

General Discussion: Overview Panel

Chair: Lisa D. Cook

Mr. Henry: Thank you to all three presenters for illuminating remarks. I want to underscore the importance I think of what Agustín Carstens was saying and to tie it in with what Raghuraj Rajan was saying and Stephen Poloz as well. In fact, even the “horse whisperer” yesterday talked about the importance of discipline, clarity, trust, and communication. And I think one of the points that really comes out of the discussion is that we’ve lost the narrative. The public narrative has really been captured. And because of that, we’ve lost sight of the fact that if you think about what Agustín was saying, it’s remarkable what’s happened in the last 30 years or so, and globalization has been an enormous part of the transformation. And just think about it. Between the stabilization of inflation, trade liberalization, and greater capital market integration, we’ve seen a dramatic shift. Emerging markets were growing at 3.5 percent per year between 1980 and 1994. In the period after that, they grew at 5.5 percent per year, a 2-percentage-point increase in growth. Over the same period, there’s been no fall in the growth rate of advanced economies. There’s a positive sum outcome, which was really what Agustín was saying, and we need to recapture that narrative.

Similarly, since 2009 we’re now having the broadest growth we’ve ever had, but the world economy is actually still underperforming

relative to potential. John Taylor has pointed this out on his website. If you look at five-year moving average of U.S. growth, that five-year moving average is still way below pre-crisis levels. It's also true for the global economy and we spoke at length yesterday about the reduced rate of productivity growth in the United States.

The point was we need more globalization, not less, to deal with a number of these issues. Globalization won't solve all of these issues, but just think about for instance the challenges facing advanced economies, and an aging workforce. Immigration, greater cross-border flows of people are obviously are part of that solution. One thing we have not talked much about, and Raghu, I think, alluded to this, is greater investment in human capital in the United States. So, we increase opportunities in very much sort of the Goldin Katz sense of moving more workers into high-skilled jobs to mitigate growth in the wage premium and also to give more workers high-paying jobs.

And then finally, just to Augustín's point again about capital flows, critical again to not just growth in emerging markets, but global growth. If you think about the opportunities that exist right now with rapidly growing working age populations—there was a presentation at this very conference about four years ago of the demographics in emerging markets. So, roughly 1.7 million people are being added to the labor force every month in the world's least developed countries. China did 1.1 million a month during its boom. You look at the numbers and you realize, Kickstarter is a great thing, but Kickstarter is not going to finance 1.7 million jobs a month. More capital flows are needed not just to generate growth and employment in emerging markets, but this obviously has implications for asset returns in advanced economies with record-low interest rates. So there's a chance for a positive sum outcome, but we need to retake the "horse whisperer" narrative.

Mr. Davis: A great panel. Lots of things I could talk about. I want to ask about one issue and maybe Raghu touched on it most closely. And that is the political economy implications for central banking of the anti-elitist, populist wave that has manifested itself around the world in many different ways and certainly in the United States. And central banks, I think their actions, their credibility has been called

into question to some extent for that reason. It seems to me, and I want to get the panel's reaction, that there is at least an argument for casting the central bank mission narrowly. Why? Because that makes it easier to understand what the central bank's doing. When it has a narrow mission, it's easier to be more transparent, it's easier to communicate about what you're trying to achieve, and it's easier for outsiders to assess the success of the central bank in achieving its mission.

Now there are good reasons why central banks have tended to broaden their portfolio of policy instruments in response to the global financial crisis. But there is a tension between purely economic reasons to broaden the scope of central bank interventions and policy instruments, and the need to deal with the populist reaction to central bank actions that seems to me to cut in the other direction. I'd love to hear the panelists' thoughts about that issue.

Mr. Syverson: Two things. One, Raghu, your description of the collection of the capabilities, that was really interesting. It's a sort of matching and when you think of that, that's complementarities. And I think that's kind of the way to summarize what's going on in the supply side, not just among workers, but among different kinds of capital, intangible capital, and physical capital, and workers and management. And what that means is one tends to be very stable, those combinations, because the complementarities too there's losses when those are broken up. So it's going to be a really tricky policy thing going forward in this dynamic sense trying to handle that because of the stability and the losses that come with it. But I think entry is a good focus for policy, preserving the ability to enter. That's going to be key.

Ms. Collins: This has been a fascinating two days. I learned a lot, and commend the authors, discussants and panelists. I would like to make three comments and then ask a question. First, a number of people over the past two days have said that the things we are talking about here apply less to services. I do not think that is uniformly true. In financial services, in higher education, in many other service areas as well, these digital aspects, the data, the data analytics, online

access are also extremely important. These sectors should be examined in this context as well.

Second, I'm struck by the juxtaposition of the discussion we had this morning about Amazon's move toward uniform prices versus the prior points about the role that all of the increased data has played in terms of enabling many firms to target prices to specific places. That contrast seems to me really interesting and worth exploring more fully.

Third, I want to comment on the issue of communication, in the context of the data explosion we have been discussing. Those of us in this room love all of this data and are excited by (often quite technical) analyses of it. However, that can create a bigger divide with the general public, which does not tend to feel that way. To connect more broadly, it seems to me that a key part of our challenge is the creative use of stories, which can be a much, much more effective way to make our work accessible. How do we learn to use stories, that are informed by all that data and analysis, so as to narrow the divide with the public? I think it is important for us to become better at doing that.

Last, my question focuses on implications of the issues we have been discussing for longer-term economic growth, and I would be particularly interested in Raghu and Agustín's views. We have talked a lot about costs and benefits in consumer and product markets. There are clear benefits to consumers around the world from expanded access to a wider variety of products, and from the reduction in the prices of those products. Barriers to trade threaten that. However, another important set of channels relates to the fact that opportunities for economic growth often come from imitation that enables producers in developing and emerging market economies to enhance their productivity. The kinds of barrier entries we have been discussing may also threaten that critical growth pathway, with medium and long-term implications for growth around the world. This is a set of issues we have not yet discussed, and I would be very interested in the panelists' comments.

Mr. Gorodnichenko: I want to start with a fact. When we look at the recent estimates of potential output produced by OECD,

IMF, CBO, or Green Books, we see massive downward revisions. So y -star is declining, the growth rate is projected to be very slow. And I have a really hard time reconciling this with the obvious spirit of this conference which says that we have limitless opportunities from new technology. I'm from Berkeley and I see a tsunami of innovation in Silicon Valley and so the economy should grow a lot faster in the future. And Governor Poloz made this observation that maybe y -star did not change that much since the Great Recession and this is why we're not observing a lot of inflation now. Maybe in 10 years we'll go back to the current situation and we'll say, well you know, we were too restrictive in our monetary policy. We could go a little further in the recent example that Chairman Powell mentioned yesterday that Alan Greenspan was very good at identifying the signs in the economy that were suggesting we had a spurt in productivity, but it was very hard for him and it was a hunch, an assumption. And I was wondering what kind of data we as academics can provide to policymakers to convince you that this y -star is accelerating, it's possibly growing faster, and it's not as small as suggested by the estimates by CBO and other agencies.

Mr. Carstens: Very briefly with respect to the comments by Peter Henry: in a way they have something to do with Steve Davis and Raghuram's comments about central bankers. I think a problem policymakers have in general is that we don't think about the life cycle of policies. Most of the time we announce certain policies, we implement them, we put them into practice, but then as time passes, we take the results for granted. There is not much effort put into keeping the flame alive. That has happened with the benefits of trade and with the benefits of low and stable inflation. At some point, we feel "we have conquered this, people understand it, let's move on to other issues." Looking at NAFTA, we had a very well-organized effort to defend the benefits of free trade and increased regional integration. But that was in the 1990s. As we move forward, and especially when the global financial crisis came, nobody talked again about NAFTA. Then suddenly, for very different reasons, protectionism comes back and we're caught off guard. I would say also that in many countries, the benefits of low and stable inflation and the narrative about how that was obtained, which Susan Collins mentioned, has been lost.

We need to keep this alive. We need to continue reminding people what the benefits of low, stable inflation are and the key role that central banks play there. It's very telling, for example, that in two countries that in recent months that have shown major economic stability problems—Argentina and Turkey—a common denominator is that their administrations still do not respect the autonomy of the central bank. That generated huge confidence problems. It was not the sole problem, but certainly it was a major catalyst. To follow up on Steve's comment: this populist accusation that central banks are elitist calls for us to respond by putting in very transparent policies, in a balanced way, as central banks have done through the years.

There is a comment that Raghu made. You seem to hint that central banks do not pay enough attention to domestic issues. My perception is just the contrary. I can't think of any central bank that starts by discussing the international scenario. Mostly, in our policy communications, we really want to emphasize what is affecting our main constituencies. So I don't think that we have a bias toward an international dimension.

To close, with respect to Susan's comments on the benefits of trade that we have seen through the last three decades, I can talk about what I've experienced in Mexico. The efficiency gains from open markets are huge. In Mexico in 1992, 80 percent of our exports were oil and we were vulnerable to huge movements in the price of oil. Now exports of oil in Mexico are less than 10 percent of the total and we have a far broader, diversified economy. Industries that in the past we could only have imagined being competitive in are now competitive. That shows that providing the right incentives for businesses produces tremendous welfare gains, on top of what you mentioned about the benefits to the consumer. So in terms of a better resource allocation, the benefits are huge, and I think we should bring more of this in our public debate.

Mr. Poloz: Yes, Peter, I would love to have the power of that “horse whisperer” we saw last night, but that's just something that's an aspiration. From Steve, I think that the global financial crisis and period after have given central banks a reputation for being able to fix about anything, kind of a puffed-up reputation, and I agree that it's time to

re-emphasize what our actual role is. And that is, for many of us anyway, to offer an anchor, an inflation anchor that everybody can count on. That's the best contribution we can make. And if we believe in divine coincidence, that covers equilibrium on the real side anyway. Not everybody believes that. Take for example, right now people are up in arms about the implications of tariffs, tariffs from the United States, but then you have countervailing tariffs domestically. So right away, the commentators are saying, "Well there's another reason why the central bank will keep rates unchanged." To Susan's point, we tell the story. Well actually, it's a little more complicated than that. I know this is going to hurt something so you think monetary policy can fix it but it's actually a really complex shock with probably positive effect on inflation since we're at full employment and so on. It may be transitory, but it may not look it, so there will be credibility effects if you don't at least meet that head on. So inflation is going to go up while the economy slows, which of course is the most awkward situation for a central bank. So we've been saying, you know, that wouldn't be our job to clean that up. It just wouldn't. In fact, if you're asking how it will look, chances are rates will go up and not down, and it's the opposite to what they think. I think it's important to come back to what is our best contribution that we can make, and it is a narrow one I think. I agree with that completely.

So Yuriy Gorodnichenko, comments around y -star. Yes, there are massive revisions to potential output, all in negative direction, and that's because nobody has the courage to forecast what we're talking about here. Those measures of potential are driven usually by HP filters that are going to be data dependent and they're going to slow down, and that's all. They're going to take a while to slow down, longer than they should, and they'll take longer than they should to speed up. But they will speed up if the hypothesis is correct. Then those filters will gradually pick it up and you'll be revising potential output too late, but that's why I describe it as a policy risk. It's a risk that needs managing as opposed to figuring out how much it's gone up, revising potential output and then have everybody take shots at you because you're just cherry-picking and looking at excuses to justify certain policy. That's the reality that we face. So yes, we think this is a phase of every business cycle where potential output picks

up speed. It's not uniquely because of digital disruption. It's always the case that when we get to this point, and firms are convinced, and they start to invest more, and things pick up speed. Unfortunately, disruption of the global trading system has come at just the point where that was about to occur. So it may not happen as expected. But in any case, we expect it, and the tools are designed to pick it up gradually and therefore are risk averse. Then you manage the remaining risk in the way I described by saying, well I'm going to be a little more gradual and watch how things play out because this could take longer than the models say.

Mr. Rajan: On the issue of central bank mandates, I did not mean central banks pay more attention to the international. I think this also relates to Steve Poloz's point on whether central banks should have a more narrow mandate. I think we should be very clear about the mandate, but I think in this integrated world there is a real question about whether domestic mandate is enough or there's some notion of international responsibility which has to come in when there are large, potentially disruptive, cross-border capital flows. My bias is toward having some notion of what the international responsibility is come into central bank mandates over time because central banks do have some influence over international spillovers from their policies. But we have to be very clear and the real problem right now is we're not clear. The public actually thinks central banks have more responsibility, they do more on the international side, that they're not paying enough attention to the domestic side. And, of course, central banks don't say enough about why the international side is important. One example is the Federal Reserve swaps that were contracted with emerging markets during the crisis. They were very helpful in alleviating dollar shortage, but there was enormous pushback from Congress, as it asked "Why did you have to do it?" So that's where I think clarity about what the mandate is and why it's useful would be good. And that implies some rethinking of the framework that we have. Now it's difficult under the current political circumstances. There is no domestic appetite for any international concerns, but that's precisely where we need to educate the public a little more, that international disruption comes back to hit us.

To Chad Syverson's point on the conglomeration economies, I absolutely agree with you that the productivity or efficiency effects of breaking up the superstar firms would be very problematic. I think all that's important to note is that in the presence of agglomeration economies, yes the receiving entity benefits from the smart or capable person who goes there but the entity that loses that capable person is worse off. Of course, that economy is better off in terms of aggregate production but inequality increases. That's really the problem with agglomeration economies.

On the shift in views on trade, I think it's extraordinary that today's pro-trade policymakers are so much more from the emerging markets. They're saying we need global openness, when 15 years ago it was the other way around. Emerging markets were being pushed by industrial countries and multilateral institutions on the need to be more open. And interestingly, the kind of studies that David Autor and his co-authors in the United States have done on the adverse effects of China trade on employment and social well-being of local communities, these have been done before. They were done in the emerging markets showing large adverse distributional effects of trade, concentrated in particular areas; crime went up, unemployment went up. But emerging markets didn't make that a reason why they should go protectionist. Perhaps we were too callous toward our own population, but we realized there was a distributional effect of trade and that is part of the consequences of having open trade. I think we need to have more of that kind of open discussion, and this goes to Steve's point, in this country. Obviously we need to do far better for the losers, and this has to be the central focus of our policies. But we must also emphasize that trade makes the large majority better off. How to have the discussion is, I think, an important challenge.

Mr. Spriggs: I want to make three statements. It is counterproductive to use as a pejorative, this use of "protectionism." It doesn't help having conversations. It's labeling other people's viewpoints and taking them out of context. It's not helpful. Second, if what was happening was that everybody was doing better, some people were just doing even better, that would be one thing. The problem in the United States is that a lot of people are doing worse. This isn't

simply they're losers who are losers in a relative sense. They're losers in an absolute sense. And when we have had other transformations, we should remember we generated lots of winners. When we got rid of sharecropping we got U.S. Steel and General Motors as our two largest employers. Training up to be an auto worker or a steel worker was made possible because unions made those good jobs and made them pay, and made the transformation from sharecropping to those jobs acceptable. The largest employers in the United States today are Walmart and McDonald's. It doesn't say very much about a nation when your largest employers are not General Motors and U.S. Steel. The central bank needs to worry about the permanent trade deficit of the United States, and it is a structural trade deficit when you look at the composition of what we bring in. Ignoring the oversupply of steel that took place because of the downturn and not having had international cooperation about what do we do with the oversupply of steel is not constructive. There should be and should have been discussions about oversupply in a number of industries and how do we resolve it.

Raghu, thank you for your comments. I think just as you did before, your words are going to go down, and people in the future will thank you for warning central bankers. I think the clear problem is all of these forces are taking place. Chairman Powell started the conference with a very good warning about thinking of what are the risks of worrying about inflation versus the trade-off with unemployment and economic activity and how do you balance the cost and benefits. The new pattern we're in isn't created by central bankers, but the costs have changed and are shifting as to what happens if there is unemployment, and particularly when there's a political economy to the economic concentration that's taking place. Central bankers need to reconfigure what are they doing, and do they contribute to exacerbating that imbalance. Steve, even if you only have one target and were very transparent about it, you end up not being neutral because if you say, "I only care about inflation, and that's all I do," it will still have consequences. It's not possible to be impartial to some of the forces that are there. And Raghu, I think you gave them a good warning. I'm afraid they're still going to see it's a train at the end of

the tunnel and not a light at the end of a tunnel, and I hope they listen to you this time.

Mr. Rehn: Thanks for a very insightful panel discussion and I have two questions. In fact, the first is related to concentration and to market power to which Raghu referred to in his remarks. I think there is a rather interesting and puzzling difference between the United States and Europe in this regard, and I wonder what is actually the chain of causality, which Thomas Philippon, for instance, dealt with in his paper and presentation. Is it only the more rigorous competition and antitrust policies in Europe compared to the United States that is the main explanation? Or, is it rather the incomplete nature of the single market in Europe compared to the United States? Could it be so that when you have less concentration and less market power in Europe, that may actually be because there are less successful firms, especially in the digital platform economy because of the lack of a true single market where you can innovate, invest, and create a positive circle in a big scale. So for me, in a way, the conclusion of this is we still need to complete the single market in Europe, especially as it comes to services and the digital economy, and I would like to have your take on this.

My second brief question to Steven. You referred to digital disruption and transformation of the economy and the banking industry. Despite being a central banker, you didn't actually refer to a digital central bank currency or digital cash as an option, as an alternative. For instance, the Swedish central bank has been examining this quite thoroughly as some other central banks. So in your view, as to digital central bank currency, is it too early, or will that never happen?

Ms. Buch: Thank you. I agree with everyone who has spoken about central bank mandates. We have to be very clear about what our mandate is about, and we need to find good explanations/narratives so that we can make ourselves understood. I would like to add two aspects to this discussion. One is that there are parts of our mandates where we don't act independently. When it comes, for instance, to regulation or to financial stability, we have to interact with other policymakers. I think we have to be very clear about that. And I wonder whether, as we discuss the international dimension, we shouldn't also

be talking more about these mandates and differences across countries. It's not only about monetary policy, but also financial stability policies and macrofinancial policies where we need mechanisms for international policy coordination. To some extent, we have these coordination mechanisms in Europe with our European Systemic Risk Board. We have to make very clear what those different mandates are and where we act as central bankers dealing with monetary policy or with other policy areas.

Mr. Wilcox: I'd like to offer a little different perspective on the issues around defining, measuring and pursuing y^* . I agree completely that these are difficult and important questions, but they may be a little more limited than maybe generally appreciated. I'd like to use this moment to issue what could be regarded as a partisan singing of Ben Bernanke's praises. Bernanke I think was brilliant and courageous for many reasons through the financial crisis. One of the more subtle reasons was that he reoriented, in my perception anyway, the pursuit of the stabilization of real activity away from stabilizing output around potential and toward the stabilization of labor market conditions around maximum sustainable employment consistent with inflation being at 2 percent. Now that doesn't mean that a lot of the difficult measurement questions effervesce and indeed we're attempting hard at the Federal Reserve and in cooperation with the statistical agencies to improve economic measurement. But it does finesse some of the most difficult economic measurement questions associated with, for example, estimating the rate of growth of potential GDP. I hope that history books 10, 15 and 20 years from now will recognize that among Bernanke's many contributions, that one was really important.

Ms. Cook: I will add one more question. Yesterday, it was brought up that a lot of the data that we're talking about are in private hands, and it seems to me that, if I were in your shoes, either current central bankers or former central bankers, I'd be extremely worried about this. So how worried are you that data that typically would be available to the central bank—the central bank used to be the place with the comparative advantage of having a lot of information—is no longer in your hands? If you wouldn't mind, if you'd address that, as well.

Mr. Rajan: I'll leave the question of data to other central bank governors other than to say there are always entities in the private sector that have more information on domestic issues than central banks have. Nevertheless, central banks have a lot of economists working on these issues, as well as some detailed private data that is non-public. It could be enough to make broad judgments. Central banks don't have to know every last detail in order to make policy.

On digital cash—I refer here not to anonymous digital tokens which simply replace fiat money but deposit accounts at the central bank, where interest can be paid on “cash.” I can see central bank getting into digital cash as something that raises two issues: First, is it going to price liquidity services appropriately when this intermediates the banks? Second, do the banks continue to benefit from raising deposit money as opposed to other forms of finance? When banks get crowded out of deposits, are you undermining the functioning of banks? Some would say, “No, no, you're benefiting banks because you're taking them out of that risky business of deposit-based funding,” while others, me included, think that funding through demandable deposits is fundamental to the bank's intermediation function. Which leads to the second issue; once a central bank does have deposits from everybody in it, how does it get the money out? What does it invest in? And if it invests in government securities, how does the government get the money back out to the private sector? I think that's a really important issue that we need to consider as well.

Mr. Poloz: I'll follow off on what Raghu was just saying, but a different view on that, which is that you can separate the provision of digital currency from the intermediation issue. Cash has a very important function in today's economy and it's not going away. It's still the only thing that gives you actually true, final settlement. I'll extend 20 bucks and I pay them, that's it, that's all. But if I have to give them my debit card or some sort of a wallet, they're still going through an intermediary and it's not final, it just is. So cash will still count and if there's a demand for it to be in digital form in the future, central banks will provide it. But I think it's quite feasible to separate that from disintermediating banks just as today we don't disintermediate banks by providing capital to the system.

On y -star, David's point, so for us anyway, and I think this is pretty common, there's a full coherence between our notion of what u -star is and what y -star, how y -star is behaving. There's a bottom-up process that goes through the labor market components that gets us to what we think is y -star. And then of course, the additional element of what's our assumption on investment in the capital stock. Just slightly more complicated, but at the same time it's slightly more important to the overall. I think of y -star more like dark matter. It's not observable, it's out there, but you can see its influence. That's why I argued in my talk one of the reasons why perhaps inflation has underperformed in so many places is that we're missing some of this stuff that's going on and we're prone to miss it.

So, yes, the big data is falling into private hands and I think that I don't worry about that. What we do is we're talking to those folks and getting access, tapping into it. We're now hiring data scientists to work along with our economists and doing lots of exciting things with big data. I'm actually very optimistic that we'll learn a lot from the big databases.

Mr. Carstens: I would suggest we shouldn't get caught up in semantics. If you don't want to use the word "protectionist," let's use the term "trade restrictions." And let's also not fall into the trap of discriminating between international and national trade restrictions. If you put trade restrictions between California and Arizona, or California and Nevada, it will have negative welfare impacts. The point is that it is well documented that trade restrictions generate welfare losses, generate distortions, and can make a central bank following its single most important mandate take actions that otherwise it wouldn't need to take. Now if we agree with Bill Spriggs, that people are worse off, we have to identify why that is. And if we're going to talk about freer trade, that might generate some transition issues, and those transition issues need to be addressed. But they have to be addressed in the most effective ways, through relocation and through training, to facilitate resource allocation and even by including these type of policies in trade agreements. I fully agree with what you said. The trade deficit of the United States is a structural issue, and it has to be addressed by tackling the fact that spending exceeds income.

If that is the source of concern, it should be taken care of. I don't think we have a major issue in terms of advocating for free trade and the welfare of not only the U.S. population, but the welfare of other populations too.

