think, for the future.

Thank you very much.

ROBERT J. BARBERA

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Planning for Trump World: And You Thought You Knew What Pervasive Uncertainty Looked Like!

Tough to give a speech today—you know, the macro geopolitical backdrop being as calm and quiet as it is, there's not much to pick from. [*Laughter*] Actually, what I'd like to do is connect some dots in terms of Keynes and Minsky and in terms of mainstream macro theory and weave that into how we might have ended up with Trump as president, and with some of the insanities that we have seen so far.

If we reach back and think back about Keynes and Minsky, I would argue that what we have is a convention from Keynes and an observation about conviction levels from Minsky. I am going to speak about that and follow that through over the last 10 years and show you that it still very much holds up. I am also going to drag Saudi Arabia in, because although it's somewhat tangential, I think it's quite interesting if you think about what they are doing right now and you think about it within the context of how we make forecasts and can influence markets. Then I am going to wax a little bit philosophic, and I apologize for this, but hell, I turned 65 last week, I'm on Medicare, I can do whatever the hell I want. [*Laughter*] So I'm going to reach back to Kierkegaard and Socrates and get into some philosophical constructs that lead us to some notions about what we don't know, how we might have gotten into trouble pretending we did know, but that how now we're in a situation where we may not know but we surely know what's *not* going to happen, and most of it's described via tweets.

So, Keynes: what does Keynes say to us? He says only a little bit more than a trip to the South Pole are our enterprises driven by mathematical calculations of benefits to come—right? And Minsky's phrase attached to that was "pervasive uncertainty"—Knightian uncertainty. And Keynes suggests in the most-omitted chapter of any mainstream economist reading—chapter 12 of the *General Theory*—[that] the way we get through our day and comport ourselves sensibly, we think, is to embrace a convention. What's the convention in my version of Keynes? What's the convention that we use for forecasting? I mean, we're long-term investors. That means we care about 20 years from now. Well, if we're honest, we haven't a clue what's going to happen 20 years from now. I would submit right now, 20 months from now is a really dangerous forecast. But 20 *years* from now? So what do we do? What's the Keynesian convention? We assume that tomorrow will be yesterday. And as long as we believe that tomorrow will be yesterday, then we're really just in the business of looking really carefully into the rearview mirror, and it's the rearview mirror that drives our evolving sense of where we're going. Where we're going is where we have just been. Having been on Wall Street for 30 years, I can tell you, think about the markets and how they respond to different kinds of news. You'll almost never see the following headline: THE MARKET FELL BY 10 PERCENT WHEN NEWS THAT GOLDMAN SACS CHANGED THEIR FORECAST CAME OUT. People don't respond to forecasts. You will see a headline that says: THE BOND MARKET RALLIED FURIOUSLY AND INTEREST RATES FELL BY 30 BASIS POINTS WHEN THE JOBS REPORT CAME OUT AND IT WAS 30,000 INSTEAD OF 230,000. So the recent past can drive, nearly instantly, our opinion of the future rather than any pretense that somebody has a crystal ball beyond that.

All right, so Keynes says, "Tomorrow is yesterday." What did Minsky add? What did Minsky add that was so powerful? What he added was: "Our conviction level that tomorrow is yesterday is a function of how many yesterdays in a row we string together that look the same." Now, that shouldn't be the way it is. In the book I wrote trying to invoke Hy Minsky, I said in the never-never land of rational forward-looking investors, eight years into an expansion you might say, "Well, geeze, I don't know what's going to happen, but I know there's been a recession every five to 11 years in any one of 70 countries around the world over the last 100 years, so I'm going to make somebody pay me a little more for risk right now, because this thing looks long in the tooth." Instead, if you look at risk spreads, if you look at VIX [volatility index], if you look at BAA [ratings] versus 10-year yields, exactly the opposite is true. The longer the expansion endures, the more relaxed we seem to get, and when we get more relaxed—and this is Hy's financial instability hypothesis—as we get more relaxed, we put on more risky finance. So the financial architecture gets less and less stable the longer the expansion endures, because we more and more believe that tomorrow will in fact look like yesterday.

So let's test this hypothesis. Let's imagine that you have an island economy. It's an island. It's an economy that's big relative to most around the world—maybe fourth or fifth large[est]. And that island economy suffers a tsunami and one of their nuclear power plants gets blithered up and there's radioactive waste within 20 miles. Now, what kind of tail risk should we put on US financial assets? What is that likely to do to somebody bending metal in Des Moines or growing wheat in Kansas? Alternatively, we have a real rogue nation with a crazy leader who starts firing ICBMs every 30 days and we have a newly elected, incredibly ignorant-of-history president who is in charge of the biggest nuclear arsenal in the world and they get into a confrontation. How much risk should we assign associated with tail events to that? Now, I can't figure out an honest answer for A versus B, but I sure know which one I think is bigger. What the hell could happen if a nuclear power plant in Japan had a radioactive leak? What's going to happen in Kansas? Nothing. What might transpire if we're in a confrontation right now with North Korea? I don't know, but I have to admit that the tail risks there are infinitely larger. However, when did we have the tsunami in Japan? In 2011, [and] 2011 was only two years after the biggest recession since the Great Depression—it was only two years after the stock market had fallen by 70 percent. And the financial market reaction to that event showed a big increase in risk. Big increase in fear, right? Treasury bonds soared. The VIX went from 15 to 35. BAA 10-year spreads went out dramatically. Stocks fell by about 7.5 percent. In the current situation, you have next to nothing in terms of reaction. Now, again, I am not suggesting I know what the reaction should be on an absolute basis, but on a relative basis, the tail risk associated with this geopolitical event today has to be deemed to be much larger than the nuclear accident in Japan. But this is eight years into an expansion, and so we're blithely smiling. Now, do we get into trouble? Obviously we do when we use this kind of forecasting method, but it's the best we've got—we think.

My favorite example of tomorrow will be yesterday and the conviction level growing as we string a number of yesterdays together: CBO (Congressional Budget Office), in '96, '97, '98, '99, kept saying, "Well, we don't understand. We don't know where these revenues are coming from, but they keep coming in 20 percent higher than we thought." So for four years they said, "It'll go back, it'll mean revert. We'll get personal income tax receipts that make sense relative to where the economy appears to be." By 2000, it was five years. Five times four: that's 20 quarters. If you are in the forecasting business and you have been wrong for 20 quarters, you are beaten up beyond belief. So what did CBO do in 2000? They waved the white flag and they said, "Oh, this must be permanent. It must be permanent and therefore we're going to keep these tax revenues as a share of personal income, which were 20 percent higher than made sense. Moreover, since we haven't had a recession now in 11 years, we won't have a recession. Since we've had productivity at 2.8 percent for six years, we'll keep it at 2.6 percent. We won't have any bear markets; we haven't had one in 11 years. And we won't have any wars." So CBO, in 2000, forecast that over the next 10 years we would have a $5 trillion surplus. Now, as it turns out, as we know, you had two wars, two recessions, a big bear market, and you mean-reverted on… taxes from income. Plus, productivity went from 2.7 to 0.7 [percent] and we ended up with $20 trillion in debt instead of a $5 trillion surplus. That's a big miss, I would submit. But you can see how you get there if the persistence of a trend stays in place.

I want to segue for a moment to Saudi Arabia. What we're saying is, the current state of affairs informs your opinion about the future. I can't tell you the fights I have with my academic brethren at Johns Hopkins when I insist on this. Run a chart of the market capitalization of large oil companies and the current—that is, today's—oil price and what you discover is, today's oil price explains about 80 percent of the ups and downs of the market capitalization of these companies. Now, what could that possibly mean? I mean, that's crazy, right? What it means is, well, I know that they've got this big bag of oil in the ground and I have to figure out how much it's worth. I have price times quantity, and I use a discount rate—the other 20 percent is where our interest rate is in terms of that market capitalization—so if oil prices are 60 bucks [per barrel], it's worth twice as much as if oil prices are 30 bucks [per barrel], and I can't do better than the market in guessing where oil prices will be.

Now let's suppose some of us think we can do better than that. Let's suppose that we're Saudi Arabia, and we hired 30 people: 10 from MIT, 10 from Harvard, 10 from Johns Hopkins—no, five from the Minsky Institute, five from Johns Hopkins. We've got this collection of people and they are in the business of trying to figure out what's going to happen to oil prices. And they sit down and they say, "Well, notwithstanding the rantings of Donald Trump, the fact is, time and tide and technology wait for no man." If you look at what's going on right now with technology, in 30 years' time oil is going to be a lot less important, and it looks like the price over the long term is going down, not up. Now, if we had 10,000 … barrels in Pennsylvania, we sell it tomorrow. If you have 287 billion barrels, as Saudi Arabia does, how the hell do you sell it tomorrow? How do you sell it tomorrow? What do you do? An IPO! You do an initial public offering. You say, I am going to let you have a piece of this oil. You are going to have a chunk. But how do we value that oil in the ground? What's the driving force of the value of the oil in the ground? The price. So what might you do in the six months leading up to the IPO? Let me see now…. Maybe we could cut production and make the price go to $60 and hold it there while we give you all 10 percent of the firm. Now, people will say, "But if you cut production, you are going to reinfranchise the frackers and they will be back in place," and they say, "We don't care. We're reinfranchising them for six months?" Anyway, if you have an insight that that's what informs those decisions, you can get to that place.

Now: philosophical musings. Kierkegaard wrote a book called *The Concept of Irony*. I have it by my bedside; I've had it since I was a junior in college. I never get past like page 10, but it's good if you need to sleep: read *The Concept of Irony* by Kierkegaard. But in there, he basically says that the elemental notion of irony is a product of Socrates, and Socrates told us, "Well, I don't know, but the one thing I do know is, you don't know." And they killed him for that. Now, John Kenneth Galbraith basically modified that. In fact, I loved Galbraith's modification until I realized it was a modification. I thought, well, he's clever, but you know, he's a borrower like the rest of us. And what he said was, there were only two kinds of economists in the world: those who know they don't know and those who don't know they don't know. I would submit that that insight was lost on mainstream macroeconomics, and I think you can lay some fair share of the blame for having the Donald Trump administration at the doorstep of mainstream economics, because we, or they, pretended to much more of an understanding of how things work than we have.

So there were two sins. The first sin was, we pretended to know more than we really do and we sat around talking about the Great Moderation and how we had tamed…. what was it? It was Prescott who said, "We've solved the depression thing and we now know how to steer the economy." I mean, any sense of irony and you never would have let those words out of your mouth if you are an economist—obviously Prescott has no sense of irony. So that was a first-order sin. We drove the global economy off a cliff promising everybody that we knew precisely what we were doing as we went off. Everybody remember the book *Lord Jim*? He's in the *Patna* [a boat] and he says, "It's okay, it's okay, I'll take you," and then at the last minute he jumps in the safety boat and leaves the masses? So that's the first sin. But unlike Lord Jim, who takes it between the eyes at the end of the book, we have the Great Recession and there's *no* remorse. There's no contrition. We blame it on the Chicago School. I mean, the Chicago School was blitheringly detached from the real economy but not in charge. The Chicago School wasn't in charge. The New Keynesians were in charge. So Krugman constantly writing about the Chicago [School]—who are you kidding? *You guys* were in charge when we went off the cliff. So, no contrition after driving us off the cliff, and a lot of people who don't know much of anything I just said but know that the smarties drove us off a cliff said, as we say in Italian, *basta cosi*—"that's enough of that"—we're going to put one of our guys in charge. Let's let stupid try.

So where does that leave us? Because we overpromised, because we pretended to know more than we really do, we're now in a situation where you can assert almost anything you want to. Think back to moral relativists. Remember the brain—the brain in a jar thing. It's the movie, *The*

Matrix. You think you are in a world, [but] actually you are just getting electronic transmissions that describe a world to you. The philosophers like to point out, if you are in the movie *The Matrix*, and you are in one of those pods and you are just generating heat for the batteries, there's no logic you can use to figure out that you are not in a jar. Now, that's a fun philosophical notion, but I think we don't have to be that nihilistic. And that's where the sad part of all of this comes about. Had we not overpromised, we could say the following: something à la Socrates, which is, "I don't know what's going to happen. I know you don't know what's going to happen. But I also know, even though I don't know what's going to happen, I know what you are saying is going to happen can't possibly happen. So even though I don't know what the truth is about the future, I have value, because I can tell you that the following seven things you said you were going to do are nonsense—categorical nonsense." Now, I am 65. I do take this personally because a lot of us, we work really hard at this stuff. It really is hard and you're just trying to say, "Well, I don't know what's going to happen, but you are not going to create 25 million jobs over the next 10 years—you are just not." And when you do the arithmetic on that, 25 million jobs over the next 10 years is 200,000 a month. If we allow the prime-age participation rate to go back to its all-time peak *and* we allow the unemployment rate to go to 3 percent—I think those are pretty aggressive. I'm not talking about NAIRU [nonaccelerating inflation rate of employment] and we've got to stop right now, thank you, Esther George—I'm way beyond that. I'm allowing it to rip for three years. Let it rip for three years. At the end of the three years, you have now exhausted all the excess you have and now you are captive to demographics. So, what are the demographics? Well, the latest survey we have from the Census [Bureau], and it was produced before Trump was elected, said that the population, the working-age population, will grow. Before we talk about age cohorts, before we talk about the aging baby boomers, it's going to grow at half a percent a year. Why is it going to grow at half a percent a year? Well, there are two sources for growth: births minus deaths, and net immigration. What percent of that growth that they forecast is net immigration? Fifty. So now we've only got half a percent growth, which is, roughly speaking, 100,000 [new jobs] a month. But if Trump succeeds and we get those net immigration numbers down, now we're at something on the order of 60,000 or 70,000 a month. So 25 million is not only *not* in the realm of the likely, [but] I would submit it's [also] mathematically impossible. Although someone did point out to me that Betsy DeVos, who did support a group that's written on why we should allow child labor, [said] if we allow 6- to 16-year-olds to work instead of go to school, they actually do have a shot.

Similarly, we have Peter Navarro. Now, Peter Navarro takes my breath away, I've got to tell you. Peter Navarro, he says, we need *bilateral* confrontations—mano a mano, which he thinks means man to man. All right, so we need bilateral confrontations, and because I know Trump is a great negotiator, we're going to get the trade deficit to go to 4 percent, 3 percent, 2 percent, 1 percent, zero—it's going to disappear in four years. And that means I get to add a percentage point to growth each year. That's why GDP can be 4 [percent] instead of 3 [percent].

Let's look at that historically and then deep historically. Obviously, Keynes would think that that was nonsensical. It turns out that so would Adam Smith. So let's reach all the way back to a mercantilist 1664. Thomas Munn, who Adam Smith labeled "the bible man of mercantilism"— he's Mr. Mercantilism—argues in his book that you never want to think bilaterally. He looks at the Eastern Trade Association and the fact that they ran this big trade deficit with Asia—they gave much more gold to Asia than they got *stuff*—but they overwhelmed that in terms of all the gold they got selling the stuff they got from Asia in continental Europe. So even Thomas Munn, in 1664, knew that you didn't look bilaterally.

Now, what about shaping it closer to home? We can look at the income elasticity of demand for imports. We can say, what happens when the US accelerates? It turns out that when the US accelerates, we demand cyclically sensitive stuff, and mostly that's imported. The income elasticity of demand for imports says that if you can get the economy to accelerate, you're going to have imports grow twice as fast. So your trade defect goes up. In addition, what happens—when the US economy does much better than the rest of the world—to the dollar? It goes up. So now we've got a price elasticity of demand problem. So to forecast the trade deficit going from 4 [percent] to zero in an environment where you are stepping on the gas, the rest of the world is still with their foot on the brake, and you are going to do it based on bilateral negotiations is breathtaking.

A more reasonable notion, of course, is health care where everyone's covered. It's much better and we have lower premiums. There's nothing I can add to that. Actually, there is one thing I can add. The Heritage Foundation wrote a paper—this is the Heritage Foundation, not the Brookings Institute, not the Minsky group—the Heritage Foundation wrote a four-page essay and they gave it to Ronald Regan in 1983. And it said, look, the kid's 28, he's decided who the hell needs health care insurance. He has a car accident. The ambulance takes him to the hospital. They find out he doesn't have insurance. It's going to cost $83,000 or he's dead. If you spend the $83,000, he lives a very happy life. What do you do? If it's free market, baby, you put him in the driveway and you let him die. If you spend the 83 grand, it's socialized medicine. So the Heritage Foundation in '83 said you can't end-run this because nobody's going to leave him in the driveway, and of course now what we have is an enormous number of people who use the emergency room and rip up the bill.

Lastly, in terms of examples, we have Mick Mulvaney. I think the reason that Trump selected him to be the head of OMB (Office of Management and Budget) is because Mulvaney is on record a number of times saying he didn't think it was such a bad idea to default on the debt. And this is something that Trump knows a lot about. Mr. Mulvaney promises us that he's going to balance the budget in the next 10 years. He's going to balance the budget in the next 10 years in an environment where you're trying—on the Republican side—to put into place a really large tax cut. That's a neat trick. Now, the problem for, I think, Donald Trump, is, he wants desperately to be who? He wants to be Ronald Reagan. He wants to be liked, that's for sure—Daddy didn't like him—but he wants to be Ronald Reagan, and Ronald Reagan had some deep, deep personality traits that fared him well. He was affable, right? People said, "You know, I like him." I've never heard anybody say that about Donald Trump. It really helps if you are a politician to have people like you. In addition, [Reagan] gave a hundred speeches that said, "I'm going to slash taxes, I'm going to radically increase defense spending, the economy's going to boom, and because of that, the budget deficit's going to go to zero." And what did he do? He slashed taxes, he radically increased defense spending, the economy boomed—and the budget deficit soared. But he just gave a speech four years later and said, "I told you I was going to slash taxes and I told you I was going to increase defense spending and I told you the economy was going to boom—QED." Donald Trump is in a perfect position to have done that. All he had to do was pretend that the supply-side miracle would work, ignore the fact that deficits would go up a lot, slash taxes, [fund a] big infrastructure program, and he had a shot at performing that same [hat trick]. Now, I am not endorsing that. I am saying that was a strategy that could work. This is, I guess, simply not the strategy.

Again, to come back to where I began, I think economists played a role in this by pretending we know more than we do. You know Hy's two-liner—if there are two words that exemplify Hy's whole career, it's "pervasive uncertainty." How do you run around with that level of certitude, if you can appreciate that? And it's gotten us to the position where people have made judgments that, because they figured out we don't know what's going to happen, they then concluded that we don't know anything more than anybody else. I would submit that those two things are not the same. And I think that's a shame.

Q&A

Q: [You talked about the uncertainty of] the future, of trying to understand the unknowable, but [that being said]… do you have any sense of how this is going end—how this is going to go?

RB: No…. You know, you've got the other dynamic, which is the Russian connection, and I have absolutely no idea what that is or whether it is something or not. I think, though, [the question is] to what extent *can* Trump cut a deal that is bipartisan, right? When I want to go to bed at night feeling good about the snapshot, I say, okay, we know he has no ideological beliefs—none whatever—so that gives him a lot of degrees of freedom. And we know he wants to succeed desperately. The easy way for him to do that is to jettison the Tea Party and to jettison the Hastert [rule]—remember the Hastert rule? If we can't pass it exclusively with Republican votes we don't pass it. So you jettison the Hastert rule and you cut a bunch of deals with moderate Republicans and mainstream Democrats. That would be a strategy that I do believe he could pursue and succeed. But you saw with the health care bill that the health care bill that will be acceptable to moderate Republicans (and most Americans) is completely antithetical to anything that the Freedom Caucus will accept. So that's a nonstarter. That gets you to the null set really, really quickly. But I don't know the extent….There is this other tail risk for him. I don't know anything about it, but that other tail risk is the Russia connection, and if there are smoking Howitzers, then maybe you don't want the Republican Party mad at you in an environment where someone might have the right to say, "You know, for the good of the country, we've got to really investigate this."

Q: Remembering [John Kenneth] Galbraith's *The Great Crash, 1929*, one section was just talking about how the worst imaginable situation had happened—and then it got worse. Looking at your view of [how] people think tomorrow will be like yesterday, there was an earlier presentation that mentioned what happens if the stock market drops 30 percent. The consensus economics response would be, well, there wasn't much impact on the way up in terms of the wealth effect, and there may not be much impact on the way down in terms of the wealth effect. But if you have something like a 30 percent decline, that didn't happen like a flash crash. It happened over a very long period of time, over a year.

RB: A couple things in that regard: we could all cancel our insurance policies right now. Let's all cancel our insurance policies and start buying—I'm a red wine drinker—start buying a red wine that's two standard deviations better than the one you have been buying. [*Laughter*] Now, for most of us, that will turn out to have been a clever thing to do—not for all of us, but for most of us…. But if you think about the gutting of all the reregulation of Wall Street, you are eliminating, again, some attempt at insurance policies or protection, but that's unlikely to be costly in the next three, six, 12, 24 months. In fact, I would submit that we did have sort of a once-in-a-generational "Oh my god!" If I look at corporations' cash on the balance sheet, if I look at short-term-to-long-term-debt ratios, if I look at household balance sheets, if I look at their debt-service-to-income, all of this stuff looks better than it's looked any time—it doesn't look as well as it did five years ago, but pre-2006, it hasn't looked this good in my career. So I don't see—in the US—I don't see the financial architecture for that kind of big Minsky moment.

Q: What about China?

RB: China is a really interesting case. China ... is set up for a wild Minsky moment, except you can't have a Minsky moment in China. You can't have a Minsky moment. What's the Minsky moment? The Minsky moment is, "Oh my god, the banks are bankrupt, but we pretend that we're capitalists, so we can't bail them out!" They don't pretend they're capitalists. So there is no public sector restraint on just rolling in and pushing in the dough—which, of course, is a moral hazard that's so crazy that you could get to 300 percent of GDP debt-to-income, which is where they are. So I find that the standard approach, the standard Minsky framework, is hard to apply. I think one of our brethren, Michael Pettis, who has been writing really brilliant stuff about China over the last 15 years, would say look, one way or the other, you've got to have a radical slowdown in GDP growth as you reapportion things from the investment and export side to consumption.

Q: On stock market regulation, do you think the American economy would ever tax the stock market for operations?

RB: You mean a transaction tax?

Q: Yes…

RB: Yeah, you know, I've got a hunch that the 12 people from Goldman Sachs who are now running that part of the Trump administration aren't looking keenly at that. [*Laughter*] It's just a hunch.

Q: What's your take on modern currency, like Bitcoins?

RB: Ah… the Bitcoin. I don't like 'em. They don't have sovereigns behind them; I don't think it makes a lot of sense. In fact, when you think about Italy, which I visit a lot and that's my heritage, John Claude Truchet gave several speeches in 2011 in which he said, "You know, we're not the Federal Reserve, and I am not the lender of last resort." And Italy's borrowing costs went from 4 percent to 8 [percent]. And at 8 percent, Italy was bankrupt—bankrupt. I mean, if you did the math, if they had to borrow at 8 percent with nominal GDP growing at 3 [percent], they were bankrupt. And then we got rid of "Wrong Way" Truchet and we brought in "Super Mario" Draghi, and the first thing he said is, "Hey, I'm the lender of last resort." Italy today borrows at 1 percent. Gee, now why are they at 1 percent? Now, at 1 percent they're solvent! At 1 percent they're solvent, at 8 percent they're not. Now, that's not a Bitcoin; that's a central bank that says, "I am attached to the sovereign and make sure that nominally they can service their debts." And if anybody didn't miss the fact that I end-ran that question, I want to remind you that I did.

Q: Can a country be run like a business, and if so, can the president run the country like a CEO?

RB: Gee, I think we have some data on that now. [*Laughter*] Having worked in the Senate and having worked on Wall Street, [I can say that] a CEO looks at you and says "Shut up or you're fired" all the time. You can't do that when you are running the country. There's no "Shut up or you're fired." You can do it to your staffers, but they don't matter. You have to negotiate. You are in a completely different sociological situation, and I don't think that the skill sets are easily transferable—especially if you were a bad businessman. [*Laughter*]

Q: We have pension funds and, I hear, sovereign wealth funds that have a lot more in obligations than they have in assets, and yet we're relatively high in the stock market now and relatively long in the economy. Bond yields are still relatively […] It's a good environment, and yet they still have big deficits. So don't they have to either cut benefits or raise contributions, and isn't that a drag [on the economy]? And how much of a drag will it be?

RB: I think—and I am not trying to end-run this time—I think with a lot of these things, you can come back to the elemental aspects of the demographics, of the fact that we didn't notice it was pretty nifty when there were 10 of us working and five of them retiring and, boy, does it look ratty when there are 10 of us retiring and five of them working…. The joke I used to tell my father, who was beginning to drive me crazy late in his life and he lived in Florida, I said, "You know, if Florida got a tsunami like they got in Japan, Social Security and Medicare would be cured." [*Laughter*] A last question?

Q: In the business cycle, in terms of amplitude, you're not getting much on the upside. The downside, when you look at it—and I am thinking more in terms of the Fed and their bullets and all that, and now they are going to wipe out the balance sheet excess and we'll be left with less bullets.

RB: Yes, it is interesting. Again, this is completely seat-of-the-pants and I apologize, but it always struck me that the excesses are less about level—NAIRU drove me crazy, okay?—and less even about growth rates. They are more about second derivatives, right? You know, a burst of enthusiasm, a burst of optimism, a year and a half of GDP growth at 4.5 [percent], and you could really start to make imbecilic decisions. So it is odd, because we have been growing very slowly, but consistently. If you said to me eight years ago, "All right, you are going to find yourself with the unemployment rate at 4.5 [percent] and employment growing at what seems to be faster than anybody's measure of the growth rate in the labor force—what do you think in terms of cyclical excesses?" I would have said pretty damn high, but we crawled our way here and so it doesn't look like it. It doesn't look like it. If you go back and you say, you know, what was the postelection trade? What was that? I mean, other than wildly embarrassing Paul Krugman, what was that trade? That trade was, my god, they are going to jam their foot on the gas pedal. We're going to have a big tax cut, we're going to have big infrastructure spending, we're going to have big defense spending, because the Republicans are in charge of the House, the Senate, and the White House and they all are going to get to spend a lot of money. So that made sense to me. Not that it was the right thing….

Q: I am not sure the bond market bought that….

RB: The bond yields from the day of the election, or two days before the election, to the peak went from 1.78 to 2.64. That's a nice little move. And the whole reversal of that trade is, my god, it doesn't look like these guys are going to get anything done. And I did say "guys" and I did say that correctly. [*Laughter*]

THOMAS M. HOENIG

Vice Chairman, Federal Deposit Insurance Corporation

Keynote on Proposed Reforms of Banking System Structure

Delighted to be here and to address this group. I will tell you that I have been in this building before. In fact, I'm going to date myself because I was here when Hyman was here. I gave remarks in this building in 1992 and it was on a topic not dissimilar to this. Afterwards, Hyman came up to me and said, "Well, you had part of it right, and part of it wrong." And I said, "Well, that's the story of my life, so thank you"—which is probably the case today as well, as I talk about the banking industry structure and so forth.

I have made a proposal—it's been out now since March 13th. I have copies of it. I am not going to give that proposal again to you, but I am going to try and give background to why I thought we should have that proposal for discussion in the emerging—I guess I'll call it "areas of research"—that go forward from here, with the banking structure of the United States that's become so important…. In this country, for most of our history up until literally the late '90s, the American banking industry was comprised of numerous firms with a range of specialties and sizes, but all with a similar business model of intermediation from deposits into loans or something close to loans.

During that period, I think the industry was very competitive, obviously, with assets nearly evenly distributed among three groups: the money-center banks, the regional banks, and what we refer to as the community banks—about a third, a third, and a third. It was a very robust system. It had its issues. More recently, though, the forces of change have dramatically transformed that structure—I think we all recognize that. Now the largest banks are disproportionately larger and their activities, in many instances, differ from their smaller counterparts. In broad terms, I would say that the banking industry and how it meets the needs of businesses and individuals has really been reshaped and is constantly changing forward.

So what I want to do this morning is outline my observations of the forces in play, discuss what they imply for the industry, and speculate—and I will admit right up front, it's *speculate*—on what this might mean for the future of the industry in the United States.

Let me start, very quickly, with the forces of change, and I am going to name four. One is obvious: technology in financial engineering. That's changed so much of how banking is done in terms of gathering the funding metadata, or *mega*data—systems that have commoditized credit are really a force that has encouraged scale as we go forward, and I think that has had an important effect. The second factor is legislation, and I will name two pieces, before I talk about Dodd–Frank, that I think helped shape the industry as it moved into the 21st century, and that's the Riegle–Neal Interstate Banking [and Branching Efficiency Act of 1994], which opened up the boundaries across the United States that therefore allowed for consolidation at a credibly rapid pace across the country, because you got rid of those barriers across borders, statewide and nationwide; and the other, of course, was Graham–Leach–Bliley [the Financial Services Modernization Act of 1999], which also opened up the markets, allowed the commercial banks to engage in investment broker-dealer activities within the safety net, and this changed the dynamics between the commercial banking industry and the investment banking industry pretty dramatically.

Around that, another force was the nature of ownership of the structure of some parts of the corporation, of financial corporations (primarily investment banks) that were partnerships that then became corporate in form and, of course, then began to merge with the commercial banking industry, which also changed the culture generally within the financial [sector], particularly within the commercial banking industry, because you took that trading mentality and you brought it into commercial banking, and the dynamics did change, I think, the industry, in important ways and in how they looked at risk and accepted risk.

The final but I think in some ways more immediate and dramatic force was the financial crisis itself. I think its effects *and* the government's response to that altered the industry structure and direction in ways that I think have dramatically changed and will continue to change the industry in the future. In coping with the crisis, for example, we saw consolidation. In coping with the crisis we [saw] JPMorgan Chase acquire Bear Sterns and Washington Mutual and bulk up. We saw Bank of America acquire IndyMac and Merrill Lynch. We saw a change in the investment banks that did remain independent—Goldman and Morgan Stanley. They became bank holding companies so they could get access to the safety net, which changed the dynamics of those firms as well, as we see today.

This significant consolidation has occurred in the rest of the industry as well, at the same time. So it wasn't just there, it was elsewhere. There were over 500 bank failures that were taken into receivership and resold by the FDIC into other companies, and there were almost 1,600 private mergers of banks between 2009 and 2014. So even at the middle and lower areas, the consolidation movement only accelerated in response, in part, to that crisis and these other forces that I talked about.

So what might the postcrisis industry and its implications look like? Certainly the landscape, as I have said, of banking in America has been altered. How much? Well, let's just give it some perspective. In 1992, the four largest US banks held roughly 14 percent of total assets, while the remainder of the industry had the 86 percent. Now the four largest have over 40 percent and the remainder of the industry has less than 60 [percent]. That's just the four largest. If you take the 20 largest, that number becomes quite dramatically greater—almost double, in terms of the share. So we've had, I think, a fairly clear indication of the consolidation. And I might add that those four largest [banks] now have $7 trillion in assets, which is almost 40 percent of US GDP. Now you see why they are systemic almost by definition, given their size and the obvious impact they would have on the economy should they get into trouble again.

When I bring that up and I talk about concentration, some argue, very quickly, that these figures show less concentration here than most places in the world, and that I should relax because of that. My answer is, the rest of the world is not the United States. If you look at our history, I think it's been very dynamic, and in the United States we've had a distrust of concentrated power that dates back to our beginning and in many ways has served us well. This wariness extends not just to income inequality—which we talk about often—but concentration of financial power and the attendant political power that flows to a select few who influence the rules of the game. Clearly, that is one of the outcomes that we worry about here and, frankly, I think others are worried about elsewhere in the world.

This has also produced a significant transfer of income from the real economy—the real sector—to the financial sector in the United States. Following the Great Depression, the financial sector's share of US corporate profits rose very gradually to about 20 percent, reaching a high of 23 percent in 1999. It's been around 20 percent for most of that period. Since the end of the '90s, 1999, this share has risen to 30 percent in the first five years of the 21st century. Today, it still represents 28 percent of… the profits among the various sectors. This has been referred to—and I think perhaps appropriately—as the financialization of our economy, and there is a view that that will continue.

During this period of increasing financialization, the average annual pace of real GDP growth declined in each of the last three economic recoveries: from 4.3 percent during the '80s to just over 2 percent more recently. Now, I'll be the first to admit that many factors influence economic growth—monetary policy, fiscal policy—but it's also interesting, and I think important, to raise the question of this increasing financial role within the economy and still receiving less growth, especially in a recovery. It may be referred to as the "less for more" equation. I think that's what has to be at least thought about and investigated going forward.

So, how do we think about this? These are the events, and now there's another element to this. Postcrisis, in our concern for the SIFIs (significantly important financial institutions) and the too-big-to-fail problem, we introduced a regulatory path as a solution—not a structural but a regulatory path as a solution. Since the financial crisis in 2008 and the enactment of Dodd–Frank, most of the regulators' time, and much of the industry's attention, has been focused on implementing new rules designed to control the risk profile of the largest institutions and end too-big-to-fail. Importantly, the path chosen relies principally on what I describe as a "regulatory solution" rather than a "structural solution."

There has been some structural [reform]—I can't forget that—and that is the Volcker rule, which is objected to pretty strenuously by the industry, and it has been implemented. It does limit proprietary trading and related activities. However, more generally, there has been little appetite in the United States for structural reform—either breaking up these firms or separating their activities within the same corporate structures. It's been very, very reluctant to even look into that. Instead, we in the United States have followed a path in which greater regulatory oversight, such as defined standards for allocating capital and liquidity within these institutions (we define those standards) and new regulatory tools such as living wills [and] orderly liquidation, have been chosen to address too-big-to-fail. These are all administrative, regulatory solutions to this problem. Dodd–Frank reflects, then, a loss of confidence in markets—given the crisis it's understandable—and therefore places greater weight on a regulatory solution (which also didn't do so well prior to the crisis), but ceding increased authority to individual regulators to shape the industry's activity and performance.

When all this then is said, how might this path look going forward? What about the SIFIs? The US banking system, I think, even with the structure of regulation that we have today, will continue to lead global banking for years to come. It dominates. It is part of the major economy: it's going to dominate. The largest eight banks control more than half of all industry assets now; it is difficult to see any significant change in their size or composition in the short or medium term. There's just no momentum for that, either up or down. For these most influential institutions, I think the subsidy has been institutionalized—that is, the too-big-to-fail subsidy and the safety net around that—and there will be powerful incentives for management to retain those benefits. They are powerful benefits. However, these benefits come with a cost to them, [which] they have accepted, of significant regulatory oversight and control. And I think this will have a new dynamic in our banking system going forward.

Regulators, for their part—in an attempt to control the perceived outside risk these systemically important financial institutions pose—are promoting a one-size-fits-all solution to simplify the resolution process should it be necessary. So we're trying to simplify things so that we can manage them, right? We can observe this trend, for example, in regulators' insistence on debt being a central feature of total loss-absorbing capacity, or TLAC, regardless of the bank's business model. So you will have this TLAC so you can downstream this—it's standard now. Similarly, living wills increasingly reflect regulators' preference for a single-point-of-entry strategy in resolution plans. It's not required, but it's certainly encouraged.

Finally, the global regulatory community (us) insists on preweighting assets for purposes of measuring risk and anticipating problems, and the allocation of capital and liquidity. Now this approach to safety and soundness likely will also lead to less innovation among firms (which some people may like), fewer choices for customers (which they may not like so well), and more concentrated payments and settlements system, which we're seeing take place right now. And these developments represent potential threats, I think, to the financial system, as they undermine its strength and dampen long-term economic growth that comes from innovation, from increased productivity that's funded by that industry.

Following from this path that's been chosen for the largest banks and its influence is the development of shadow banking itself: a loosely defined group of financial firms that seek opportunities outside the financial safety net and regulatory mechanism. These firms are often financed through the banking system itself, or institutional investors, and in my opinion they generally benefit the economy. However, like any exception, some will become systemic in nature—we see some of that today—and be the source, perhaps, of the next financial shock and I don't think we can control that. But such an event cannot be easily anticipated in its effects; therefore I think it will depend on how it occurs, and the impact it has will depend on the broader banking industry and how well it's prepared to absorb the shock that comes from that. They will remain the key, and how well prepared they are will define the outcome.

In summary, reliance on the regulatory path in pursuit of safe banking continues a long trend within the United States. It strives to internalize some of the costs of the safety net protections and provide a means for an orderly resolution should any of these largest banks fail. The result will be an industry dramatically influenced by the regulatory system itself over the market system—by the comprehensive capital analysis review (CCAR), for example. It will be influenced by the liquidity coverage ratio (LCR), it will be influenced by the net stable funding ratio (NFR)—all defined by us regulators—and a common form of resolution and recovery, focused on containing risk and cost to the safety net. That's the goal: simplify our job. These are worthy goals. I mean, we want safety and soundness, but it is also important to examine the emerging challenges this path presents and to identify new vulnerabilities that may follow from it. The most dominant firms in the industry might become ever more homogenized, with less product innovation to serve the bank customers. And yes, political and regulatory influence will matter more than ever in achieving their industry's financial goals. It becomes a focal point. All you have to do is look at the growth in the lobbying industry and you get a sense of that.

So if what I described above is correct, then we have also raised the stakes for the regional and community banks as engines of economic growth in the United States. These institutions, already critical to job growth through the lending to small- and midsize firms, will see increased opportunities for lending and increased pressure to merge and expand their scale and footprint as they seek success in this environment. Considering regional and superregional banks, they will continue to diversify their portfolio of services to better meet customer support demands and compete at the edges—at the edges only—of the SIFIs' business domain. For activities such as lending to intermediate and increasingly large firms and providing trust services and asset management activities to businesses and consumers, they will work to prosper. But the regionals cannot compete successfully with the largest banks at the highest levels. Barriers to entry remain strong. The regional banks will be drawn to consolidate; just how quickly and to what degree is less certain. The market and regulatory barriers to entry into the realm of the largest and most powerful of the banking firms are substantial and are increasing. It is also unlikely that even the largest regional firms will gain a sufficient share of the payment system to be able to provide the broad investment banking services sufficient to challenge the SIFIs to any significant degree.

As for the smaller community banks, they operate now in much the same way as in the past, although they have narrowed their business model to focus more on real estate and small business lending—usually secured by real estate, by the way. Using this model, they have fared relatively well in the postcrisis period despite the effects of zero interest rates and narrow margins. On a merger-adjusted basis, given there were 1,600 mergers, community bank loans have grown by more than 8 percent annually in each of the last three years. In 2016, community bank loans grew by almost three times faster than the overall US economy, and considerably faster than loans held by noncommunity banks (that is, the larger firms). These community banks will most likely build on this model. It's successful, so they will build on it, focusing on growth (both in the number and size of loans under management). This narrower model provides a good source of income. It does pose concentration risk—that management of them will have to be dealt with or that the FDIC will have to deal with it later. And that would not be pleasant.

Finally, as with the very largest banks, regulatory oversight has taken on a greater role in defining how regional and community banks will operate in the future. Thus their success will depend, to a significant degree, on how regulators perform this expanding role—on how they choose to perform this expanding role. The one phrase going around Washington these days is "Personnel is policy," and I think this will be a test. Given the higher stakes for maintaining growth and providing resiliency through future business cycles, this expanded regulatory framework will most certainly influence success for banking in the decades to come.

Let me conclude with the point that Jan started with. I will emphasize that the balance in the forces of change has shifted, with greater reliance on an administrated regulatory system and less on market forces. As this process has unfolded, there has been too little discussion among industry participants and policymakers about the role of structure on industry performance, on innovation, and on long-term economic growth. Issues regarding bank and financial concentration, the further financialization of our economy, and the amalgamation of our investment banking industry deserve our attention, especially now, in good times, when we can focus on it without panic.

There simply has been too little discussion about long-run effects on the banking industry and the real economy of the regulatory path chosen after the financial crisis. We need to take a step back. We need to take a breath and take a look. To be sure, there has been some renewed discussion of structural reforms, such as the return to Glass–Steagall. I am not sure where that will go, but there are other alternatives, including greater separation of activities within the holding company, which I have recently suggested. Either in combination with structural changes or by itself, we should also consider better balancing the advantages the largest firms receive from the safety net and the increasing need that they hold capital to absorb those shocks that are inevitably going to occur. Under the right organizational model, we might finally be able to legitimately reduce regulation, turn back the market with greater confidence, and promote higher levels of sustainable economic growth.

I actually released the proposal some time ago. I don't know if you have seen it; we have copies of it here. Basically, it's not a new idea. It reinvigorates—enriches, I like to say—the bank holding company model where you separate out traditional commercial banking with the safety net from the more, shall we say, adventurous investment trading companies—put them separate. It involves tracking shares, which you see in commercial firms today when they have their old company and their more risky new endeavors. It allows, then, for the risk to be identified and the market to price it, the safety to be identified and the market to price it, and yet have a common ownership so that you can in fact, shall we say, take advantage of the synergies of commercial banking and investment banking. I think this needs consideration today for the future, or we then make a conscious decision to continue down a very heavily regulated path.

I am going to end with those comments. We have, I think, time for questions.

Q&A

Q: I haven't thought about the distinction you made—the structural versus the regulatory response we gave during the crisis, and the Volcker rule being the structural one. You are perfectly right, and that has probably garnered the biggest opposition among the industry. But there was another structural one (if I am correct in my classification) that never saw the light of day: the Lincoln amendment—the swap pushout rule. That, in a similar fashion to what you are proposing, was going to at least push out the derivatives holdings…, away from the depositing institutions—still under the same roof, but in a different subsidiary—and that was eliminated before it could come into effect, by the Republicans, which had control of Congress. So why do you think the same party that's still in charge of Congress, and now the president from the same party, will actually go for something that? I know they have talked about a 21st-century Glass–Steagall, but judging by what they did with the Lincoln amendment, why do you see that there is positive hope for now supporting something like this?

TH: Very fair question. I think, first of all, that was done through the reconciliation process, which… I really don't understand except for the fact that it allows individuals to get stuff in at the last minute and not have it debated. Had that been debated, I am not sure the Democrats or the Republicans in the majority… would have gone with that. But you were up against a budget, and so you went forward. That's blaming whom I am not ready to blame in that, number one. Number two, I think it was a mistake, because even more than the Volcker rule it did not keep the firm, the holding company ownership, from engaging in those activities. What it required is that they push it into the broker-dealer [category] as a separate affiliate. Why didn't they want to do that? Because it raised the cost—because you were outside the safety net, which is the whole issue with structure…. And that's why I say there are powerful forces to not separate. Otherwise…, and I am speculating as I said, but if you were to separate those out or to take the safety net and really narrow it down, then the case for separating out more activities builds, as I think you will capture value as you separately identify these institutions—as has happened in other breakups. That's why you do them, and not necessarily force them all the way out like Glass–Steagall but get them away from the safety net, and with real—real—separation, not a make-believe separation.

So you have to limit what the parent holding company can downstream so it doesn't move bankruptcy up to the top and down to the other bank, or vice versa. And you have to have enough capital in the industry…. The whole living wills process is about idiosyncratic failure: one failure. If you have five, you've got a crisis and you are going to bail them out—you have no choice. So what I am saying is, you have got to separate these to where you can have a bankruptcy without it bringing all of that firm down. Or if that firm goes down, you have enough capital in the industry to absorb the shock—which we don't. If you look at the real capital in the industry—of the largest [banks], that is—it's 6 percent tangible capital, or loss-absorbing capacity. The regionals have more than 8 percent; community [banks], closer to 10 percent. And yet they are not systematically important. So what you had in 2010 between the provisions and the actual losses, you had 6 percent that the industry had to absorb. That's its capital now. How much confidence can you have in absorbing the shock?

So you need more, you need to isolate, and then you… give more freedom to the market to innovate and make mistakes and to hopefully have success. But right now, we estimate that if 10 percent were the number, which it was before, you have the safety net. It was a low end, all right, for the largest: 10 percent tangible, loss-absorbing capital. If that were today, they would have to raise about $500 billion as an industry, but that would absorb the loss. Now, if that's not the case, and if we don't require that of them, then that's the taxpayer's equity at risk. And would you like to know what the taxpayer's return on that is? Don't ask.

So that's my point. Let's move it out, let's let the market have more, let's make the investor come up and absorb and take on the risk that they are getting the return for. And you think about it: if you're at $7 trillion, you're at 30–40 percent of GDP, so to get your ROE up, it's going to take a heck of a lot of business development, right? Or, lever: you get that nice boost. I think that's where the incentive comes from, and that's why we need to bring it up. And, you know, from where I was in saying bring Glass–Steagall back to let's make sure we have a holding company that has true separation, I think you gain a lot.

Q: In terms of that separation, there are extremes. If it was totally separate, that would mean that it was like I own stock in the holding company, and really, my stock was divided into two totally separate entities.

TH: That's right.

Q: In which case there was no reason for those two entities to be joined in the first place. At the other end, they are using common platforms, common structures…. If they are using those common structures, how can you build an effective barrier from crossing over from one to the other? As soon as something starts to go wrong on the one side of it, it's the common platform that they are using that's going to be used to support the other. So how do you get that real separation?

TH: Our proposal is that you will. You have business lines—as we all know they do—and you break those out and you put tracking shares in. So now the investor makes a choice…. They basically own the tracking share—it's still a holding company…. Let's say that the customer is with the bank. You have Super 23A restrictions [under the Volcker rule]—the bank cannot lend nor sponsor nor engage. So that's the restriction. But let's say that the customer needs some kind of global support. Let's assume that the customer needs some kind of capital market support. They can go over to their affiliate, and there's real value in [being] able to do that—that that customer and the investors win, depending on how their portfolio is adjusted and you have those synergies.

So yes, it does take some of the benefit. It does take away the benefit of low funding costs available through the safety net, most certainly. It does, however, leave the ability to have a business model that one can support the other, and legitimately. Tying arrangements and all of those issues aside, then you build real value, and I think you release a lot of value, because right now the market can't price that stuff. It's all intertwined, and you are counting on maybe the subsidy on the commercial bank actually being shared, then, with the capital markets side of the business. You don't know that. Put them in separate, have them priced—the market knows it. Let's say this high-risk entity gets too far out—the market price of that. The bank over here, they see that…. It has its own sense of discipline.

There are others…. Should they have the same backroom office? Probably, in a very limited way. But they still have some of the synergies that they otherwise [would not]…. I mean, it's not free. But I want to tell you, the cost of the crisis, despite the fact that they like to talk about having gotten their money back with a nice return (that we underwrote) doesn't strike me as appealing. Because the economy took a huge hit that it's still trying to come back from. And I do worry about the fact that these are very large, they are more cumbersome, they are taking a larger share of income, but our economy is still growing [at] 2 percent. And we see these things. These are issues that are intertwined with others, but they shouldn't just be ignored because they are intertwined with others is my point. So… yes.

Q: I have two questions. I will allow you to duck at least one of them.

TH: I've got to write it down. If I get more than one, I can't remember the second one. [*Laughter*]

Q: What I found most interesting about one of the throwaway comments you just made was, the regulatory regime, or if you want to put it [another way], the regulatory approach, seems to be focused on the failure of individual institutions rather than a systemic crisis, right?

TH: Right.

Q: And there are people, like my good friend and your former colleague, Tim Geithner, who say that's been a big mistake, because we pretend, in some sense, that it's all about one big institution failing and not a systemic crisis.

TH: Right.

Q: You referred to that, and I think that you were implicitly criticizing the structure […]. Let me put a more political question to you. One of the other regulatory approaches has been FSOC [the Financial Stability Oversight Council]. Maybe you could share a few words on how you think that has worked and is likely, if I may put it, not to work in the period ahead.

TH: I'll take the first question. I'll probably pass on the second question. But on the first question, I think Tim Geithner is right. If you allow the industry to run with too little capital, you will have a systemic event every time you have an individual failure. I agree with that. The question is, should you allow the industry to operate with too little capital? The answer to that is no. The market, if you do not have the safety net, would insist that you have almost twice as much capital—easily twice as much capital. You would insist. And then you could have that failure. I mean, Drexel [Burnham Lambert], a broker-dealer, had, I think, more influence than Bear Stearns in its own right. *Fail.* Anyone care? Anyone remember it? It was a bit hectic, right? It was hectic. But did the world come to an end? Did we bail out 19 banks at once or whatever the number is? No.

So we have to, number one, get the capital numbers right…. I just cannot, in my own mind, accept that we demand a regional bank or a community bank to have 8 to 10 percent capital. …They might all go bust at the same time, perhaps, but they are not (in the sense of an individual failure) going to bring an entire system down. But these largest do. And they keep telling me, "Tom, you're going to hurt economic growth." Well, capital is *not* a reserve. Capital is a source of funds that you lend and you get a return on, number one. Number two, study after study now is coming out showing that it does not impede growth, and the cost benefit is clearly to have more capital, and yet we assert that it will hurt growth and therefore we can't do it. I think we should.

That's where I think the regulators—and remember now, we have a lot at stake, so these firms are going to argue strongly, and I don't blame them—if I were in their shoes, I might, although I think, given the history, banks with better capital tend to have nice returns and good premiums, by the way, but I understand. And I think we need to understand that better and more broadly and bring those capital numbers up. As far as FSOC goes, it does provide a forum for meeting and discussing issues, and it does provide a forum for putting pressure where there seem to be weak spots. I think in that sense it is not a regulatory agency in and of itself, and I don't know that it should be, frankly. I mean, I am not sure duplicating one is necessarily beneficial—it is duplicating the FDIC and the FSOC in terms of decision making, which I don't think necessarily is useful. But I do think it's good to have, at the highest levels, a common forum for discussion….

Q: I was interested to hear what your position is on cross-shareholding between investment firms and just industrialized firms as a regulating factor. Specifically, I know it pertains to the Japanese miracle post World War II—they followed a zaibatsu system that had that banking element the same way that Germany post World War II, and modern-day Korea, too, to a certain extent, did. So if you could comment on that.

TH: I am happy to. You know, sometimes I think I'm a throwback or something, but I see nothing but trouble with commercial firms having ownership of commercial banks—nothing but trouble, especially with the safety net in place…. I am not a fan. I'm on the record: I am not a fan of industrial loan companies being owned by—name a company, and there're plenty of 'em, with deposit insurance. So think of it as a firm. You have a major firm—it has a commercial bank, it has some customers. Now, they are going to swear they have a Chinese wall. I mean, on their mother's grave, they will swear they have a Chinese wall—until that sale has to be made and they need some financing. Then you get conflicts.

I think one of the beauties of the United States' success has been that separation, where you make an objective credit decision or capital markets decision for a commercial firm and we prosper. When you start getting conflicts and… you make the oligarchy even stronger, then I think you pay a dear price…. And when you have insured deposits, low-cost funds. I mean, believe me, if you have deposit insurance, your funding is lower cost than if you don't…. Now, what about the competitive effect? So you have three firms: one has a commercial bank deposit… and you have them lending, and the other two don't. Who wins? So the other two have to get into the business. Who wins? And over time, when the crisis comes, who loses?

You know, Adam Smith—all we talk about is his invisible hand but he had much more to say than that. He was not in favor of mixing banking and commerce, in my reading of it. He has this wonderful quote, "The goal of business is to broaden the market and narrow the competition." Broaden the market, okay; narrow the competition, we all pay for it. And that's what I think we should also be mindful of.

Q: Harold Hastings from Simon's Rock. I may be reading too much into your remarks just from saying them at the same time, but you spoke about an increasing share of earnings going to the financial sector and a decreasing growth rate in recoveries.

TH: Yes: decreasing growth rate.

HH: Decreasing growth rate. And do you think this is more than a coincidence or a correlation, or am I just reading too much into this?

TH: Well, I didn't raise the question just to be raising it. I don't know the answer, but I think it should be looked into. Look, it'll be a tough question, because growth is affected by so many things. But it is, you know, bothersome that there are the winners and then you have this kind of stale growth model going forward more broadly. Now, is that due to tax policy? Is that due to monetary policy? Is that due to a change in the culture? I don't know. But I would like to see some research on it. I don't think we should just assume it has no relationship, either. So that's where I am coming from. I am encouraging this wonderful research institution to research….

Q: After the financial crisis, great advances were achieved with Dodd–Frank in both capitalization and liquidity ratios for financial institutions, but there was also a great advancement in terms of the orderly liquidation system being established, so that the government could take over these failing companies and make their liquidation more timely and efficient—which obviously we would have wished would have happened with Lehman Brothers. But now there is an ongoing debate within the Republican Party to get rid of this aspect of Dodd–Frank, and I wonder if the capitalization—the liquidity—ratios that were implemented have made the financial system resilient enough to be able to successfully survive without this orderly liquidation system being in place.

TH: Here are my views on that. I'm pretty convinced that, given the capital levels of the industry today, you would have a difficult time without having a systemic crisis should any one of these largest fail. I think, however, if we deal with that, if we get the capital numbers up to where they can absorb this shock of one failure or, god forbid, two, then you can—with the proposal I have separating them out—you can have a bankruptcy. It won't be orderly, because bankruptcies seldom are, but you will have a systematic process in the sense of how you go through bankruptcy, how you file with the courts, how the creditors are treated and access and so forth. And it has a greater discipline on the market itself. So that would be the goal. However, unless you have that goal, then I think you are going to have Title II whether you want it or not, so you might as well have it where it's systematic…. I would be very supportive of getting rid of Title II if I had confidence that you could go through a bankruptcy. But I am not confident on that.

Look, at these institutions… the numbers I gave are basically the gap numbers, the general accounting numbers on terms of the percent of GDP—$7 trillion and so forth. But if you take the derivatives book of these, trillions of dollars in notional value—fair value in one institution, another trillion on their balance sheet under international accounting. That means that $7 trillion is probably low. So you are going to have this industry that needs more capital, so you are going to have a systemic [crisis] immediately—it's going to overwhelm the economy. You've got to step in. . . . As strong as I am on wanting to have them go through bankruptcy, as strong as I am on wanting them to separate, if I were the secretary of the Treasury I'd bail 'em out. Do you really want to be known as the secretary of the Treasury that sank the world economy? [*Laughter*]…I don't have that kind of guts—and no one else does either.

[What about Andrew Mellon during the Depression?]

Yes, and his reputation is… it never ends, does it? He's known as "Let Them Eat Cake" Mellon.

Q: Just following up on your proposal to have a tracking stock and creating different subs at the bank holding level. Given that banking is global, how would your proposal be harmonized around the world given the capital flows where the returns are highest?

TH: Well, that's a very fair question. I think if you do separate them out and they have to manage, they are going to manage differently. I think that in bankruptcy, you will have effects. You know, I think one of the great issues ahead… look, I am telling you, I think we want to cooperate on a global basis. Basel was very important. The FSB [Financial Stability Board] is very important. However, if you really go in and you see the differences among the countries, it's not one size fits all. It is very different. So I think it begs the question, going forward, of whether you will have subsidiarization on a global basis; whether the US firms, once they set up their separate affiliate—and some do it now, in the UK, in wherever it is in Europe—and it's going to require more capital. It's called "pre–ring fencing," for lack of another description.

Go ahead, follow up.

Q: The other thing I have observed about banking is that given that they have giant teams of lawyers and accounts, they are pretty awesome at regulatory arbitrage.

TH: Sure.

Q: So how do you get around that? Is it more complexity or is it just to simplify things that they are so transparent?

TH: If you are saying given the regulatory path they are going to win. If you say, given the regulatory path we're on now and they are going to win, I'd probably say yes. But if you do separate it out, yes, they're going to work on arbitrage, but if the market is pricing it, at least you have some greater transparency—you have a chance of success. But I want to tell you that, … look, it's unavoidable. It's not good or bad, it's just what it is today with the regulatory [regime]. The living will process—the amount of wealth being created around that is enormous, right? How I deal with it, how I arbitrage it, how I make sure… I mean, the regulatory process is very labor intensive. And the market process… look, I'm not saying it's great. I'm not saying it won't make mistakes. But it does correct with a harshness. And if you have a structure that can absorb the harshness, then it learns. That's why capitalism is so successful over the decades, over the centuries. It's not because it's somehow foolproof. It makes terrible mistakes, but it corrects [them], and therefore you get more and better outcomes. That's my argument. Now, only time will tell, but when I see the growth rate of the economy going down—demographics taken into account—then I do think we ought to think about a different proposal….

Thank you.

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The Federal Reserve Balance Sheet and Monetary Policy

Good afternoon. I would like to thank the Levy Economics Institute of Bard College for inviting me to share my perspectives today. At the outset, let me note as I always do that the views I express today are my own, not necessarily those of my colleagues at the Federal Reserve's Board of Governors or on the Federal Open Market Committee (the FOMC).

Introduction and Overview

The economy has continued to improve—and with the labor market achieving measures associated with full employment, and inflation now fluctuating around[1] the Federal Reserve's percent inflation target, some observers of the macroeconomy and monetary policy have turned their attention to a policy tool actively deployed in the United States during the financial crisis: the Federal Reserve's balance sheet.

As short-term interest rates approached zero in 2008, it became difficult for monetary policy to further stimulate the economy through short-term rates alone. Policymakers were largely constrained from further reductions by the zero boundary. However, by purchasing long-term Treasury securities and agency mortgage-backed securities—and thereby increasing the size of the Fed's balance sheet—long-term rates could be reduced. Lower rates provided additional needed stimulus, encouraging firms and individuals to incur more long-term funding and spur economic activity that was desperately needed in the Great Recession and the long, slow recovery that followed.

While asset purchases were deployed during a period of extraordinary economic distress, now that the gradual normalization of monetary policy is underway it is a good time to reevaluate the costs and benefits of a large balance sheet. I would note that the FOMC has published a statement on its policy normalization principles and plans.[2]

Many observers suggest that central banks' use of their balance sheets should be limited solely as a response to the type of severe economic conditions that occurred during the financial crisis and in its aftermath. Others suggest—as I will today—that structural changes in the macroeconomy may necessitate more frequent use of large-scale asset purchases during recessions.

This latter view hinges on the argument that the combination of low inflation, low rates of productivity growth, and slow population growth may imply an economy where normal or equilibrium short-term interest rates remain relatively low by historical standards, even once the economy has fully normalized. This notion of lower equilibrium rates has in fact been reflected by the policymakers participating in the Federal Reserve's Summary of Economic Projections (SEP). The median forecast of Fed policymakers in March was that in the longer run, the federal funds rate was likely to be only 3 percent, down more than a percentage point from assessments by Fed policymakers from a few years ago.

Low equilibrium rates would have noteworthy implications in a downturn. Consider the fact that during most of the previous economic downturns, the Federal Reserve reduced interest rates by substantially more than 300 basis points. So a 3 percent federal funds rate would imply a high probability that short-term interest rates would have to be lowered again to zero in response to future recessions. As a result, the central bank may need to again deploy its balance sheet to augment traditional policy, spur economic activity, and achieve its mandates from Congress associated with employment and price stability.

One important implication, then, is that the exit from a large balance sheet may not prove to be a one-time event. So if done appropriately, the exit from the current large balance sheet can serve as an important "playbook" for future recovery periods should it prove necessary.

In contrast to balance sheet use of this sort, central banks have significant historical experience with moving short-term interest rates to achieve macroeconomic objectives. As a consequence, it makes sense to continue to use short-term interest rates as the primary tool for monetary policy. If central bank balance sheet activity is to be a secondary tool, then the exit from a large balance sheet should be conducted in ways that maintain the primacy of using short-term interest rates to either slow down or stimulate the economy.

To preview my argument a bit, while the FOMC is still carefully considering its balance sheet exit strategy, in my own view an ideal policy would take a very gradual approach to balance sheet reduction. In my view that process could begin relatively soon and should not significantly alter the FOMC's continuing gradual normalization of short-term interest rates. That is, by initially retiring only a small percentage of maturing securities, and then very gradually shrinking the volume of the securities being reinvested, the tightening of short-term interest rates should not need to be much different than it would be in the absence of shrinking the balance sheet.

Today, I will cover a bit of background and analysis on the use of the balance sheet as a monetary policy tool. I will then discuss why I believe balance sheet activity will likely continue to be deployed as a monetary policy tool in recessions, as long as short-term interest rates normalize at relatively low levels. Low inflation and low growth in both the working-age population and in productivity seem likely for many developed economies in the future, so balance sheet expansions—and exits—are likely to become more standard monetary policy tools around the world.

Background on Balance Sheet Activity

By way of background, Figure 1 shows the overnight policy rates for the United States, Europe, and Japan. During the financial crisis, the Federal Reserve reduced short-term interest rates rapidly in the US, as the economy slowed during the recession. Interest rates were pushed eventually to zero as the financial problems associated with the Lehman failure led the central bank to deploy a large increase in reserves to counteract significant disruptions in short-term financial markets, bringing short-term rates to the effective lower bound. The European Central Bank (ECB) kept short-term rates somewhat higher for longer, but eventually also pushed their refinancing rate to zero. And the Bank of Japan, which had set rates very low even prior to the Great Recession, has maintained their call rate close to zero or slightly negative.

The United States has been the first country to begin the process of exiting from extraordinary monetary accommodation, raising short-term interest rates as a first step in the normalization process. The Federal Reserve made an initial increase in short-term interest rates in December 2015, followed by additional 25 basis point increases in December 2016 and in March 2017. In contrast, both Europe and Japan have yet to reach the point of raising their historically low short-term interest rates.

Figure 2 highlights the use of central bank balance sheet expansion in the United States, Europe, and Japan. As you can see, all three central banks significantly increased their balance sheets, as they all found lowering short-term interest rates insufficient to rekindle economic growth and slow disinflation. The Federal Reserve's balance sheet first began to increase as the financial crisis spread to a severe macroeconomic crisis. By indexing the changes in the three balance sheets to their levels in 2000, the figure shows that the balance sheet expansion in the US was much more aggressive than the other central banks' in the fall of 2008. However, when viewed relative to GDP, Figure 3 shows that Japan especially needed to do more, relative to the size of its economy.

Importantly, perhaps because it was more aggressive with monetary easing initially, the United States has recovered more quickly. The Fed's balance sheet expansion stopped in 2014. In contrast, both Japan and Europe have not yet stopped expanding their balance sheets.

Figure 4 shows 10-year government bond yields in the United States, France, Germany, and Japan since 2000. Long-term rates have fallen, for a variety of reasons. One factor was that the balance sheets of central banks expanded—with purchases of longer-term Treasury securities and agency mortgage-backed securities in the US, and with purchases of a wider set of assets in Europe and Japan. In the US, rates on 10-year Treasury securities have generally remained above 2 percent once the Federal Reserve stopped expanding its balance sheet, while 10-year rates continued to fall in Japan, Germany and France, as Europe and Japan continued to purchase assets.

The Balance Sheet as a Monetary Policy Tool

As I noted in my introduction, some observers consider balance sheet use as an extraordinary tool, deployed as an emergency response to the severity of the financial crisis. However, other observers suggest that if low, short-term interest rates are likely a feature of the economy even when monetary policy is normalized, it is possible that expanding the balance sheets of central banks will become a tool more commonly utilized during recessions.

Figure 5 shows how the participants at FOMC meetings have viewed the likely longer-run value of the federal funds rate. On a quarterly basis, FOMC participants are asked to forecast a variety of economic variables, including the federal funds rate they expect in the longer run. As the figure shows, policymakers' median view of the longer-run federal funds rate as recently as 2012 was that it was expected to be over 4 percent. However, that view has evolved significantly, with the median view in March of this year being for a federal funds rate of only 3 percent in the longer run.

The shaded band on the figure represents the central tendency, which provides the range of views of the participants omitting the top three and bottom three estimates. It is notable that in the March projections, while the median was 3 percent, many participants viewed the federal funds rate as likely to be below 3 percent in the longer run. Assuming that the Federal Reserve is successful in achieving 2 percent inflation in the longer run, a nominal rate of 3 percent implies a *real* federal funds rate of only 1 percent.

Figure 6 provides some perspective on a longer-run federal funds rate of 3 percent. During recessions, it is not unusual for the federal funds rate target to be cut by more than three percentage points; in fact, in many recessions, the federal funds rate target was reduced by more than *five* percentage points. However, going into most recessions the federal funds rate was higher than 5 percent, and as a result, despite the sharp declines the rate did not approach zero.

Figure 7 provides similar information in tabular form. It emphasizes that other than during the 1960 recession, all of the decreases in nominal federal funds rates have exceeded three percentage points. On average, from the peak to the trough of interest rates, the declines average roughly *seven* percentage points.

Figure 8 shows the real federal funds rate, which is simply calculated by subtracting the core PCE inflation rate from the nominal federal funds effective rate. While there are periods of negative real federal funds rates—particularly after severe recessions—the most recent period has featured negative real federal funds rates for an extended period of time. If the SEP median forecast is correct about the possibility of a real federal funds rate of only 1 percent in the long run, it will be much more common for short-term real interest rates to become negative during recessions, when the Federal Reserve normally reacts by lowering short-term nominal interest rates.

Figure 9 provides similar information as Figure 7, but in tabular form. Parenthetically, it is worth noting that one reason the real rate could become so negative in the 1974 recession is because the inflation rate was so high. During much of the recent recovery, with the nominal interest rate lodged close to zero, the real rate was determined by the value of the inflation rate. But notably, a real short-term rate close to negative 2 percent was not sufficient to generate a rapid recovery.

The clear implication of very low short-term interest rates is that there will be a limited buffer for monetary policy to respond to economic slowdowns. I believe that *real* short-term federal funds rates are likely to be negative more frequently, and the *nominal* federal funds rate is likely to reach zero more frequently. And if policy rates do remain as low as currently expected, it is likely to be more common for central banks to engage in asset purchases to stimulate the economy by reducing longer-term rates.

Reasons for Low Prevailing Rates

Several economic factors have contributed to the widespread expectation of lower short-term rates prevailing in the foreseeable future. The inflation rate, shown in Figure 10, has followed a very different pattern since the mid-1990s. For much of the 1970s and 1980s, the inflation rate was above 3 percent. However, since the mid-1990s, inflation has generally fluctuated in a band much closer to 2 percent. And for much of the period since the Great Recession, the inflation rate has been below the Federal Reserve's 2 percent target. While this low and stable inflation rate has been beneficial in many respects, it has also provided less room for interest rates to fall before hitting zero. Thus, there may be a trade-off with a low inflation target that policymakers may be willing to make, depending on their willingness to manipulate the balance sheet.

Two other factors that lead to lower equilibrium rates involve an important link between the economy's potential growth rate and real interest rates. Anything that lowers the potential rate of growth in the economy will both lower the incentive to invest (as real returns to investing will fall on average with lower potential growth) and increase the incentive to save (as lower future returns on savings imply a greater need to save today). Lower investment demand and higher savings both engender lower real rates of interest, so a fall in the potential growth rate will generally lead to a fall in equilibrium real interest rates.

Several other recent features have contributed to a lower rate of potential growth in the economy. One such feature is a reduction in productivity growth, highlighted in Figure 11. While quarter-to-quarter fluctuations in productivity are quite volatile, the smoothed productivity growth over the last several years has been noticeably lower than that experienced over much of the previous 50 years. Lower productivity growth implies lower real interest rates, and again, this would suggest less of an interest-rate buffer during economic downturns.

Another factor impacting potential growth is the change in demographics in the United States. The robust birth rates, immigration rates, and movement of women into the labor force contributed to significant increases in the US labor force—trends which have become much more muted of late, as shown in Figure 12. Slower growth in the labor force lowers the potential growth rate of the economy and, through the channels I just articulated, implies a lower real interest rate.[3] And, given the strong downward trend shown in the figure, slower labor force growth is expected to continue.

These factors are not unique to the United States. Many developed countries are experiencing low inflation rates and demographic trends that have resulted in lower short-term interest rates. This implies that tools other than movements in short-term interest rates, such as balance sheet tools, are likely to be a more common and necessary feature of monetary policy in combating future recessions in many economies around the world.

Concluding Observations

While the extensive use of central bank balance sheets has been a distinguishing feature of the most recent downturn and slow recovery, I see it as quite likely that this tool will be necessary in future economic downturns. Unless productivity growth and demographic trends change, or monetary policymakers set a higher inflation target, the feasible reductions in short-term rates to combat recessions will not be sufficient. Thus, monetary policymakers are likely to need to use balance sheet tools.

If monetary policy is to rely primarily on short-term interest rates to normalize policy, as seems prudent given the historical experience, in my view the Federal Reserve should adopt balance sheet exit strategies that reinforce the primacy of interest rate policy. Starting to shrink the balance sheet earlier—and doing so in a very gradual fashion—implies very little reduction in the degree of monetary stimulus coming from the US central bank's balance sheet. This, in turn, will allow policymakers to focus on gradual increases in the federal funds rate target as the primary mechanism for normalizing monetary policy and calibrating the economy.

Thank you.

Notes

1. Measured by the core Personal Consumption Expenditures Price Index, or PCE, inflation is at 1.8 percent, but measured by total PCE, inflation is just over 2 percent; specifically, 2.1 percent.
2. See federalreserve.gov/newsevents/press/monetary/20140917c.htm.
3. With a slower growth in the labor force, capital becomes relatively less scarce and therefore the return on capital decreases. Also, with an aging population, there is an extra need of savings for retirement, which creates an additional pressure on accumulating savings and capital, which in turn reduces the return on capital.

Q&A

Q: Very nice presentation…, but you really didn't answer one question, which is, why shrink the balance sheet at all? So I would like to hear what you have to say on that. And the other question is, can you imagine circumstances in which you actually would want to sell because you want to actually… tilt upward the yield curve in some sense. In the conundrum period, one might have thought it would have been useful to be able to put upward pressure on long-term interest rates.

ER: Yes, you could make an argument for using a balance sheet in a more aggressive manner. The risk with that is, I think we have so little experience with it. Say you were in a situation for financial stability reasons that you wanted to raise the long end of the curve, and you chose to do it by signaling that you are going to sell assets. You don't know how much you are going to sell. The market doesn't know how much you're going to sell. I don't know how much the market is going to react to that. The market could very easily steepen the yield curve much more than I am anticipating. So some of the logic in this talk is that because there is so much uncertainty about the balance sheet I'd much rather be manipulating things with the federal funds rate and leaving the balance sheet more in background. It's something we're going to need during recessions, but during recoveries it's not something that I would necessarily want to use as an active tool. Now, there may be circumstances where inflation is taking off, you are worried about asset prices taking off, and the Fed may make a different calculation at that time. That's not the situation we're in right now, so I think in the current circumstances it's completely appropriate.

In terms of shrinking the balance sheet, I think that there are some advantages to operating closer to a more normalized balance sheet. Some of those are political, that, clearly, it's been quite unpopular to have a balance sheet as we've had. You do worry about spillovers to other countries as well. And arguably, we don't need to force the long end to be unusually low. There's no reason why we shouldn't have a more normalized yield curve when we're basically at our unemployment mandate and we're basically at our inflation mandate. So ideally, we don't have to manipulate the yield curve, and I think as we get to where we are supposed to be that it is appropriate that we exit to the extent that we're able to from the balance sheet that we have.

So that would be the reason why I would actually start the roll-off now, and since I think that a roll-off is necessary, starting sooner allows me to be quite gradual. It will have the effect of slowly increasing the yield curve, but it will be slow enough that it shouldn't affect my ability to use the short-term rate to be the main way that I am hitting my inflation and unemployment rate goals.

Q: You mentioned how the US and the Federal Reserve have a fairly low inflation target—2 percent—and that… it may be an option for other countries to increase their inflation target in order to seem more accommodative with their real rate. Do you think that anytime in the future the Fed would use this as another unconventional tool in order to become more accommodative, or do you think that it would have larger negative impacts on the credibility of the Fed?

ER: Right now in the Federal Reserve and other central banks the target is 2 percent. There are some academics that have argued it should be other than 2 percent. I am just highlighting that there is a trade-off between picking a 2 percent inflation target and whether you are likely to hit the zero lower bound. So if you told me that under no circumstances do I want you to do an asset purchase in the future, then I probably shouldn't pick 2 percent, because otherwise it means I am turning off monetary policy pretty frequently, and then I have to rely on fiscal policy. Between a higher balance sheet [and] relying on fiscal policy, my personal preference would be a higher balance sheet.

So I think that we have to think about that trade-off…. The Bank of Canada does consider their inflation target every five years and ask whether it's appropriate. One of the things we should be discussing on a regular basis is how comfortable are we manipulating the balance sheet. The less comfortable we are, then you have to start saying, what are the pros and cons of having a higher inflation rate? It's a much bigger talk to talk about the pros and cons of changing the inflation target, but I think it's something that should be actively debated….

Q: I'm going to ask you the same question as I was going to ask Peter [Praet] from the ECB. I was going to ask about quantitative easing and about expanding the balance sheet, and if that means buying large amount of assets in the markets. What does that really mean? What are the risks of making asset bubbles? Can you say a little bit about what it really means? How does it really affect the market when a big actor goes in and buys a huge amount of assets in the market like that? What are the implications?

ER: One of the implications and one of the concerns is exactly the one that you highlighted: the potential financial stability. When you buy assets, if it's an interest-bearing asset, you are pushing the interest rate down lower than it would be in the absence of your purchases. And that's exactly what your policy is intended to do. So our intention was to make it easier to buy cars and houses. In order to do that, you have to lower the interest rates. Now, it is possible to buy too many cars and houses. It is possible to have too much commercial real estate. That is the potential downside of using the balance sheet much more aggressively.

I think asset bubbles and financial stability concerns are… this is a fairly untried tool. It's a tool that we've used during this crisis. It wasn't just the US; it was Europe and it was Japan. But I think that we have to see, and part of that is how effective we are at getting back to a normal balance sheet over time. So some of that concern would be when is it appropriate to start exiting that balance sheet and are you able to exit early enough that you don't allow some of those bubbles to become a serious problem. If you start waiting too long and you're keeping rates artificially low for assets that finance houses or finance commercial real estate, then you do potentially have a problem. That's why the exit strategy is just as important as the entry. So the entry was critically important. It was critically important because otherwise we turned off monetary policy once the short-term rate hit zero. I don't think that's good policy. But the true success is that we were able to get out of that policy as well, which is why I'd rather start relatively soon, but do it gradually enough that I don't think it's a big problem.

Q: Just one quick question: How strong is the connection between the expansion of the balance sheet and the exchange rate? I mean, that leads to a higher devaluation and then trying to export more. In terms of exportation, do you have something to say about that?

ER: Both short-term rates and long-term rates are connected to the exchange rate in meaningful ways, so I think that is a good question. That is something that we think about…. When we're doing an economic forecast, we're not only thinking about what we're doing in terms of the short-term rate and quantitative easing, [but] we are [also] thinking about what we expect the effect to be on the exchange rate. And certainly one of the mechanisms that quantitative easing works is not just that we lower the rate, which encourages you to buy houses and cars; it's also that it has an impact on the exchange rate. So actually, right now Japan and Europe are benefiting from the fact that we're raising rates earlier, and potentially both short- and long-term rates, so that they don't have to have quite as simulative a policy because we're exporting less but they are exporting more. So to the extent that we're exiting a little bit earlier, it actually is advantageous for our trading partners—that is, the exchange rate mechanism is working in their favor in this case…. You can't look at interest rates without thinking about exchange rates as well, so it does have an impact….

Q: There's stress about the need for a cushion, but how do we know that a quarter-point cut these days, with low inflation, low-trend growth, would have more of an outsized impact than it would have prior to the crisis and therefore we won't need this cushion of 300 or 400 basis points?

ER: We actually know that lowering the short-term rates in this last recession wasn't enough. We hit zero, the unemployment rate was high, and the inflation rate was low. So in order to get to our objective we had to do something differently, where you had to be willing to do like Japan and just sit there for a long period of time. Japan's an example of what happens when you decide to let interest rates get to zero and you sit there. You can sit there for a long time. They have sat there for more than two decades. I think that it's much more sensible to think about how you aggressively achieve your targets. I think the fact that we were aggressive on the balance sheet, that we were aggressive on short-term rates, is one reason why we're talking about exiting both the short-term rates and the balance sheet now.

Q: Hyman Minsky used to talk about reconstituting finance, the financial system in the US, in order to foster the capital development of the economy. In terms of the government and those Federal Reserve functions of supervising the financial system and reconstituting that, what do you think about Minsky's proposal?

ER: Bank supervision is probably not the topic of my talk; it was more the topic of Tom Hoenig's talk. But I actually think that you can't conduct good monetary policy without good supervisory and regulatory policy as well. So certainly one of the reasons that we hit the zero lower bound, it wasn't just a random shock; it was a shock that decimated our financial system. If we had been in a situation where our financial system was much more resilient, then we would not have needed to do the extraordinary measures that we actually did. So to the earlier question, this was partly a reflection of how severe the financial crisis was. But I'd go back to my federal funds chart that shows how frequently we decrease interest rates by far more than 300 basis points. Basically, other than the very first one in the early 1960s, every single recession, we have lowered rates by more than 300 basis points.

So we do have to think about supervisory policy. I was a bank supervisor as well as a macroeconomist. I think they are integrally related. It's why I think it's so important that central banks actually have responsibilities for bank supervision. So I do think we have to think about both what's happening to our banking system but also the shadow banking system—those are very important to thinking about how our monetary policy should be conducted, and to the earlier question, it gets to the financial stability issues. So I think those are very important issues to be considering. Those are separate from the macroeconomic tools of thinking about the balance sheet and thinking about the federal funds rate….

Q: Tom has said that he wants low interest rates in order to avoid the overvaluation of the dollar, in order to avoid losing competitiveness. How is the Fed going to manage the inflation target with the wishes of the […] in order to increase competitiveness?

ER: The inflation target is something that has been picked by our central bank and other central banks prior to the most recent period—certainly prior to this election. So we're setting an inflation target where we think it's not going to have a big effect on economic decisions overall. There are some benefits of having a low inflation rate, and certainly having a stable inflation rate there are a lot of benefits to. In that chart [Figure 10], not only were we closer to 2 percent but [also] the volatility around 2 percent was less. So I think [there are] big benefits to having a low, stable inflation rate. The only point I am trying to make in this talk is that there are trade-offs. If you don't have much of a buffer, there are some good aspects to a low inflation rate, but there is a consequence when you have a recession and have to use the balance sheet—that is the trade-off that I was focusing [on] in this talk. One last question?

Q: Your first chart, which showed Europe, the US, and Japan, was sort of stuck here with little blips and then continues, and you said that's the biggest fear, the problem—you don't want to be there. But to me, in all the charts you showed afterward and in the discussion we are having, it looks like we might be in what Japan was 30 years ago, because it's taken us about nine years to start slowing moving up, and if we have a recession—say, next year—we might come down immediately. So we might look like Japan because they had the little blip too: they tried to go up and they came down again, so they really couldn't go up. So we might be, 30 years later, looking at the same chart and we might be very much Japan. You're not worried about that?

ER: I worry about everything. [*Laughter*] But I would say that if you look at most economic forecasts right now, they expect that the growth rate is going to be a little north of 2 percent over the course of this year. So GDP for the first quarter looks like it's going to be half of what we were expecting. But most people are expecting a bounce back in the second quarter, reflecting more consumption, and then the third and fourth quarters being a little bit above 2 percent. If you think potential in the United States is 1.75 percent, that's actually enough to continue to tighten labor markets and put upward pressure on inflation.

So why are we pulling back on accommodation, both with our balance sheet and with short-term rates? It's because we're reasonably confident that we're at a place where there's a sustainable recovery. That isn't to say that we couldn't have a shock, as the whole panel right before me was talking about one of the possible shocks—that you could have something happen in Europe that could be a problem. You could have something happen in the South China Sea that could be a problem. There are a lot of geopolitical issues that clearly could be a problem for the US economy. So we can't prevent negative shocks from buffeting our economy. We can't expect, though, that negative shocks are necessarily going to occur. If they are really high probability, then we should be factoring that in, but most forecasters are actually expecting [that] we're going to continue to have the unemployment rate drift down. A lot of the economic forecasts are for the unemployment rate to drift down to the low fours. That's much lower than we've had historically without getting some inflation pressures.

So I think there is… the risk that you highlight, which is that we have a bad negative shock and then we're back to the zero lower bound. There's also the shock of waiting too long and allowing the economy to get away from us. We have to balance both of those, and that balancing act changes over time depending on what's happening in the world and in financial markets. I think we have the balance about right. I actually think that it is appropriate to continue to [raise] the short-term federal funds rate. I think that the economy is strong enough to sustain that right now, even though I would say that the recent data's been a little softer than I was expecting. But I am expecting it to pick up and [for] that to continue over the course of this year.

Same thing with the balance sheet: you don't exit your balance sheet if you think you are about to go into a recession. But that's not my expectation. My expectation is, the US economy will continue to recover. I have no idea what fiscal policy will be, but I don't think people are expecting that it will be contractionary; they are expecting it will be expansionary. If that's true, that provides further stimulus to the economy.

I'll end there…. Thank you very much.

Sessions

SESSION 1

US Growth and Employment Outlook

Michalis Nikiforos, Michael E. Feroli, Lakshman Achuthan, and Michael S. Derby

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ACHUTHAN placed the idea of returning the US economy to the dominance it enjoyed in the middle of the 20th century (of "Making America Great Again") in context by zooming out to discuss three time frames: the last two millennia, and in particular the last two centuries; the 21st century; and the near-term cyclical outlook for the next two quarters.

With the use of Angus Maddison's data, Achuthan presented the contributions to world GDP by different regions of the globe over the last two thousand years. For the vast majority (90 percent) of this period, China and India dominated the world economy, accounting for at least half of global GDP. Asia as a whole produced almost three-quarters of all global output at the beginning of this period. Two centuries ago, there were huge shifts with the rise of the West, which came to dominate the global economy by the middle of the 20th century. Achuthan emphasized how brief the period of Western dominance was from this broader historical perspective, and how the reversal of Western economic dominance has been as rapid as its rise.

Turning to focus on the last two centuries, Achuthan noted that the Industrial Revolution in the West, along with colonial exploitation, led to a plunge in India and China's shares of world GDP. From 1820 to 1950, Asia's share of GDP (excluding the Middle East) fell from almost 60 percent to 16 percent. By the end of World War II, the United

States and Western Europe combined to account for 57 percent of global GDP—with the US share alone over a third of global GDP. Since that high point, however (that is, from 1950 to 2016), the US share of GDP has shrunk by half, Achuthan pointed out. He stressed that from 2000 on, the pace of US and Western European decline accelerated—just since the start of this century, the United States has lost more than one-fifth of its share of global GDP.

In the last few years, Achuthan noted, annual global GDP growth (excluding the United States) averaged 3.7 percent, while US growth has averaged roughly 2 percent—meaning that the US economy would need to almost double its pace of growth on a sustained basis to begin increasing its share of global GDP again. He then examined how likely such a scenario would be.

The United States, along with many other major economies, has been experiencing a "structural downshift" in trend growth, according to Achuthan. The Congressional Budget Office (CBO) projects US potential labor force growth to average 0.5 percent per year for the next six years. Given the demographics, this is very unlikely to change—if anything, he observed, the restrictiveness of current immigration policy is such that even this 0.5 percent per year is not guaranteed. US productivity growth over the last six years has also averaged 0.5 percent per year; this is, he pointed out, well below its 2.25 percent average for the postwar period (through 2008). Achuthan argued that productivity growth over the next several years is unlikely to rise much above its average for the last six years. Adding up these projections for labor force potential and productivity, he continued, we can expect longer-term real GDP growth to average 1 percent per year; moreover, reduced legal immigration and the deportation of undocumented immigrants would significantly diminish this potential GDP growth (if net immigration drops to zero, that would mean 0.7 percent potential GDP growth).

Turning from structural to cyclical issues, Achuthan stated that cyclical indicators look the promising, noting that leading indices for growth and inflation for the G-7 countries, including the United States, are at multiyear highs. So while the near-term cyclical prospects for US growth look good, Achuthan concluded, there are longer-term structural concerns that will limit US growth potential, likely to around 1 percent per year.

FEROLI estimated that 2017 would see US GDP growth average 2 percent and suggested we ought to expect two more interest rate target hikes from the Federal Reserve for the rest of the year. Somewhat more optimistically than Achuthan's evaluation, Feroli saw trend or supply-side potential GDP growth at 1.4 percent. Although growth in this recovery has been slow, it has been steady and has brought the labor market back to full employment, according to Feroli.

Consumption has continued to strengthen, he commented, and there is evidence that the household deleveraging process has stopped. The household net-worth-to-income ratio has started to climb, due to growth in stock and real estate prices. Feroli pointed out, however, that the current recovery has not exhibited the same wealth effect as the previous two asset price bubbles (the dot-com bubble and the housing bubble): this round, consumers have been more cautious in response to the rise in stock prices, with saving rates remaining relatively stable. Part of the difference, he suggested, is that the rise in wealth has not been accompanied by a rise in expectations of higher future labor incomes. Nevertheless, he observed, there has been a slight rise in expectations of income gains over the last two years—perhaps evidence of tightening labor markets—and so Feroli predicted that households would begin to spend more freely in 2017Q2. On tax policy, Feroli suggested that if legislation does pass, there would be little impact on consumption—as the tax cuts would likely overwhelmingly benefit those at the top of the income distribution, who have lower marginal propensities to consume.

On housing, Feroli noted construction is still below precrisis levels and that we should expect to see only modest gains in housing starts due to lower rates of household formation. The latter trend is partly a function of the rising share of Americans ages 25–34 who are living in their parents' households—which may be due more to a cultural shift than a weak economy, he suggested.

Capital spending was disappointing in both 2015 and 2016, largely due to the downturn in energy prices. Over the past few years, he noted, much of the downturn in capital spending has been accounted for by products that tend to be most closely associated with the oil and gas industry; nevertheless, we ought to see a slight rebound in the near term, as much of the damage from falling energy prices is behind us.

The global economic picture, he added, has started to improve: in contrast with the last few years, the domestic outlook is not being darkened by negative overseas growth prospects. There is, however, a potential danger in terms of future US trade policy, Feroli cautioned, with the worst outcome being large-scale, across-the-board tariffs.

Turning to the supply-side outlook, Feroli commented that both labor productivity and labor supply are on a slower growth trend. Aligning himself with Robert Gordon's theories, Feroli argued that productivity growth has been weak in part due to a slowdown in technological advancement. While investment in non-IT (information technology) equipment as a share of GDP has not been particularly weak compared to the last few business cycles, investment in IT equipment has been falling lower and lower, he pointed out. This is not consistent with an "animal spirits"–type story, he argued, since it would not make sense for animal spirits to so disproportionately affect one type of investment in this way. The problem, according to Feroli, is that the user cost of tech equipment (such as computer prices) has not declined as fast as it did in the past (in the late 1990s, for instance).

On labor markets, Feroli argued that the elevated number of individuals working part time for economic reasons is partly a function of the Affordable Care Act's 30-hour cutoff for healthcare eligibility (leading employers to push employees into part-time schedules). And despite the drag from weak productivity growth, wage growth numbers are consistent with a tightening labor market, he stated.

NIKIFOROS presented the results from the Levy Institute's latest Strategic Analysis for the US economy ("The Trump Effect: Is this Time Different?," April 2017). He observed that the last three recoveries have been the weakest of the postwar period in terms of real GDP growth, and the current recovery has been the weakest of all.

In line with previous Strategic Analyses, Nikiforos identified three main structural problems with the US economy that are holding back the recovery: high income inequality, weak demand for net exports, and fiscal conservatism (tight budgets). With a combination of weak net exports and restrictive fiscal policy, economic growth becomes dependent on rising private borrowing, and in particular an increase in the debt-to-income ratio of the household sector. Due to rising income inequality, this rise in the debt-to-income ratio falls unevenly on the households at the bottom of the income distribution, he pointed out. These structural problems explain why the recovery has been slow, according to Nikiforos, with households deleveraging and unwilling to increase their indebtedness since the crisis.

Inequality has played a major role in the weak recovery of consumption, Nikiforos argued, as income has been redistributed from households with a high propensity to consume (at the bottom of the distribution) to those with a low propensity to consume (at the top). Investment has stagnated, and the current recovery is the only one in which the growth of real government expenditure has been negative. Exports have been flat since early 2014, but the trade deficit has not increased much, he noted, because imports have not grown either.

Nikiforos explained how the Strategic Analyses' baseline forecasts are derived from the CBO's forecasts for GDP growth and the government's budget. The Analyses proceed by asking what would need to happen to the other two main sectors' (that is, the private sector and the external sector) financial balances for these growth and budget forecasts to materialize. The 2017 CBO growth forecast is unusually pessimistic compared to previous forecasts, he pointed out, projecting a growth rate around the postcrisis average for the US economy. The April 2017 Strategic Analysis baseline projects that the financial balance of the private sector will slowly decrease along its post-2013 trend and the current account deficit will likewise slowly decrease, reaching 4 percent by 2020; notably, the debt-to-GDP ratio of the household sector remains flat.

Nikiforos asked to what extent the new administration's proposals might address the US economy's aforementioned three structural problems. The administration's first budget proposal does not indicate any significant fiscal expansion: although defense spending increases, there are substantial cuts to other programs. And given that the latter programs tend to benefit middle- and lower-income households, this fiscal approach—which looks likely to also include highly regressive income tax cuts, Nikiforos pointed out—will worsen the problem of income inequality. The administration's infrastructure plan, which seems to involve tax cuts for corporations that engage in infrastructure investments, will not provide the same boost to aggregate demand as a plan involving direct government expenditure (since a large portion of the tax cuts will fund projects that would have gone forward anyway). Finally, the administration's promise of an aggressive new policy to reduce the trade deficit is problematic for two reasons, Nikiforos argued. First, it is unlikely that US trading partners will refrain from retaliating in reaction to, for instance, unilateral imposition of tariffs or border adjustment taxes. Second, given that modern trade takes place along integrated value chains, with a large portion of US imports from Mexico and China, for instance, made up of intermediate capital goods, the prospective impact of imposing restrictive trade policies is uncertain.

Finally, Nikiforos observed that financial markets are showing signs of a new asset bubble. The ratio of market capitalization to gross domestic income is now at a higher level than it reached in the late 1990s and 2007, and the current Shiller Price–Earnings ratio has been surpassed only by brief periods in 1929 and the late '90s. Nikiforos described the results of a scenario featured in the April 2017 Strategic Analysis in which the stock market falls in the second half of 2017 and the first half of 2018 (then stabilizes for the next two years) and the stock market decline induces a second round of deleveraging. In the simulation, this scenario has a significant impact on the GDP growth rate, which falls to -2 percent in 2019 and 2020.

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TRUMAN pointed to forecasts by David Stockton showing that global growth is projected to improve in 2017 and 2018. He noted that over recent years International Monetary Fund (IMF) forecasts have been overly optimistic, such that almost every forecast had to be downgraded the following quarter. However, starting in June 2016, the IMF projections were flat and stayed that way through January, and the most recent forecast, Truman observed, projected a slight uptick in growth.

Truman argued that a number of supply-side factors limit potential US GDP growth rates moving forward: women are no longer surging into the workforce, baby boomers are retiring, and productivity growth is slow. Raising the growth rate for a sustained period will require addressing the supply-side determinants of output—fiscal expansion and financial reforms will not be sufficient, he stated.

The Federal Reserve's tightening of monetary policy is underway, Truman noted, with both the 10-year Treasury and federal funds rates rising. The dip of the 10-year rate from November 2015 to the beginning of 2017 was not normal, according to Truman, and he pointed to a decade's worth of revisions in expectations about long-term interest rates. Since the "taper tantrum" in 2013, the Fed has been more careful with its communication, he said.

Turning to global conditions, Truman pointed out that there has been some convergence in terms of the improvement of unemployment rates around the world (although other advanced economies are behind the United States with respect to progress on unemployment, conditions are easing in those countries, he explained). Likewise, there has been some convergence with respect to inflation rates, as concerns about deflation have eased throughout the world.

US monetary policy normalization has begun, but we do not know what constitutes "normal," according to Truman: the definition, scope, and timing of monetary policy normalization are uncertain. He commented that low interest rates may be part of the new normal for some extended period of time, due to secular stagnation. Truman showed the Federal Open Market Committee's "dot-plot" for January 2012, in which the median long-term forecast for the federal funds rate was 4.25 percent, and compared it with the March dot-plot, in which the median forecast was 3 percent. If the new normal for the federal funds rate is 3 percent, it may take the Fed three years to get there, according to Truman. In the meantime, monetary policy will remain accommodative, and this means that the risk of overshooting both the Fed's inflation and unemployment targets is high, he said.

Truman predicted that, even after this process of normalization is completed, central banking will not have returned to the "old normal" in terms of its mandate. Central bank mandates have been expanded and activist monetary policy is not going way, he emphasized. Central banks will not be focused on inflation alone, as they have regained a role in promoting financial stability (appropriately, according to Truman).

Finally, Truman argued that the case for rapidly shrinking the Fed's balance sheet is weak. In the future, he said, the Fed might want to put pressure on longer-term rates by using its balance sheet to sell longer-term assets (reversing the interest rate process used in quantitative easing). Moreover, Truman added, the argument that we ought to be concerned about the inflationary consequences of an expanded central bank balance sheet has been discredited.

FULLWILER noted that, at least since the late 1980s, the Fed has been raising interest rates into a recession. Fullwiler described this as a series of attempts by the Fed to engineer a "soft landing"—to raise interest rates slightly to get back to some trend rate of potential real GDP growth, operating under a theory in which the economy will stay at that so-called "natural" trend rate in the absence of shocks (Fullwiler, echoing John Maynard Keynes, called this the "flat ocean theory"). However, what has happened in almost every instance, as Fullwiler pointed out, is that the Fed has had to immediately turn around and start cutting interest rates.

Hyman Minsky was not a flat ocean theorist, Fullwiler observed, citing Minsky's *John Maynard Keynes*: "Not only is stability an unattainable goal; whenever something approaching stability is achieved, destabilizing processes are set off." Fullwiler discussed Minsky's financial theory of investment and his concepts of "hedge," "speculative," and "Ponzi" finance: where a firm is hedge financing a project if its cash flows are expected to cover the project's debt; speculative if cash flows are covering the interest payments on the debt; and Ponzi if covering some of the interest payments requires refinancing. Minsky, Fullwiler explained, was concerned about manipulating the short-term interest rate through open market operations to affect the cost of short-term borrowing and the liability side of the bank balance sheet. Depending on where the state of the economy is in terms of the preponderance of hedge, speculative, or Ponzi finance, raising interest rates may push more firms into a more financially fragile state (and potentially a systemic crisis). Minsky, Fullwiler added, preferred the use of the discount window because the central bank would be better able to examine the quality of the underwriting being performed by financial institutions.

Fullwiler commented that, since 2008, the new literature on macroprudential regulation has dealt almost exclusively with the liquidity and capital side, but has neglected any discussion of the quality of bank lending. The point is not that banks should not have liquidity or capital buffers, but that, according to Minsky, this is not the best focus for regulation. Moreover, Fullwiler explained, raising liquidity and capital buffers affects banks' profitability, which then encourages financial innovation in an attempt to get around regulations.

Fullwiler noted that attempting to simulate the economy out of recession using monetary policy, through cutting interest rates or quantitative easing, involves attempting to get the private sector to spend more out of existing income, raising the ratio of private financial commitments to income. Stimulating with government deficits, by contrast, involves encouraging more spending while also raising incomes, which can allow the ratio of private financial commitments to income to decrease (or at least, to not increase). From a Minskyan perspective, Fullwiler emphasized, the distinction between using monetary policy or fiscal policy as tools for managing aggregate demand is significant, as the former drives the recovery with private debt while the latter drives the recovery with private income.

Thus, in a world in which fiscal policy has been ignored and private debt has built up over time, when monetary policy is used to slow down the economy as it heats up we would expect debt service to increase as interest rates are raised—thereby increasing financial fragility and eventually resulting in a crisis. Interest rates would then have to be cut, which means trying to get out of a recession by raising private sector debt (which, as he noted, just caused the crisis). Over time, continuing with this pattern would result in a fall in the average level of interest rates—and although this is only part of the story, according to Fullwiler, this Minskyan narrative helps explains what has happened over the last 30 years.

Little has changed in our policy approach since the global financial crisis, he concluded. Once the threat of recession faded, we went back to ignoring fiscal policy, and there has been too little discussion of private-sector financial positions, the threats to private financial balances due to rising interest rates, and the quality of underwriting.

While the fourth longest recovery since 1850 continues and the Fed declares victory on its dual mandate, why, **KELTON** asked, was President Trump elected if the US economy is supposedly doing so well? She noted that, alongside Trump, Senator Bernie Sanders had his own story about what was wrong with the US economy: his story centered on the growth of income and wealth inequality over the last few decades. Kelton highlighted Pavlina Tcherneva's graph showing the rising share of income growth captured by the top 10 percent and top 1 percent of the income distribution, and speculated that Trump may have been elected in part due to discontent over this rising inequality, despite what appeared to be an otherwise healthy economy.

Kelton discussed a report published by Larry Summers in 2014, in which Summers observed that, since 2009, most of the convergence between the economy's "actual" and "potential" output had been due to downward revisions in the latter. This is, Kelton commented, an indictment of the policies pursued over the course of the recovery. Despite widespread proclamations that we have reached full employment, Kelton pointed out that if we compare current real GDP to the old (2007) level of potential GDP (rather than the continuously updated, downwardly revised level), we see an output gap of 14 percent, or roughly $2 trillion.

Kelton noted that there have been questions about what the Federal Reserve will be capable of when the next recession hits. She pointed to Fed Chair Janet Yellen's assessment at the 2016 Jackson Hole meetings to the effect that, if interest rates have risen sufficiently above zero when the next recession arrives, the Fed can simply use conventional policy; if not, it can simply resort to unconventional policy again (quantitative easing, forward guidance, and zero interest rate policy).

The problem, she pointed out, is that, since former Fed Chair Paul Volcker's term, when the economy goes into recession and the Fed cuts interest rates, as the economy later recovers the Fed does not subsequently raise rates to their previous highs before the next recession hits (and it begins cutting again). This process leads to a long-term downward trend in interest rates, and less and less room to cut each recession. And although there has been discussion of additional monetary policy tools, such as nominal GDP targeting and negative interest rates, Kelton noted that some of the evidence from Japan's experience suggests that negative rates are not working—partly because people are spending less and saving more in response to negative rates, in an attempt to reach their nominal long-term savings (that is, retirement) target.

As for fiscal policy, Kelton noted that there is still too much uncertainty about what the administration will pursue in terms of tax and spending policy. However, there were initial indications, particularly on the campaign trail, that Donald Trump would not simply be pursuing the standard Republican agenda. Alongside the usual tax cuts and deregulation, there were commitments not to cut entitlement spending and some tough talk on trade. These heterodox elements initially led many to believe that Trump would pursue a huge fiscal stimulus. This generated pushback from some economists who claimed that such an agenda would risk an explosion of debt and a loss of market confidence, or that it would not succeed in boosting growth due to crowding out.

The Trump campaign's promises of growth rates in the 3.5 percent to 4 percent range were widely panned. However, as Kelton pointed out, it was only until quite recently (that is, in the last two recoveries) that reaching such growth rates during the recovery phase become uncommon. The key question facing economists today, she said, is whether supply-side factors limit the possibility of achieving these higher growth rates, or whether macroeconomic policy can increase productivity and labor force growth. Although she emphasized that she does not endorse the particular mix of policies that have come to be associated with "Trumponomics," Kelton commented that critics are underestimating the possibility that a combination of massive tax cuts (if properly targeted), deregulation, and an increase in spending (even defense spending) could appreciably raise growth rates beyond what has become the new normal over the last two recoveries.

WRAY discussed the results of a Levy Institute policy brief coauthored with Flavia Dantas ("Full Employment: Are We There Yet?," February 2017) that challenges the widening belief that the US economy is at or near full employment. Those who have adopted this belief point to the 14 million jobs created over the course of the recovery, an unemployment rate at or below what is traditionally considered to be the rate below which inflation begins to accelerate, an improved employment rate, and the Fed's resumption of the normalization of the federal funds rate. The belief that we have reached full employment is also supported by various theories about why the US economy is supply constrained, including explanations that feature aging demographics, overly generous social safety nets, dropping out the labor force to care for family members, changes in preferences for leisure, and other lifestyle choices.

Wray pointed out that there has been an asymmetric response by the unemployment and employment rates during the current recovery, with the unemployment rate improving more rapidly than the employment-to-population ratio (in the 1990s recovery, he observed, the two rates moved roughly in tandem). The policy brief tracked a measure that Wray and Dantas called "augmented unemployment," which begins with U-6 unemployment (includes the marginally attached and involuntary part-time workers) and adds 6 million people who say they want a job but have not looked in the past year—that is, a broader category of discouraged workers. What this augmented rate shows, Wray explained, is that reaching full employment would require the creation of 20 million more jobs for those who want to work (or who are employed part time but want full-time work); this would require the creation of an additional 420,000 jobs per month over President Trump's first term, he noted.

Turning to longer-term trends in the labor force participation rate (LFPR), Wray observed that the overall LFPR is at its lowest level since 1977. Although part of this decline has to do with the ageing of the population, he pointed out that the prime-age LFPR has also been trending downward since 2000 (for men and women), and that in fact the LFPR for the oldest age group (ages 55+) has actually been rising since the 1990s (though it leveled off at the time of the global financial crisis). If we decompose the causes of the decline in the LFPR from 2008 to 2016, Wray explained, the non-age-based contribution accounts for roughly 50 percent of this decline.

Wray also observed that the United States has the lowest prime-age LFPR of almost every nation in the Organisation for Economic Co-operation and Development (OECD), and from 1990 to 2015 it was one of the only OECD nations to see its prime-age LFPR fall.

He criticized a number of other supply-side explanations for this low LFPR. For instance, the share of those who are out the labor force who report not wanting a job has been falling, for those ages 16–24 as well as those of prime working age. To the argument that people are leaving the labor force to care for family members, Wray responded that the percent of families with both parents employed has risen (from 25 percent in the 1960s to 61 percent in 2016). To the argument that pursuit of extended schooling is to blame, he observed that those who are out of the labor force spend less time on education than those who are unemployed.

On the question of whether the labor market is tight, Wray pointed out that wage growth has been growing at 2 percent since the beginning of the recovery, and at 2.45 percent as recently as November 2016. This is not very rapid wage growth, he observed, particularly as wages have been growing much more slowly than productivity.

Wray emphasized demand-side explanations for the shortcomings in US labor markets. And while those who blame secular stagnation are on the right track, he said, the problem is not an excess of saving and deficiency of investment, but that wages have stagnated. Given stagnant wages, growth has been driven by private debt. Furthermore, rising inequality means the marginal propensity to consume is too small, and fiscal policy has been chronically tight.

The solution, according to Wray, is some form of Minsky's employer of last resort, in which paid employment, funded by the federal government, is offered to all who are ready and willing to work. Wray mentioned an upcoming Levy Institute report modeling the impact of an employer-of-last-resort proposal that would offer a standard wage of $15 per hour.

SESSION 3

European Monetary and Financial Outlook

Paolo Savona, Peter Praet, Jan Kregel, and Yalman Onaran

MODERATOR:
YALMAN ONARAN
Bloomberg News

PETER PRAET
European Central Bank

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JAN KREGEL
Levy Institute

Assessing the financial landscape, **PRAET** observed that the euro area remains a highly bank-intermediated environment. If we look at the state of balance sheets prior the crisis, he noted, most of the exposure on the asset side was to the domestic (national) economy, while a significant part of the liability side involved funding from other countries in the euro area. There was thus a mismatch in the funding compared to the assets, with assets being primarily local, while funding was more intra-European, via the interbanking market. After the crisis, he observed, there was no longer this mismatch between the asset and liability sides, in the sense that both became national. Is it a problem for monetary policy, Praet asked, to have a single monetary policy where the banking landscape is essentially defined by a collection of national banking systems? This arrangement is at least more stable, he asserted, compared to the precrisis period, noting the sudden stop in the interbanking market during the crisis as money flowed back to the current account surplus countries. On the other hand, he added, the lack of geographical diversification raises issues with private sector risk-sharing. In the event of a national or asymmetric shock, that nation's banking system will be in trouble—even if it has little exposure to government securities on its asset side—given its exposure to the national economy.

Although there has been some progress on the banking union, according to Praet, he identified a lingering asymmetry that is unsustainable. On the one hand, he said, there has been progress in setting up a single supervisory mechanism and to some extent a single rule book (that is, harmonization of national rules and regulations). However, while supervision has been mutualized, he said, the consequences of a failure in supervision (bailouts, for instance, in the event of a crisis) are national.

Turning to economic conditions in the eurozone, Praet stated that the recovery is gaining momentum. Although there might be some upside risk in the next two quarters—that is, some risk that growth will outperform its forecasts in the near term—in the longer term, risks are more balanced than they have been, but still tilted to the downside. Praet also pointed out a disconnect between the political environment and soft economic data: even with elevated levels of political uncertainty (exhibited in large protest votes and the rise of alternative parties), the confidence indicators are registering high levels of consumer and business confidence.

The recovery, he added, is broad-based, in terms of both countries and sectors. Moreover, Praet emphasized, this has been a domestic-demand-driven (rather than export-driven) recovery. Although wage growth has been moderate—perhaps "a little too moderate," Praet allowed—employment has overperformed the European Central Bank's (ECB) expectations. The saving rate has been stable, and has even fallen slightly since oil prices began to climb. Praet attributed some of the improved employment performance to structural labor market reforms in countries like Italy and Spain.

The key question for the ECB's Governing Council, according to Praet, is to what extent the improving economy is self-sustaining, and to what extent it depends on extremely accommodative monetary policy. Deflation concerns have passed, and while there are no significant inflationary pressures at present, he said, ECB projections show inflation rising close to 2 percent around 2019.

According to Praet, although there are still some remaining areas of concern (including pockets of legacy debt and elevated levels of nonperforming loans, he noted), there has been significant progress in repairing balance sheets, particularly for households and nonfinancial corporations. Finally, problems in the banking system that stem from issues of profitability are more a function of bad business models than negative interest rates, he argued. There was very little consolidation in the banking industry during the crisis, he observed, and although in the short term that is advantageous for monetary policymakers because the competition leads to easy financial conditions, in the longer term the problem of "overbanking" and business models needs to be addressed.

SAVONA discussed the evolution of the Italian banking system, and its most recent crisis under the euro system, from the perspective of Minsky's "two masters": that is, Minsky's view that a capitalist financial system needs to (1) provide a safe and secure payment mechanism, and (2) allocate credit for the capital development of the economy.

Noting his opposition to Italy's signing of the 1992 Maastricht Treaty, Savona commented that it is now evident that it was too early for Italy to enter the euro system. To meet the criteria for entry, Italy cut public investment, imposed a new tax, and used a significant portion of its official reserves to stabilize the lira exchange rate. The ultimate outcome of this decision to join the euro, Savona argued, is that neither of Minsky's two masters—neither stability nor capital development—is being served.

In the past, Italy used money creation, fiscal policy, and currency devaluation to address economic crises; under the euro, it no longer has access to these tools, nor is there anything similarly effective at the EU level, he noted, and Italy's lack of policy sovereignty was made all the more unbearable by the 2008 crisis. Although ECB monetary policy helped, the 2002 "fiscal compact" further reinforced the constraints on member-states' use of fiscal policy—so while monetary policy has improved since the crisis, fiscal policy is even worse. In Savona's view, the structural labor market reforms (and reforms to the welfare system) praised by Praet produce deflation in the short run, making economic recovery and public budget adjustments even more difficult.

At the beginning of the crisis, Italian banks insisted they were not involved in the financial innovations that were impacting other financial systems (that they did not "speak English," as Savona put it) and that they could absorb the shocks. The Italian government was also predicting that economic recovery was right around the corner, he pointed out. However, the stalling economy increased nonperforming loans and banks reacted procyclically by rationing credit. The Italian banking crisis, he emphasized, was not the direct result of the 2008 global financial crisis. Rather, its transmission to the real economy was due to policy mistakes—deflationary taxation and cuts in employment and salaries—and overly optimistic forecasts of economic recovery. This banking crisis was worsened by an EU directive—which should not have been ratified by the Italian parliament, according to Savona—that prohibited public intervention to save the banks (after such interventions had already been made in other member-countries, Savona noted). The decision to create a banking union, a new deposit guarantee scheme, and a new resolution mechanism under supervision of the ECB weakened the confidence on the Italian banking system, he added.

The EU is insisting on labor market and welfare reforms to increase productivity. However, Savona pointed out, industrial exports are growing and the foreign current account is in surplus, so there is no problem with productivity or the terms of trade for Italy. This insistence on labor market reforms is a misguided one-size-fits-all approach, he argued. Moreover, the public refuses to accept these reforms. So there is a choice to be made, according to Savona, between democracy and abandoning Italy's residual sovereignty to the rest of the world. Italy is effectively in an institutional straightjacket, he said.

Finally, banks have evolved in the new environment by reducing credit and gaining from the payment system (without the possibility to guarantee the reimbursement of deposits) such that at present, Savona stated, the Italian banking system is a rent sector.

KREGEL presented what he described as the "Bundesbanker's" view of the creation of the euro and an approach to resolving what is now, not so much an economic crisis, but a political crisis.

Kregel began by laying out the logic of the Maastricht Treaty from the point of view of German economists, and in particular the views of Otmar Issing. From the Bundesbanker point of view, there was a problem of "variable velocity" and inducements needed to be created in order to accelerate stalled European political integration. Part of that inducement, said Kregel, was the creation of a single internal market and eventually a common currency. However, the Maastricht Treaty provided a timetable and conditions for monetary unification but not political unification—and from Issing's point of view, Kregel noted, monetary union should be "the final step in a long process of European integration." The introduction of the single currency should be preceded by economic and political integration.

Kregel explained Issing's view that, since devaluation is no longer a policy option under a common currency, external shocks have to be met with flexibility in wages (downward) and labor markets—that is, internal adjustment, or what we now call austerity, Kregel noted. However, the common currency reduces incentives for prudent fiscal policy because there is no longer any exchange rate risk and, with a common interest rate, the threat of "bond vigilantes" disappears. Finally, without a strong political union, national governments unable to impose the required austerity will ask the prosperous member-states for assistance, producing political resistance and undermining support for common monetary policy (even potentially undermining the ECB's ability to establish price stability). More broadly, Kregel said, the idea is that a strong political union is a prerequisite to being able to enforce wage and social safety net adjustments and resist pressures for transfers to the less prosperous members or calls for suspending some of the rules for those members.

In the absence of such a political union, other measures have been pursued as substitutes. This is the context within which to understand some of the conditions (such as the Stability and Growth Pact) attached to attaining entry to or maintaining membership in the euro, Kregel commented.

After the introduction of the euro, Germany reduced budget deficits and imposed wage and labor market flexibility, but the other euro members, Kregel noted, did not pursue similar policies. The result was the sort of pressure for internal transfers that had been foreseen by the Bundesbankers in the late 1990s. Issing noted that convergence not only failed to speed up after 1999, it went backwards, as many countries still operated as though they could devalue their currencies. Wage divergences became wider over time, and only halted with the crisis. Germany and France violated the SGP in 2003 and the European Council effectively ignores it, Kregel observed. It was the combination of these political failures that led to a crisis—an independent euro crisis, in view of the Bundesbankers, that was then aggravated by the broader global financial market collapse. The ECB, according to the Bundesbanker view, is complicit in some of these failures. A monetary union with member-states in charge of fiscal policy can only continue if there is a no bailout clause. However, the no bailout clause is consistently violated (de facto) by the ECB.

The solution, according to the Bundesbankers, is a two-speed approach that would have required Greece to leave the euro. Instead of stemming losses in the banking systems of France and Germany, the bailout funds could have been used to support the Greek economy—that is, to force Greece out of the euro but help place its economy on a sounder footing, enabling the economic convergence that would one day allow it to rejoin euro.

SESSION 4

Latin American Policy and the New Nationalism

Arturo O'Connell, Arturo Huerta González, Fernando J. Cardim de Carvalho, and Christian Plumb

MODERATOR:
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O'CONNELL began by discussing some of the structural idiosyncrasies of Argentina's economy in comparison with the rest of Latin America. The Argentine business cycle, he said, is largely independent of the G7 real business cycle; it is not, however, independent of the G7 *financial* cycle.

The government that took office in 2015 campaigned on ending government "meddling" with economic affairs and opening the country to the global economy by pursuing free trade policies and liberalizing capital and financial account operations. They also promised to bring down inflation—which was high in 2015 and remains so, O'Connell noted—through tight fiscal and monetary policy.

Once in office, the new government ended restrictions on access to foreign exchange (the "cepo cambiario") and withdrew central bank intervention in the foreign exchange market. In addition, they settled the country's outstanding litigation with foreign creditors, eliminated taxes on exports of primary products, and allowed increases in the rates charged by public utilities for things such as electricity, water, and gas, which had previously been subsidized.

O'Connell summarized the results of this new policy orientation as follows: a worsening recession; high current account deficits; an increase in the amount of money Argentinian households sent abroad; renewed external indebtedness; rising inflation; an increase in unemployment, poverty, and inequality, and a fall in wages; an increase in fiscal deficits (despite campaign promises, O'Connell pointed out); and deregulation of the banking sector.

O'Connell explained how the elimination of the "cepo" restrictions and the withdrawal of intervention in the foreign exchange market led to a 60 percent nominal devaluation from late December 2015 to early 2016. Despite this significant devaluation, the trade balance, which had been negative in 2015, barely managed to reach positive territory in 2016, and the early data from 2017 shows a negative trade balance again. This problem, said O'Connell, is commonly blamed on a fall in the terms of trade that began in 2013, but he pointed out that in 2016 the terms of trade still remained 30 percent above their level in the 2003–07 period—a period in which there were large trade surpluses. In addition to too high import elasticity (which is related to Argentina's deindustrialization, he explained) as a reason for the deterioration of the external position, O'Connell offered his preferred explanation rooted in movements in the real effective exchange rate.

In 2014, Argentina was the only emerging market country that had a positive international investment position (more assets abroad than debt). He observed that external debt relative to GDP was quite low after the restructuring that occurred in 2005 and 2010, in which roughly 92 percent of creditors accepted haircuts between 50 and 60 percent. However, the "vulture funds" held out and continued with litigation, and after the new government initiated settlements with those funds, total payments by the Argentine government amounted to approximately $12 billion. O'Connell noted that by the end of 2016, Argentina's public external debt had risen 30 percent from the end of 2014.

Before examining Brazil's economic prospects, **CARDIM DE CARVALHO** remarked on political developments in the United States and Europe, with the rise of a "new nationalism," and in particular the election of President Donald Trump. From the Brazilian perspective, he said, it is not clear what policy changes will emerge from the new administration. Although there have been some concerning statements, their meaning is not always clear: for instance, although the threats the Trump administration has made regarding trade deals are troubling, it is not clear what the actual policy change (if any) will be in that area. And even in the case of some of the more promising commitments—like the $1 trillion infrastructure investment—there is no sense (even in the US Congress, he emphasized) of how much or if any of this plan will turn into actual expenditure.

Turning back to Brazil, Cardim de Carvalho noted that its economic problems do not have much to do with the international environment; they are largely domestically driven and have been going on for some time. The Brazilian economy, he pointed out, is still below its 2013 real GDP level. From the peak in mid-2013 to the last quarter of 2016, real GDP declined 10 percent. On top of this short-term problem of lost output, Brazil is facing longer-term challenges. Its investment rate (ratio of gross formation of fixed capital to GDP) in 2013 was 22 percent—which is not, Cardim de Carvalho remarked, a rate of capital accumulation that would make us optimistic about the future. Yet this investment rate has fallen even further since 2013, despite the fact that the denominator (GDP) has been shrinking.

Cardim de Carvalho mentioned that the austerity policies the Brazilian government attempted have made matters much worse. Implementing austerity during a period of falling GDP leads to higher fiscal deficits due to collapsing revenues, he pointed out. In addition, the acute political crisis brought on by a seemingly never-ending corruption scandal has paralyzed Brazil's policymaking capability.

Cardim de Carvalho asked how the aforementioned new nationalism could impact Brazil, with the most likely channels being through international trade and capital flows. Based on Brazil's relatively low degree of "openness" (imports plus exports as share of GDP), foreign trade is not a variable that should, quantitatively, pose a direct, significant threat to the Brazilian economy. Brazil, he emphasized, is a large economy with a large internal market. There is some reason for optimism in recent improvements in the terms of trade (in the first months of 2017), but this is largely due to a bounce back in China's growth rate.

Brazil's level of international reserves is high, Cardim de Carvalho observed. However, the big risk that has not materialized since 2007 is capital flight, in his view, and Brazil's reserves, even at their relatively high level, are not sufficient to protect against this risk. In the event of capital flight, using reserves to cover gaps signals weakness: suggesting that "the next time" the government will be beaten (paradoxically, he remarked, reserves in these situations are only effective if not used). The other option in the face of capital flight is exchange rate adjustment. This is, however, a nonstarter for politically attuned policymakers, Cardim de Carvalho explained, given the consequences for inflation.

HUERTA GONZÁLEZ emphasized how Mexico's economy and economic policy have been dependent on external variables. When these variables are positive—that is, high oil prices, growing exports, strong capital inflows, and a stable exchange rate—Mexico's economy grows at around 2.4 percent per year, he said.

Now, however, these external variables have turned negative: exports and capital inflows are decreasing, and there are problems in Mexico's fiscal and external balance. Huerta González noted that the government's fiscal position is heavily dependent on oil revenues. In addition to the fall in oil prices, revenues have been curtailed by reforms to increase private sector participation in the oil industry, reducing the government's share of oil revenues. The fall in oil prices has had a significant effect on oil exports, which declined from $50 billion in 2011 to $15 billion in 2016, he observed. As a result, both Mexico's trade deficit and its fiscal deficit have increased. Oil revenues went from being 33 percent of all government revenue in 2013 to 16 percent in 2016, and the public-debt-to-GDP ratio increased from 37 percent to 48 percent over that same period. From 2012 to 2016, internal public debt grew by 6.9 percent per year and external debt grew by 7.9 percent—but GDP grew at an annual rate of only 1.7 percent, he noted. In the past, the government adjusted its public debt by selling public enterprises, but, particularly after the oil reforms, Huerta González remarked, the government has nothing left to sell. Moreover, the nationalist stance of the Trump administration will affect Mexico's exports and the Fed's monetary policy is affecting its capital inflows, according to Huerta González.

The challenge for Mexico's policymakers, he commented, is that, in order to balance the economy, a surplus is needed in the capital account. However, the policies required to achieve this surplus act counter to the productive investment needed to reduce pressures on the trade deficit. Foreign investors will accept pesos, Huerta González argued, if profitable assets are offered. However, given a stalled growth rate, rising public debt, and a growing current account deficit, payment terms cannot be guaranteed. And with no more assets to sell, he explained, capital stops flowing into Mexico. This leaves policymakers resorting to restrictive monetary and fiscal policies to avoid a growing trade deficit.

Turning to an examination of how the Mexican government should respond to these challenges, Huerta González noted that the shift in the Fed's interest rate policy has negatively affected Mexico's output and its fiscal balance. Instead of raising its interest rates in turn, to avoid capital outflows, the government of Mexico needs to offer profitable investment options, he emphasized. He stressed that the government needs to respond to the protectionist economic policy of the Trump administration—such as the proposed border adjustment tax—with an even more nationalist/protectionist policy of its own in order to boost domestic production. Given an elevated level of uncertainty, he said, capital controls are necessary to ensure flexibility in Mexico's monetary and fiscal policy. The government should respond to lower oil revenues by increasing public spending in the productive sector; attempting to deal with public debt by decreasing public spending will end up having the opposite effect, he argued. Mexico has to grow through import substitution, Huerta González stated, and public spending can generate the conditions that will boost output and ultimately decrease the trade deficit. Finally, he recommended that the government renegotiate the payment of its external debt in order to secure a flexible economic policy that can support growth and full employment.

Participants

LAKSHMAN ACHUTHAN is cofounder of the Economic Cycle Research Institute (ECRI) and the managing editor of ECRI's forecasting publications. In 1991, Achuthan joined Columbia University's Center for International Business Cycle Research, where he first started working with Geoffrey H. Moore. In 1996, Moore, Anirvan Banerji, and Achuthan established ECRI. Their latest paper is titled "Cyclical Misconceptions Driving Policy Mistakes: Keys to the Productivity Puzzle."

ROBERT J. BARBERA is codirector of the Johns Hopkins Center for Financial Economics (CFE) and an economics department fellow. The CFE, housed in the Johns Hopkins economics department, has as its goal embedding robust finance considerations into macroeconomic theory. Barbera's current research interests include three-asset macro models and monetary/fiscal policy interplay in the aftermath of the Great Recession. His teaching responsibilities include overseeing the introductory macroeconomics class in the fall and lecturing on economic forecasting in the spring. Since 1982, Barbera has worked with Wall Street firms, serving as chief economist at E. F. Hutton, Lehman Brothers, Investment Technology Group, and Mt. Lucas Management. His responsibilities have included both the provision of global economic forecasts and strategic assessments of asset markets. He has been a guest on CNBC and Bloomberg News and is often quoted in *The New York Times*, *The Wall Street Journal*, and *The Economist*. Prior to his Wall Street career, Barbera served as an economist for US Senator Paul Tsongas, covering banking and energy issues. He also was an economist in the Natural Resources Division of the Congressional Budget Office. For two years, following his graduate education, Barbera lectured at the Massachusetts Institute of Technology. He is the author of *The Cost of Capitalism: Understanding Market Mayhem and Stabilizing Our Economic Future* (McGraw-Hill, 2009), a book hailed by the *Times* as "one of the top 10 books on the 2008 global financial crisis." Barbera holds a BA and a Ph.D. from The Johns Hopkins University.

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MICHAEL S. DERBY has reported for *The Wall Street Journal* and Dow Jones Newswires since 2000, writing on central banking, the US economy, and fixed-income markets. For most of the last decade, Derby has concentrated on covering the Federal Reserve, with a focus on the activities of the 12 regional Federal Reserve Banks. Areas of coverage have focused on all of the Fed's major efforts over the last decade, from the "measured pace" rate-rise campaign of the early 2000s, to the financial crisis and the central bank's response, to the long slog to bring the economy back to a point where Fed officials believe some state of normality has returned.

MICHAEL E. FEROLI is chief US economist at JPMorgan Chase. Before joining the firm in early 2006, Feroli was an economist at the Federal Reserve Board in Washington, D.C., where he served in the macroeconomic analysis section from 2002 to 2006. In that role he helped formulate the Federal Reserve's staff economic forecast and briefed the Board on economic developments. Feroli has published in several scholarly journals and has served as a consultant to the Joint Economic Committee of the US Congress. He serves as a member of the Economic Advisory Panel of the Federal Reserve Bank of New York, and of the University of Chicago's US Monetary Policy Forum. Feroli holds a Ph.D. in economics from New York University.

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ESTHER L. GEORGE is president and chief executive officer of the Federal Reserve Bank of Kansas City and a member of the Federal Open Market Committee, which sets US monetary policy. She has more than 30 years' experience in the Federal Reserve, with her early career primarily focused on regulatory oversight of banks and financial holding companies in seven states. George was directly involved in the banking supervision and discount window lending activities during the banking crisis of the 1980s and post 9/11. During the most recent financial crisis, she served as the acting director of the Federal Reserve Board's Division of Banking Supervision and Regulation in Washington, D.C. George has served as president of the Federal Reserve Bank of Kansas City since October 2011, and currently leads the Federal Reserve's efforts to modernize the US payments system. She also hosts the Bank's international Economic Policy Symposium, held annually in Jackson Hole, Wyoming. George is a native of Missouri.

THOMAS M. HOENIG was confirmed by the US Senate as vice chairman of the Federal Deposit Insurance Corporation (FDIC) on November 15, 2012. He joined the FDIC on April 16, 2012, as a member of the agency's board of directors for a six-year term. He is also a member of the executive board of the International Association of Deposit Insurers. Prior to serving on the FDIC board, Hoenig was the president of the Federal Reserve Bank of Kansas City and a member of the Federal Reserve System's Federal Open Market Committee from 1991 to 2011. He was with the Federal Reserve for 38 years, beginning as an economist and then as a senior officer in banking supervision during the US banking crisis of the 1980s. In 1986, he led the Federal Reserve Bank of Kansas City's Division of Bank Supervision and Structure, directing the oversight of more than one thousand banks and bank holding companies with assets ranging from less than $100 million to $20 billion. He became president of the Bank on October 1, 1991. Hoenig is a native of Fort Madison, Iowa. He received his doctorate in economics from Iowa State University.

ARTURO HUERTA GONZÁLEZ has been a professor in the graduate program in economics at the Universidad Nacional Autónoma de México (UNAM) since 1975, and was program head from November 2011 to March 2014. He also served as coordinator of the program—which encompasses the UNAM economics department, Economic Research Institute, FES Acatlán, and FES Aragón—from August 2013 to July 2016. Huerta González has had research stays at the University of California, Berkeley (1987–88), University of Campinas (1993), University of Cambridge (1996), and University of Missouri–Kansas City (2001–2; 2008–9), and is currently on sabbatical as a visiting scholar at the Levy Institute. He is an author of 17 books on the Mexican economy as well as two books on the 2008–9 crisis in the United States and the eurozone crisis, respectively.

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In 2011, Kregel was elected to Italy's Accademia Nazionale dei Lincei, the world's oldest honorary scientific organization. He completed postgraduate work under Joan Robinson and Nicholas Kaldor at the University of Cambridge, and received his Ph.D. from Rutgers University under the chairmanship of Paul Davidson. He is a life fellow of the Royal Economic Society (UK) and an elected member of the Società Italiana degli Economisti. In 2010, he was awarded the prestigious Veblen–Commons Award by the Association for Evolutionary Economics for his many contributions to the economics field.

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ARTURO O'CONNELL, a mathematician and economist by university training, was associated with the Central Bank of Argentina in various capacities from 1959 to 2015: as head of division in its research department (1959–62), member of the board of governors (1986–88; 2003–10), and adviser to the chair of the board (2010–15). He has also held offices related to economics and international finance in other government spheres and in academia, including senior adviser to the minister of the Latin American region of the Latin American Faculty of Social Sciences (FLACSO) (1974–79); codirector of the Centre for the International Economy at the Ministry of Foreign Affairs of Argentina (1990–99); and director of the master's degree program in integration, with particular reference to Mercosur, at the University of Buenos Aires (2001–3). In the 1960s and '70s, O'Connell was a graduate student at King's College and the Faculty of Economics and Politics, Cambridge University; and, later, a fellow at St. Antony's College, Oxford University, and at the Royal Institute of International Affairs, Chatham House. He has published extensively on international financial matters, external debt, the history of international economic relations, and economic integration, including, most recently, "European Crisis: A New Tale of Center–Periphery Relations in the World of Financial Liberalization/Globalization?" *International Journal of Political Economy* 44, no. 3 (November 2015).

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CHRISTIAN PLUMB has worked as an editor and correspondent in São Paulo, Milan, Paris, and New York, beginning his career at Bloomberg in 1992. In 2001 he moved to Reuters, where he now oversees Latin American companies and markets coverage. Plumb's fascination with Latin America began when he worked with the volunteer organization Amigos de las Americas on health programs in rural regions of Paraguay, Mexico, and the Dominican Republic in the late 1980s. He wrote his graduation thesis for Cornell University's College Scholar program on the Nicaraguan Sandinistas' unique brand of Marxism. In Brazil, Plumb covered sectors including autos, telecoms, and utilities, as well as some political and macroeconomic news. He has written extensively about European banks and the financial services industry, his focus during five years in Italy and three years in France, where he also served as Reuters's chief financial correspondent. In addition, he led Reuters's coverage of the 2008 financial crisis as editor in charge of the New York–based finance and M&A team. Plumb, who is fluent in Portuguese, lives with his wife Dulce in Harlem, New York.

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ERIC S. ROSENGREN became the Boston Fed's 13th president and chief executive officer on July 23, 2007, after holding senior positions in the Bank's economic research and bank supervision divisions. Rosengren joined the Federal Reserve Bank of Boston as an economist in the research department in 1985. He became assistant vice president in 1989, followed by vice president of the banking and monetary policy section of the research department in 1991. In 2000, he was named senior vice president leading the supervision, regulation, and credit department. In 2003, he assumed the additional role of chief discount officer and in 2005 was named executive vice president. During his time in the supervision department, Rosengren was active in domestic and international regulatory policy. He has written extensively on macroeconomics, international banking, bank supervision, and risk management, including articles in leading economics and finance journals. Much of his research, analysis, and public speaking has focused on how problems in the financial sector impact the real economy. Rosengren is a director of the United Way of Massachusetts Bay and Merrimack Valley, the chair of Colby College's board of trustees, and a member of the University of Wisconsin's Economics Advisory Board. He graduated Colby College with a BA in economics and attended the University of Wisconsin, Madison, where he earned an MS and a Ph.D. in economics.

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EDWIN M. TRUMAN, a nonresident senior fellow at the Peterson Institute for International Economics since 2013 and senior fellow from 2001 to 2013, served as assistant secretary of the US Treasury for international affairs from December 1998 to January 2001 and as counselor to the secretary from March to May 2009. He directed the division of international finance of the Board of Governors of the Federal Reserve System from 1977 to 1998. He has taught at Yale, Amherst, and Williams and is the author, coauthor, or editor of *Economic Policy Coordination Reconsidered* (forthcoming), *Sovereign Wealth Funds: Threat or Salvation?* (2010), *Reforming the IMF for the 21st Century* (2006), *A Strategy for IMF Reform* (2006), *Chasing Dirty Money: The Fight Against Money Laundering* (2004), and I*nflation Targeting in the World Economy* (2003), as well as numerous articles, working papers, and policy briefs on international financial topics.

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