Mr. Kroszner: I'm going to have a little bit of back and forth among the group here, but I'll collect questions along the way. I wanted to start with some issues that Norman Chan and Tim Kehoe had raised which also relate to some of the discussion from yesterday in thinking about the role of technology. As both of you mentioned and as I think Jacob Frenkel and others had mentioned, much of the discussion yesterday was about things that could go wrong with globalization and problems with income distribution, but we don't want to forget that also many people have been raised out of poverty from this. There's an issue and actually Norman and I were talking about this about the size of the pie versus the slice of the pie. You both have raised this in different ways, and particularly with respect to the politics. Because if the pie grows rapidly enough, even if your share is shrinking, it seems that you don't get this sort of backlash. But if the pie is not growing rapidly enough you're very focused on your sliver of it. If you both could talk a little bit about that.

Mr. Chan: I think that technology is a very complex subject. The innovations that we often heard of in the last 10-15 years had very little to do with manufacturing. We heard about robotics, but this can be part of it. Tim's point about improvement in productivity in manufacturing is very telling. What we've seen is that the new
frontier of technology usually involves social media and online platforms, and whatever efficiency gains out of these innovations, it seems to me, are accrued to very few individuals. You can think about some names—Facebook, PayPal, Uber—those are great innovations, and the market rewards them with very, very big monetary gains. But if you look at how they are distributed, they are very concentrated. And quite apart from this moral issue about what is fair or not, it will have a kind of impact on the economy because instead of having lots of people—middle class workers, white collar, blue collar—sharing the gains, the benefits are accrued to so few people. Therefore, the increase in income for the majority is limited. Then the aggregate demand the workers can collectively generate is lower. Therefore, you have this problem of innovation progressing very rapidly; in the meantime, more people are feeling left behind. That’s kind of a strange thing considering that the United States is a very, very dynamic country with amazing innovations all the time. It’s the leader of the world. To some extent, the phenomenon is also happening in China. Look at some of the richest people in China. Who were they 10-15 years ago? Jack Ma and some others were not very wealthy. Now they’re ultrarich. Again, this is accrual of benefits of innovations to very few individuals. But for China, it’s starting from a lower base. Therefore, the total pie of the economy has been growing very fast, and overall people’s well-being has improved.

Mr. Kroszner: Yes, it’s amazing. It’s innovation in scale, so it’s really kind of economics of superstars that when you have this innovation, then you put it over a billion people in China or 7 billion people globally, you can get this kind of incredible explosion of wealth from individuals who come up with an idea. When that was just in the local economy, you could do pretty well there and you’d be relatively wealthy, but the sort of wealth that we’re seeing now only is really possible with the kind of scale that comes with either very large economy like China or globalization. Tim?

Mr. Kehoe: Well, Randy, I want to begin by saying that you have posed exactly the right question. One of the points I wanted to make is how disappointing the recovery in the United States since the recent global recession has been. One thing that jumps out of my 217-year
graph of the U.S. growth experience, of course, is the slow growth in the early 19th century. The Great Depression was also a major anomaly. But the last seven years, eight years, following the 2007-09 recession have also been different from previous experiences. Usually, the U.S. economy recovers quickly after a recession. That has been the history of the United States. The amazing thing about my graph is how rapidly we return to the long-run trend, and we have not done it now. If we had recovered strongly after the global recession, as we had done in the past, the U.S. economy would have been the rising tide that lifts all boats in the world economy, but the U.S. economy has not done that. One thing I did not stress enough in my discussion of structural change, something related to something Catherine Mann was talking about yesterday, is the rising importance of services trade. It turns out that the largest exporter of services in the world by far is not India. It is the United States. The United States exports all kinds of services, but the two largest categories of services that we export are business services and services that generate royalties. We export business services because we’re the headquarters for so many multinational corporations. The United States exports management services, design services, and financial services for major corporations. We also export services connected with royalty payments, intellectual property rights, things like pharmaceuticals, entertainment, and so forth. And I’m going to reinforce Norman’s point here. Of course, as the world economy recovers, we will generate more manufacturing exports, but, over time, the United States will export more and more services because we have a comparative advantage there. Moreover, the particular services we will export will generate income that is going to be concentrated among the managers of multinational corporations and concentrated among people developing what is counted as intellectual property.

Mr. Kroszner: Very interesting. And then I think this is a nice segue to the issues of the shorter term of kind of post-crisis and some of the imbalances that you’ve seen building up. If you want to talk a little bit more about some of the risks that you see in these imbalances that have come up and how central banks might be able to deal with it. You’ve mentioned the risks that are there, but if you could
drill down in that a little bit more and what you think central banks should do about that.

**Ms. Reinhart:** I think a lot has been done—Chair Yellen yesterday spoke to the issue of regulatory policies—to reduce the risk of future crises. However, I think what I would like to emphasize is that, without getting into a new crisis, we’re still dealing with issues that are legacy of the previous crisis and that was some of the commentary that I made about legacy debts and legacy debt in banking. That is less of an issue for the United States where write-offs were more aggressive than they’d been in the past in Europe and Japan. But this to some degree in some of the work that I have done under the umbrella of the so-called financial repression, monetary policy in effect did fiscal policy for extended periods of time in that the consistent delivery of negative real interest rates in the highly regulated environment after the end of the war resulted in a significant liquidation, a reduction in government debt. That is of course, the big difference is that that kind of negative ... negative real interest rates are a tax on bond holders but it’s a tax that doesn’t require a vote. It doesn’t require legislation. It is an opaque tax which is paid ex post. Beyond that, some of the cleanup issues that are still faced in banking and in some of the sovereign contexts, further debt reduction is out of the traditional realm of central banks. My commentary of saying that economies that are highly burdened by high levels of debt at both public and private, and private really being a potential contingent liability of the public sector, are less capable of withstanding interest rate shocks and interest rate surprises. I think central banks are going to be more constrained on the pace of normalization given these conditions than in any time in the past that I’m aware of.

**Mr. Kroszner:** And fortunately, one of the things we don’t see central banks creating, because of dealing with high debt, is high inflation because that was certainly one way to try to reduce debt burdens is have very high inflation. Fortunately, there are very few countries in the world that are having that, and I’m delighted that that’s not on the table in most places. Let’s now come to some of the questions.

**Mr. Frenkel:** I would like to make three points. First, we witnessed recently a worrisome growth in anti-trade sentiments as protectionism
has become more and more popular. It would be extremely important to emphasize that the concerns that underlie the protectionist sentiments have very little to do with trade per se. Rather, they reflect failures to enact the appropriate fiscal policy. In fact, most people who support protectionism would clearly prefer not to give up the gains from trade. They justify protectionist stance by noting that in many cases opening the economy to international trade may inflict hardship on some segments of the population. The appropriate way to deal with these challenges is through fiscal measures, rather than through trade restrictions. Such measures include trade-adjustment assistance, retraining programs and appropriately budgeted safety nets designed to support the weakest segments of society. Generally, hardships that are associated with the opening to international trade do not arise directly from trade, but rather from, the failure of governments to enact the appropriate fiscal measures.

My second point concerns the normalization of monetary policy. Much of the discussion has focused on the potential cost of a premature normalization especially, as raising interest rates may derail a more robust recovery. In this regard, it is important to recognize that an excessive focus on the cost of normalization, rather than its benefits, increases the risk that such normalization is initiated too late. Some of the elements of the cost of maintaining exceedingly low interest rates and delaying the process of normalization, include an artificial (non-sustainable) stimulus to the price of financial assets; an inducement for corporations to divert their efforts towards stock buy-backs, rather than investment in plant and equipment; the creation of a disconnect between the real and the financial sectors of the economy; an artificial stimulus to interest-sensitive sectors, such as housing, and since such sectors are typically a low-productivity sectors, it results in an overall reduction in the productivity of the economy; and, finally, an excessive reliance on monetary policy enables governments to postpone the necessary fiscal and structural measures, thereby such postponement reduce the flexibility of the economy, resulting in adverse consequences for productivity and growth. This partial list of the negative consequences of excessively low rates of interest, suggest that a delayed normalization is costly and, that one should always balance these costs against the cost of normalization.
My final remark relates to debt. Our discussion focused on public debt and the ratio of public debt to GDP. It is relevant to note, however, that the sectoral evolution of debt provides a more nuanced interpretation, while the ratio of public debt to GDP, has increased all over the world, the picture is somewhat less homogenous when one compares the evolution of debt to GDP of various sectors in the economy. Since the height of the crisis, the ratio of debt to GDP, of the household sector and of the financial sector have declined in the United States (as positive development), it has not declined in Europe and Japan. The focus on the degree of leverage of the various sectors can provide a useful perspective to the analysis of financial vulnerability of the various economies.

Mr. Blinder: I want to pick up on something Tim Kehoe mentioned briefly, and in the process explain to the proverbial woman from Mars who dropped down and listened to this conference and wondered, “Doesn’t anybody care about monetary policy?” It’s about the last seven years of U.S. data. The canonical view that all of us who are teachers taught to our students for a very long time is that there’s a strong separation between the cyclical and the secular. They have different determinants, different things are relevant to them, and in particular that means that monetary policy can do next to nothing about long-run economic growth. Or to put it very specifically, that today’s monetary policy has nothing to do with the GDP 10 years from now. It has a lot to do with the GDP next year, say, but nothing to do with the GDP 10 years from now. I’m sure I have told that to my students zillions of times. But there is this other view, called hysteresis, which people paid a lot of attention to in the European context in the 1980s and then it just disappeared—as probably most people in this room know. DeLong and Summers and others have tried to revive it for the United States for exactly the reason Tim was pointing to. And all I want to say is that, if there’s a lot more to the hysteresis view than we’ve been teaching our students for generations, then it is the case that today’s monetary policy affects the GDP 10 years from now, which makes monetary policy vastly more important. And that message should be taken back to Mars.
**Mr. Coeuré:** That’s a very short and very targeted comment and may be very parochial comment on Target2 balances, which Carmen Reinhart mentioned. What Carmen said factually is absolutely true and it is a major development. But apart from the usual answer of saying that Target2 balances are an essential feature for monetary union where monetary policy implementation is decentralized, and so we have a set of claims on liabilities across the system. There is nothing more to it. I think it’s very important to acknowledge that these drivers of Target2 balances have profoundly changed. At the peak of the crisis, this was about addressing a sudden stop in private capital flows. Not anymore. We see private capital flows going to Italy, Spain, Portugal, and the like. What the new driver of Target2 balances is QE. That’s national central banks and the European Central Bank buying Italian bonds, Portuguese bonds, Spanish bonds, French bonds which are all located in core countries. Money is being deposited in core countries. It’s largely an artifact of QE and of the geographical distribution of bond holdings, which also puts into perspective comments of policy prescription. The longer we do QE, the more Target2 balances will expand, rather than the opposite.

**Mr. De Gregorio:** I think that globalization has been great for the world, great for most emerging markets, however, I have a puzzle that challenges my views. My puzzle is, and Tim Kehoe has done work on this issue, about Mexico after the North American Free Trade Agreement (NAFTA). Mexico after NAFTA has grown less than the United States. There has not been catch-up. We would have expected that there would be massive productivity gains and high investment, all of that resulting in strong growth. However, growth has been quite dismal. I would like to know Tim’s views on this.

**Mr. Kehoe:** I’ll say two things quickly. First, with regards to Alan Blinder’s comment, I agree with him completely. I have always taught my students the same thing, that the cycle and the trend can be studied separately. Of course, the Great Depression was a big deviation, but we view that as very abnormal. Alan is right that something is going on in the U.S. economy now, and in advanced economies throughout the world, that we do not understand. Now being more of an academic than a policymaker, I find that exciting. It gives me
something to work on and talk with my students about. But Alan is right; policymakers should be concerned about that. José De Gregorio is also right about the disappointing economic performance of Mexico after the implementation of NAFTA. In fact, I wrote a paper with Kim Ruhl for the *Journal of Economic Literature* on this topic about seven years ago because I have had a lot experience working with the Mexican government and advising Mexico on the negotiation of NAFTA. The disappointing economic performance of Mexico following its trade liberalization and other reforms is one of the reasons that my colleagues and I have started to work on the stages of economic growth. Let me stress that Mexico has benefited from trade liberalization and that Mexico had large increases in manufacturing productivity in the sectors exposed to trade following NAFTA. Unfortunately, however, these increases in productivity have not spilled over into the rest of the Mexican economy. One reason for the failure of NAFTA to generate widespread economic growth in Mexico was that Mexico was at an advanced stage compared to China when China was opening up. Since opening up, of course, China has grown much faster than Mexico. When Kim Ruhl and I wrote our paper on why Mexico had not grown faster in 2010, I was taking bets that China would be slowing down significantly when it reached the level of economic development of Mexico, and I think that I’m getting close to winning some of those bets. José De Gregorio is right that the view that policymakers had, the so-called Washington consensus back when NAFTA was negotiated, was that NAFTA was going to be a big spur to growth in Mexico. But it wasn’t. The growth that NAFTA generated in Mexico wasn’t shared throughout the economy, and Kim Ruhl and I concluded that the Mexican government just has not gone far enough in reforms, particularly in nontraded sectors.

**Ms. Reinhart:** First, on Jacob’s comment that looking at sectoral composition of debt, I think that’s extremely important and there is considerable cross-country variation. I would note however that much of the very aggressive deleveraging we saw in households right after the crisis in the United States to some degree, that has been reversed. We have a dilemma that low rates help debt servicing, and enable various sectors to take on more debt. The low rates and the same time that they help alleviate balance sheet concerns also may worsen over time
balance sheet concerns as both public and private sectors have more incentive to take on debt. The second issue on QE, well my understanding is QE is eurozonestwide policy. The divergences in the balances are very country-specific, and the dramatic reversal in Ireland is hard to reconcile with the view that the worsening imbalances in Italy, in Spain, in Portugal are all QE. The bottom line is the country balance sheet, the national balance sheet, the country as a whole is buying more foreign assets. I think we don’t quite share the same interpretation. My point on why this would make for a more gradual rather than a more rapid adjustment would have to do that that is also related to the state of balance sheets in banks. Finally, on the issue of monetary policy and someone arriving from Mars, I would note that one of the very interesting challenges of the last couple of days is actually seeing whether we’re actually thinking more about distributional effects of monetary policy that historically we have not thought of in the past. I mentioned that negative real interest rates are a tax on bondholders. It’s also a transfer from savers to borrowers. It is also an intergenerational transfer. And all the discussion of the last two days also on inequality I do not have an answer. But I think to your list of what a person may ask about monetary policy, I think the added element that I’ve taken away from the last couple of days is also are we thinking about distributional effects as well.

Mr. Chan: I just want to echo some comments. One point is that distributional effects are something that we cannot ignore because while economists talk about transfers from savers to borrowers, if you take a more down-to-earth or moral perspective, it’s a punishment. Working-class people work hard and save, and then now they either have negative interest rates or zero interest rates for a very long time. For retirees, pensioners, and those who do not have assets, they are in bad shape, and therefore many of them are feeling very aggrieved. Young people, depending on where you are, in my place of Hong Kong, even many of them have good education, decent jobs and work hard, they have no hope of buying homes. Therefore, they have to borrow from their parents to make a down payment. This is kind of Hong Kong-specific, but in a way it’s related to the global macroeconomic environment. Can I just add one point to take away? Unfortunately, we don’t have that many fiscal authorities represented
here, but it seems to me that there’s a problem about how to measure productivity and trade. Tim Kehoe’s point about the strongest point of the United States is not just manufacturing, but trade in services, technology, intellectual property and business services. If you look at the balance sheets of the big companies—Apple, General Electric, I have some numbers here—Apple in 2016, 62 percent of operating income came from overseas operations. For General Electric it’s even more, 76 percent. McDonald’s, 51 percent. The list goes on and on. How do you measure them? How do you tax them? In a way, the United States does tax the profits, but they’re not coming back. You have a kind of let-out, and therefore, you end up in a territorial regime. Then you have a problem when the technology, innovations are created in the United States, but profits are generated overseas. If you don’t tax them, then the benefits would only accrue to the companies’ shareholders. Again, it is the problem of distribution. The richest guy has more of the shares; the poor guy doesn’t have shares. Therefore, how do you deal with it? Also, in many places, tax authorities are more equipped to tax income, which can be measurable and monitored. To tax wealth is more difficult. And as the chart I just used has shown, wealth distribution has become more concentrated. It’s another problem about future economic prosperity and equality, and I think the policymakers really need to think very deeply on this particular point.

**Ms. Collins:** I greatly appreciate both the very substantive panel remarks and also this rich discussion. I wanted to just briefly touch on three points. The first one has to do with aging. It seems to me that while issues related to aging populations have been in the background, we need to make them front-burner issues as we think about fostering a longer-term dynamic global economy. To give one example, Tim Kehoe very appropriately scaled his GDP by looking at the working age population. However, as people are healthier and living longer, what we now use as the traditional working age range will become less relevant. Furthermore, as technology takes over more of the manual labor types of things that workers have done, we should be thinking explicitly about opportunities for redistributing jobs toward leveraging experienced, older folks. I would also like to hear more about implications for trends in labor share, and issues related
to distribution. Then of course there are the challenges for those countries that are getting old before they get rich. I’d be very interested in the panelists’ perspectives on these interrelated issues.

Second, I’ve been struck that while you can’t cover everything in a symposium, and we’ve certainly covered a lot, there’s been almost no discussion of immigration. That is certainly one of the real touch points related to popular reactions to global flows. We’ve talked about within-border migrations. I think we also need to think through fostering dynamism involving cross-border migration as well.

The final comment that I want to make relates to the points that Norman Chan made on populism and anti-globalization sentiments and that Tim Kehoe made about globalization stalling. We talked a lot about that yesterday. The issue of what to do: While I’m a firm believer that we need to continue to find ways to explain the role of technology versus globalization and openness, I don’t think that is likely to go very far in convincing those folks who are not sharing in the gains, that they shouldn’t be worried about globalization. As my colleague Marina Whitman from Michigan has said, you can tell people to go kick a robot, but it doesn’t really help very much. My sense is that the focus should be much, much more creative attention on ways to expand labor market opportunities and to address the kinds of concerns which—as we have had very well documented in this symposium—are real.

Mr. Lane: I agree with Carmen Reinhart that the idea that in a low-interest-rate world, stocks of debt may not impose an immediate issue, but may resurge as a problem. But I do think that Target2 is a different issue. I mean, the nature of Target2 is, or the nature of flows within a central banking system in the euro area is fundamentally different. Benoît Coeuré’s point is exactly what’s happened in recent times. I’d also add, Maury Obstfeld said this earlier on, residents versus nonresidents. Pretty much, the Irish balance sheet is totally dominated by nonresidents. Looking at the Irish financial data, it tells you very little about what’s going on in respect of the local Irish economy. And this nonresident issue, given that so much of the purchasers and sellers of euro assets are London-based, and where they have accounts in the Eurosystem is probably innocuous vis-à-vis
national balance sheets. Target2 is an interesting issue in itself, but I wouldn’t overly correlate it with the underlying net IIPs or the debt burdens of individual countries.

**Mr. Henry:** Going to Tim Kehoe’s graph, which is a really helpful graph to see, I would just connect his points to Carmen Reinhart’s points. The fall in output below historical norms I think is very well explained by the Reinhart-Rogoff tome on the history of countries coming out of debt crisis. We know that countries coming out of debt crises grow much more slowly. If there’s actual output growth, I think that’s a very plausible explanation for that. But then the real question becomes, thinking how to get potential output growth up, and that really to me is sort of the message that comes out of this conference which is, why are central bankers not talking about monetary policy? Because monetary policy is not really very relevant for driving potential output growth as Alan Blinder said. And the relevant issues really lie in things that Susan Collins talked about—how do you drive productivity? Immigration is a key part of that, particularly skilled immigration as technological progress is driving up the demand for highly skilled workers in the United States for instance. Then, a final point. Connecting demographics, slowing aging populations in advanced countries to the booming working age population in developing countries, and we haven’t talked at all about in the context of global imbalances, the real puzzle here is why there isn’t more investment happening in developing countries where there are 1.2 billion people who don’t have access to power. So you think about infrastructure discussions, it’s sort of front and center in emerging markets and that of course has implications for long-term asset returns to address lower trends in advanced economies as well.

**Mr. Chan:** I think Susan Collins raised a very good point. Yesterday, we talked about people losing out and a lot of studies show that it’s just not enough to give out money. But I think at least you need to have the money to start thinking about doing things. Therefore, one issue I want to raise is how do we come up with a distribution mechanism in which international trade and technological innovations contribute to the benefits of those who are actually not doing well? I think this is the first point, and then you have to start the
more difficult question. Assuming you’ve got the financial resources, what do you do with the money? Pre-distribution, which is a fashionable term for education and re-training, helps people adapt to the new environment, and allow them to move more freely across states. What do you do? I think that’s the very difficult question the authorities must spend time to study and prepare to commit resources. I think Tim’s analysis is very clear. Manufacturing employment is not going to come back regardless, and therefore productivity will grow and therefore you must find some ways to put those people who are hurt or affected into useful employment.

Mr. Kehoe: Two points. One, I realize my answer to the question posed by José De Gregorio focused on Mexico versus China, and that could have been the wrong comparison to make. I should have compared Mexico to José’s own country, Chile, because at the point that Mexico should have been growing, it wasn’t growing, but Chile was. I think that was because of better financial institutions in Chile than in Mexico. But there still remains a serious question of why reforms sometimes generate extensive growth and other times they do not. Sometimes we economists have promised people gains from globalization that haven’t materialized, and the disappointing growth experience in Mexico following the implementation of NAFTA is a case in point. Second, Susan Collins is 100 percent right. We have to study the impact of aging a lot more, and China is going to be aging very dramatically very soon. Susan is right that aging in China will be different from that in other countries because China is not yet as rich as the other countries that are aging. When I think about aging, I take Japan’s experience as being a hopeful signal because Japan is the most rapidly aging country now, and when I do my calculation of real GDP growth per working-age person, Japan doesn’t look so bad. Of course, countries with growing populations are going to have higher proportions of young people, and so there are things we’re going to miss out on as we age, but Japan’s not doing badly as it ages. So there are signs for hope there.

Ms. Reinhart: I think a lot of the issues including the issues that Susan Collins and Peter Henry have raised, I know it sounds cliché, but we really are there talking about the realm of structural policies.
We really cannot address those issues in the context of conventional and possibly unconventional monetary policy, and many of them are beyond the fiscal scope. I limit my remarks to that.

Mr. Kroszner: Thank you very much for an excellent panel and for excellent discussion. I want to conclude with sort of a secular prayer, which I think raises the issues that we’ve raised. There are many things that central bankers can do and many things that central bankers can’t do that we’ve discussed today, all of which are very important. You can think of your favorite central banker, you’ve got many of them around. It sort of goes like this: The central banker should, your favorite governor should have the serenity to accept the things that he or she cannot change, because there are many things that are outside of the realm of what can be done. We’ve talked about that here. There’s some secular things, some productivity issues that are outside. The courage to change the things that he or she can. So take the actions for the financial crisis or elsewhere, to take the actions. And most importantly, the wisdom to know the difference.