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CAN WE MAKE GROWTH MORE INCLUSIVE?
A TRANS-ATLANTIC PERSPECTIVE

13th RAYMOND ARON LECTURE WITH
PHILIPPE AGHION AND HEATHER BOUSHEY

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P R O C E E D I N G S

MR. JONES: Good evening. Bonsoir. I'm Bruce Jones, the vice president and the director of the Foreign Policy program here at Brookings, and it's my pleasure to welcome you to this 13th Annual Raymond Aron Lecture. Tonight's discussion is going to offer a trans-Atlantic perspective on making growth more inclusive.

Economic growth has been at the heart of the post-Cold War period, an astonishing period in human history when we reflect on it. We know the broad picture against a backdrop of a broad peace, at least between the powers. Between 1990 and 2013, over a billion people were moved out of extreme poverty and roughly the same number moved into the middle class, especially in Asia. And the West, in particular it's Euro-Atlantic core, benefited tremendously from this growth and the international economic order that underpinned it.

The globalization's race forward over the past 25 years has certainly raised questions about its impact on both American and European societies. And from Piketty to Milanovic, we face increased evidence that the gains have not been for all. And in the wake of the global financial crisis, a related discontent has enabled nationalist and populist movements that have advanced in both Europe and the United States.

And to my eye, even in this moment amidst growing tensions between the United States and China in strategic and economic affairs, Russian aggression in Eastern Europe, this crisis, the political crisis of globalization is the greatest challenge we confront in the liberal international order.

The trans-Atlantic community is the head of that order. If we turn our back on the system that has kept us prosperous and safe for the past quarter century and beyond, it will slip away. We have let that happen before and history tells us how it unfolds. International cooperation is abandoned as protectionist measures rise and the global "other" becomes the enemy. The de-globalizing moments in history are precarious and they're dangerous. We're on the cusp of such a moment, although we're not there yet.

And through positive dialogues like tonight's we can, hopefully, push back against that trend. The lesson of history that we should reflect on tonight is that those believe in the merits of an open international order should fight for it when it is under challenge. And that is the context, in my mind at last, that we're debating this and related issues tonight.

And we're delighted to again present the Raymond Aron lecture, one of the longest running event series in our Foreign Policy Program. It's become a leading forum for debate in topics on the trans-Atlantic relationship and in the way the trans-Atlantic relationship tackles broader global issues, like globalization. So it's a special honor for us tonight to add another chapter to this series, to pay tribute to Aron's legacy, and to host two notable economic scholars and authors who will address the question of how to make growth more equitable in the current context: Philippe Aghion of the College de France and Heather Boushey of the Washington Center for Equitable Growth.

I'd also like to mention how fortunate we are and how grateful I am to have our Brookings colleague David Wessel joining us from the Hutchins Center on Fiscal and Monetary Policy to moderate the discussion.

To conclude, I would like to thank those who have contributed to making this event a success and to make it possible. We're indebted to the Embassy of France for their tremendous collaboration and support over the years, and I want to particularly recognize Ambassador Araud, who is here with us today. And I also want to thank the French Foreign Ministry and in particular the policy planning team led by Justin Vaïsse.

So now I'm going to turn the floor over to Philippe Le Corre, my colleague, to do a more formal introduction of our two speakers. Philippe.

MR. LE CORRE: Thank you very much, Bruce, and welcome, everybody. I'm delighted to be introducing Professor Philippe Aghion, whom I had the pleasure to host at the Harvard Club of France four years ago. Professor Aghion is an unusual French academic who has spent most of his career on this side of the Atlantic, obtaining his Ph.D. in economics at Harvard in 1987; taught at MIT before becoming a professor at the University College London and then at Harvard, where he was made the Robert Waggoner Professor of Economics in 2002.

Philippe Aghion developed the Schumpeterian paradigm, which he used to analyzed the design of growth policies. Much of this work is summarized in the books he co-authored in 1998 with Peter Howitt, "Endogenous Growth Theory and the Economics of Growth"; and with Rachel Griffith in 2006, "Competition and Growth." He was elected a fellow of the Econometric Society in 1991, and a fellow of the American Academy of Arts and Science in 2009.

But since this is the 13th Raymond Aron Lecture we always try to find a link with the great Aron, the great 20th century French intellectual, who was everything we like at Brookings: a political scientist, a philosopher, a prolific writer and journalist, but also an engaged intellectual who joined the Free French forces during World War II, and a man who was never afraid to go against the waves when expressing his views. Remember his major works such as "The Opium of the Intellectuals," true written assaults on the French intelligentsia; or the critical essay he wrote on the U.S., "Imperial Republic: The United States and the World 1945-1973."

Aron was also a sociology professor at the College de France, where Philippe Aghion himself became a professor in September 2015. I want to use this opportunity to say a few words about this extraordinary institution, which was founded in 1530 under King Francis I. It is still located in the heart of Paris near the Sorbonne, the Latin Quarter of Paris. And one particular aspect I want to underline here is that it does not grant degrees. Everyone can attend lectures by some of the world's best professors in science and humanities. Professors are elected by their peers. And the motto of College of France in Latin is Docet Omnia, "It teaches everything."

So if you don't live in Paris, which I suspect is the case for most of you, I highly recommend you go online and watch some of the hundreds of podcasts available on iTunes in French, English, and even Chinese. You can watch Aron, you can watch Bourdieu, you can watch Foucault and you can watch Aghion, who has just crossed the Atlantic to address the subject of inclusiveness in the United States and Europe, the subject that we at the Center on the United States and Europe, part of Foreign Policy, run by Bruce here, it's highly relevant at this very critical moment.

Let me also say that we are very fortunate to have with us Dr. Heather Boushey, who is the executive director and chief economist of the Washington Center for Equitable Growth. Heather Boushey received her Ph.D. in economics from the New School for Social Research and became an economist with the Center for Economic and Policy Research, then the Economic Policy Institute, and the United States Congress Joint Economic Committee.

Her research focuses on economic inequality and public policy, specifically employment, social policy, and family economic wellbeing. Her latest book, "Fighting Time: The Economics of Work-Life Conflict," was published by Harvard Press earlier this year.

Let me now welcome Professor Aghion for his lecture. Thank you. (Applause)

MR. AGHION: So it's a great honor to be here. Thanks so much for inviting me and way too generous in the introductory words, Philippe. And it's a great honor to have you, Monsieur Ambassador.

So I would like to start with the following quote from Raymond Aron. So here I have a picture of Raymond Aron. And I like this one because you have -- there is light coming out of him. (Laughter) So in French it is: Ce sont les hommes qui écrivent l'histoire, mais ils ne savent pas l'histoire qu'ils écrivent. I tried to translate it, but I'm not sure it's so great. I translated it something like, "These men are those who write history, but they don't know which history they are writing."

This is particularly true of recent economic history. We did not anticipate the recent financial crisis, but we did not anticipate either the effects of globalization and the effects of the recent technological revolution, the ICT revolution, in particular. And we were not adequately prepared to deal with some negative secondary effects: increased inequality and the populism that we see now.

So, therefore, that motivates the question how can you make growth, innovation-led growth, more inclusive? And I will try to also say a few things on what can Europe learn from the U.S. and vice versa? What can we learn, the U.S. and Europe, from each other's experience on how to make growth more inclusive and divide or stop, you know, the rise of populism that we see now?

So, of course, Aron is a giant and I would never dare to compare myself to him. We have points in common. We are both French Jews. So another point we have in common is that I discovered -- I didn't know that actually, but, you know, going through Google and all that -- that Aron about Marx very well, I didn't know that. Shame on me. And I also studied Marx a lot. And, in fact, we would have made ours the following quote, which is to say Marx is too good to be left to the Marxists. (Laughter) But, in fact, that quote was neither by Aron nor by myself. This quote is due to Schumpeter, who you have here. That's what Schumpeter would say. And, in fact, Schumpeter -- if you know "Das Kapital" by Marx, in fact, it's true that you can see how Schumpeter initiated a lot from volume 3, you know, the third part of "Das Kapital," if you know. I could go on on "Das Kapital" for a long time, but I won't do that. (Laughter)

Okay. So what I've done over the past 30 years with my college Howitt and then with other co-authors, like Daron Acemoğlu and others, and I had a whole bunch of co-authors, is to develop a theory based on some Schumpeterian ideas. Because when I studied growth, the model on fashion was the Solow model, a model due to Robert Solow, who is a fantastic economist, and did a very elegant model with only two equations to describe everything. And it's very elegant and very helpful. But that model, the purpose of that model, was to say without technical progress you cannot have long-run growth. You cannot just rely on capital accumulation to grow forever. At some moment, with only capital accumulation, you run out of steam and you cannot have long-run growth.

So it was a growth model to explain to us that we could not have long-run growth if we don't have technical progress. But the model of Solow would not explain where technical progress comes from, so you needed to find something else, but there was no such model. And, in fact, you would hear about Schumpeter. Schumpeter would be very interesting ideas, but there was no model and no empirical analysis.

So what we did with my colleagues is to take some ideas from Schumpeter and say let's try to be the model around those ideas and to see how we can dialogue between the model and the empirics to be able to learn something about the growth process. And so we built a model, which we could go, now people call it Schumpeterian Growth Theory, but it's also the Aghionic model, but, you know. And it revolves around three ideas.

The first idea is that long-run growth is driven by innovations. So the second idea is that innovations result from entrepreneurial activities that are motivated by the prospect of innovation (inaudible). But very much this is very important because it tells you that institutions and policies impacts on growth because they affect the incentives to do R&D or to engage marginally in innovative activities.

If I am in a country where I am expropriated, I will not do innovation because I know that the rights for my innovation will be expropriated. If I am in an environment with hyperinflation, I will not engage in innovation because I know that all the rights for my innovation will be expropriated through the inflation tax. You see? So the policies and institutions shape the growth process because they impact on the incentives to innovate. So the second sentence tells you that you can talk about policies and institutions of growth, the institutions that are good for innovation and growth, institutions and policies that are bad for it.

And the third sentence is creative destruction. New innovations, particularly frontier innovations, they displace old technologies. That's a very important sentence because it means that growth is a conflictual process. It's a conflict between the old and the new. You see? So you can talk about the political economy of growth and the important there -- and that will be very important when I talk about inclusiveness, is that the innovators of yesterday tend to become the incumbents, the entrenching incumbents of today, who try to prevent new innovators from coming in. So you need to have a system that at the same time rewards innovation, but not to an extent that the innovator could use the rewards to prevent subsequent innovations. And that's the kind of square in the socket problem with innovation. Okay.

And some countries are better than others at dealing with this dilemma. That's the political economy of growth. You might have heard about the book *Why Nations Fail* by Acemoğlu and Robinson. It's entirely based on this, you see. There are countries that deal well with it, they call them inclusive; and there are countries that don't do it very well, they call them extractive, but it's really this (inaudible).

Okay. So that's the introduction. That's the framework we've used. And with this framework we can talk about enigmas of growth. So let me go through some enigmas and then I will go into what can Europe and the U.S. learn from each other on making growth more inclusive. Okay.

So the first enigma is the growth enigma. The first enigma is the middle income trap. I will take a glass of water because I dried myself. So it was very fast because I was at Harvard. And, you know, of course, when I would talk about the middle income trap you saw the initials, it looks like MIT, which is not fair, you know. (Laughter) But don't see any bad intention, it was just pure (inaudible). Okay. So they were our friends and competitors.

So you want to understand this is the per capita GDP of Argentina compared to that of the U.S. And you can see that between 1870 and 1930, Argentina was always like 0.4 of the per capita GDP of the U.S. So they were growing as fast as the U.S. And then after 1930s, they grow less than the U.S. You see what I mean? So that's a country that started doing well and then when they reach middle income or whatever, they stop doing that well. You see?

And China is now obsessed by the same problem. They say we grew fast, we grew through catching up, and how we don't know if we can grow through innovating so much. And they are obsessed by the middle income trap. That's their obsession. They want to make sure they avoid the Argentina scenario.

So the way to explain the Schumpeterian framework is to say, well, you have two ways to generate productivity growth. One is to catch up with the leading edge. You catch up with what we call the technological frontier. And another one is to innovate upon yourself. If I am a country like China was in late '70s, you want to catch up. That's the main source of growth. But if you're already an advance country, you need mostly to innovate upon yourself. You see what I mean? And it turns out that what makes you catch up are different policies than those (inaudible) in use innovating at the frontier.

If you are in the business of catching up, it's no big deal to have limited competition on the product market. You have like big firms and they catch up and they adopt more advanced technologies. It's no big deal not to have much labor market flexibility because you can have the same people working in the same firms forever. It's no big deal not to have good graduate schools because you need primary, secondary, undergraduate. It's no big deal not to have big equity financing. You've got to have banks and government subsidies.

And whereas when you want to do frontier innovation, then it's important to have competition. You need entry and exit easy. You need also flexible labor market because you try, you need to be able to hire quickly or dismiss if you change activities. And you need to have good graduate schools. I mean, (inaudible) is close to Stanford;

128 is close to MIT and Harvard. You see what I mean?

So, and equity financing is also important. You need venture capital. You need business engines. You need private equity to finance very innovative undertakings.

And so the policies that enhance imitation are not the same as those that enhance innovation. As I said, if you want to enhance productivity growth in advance countries, you want to invest in high education, you want flexible product and labor markets.

This represents the effect on growth of higher entry rate, that's a measure of competition, on UK firms. The blue firms are the firms that are at the frontier. On them more competition induces them to innovate, to escape the competition for entrance. But when you are a red firm you are lagging in the sector. You are already discouraged by the leaders and more competition from foreign will tend to discourage you more. So we can see right away that competition tends to enhance innovation for those who are already doing very well; it tends to discourage innovation by those who are behind. But, of course, the more advanced the country is, the more you have blue firms compared to red firms. So the more advanced a country is, the more growth-enhancing it is to have -- you know, to liberalize produce market, to have more liberalized competition. That's an example, but it's true also for labor market and for higher education.

So whereas if you are an emerging market economy, then what you want is essentially like China did. They forced their technology transfers, they reallocated factory production, and they improved management practices. And here is a diagram due to my friends Nick Bloom and John Van Reenen and their co-authors that shows the management practice scores for various countries. You see that the U.S., they have very good management scores; then Japan, then Germany, Sweden. You see France below, you see Latin America below, and Central Europe. And then you see South American and then you see Africa at the bottom. So you have scores for management, you know, for management practices.

And the idea is that, you know, when you are a catching-up country, you can improve through improving your management practice. That's one of the big margins on which you can improve.

But anyway, the important thing there is that how can you explain the middle income trap is a very simple way. You have countries that started to grow because they were catching up. But the problem is that at some moment they should have switched to policies that favor frontier innovation, but they didn't because you have big incumbent interests.

For example, in Korea, you know, you have what we call the chaebols. Those are the big firms that grew during the catching-up period of Korea. And those, you know, will tend to say, no, we don't want more competition because we are there. In Japan, it's the keiretsus. You have these big conglomerates called the keiretsus. They grew very big during the catching-up period of Japan, and they somehow prevent the transition of slowdown, the transition to pure innovation-based economy. So that's something that you'd explain, you know, the middle income (inaudible), the middle income Japanese high income. But that may explain the difficult transition from imitation-based to innovation-based. Okay. So that's a kind of first type of enigma.

France is facing the same kind of problem. We were very good during the Trente Glorieuses. We were catching up. We had the institutions for that. But now the problem of France is to have institutions that will help into a more innovation-based economy. And we are dragging our feet in making that transition. Okay.

The second enigma is a debate on secular stagnation. So here come Robert Gordon, whom I respect enormously. And Gordon's view is to say, look, in fact, I cannot show it, but you can hear me from there -- a promise for you, I guess, no? -- but you had a wave. That was the steam engine. The steam engine was there. You see? The productivity -- the steam engine represents labor productivity, or TFP, in the U.S. So you had the wave of the steam engine was there.

And there you have the second wave of the electricity and chemistry. And there you have the wave of the ICT, the information telecommunication. And you see that each of these waves looks smaller.

So that's Gordon's view. Gordon thinks that the big innovations, which we call general purpose technologies, are a bit like fruits on the tree. The nicest fruits are the one you get first and then you climb higher to try to get other fruits and the fruits you get are not so good. They are a bit bitter. You see what I mean? And he believes that innovations are like fruits: the best ones are the ones you get first and then they become worse and worse.

So for Gordon, we are done. Growth started in 1820 with the English revolution and essentially now it's almost finished. We have to agree that it was a parentheses and that will be no more. And I disagree with this view for several reasons.

The one is, I will quote Dale Jorgenson, is the idea that the ICT revolution not only changed the technology to produce goods and services, it also changed the technology to produce ideas. Now when I work on a paper, I am on Skype every day with my co-authors from Australia, from the U.S. I am on Dropbox. We can collaborate much better than we could before. So the technology to produce ideas has never been as good as it is today thanks to the ICT revolution.

The second thing is that the runs to innovation have never been as big as they are now because when you make a big innovation you have the whole world, thanks to globalization, for you, for runs. So the runs to innovating are enormous.

And there are needs for innovation. Like, for example, in renewable energies we know that we cannot use (inaudible) on a large scale yet. You see? Maybe tomorrow we can. On health, we would like to see the day where maybe I can do 3D printing of my liver and then I avoid (inaudible), I can replace my whole liver with a new one or whatever. I don't know, I mean, if that's the way it will happen. But obviously, there's nothing as stupid as I say, but it will be very big revolutions on health, you see. And there is a huge demand for such revolutions. So how can we believe that this is it for innovation?

But the thing is that you cannot predict when the new big innovation will happen. You see? But it will happen. You can increase the probability for it to happen, but you cannot know exactly when it will happen.

The second objection is missing growth. I'm doing some work with an economist from Stanford called Pete Klenow. And Pete Klenow is kind of leading empirical growth these days, okay? And so I make a big advertisement for Pete Klenow, who deserves it. And what we do with Pete is to say, well, the problem is that we don't know how to measure growth. Why don't we know how to measure growth? Because, you see, the problem is that we know the value in dollars, okay. We know good in dollars and another good in dollars, so you can compare dollars to dollars. But the problem isn't that. There is inflation and the real growth, and we don't know how much is inflation and how much is real growth. You see what I mean?

When we see a good which is worth that much more than another good yesterday, a good today is worth much more than another good yesterday, we don't know how much of it was due to inflation and how much of it was real quality adjustment. So for a good, if it's the same good yesterday and today, we know it's purely inflation. If it's a good that's slightly improved, we know by how much we improved it, so there you can disentangle. But when you have a new product, and there we go back to creative destruction, when you have a new product replacing an old product, you don't know.

And what BLS does, most of the time, is imputation. You know, you impute the growth brought about by the new goods and you say as if it was done by the existing goods. You see what I mean? And you call that imputation in the U.S. And in Europe, they call that extrapolation. But whether one or the other, you essentially use the existing to infer what the new would bring to the old. You see what I mean?

And because of that we calculated with Pete Klenow that you are missing 1 percentage point of productivity growth. You see what I mean? If they say TFP growth is 1.5 in the U.S., it's truly 2.5. So I don't call that stagnation.

You know, in France we had a finance minister, no name, who considered that 0 percent was good news in France, you know. Zero percent, it would be good to have been negative. But at 2.5 percent it's great news, I believe. You may have a way, but I would not call that stagnation. You see? So that's my second argument.

There is a third argument, which is Europe. Europe, we have the advantages of our drawbacks. The drawback is that we are far behind the frontier. You see that? We are below the frontier because many countries in Europe have not got their acts together.

And look at Sweden. Sweden is here. And Sweden was growing at 0.7 percent per year. That's the TFP of Sweden. And you see that after the reforms they did in the early '90s, they multiplied growth by 4, the measured growth. So Sweden has -- whereas Japan, you see Japan growth is slowing down. You see, Japan is exactly the mirror of Sweden. You see that? Okay.

And, you know, other countries have reformed. Netherlands, they did big reforms in '83, in the early '80s. They multiplied by 3 the TFP growth. Canada, I know that's not in Europe, but I mention that as a developed country. You know, they multiplied by almost 4 their TFP growth. Sweden has multiplied by almost 5 its TFP growth rate.

So by reforming -- and I will say, well, what do you mean by "reforms?" By doing good structural reforms you can increase growth. What's interesting with Sweden is that they did it while preserving the social model. You see? You still have growth, but it's inclusive. In Sweden you have to know that health is totally free, education is totally free, and you have subsidies. You have (inaudible) labor market policy and poverty rates are very low and the social mobility has not gone down in

Sweden. You see what I mean? So that's very interesting that Sweden managed to do that while not reducing social mobility and while preserving (inaudible) access to public services. So that's what I call inclusive growth. You see? Okay. So that's my second enigma.

My third enigma is innovation, inequality, and social mobility. Everybody has seen now this curve, okay? So that's from my friends Atkinson, Piketty, and Saez, and that shows the evolution of the share of income earned by the top 1 percent income earners in the U.S. And what you see is that since the early 1980s, it has gone up. You see the share of income of the top 1 percent income earners has been rising sharply. It's also true for the top 0.1 income earners, okay?

So there we all agree. And I think a big contribution of these colleagues is to have shown this. The question is why? How do you explain it? And that's where we start disagreeing. Okay?

And one thing I want to point out is this figure. This figure is showing the share of income; again, I show the red curve is the share of income of the top 1 percent earners. So you see again it's exactly as before, but I scaled it differently. But you see an acceleration in the increase of the shareholding income top 1 percent. But the gray curve is the flow of patents. You see that at the same time patenting has accelerated in the U.S. That, of course, is no proof of causality. I just show that the two curves move together, but, of course, it doesn't show causality.

But in recent work with Richard Blundell, who is heading the Institute of Fiscal Studies in England, in London, and is (inaudible) microeconomic regions in the world. He's getting Nemmers Prize this year, which is a big announcer, predictor of the Nobel Prize. So he's not, you know -- and knows what economic tricks are all about, you know.

So in the joint work with them we showed, in fact, the causality from innovation to top income inequality. Why is that innovation, you know, increased top income? Because you make runs when you innovate. You make runs. Those runs take you to the top income. You can show that with aggregate data. I just showed that with individual data, looking at Finland and following an individual innovator. Whenever you innovate and you make a patent at USPTO or a Europe Patent Office patent, you are very likely to move to the top income bracket. Okay. So that's no surprise. So that's the thing.

In fact, the richest man in Sweden now is Mr. Skype. Mr. Skype did not exist 20 years ago, and that's what happens. So you have the rich -- it's a source of top income inequality. But the thing is, is that it's different from other sources. So I have colleagues in France who believe that the rich are all rentiers, that innovation does not exist, and that the only source of top income is because you have (inaudible). I call that (speaks in French). You have a hotel and you have a monopoly and you become rich. Okay. But that's not true.

Because why is innovation different from other sources of top income inequality? Because first, innovation generates growth. Okay?

Second, we can show -- and that's what we do in this paper with Blundell -- we show that innovation, of course, top income inequality. We show a causal link from innovation to top income inequality. But we show that innovation enhances social mobility, and that's the creative destruction. I told you that the new replaces the old, and innovation, especially by entrance, enhances social mobility.

And the third thing is that because (inaudible) social mobility, innovation does not increase broad inequality. And I showed that on U.S. cross-state panel data. So we look at various states of the U.S. over the past 30 years. And we look year by year how inequality, the share of top income or other measures of inequality in the state, depend on past innovation in that state, measured by the total volume of patents or the quality of patents in that state.

And the first thing we showed is that, of course, here I have innovation percentiles. So a same state in different years may be there and then there or then there. You see? So your state in a year is on that scale.

And so when you are here, is that you have no innovation flow. When you are here, you have high innovation flow. And the red is the corresponding share of top income, of top 1 percent income in the state. And what you can show -- and that's a causal regression using IV, using instrumental variable, strategy -- you show that, in fact, the more innovative you are, the higher the (inaudible). So there is a clear causal link between innovativeness and shareholder top 1 percent income. Okay?

But on the other hand, the gray curve shows the Gini 99, shows the Gini is a global measure of inequality, which is how far you are from perfect equality, taking out the top 1 percent. And you see that there is no effect of innovation on the broad inequality.

So it's very interesting because it's true that in innovation increases top income inequality, but it does not increase inequality at large. This yet get also in historical data. I have a colleague called Akcigit and co-authors from Chicago. They've done that on historical data. They found the same thing, actually, on historical U.S. data. It's a very robust finding. So that's the thing.

Now here is social mobility. I have innovativeness on the horizontal axis and social mobility, which I measure by the extent to which the income of the children is not correlated with the income of the parents. So I measure social mobility by the probability that the child makes it to the top quintile if the parents are in the bottom quintile.

But you have other measures of social mobility, and I do that using Chetty, et al., paper where they look at social mobility cross-commuting zones. So here I do the analysis on cross-commuting zone and I show that the commuting zones that are more innovative are also the commuting zones with more social mobility. And that is mainly driven by entrant innovation, by innovation by new people, not by old people that have been around for a long time.

So that's very interesting because, you see, that's what I call Steve Jobs versus Carlos Slim. In Mexico, the richest man is Carlos Slim. He might have been an innovator in his youth, but the Carlos Slim I know is someone was already rich and became much richer when they privatized telecom to Mexico. I was married with a Mexican. Whenever I would phone in Mexico, it cost me 10 times more than elsewhere. That's not the reason why I divorced, not at all. (Laughter) No, no, I promise you.

So, you know, that's a source of top income. I mean, you know, yeah, you become head owner of a lightly regulated, but not so regulated monopoly, private monopoly, that's a way to make money. Okay. But Carlos Slim and Steve Jobs, it's not the same thing.

And so we looked in the same data at lobbying. And we looked at the effect of lobbying on the various measures of inequality. We saw that lobbying reduces productivity growth because you put down three barriers. Why do you lobby? You lobby to prevent entry. That's what you do. Okay, so that's bad for growth.

But also, we showed that lobbying increases top income inequality, but it increases inequality at large. It reduces social mobility. So that, you see, you have two sources of top income: low being more entry barriers on the one hand and innovation on the other hand. Both contribute to the top income, but they don't have the same effects on social mobility and on broad inequality. So a tax system should not treat those the same way. You see?

So that's my difference with Piketty and others. In their world you only have Carlos Slims. Steve Jobs does not exist for them. There is no Steve Jobs in their world. And so when they think of taxation, innovation doesn't exist. So you need, you see, to separate.

And in Sweden, they did a tax reform in the early '90s. They used to have a tax system like France has today, which you don't want to have. And what they did is to change their tax system, they kept -- it remained redistributive. It remained a tax system that allows them to finance social services and education, health, and everything. But, at the same time, it became more inducive of innovation. And you see, that was, I think, a very important thing to show.

Now I come to the conclusion. I mean, I can see Philippe getting a bit worried, but so very, very subtle. A lot of subtle -- you know, you did it in a very subtle way. (Laughter) You don't even blush or nothing. I really am amazed.

So inclusive growth, what can U.S. and Europe learn from each other? So first, what can Europe learn from the U.S.? First, it's true that Europe, we know the European economy's less resilient than the U.S. Following the crisis, the U.S. recovered growth partly whereas Europe not. Okay?

So people ask why is it that Europe has not recovered growth? So the first type of reason was given by my friend Jean Pisani-Ferry, who is heading the France strategy. And he said it's true, the sequencing of policies following the crisis in the U.S. was not great because what they did in Europe was what they did in the U.S., is to do the stress test to deal with the financial system, to deleverage, but, at the same time, they did it in a way with accommodating monetary policy. And they did not insist too much on budget deficit, so that it did not lead to a recession, to a bigger recession. They avoided the big recession. So they deleveraged in a way that minimized the scope for bigger recession. You see what I mean? And then later on they dealt with the budget, you know, reducing deficit, and now only they start thinking of increasing interest rates. You see what I mean?

Whereas in Europe, the sequencing was very different. Very early they didn't deal right away with the banking problem. And what they did is to first, they very quickly said, no -- after the Greek crisis particularly -- we have to deal with the budget deficit. You see? So they imposed already in 2011 very tough budgetary rules, which forced Sarkozy in France, for example, to already increase tax a lot and then Hollande increased tax further. That killed growth in France, I mean, I can tell you, but it was already started with Sarkozy in 2011 because he already had a knife under his throat. You see what I mean? He had to do it. And only later with the bad loan problem, with the stress test of the banks and all that, you see.

So Europe followed exactly the opposite sequencing as the U.S. But it was only so because Germany didn't trust the partners. We'll get back to that.

But also, the other reason is that the U.S. has a more flexible economy. You have a more flexible labor and product market than we have in France and a number of European countries. And the third thing is that you had a more proactive macroeconomic policy. You had a true quantity easing policy. Europe came later to quantity easing. Draghi came to it later. You had a much more, you know -- you said the macro economy has to accommodate it. And we lack both. Both, we don't have flexible markets in Europe and we don't have a countercyclical fiscal and monetary policy as you have in the U.S. Okay?

And we know, in fact, I'm doing work now, showing that there is complementarity between, on the one hand, structural reforms that liberalize product and labor market and, on the other hand, having a more countercyclical macro policy. It turns out -- and that's the Draghi -- what Draghi very much spoke in this way. But if we look at the growth benefits of a more countercyclical monetary policy where you lower interest rates more in a recession or you do more quantity easing in a recession, and you look at the effect it has on growth of various sectors, you can see that the growth effects are much bigger in sectors that are more liberalized, where you have more competition. It's very interesting.

France over the past years, we had what we call in French the alignement des planètes. We had low interest rates, we had low euro, and we had low price of oil. We should have grown very fast, and we didn't grow. Why? Because we have very rigid markets. You see what I mean? So you can all the macroeconomic policy you want. Without the structural reforms you don't go far. So in that respect, Mrs. Merkel is right, but where maybe other people are right is to say you should also have a more proactive macro policy in Europe, and Germany should invest more in infrastructure, modernizing its infrastructure, or whatever.

And both are complementary, and you have both in the U.S. much more than you have in Europe. And it's interesting to understand what prevents it. I think it's a problem of trust. The Germans don't trust the French. They are right because the French so far have not done any significant reform. And they say as long as they don't any significant reform, why should we change our macro policy? But some people in France said as long as Germany remains very tough on macro policy, why should we ever reform our product and labor market? And we are now in this kind of stuck, you see, even though both are good for growth.

And we should have new growth pact between France and Germany as a basis of a pact for Europe, saying we do serious structural reforms in France, but because we do that, you will do it for proactive macroeconomic policy. So that's one thing that we can learn from the U.S., both together.

What can the U.S. learn from, in particular, I would say Northern Europe? First that trade is good. Don't go against NAFTA. Don't try to reduce trade because we know that single market is good for innovation. I've done work for 10 years with Blundell, *et al.* We saw the enormous effect that the single market (inaudible) if Brexit -- you know, that's also for the Brexit thing.

If you only knew the important effects, growth effect, that single market has had in the UK or for any European economy, it first does innovation. Why? Because more trade creates a bigger market for innovation. We call that the market size effect. But also trade increases competition, and that reinforces the incentive to innovate. For both reasons trade is good for innovation-led growth, so that's the first lesson to learn.

Don't try to break up the multilateral agreements against trade because trade is good for growth. I know it's true that trade creates inequality, but don't throw the baby with the bathwater. Okay? Have the growth, but then deal with inequality that it creates, okay, and have a system to deal with that. But don't renounce to growth and trade and all what can create growth just because you have more inequality. Have systems that can manage the inequality.

And that brings us to Scandinavia, okay. So we know to become more inclusive you need education. Who voted Brexit? Who voted Trump? Who will vote Mrs. Le Pen? I hope she won't win. The uneducated. You need to educate people; very important to have them feel part of the innovation process. Okay?

Health is also very important. You know, there are some candidates in France, they should know that health and now only -- you should not only reimburse, you know, the bigger operations. You should also reimburse, you know, a very -- because if you have critical bronchitis, you know, your productivity goes down a lot. It's not just -- you don't need (inaudible) to not be productive. There's a whole range of things that make you much less productive, much less innovative. Investing in health is investing in human capital as much as your education is investing in human capital. It's very important.

And the very important thing is flex security on the labor market. Denmark, but other countries as well, have understood that if you say to someone who becomes unemployed you will have generous unemployment benefits, but you might follow good training and you need a good training system, and we will help you find a new job, not only it creates a good safety net that people feel that it's not a drama to become unemployed and they can manage the creative destruction much better, but it makes the creative destruction process itself much more efficient. So it's good for both inclusiveness because everybody feels part of the economy, they don't get out of the system, but it's also good for growth because you know that people retrain and rebound into a new job. And that's very good. It makes the process much more efficient.

So I just want just two things here. That's based on the Chetty, *et al.*, work on the social mobility. They look at social mobility across commuting zones in the U.S. So on the horizontal axis you have schooling, test scores at schools, and on the vertical axis you have upward mobility, the extent to which the child is likely to make it to top income quintile if the parents are in bottom quintile. We see, of course, that's not a scoop. More education, better scores, better PISA tests, that makes you for more mobility.

But what's very interesting is this one. That shows here on the vertical axis here I have an inverse measure of social mobility. I have the difference in outcome between a child of a rich and a child of a poor. And on the horizontal axis I have job creation and job destruction. It's a measure of job market dynamism. It's Davis (inaudible) for those who know the economics. It's taken from Davis (inaudible) and again using the Chetty data across commuting zones.

And you can see that wherever you have more job market turnover, you also have more social mobility. So there is hope for social mobility, for inclusive growth.

Why is there hope for inclusive growth? Because we know that the engines of innovation-based growth are education, in particular higher education, and flexible labor and product market. But those guys also grow towards more social mobility, particularly if you do the labor market flexibility the way Danish do. You see what I mean? With the serious retraining, generous unemployment benefits, and helping people find a job. So there is hope to have more inclusive growth.

If you are able so that everybody can feel part of the process and nobody's left out, then you can reconcile. Then people will not be afraid of globalization. They will not be afraid of trade liberalization. And they will go into the 21st century because they know they are not left out of the system.

So the conclusion is that inclusive growth is the best vaccine against populism. Europe should emulate the U.S. and combine structural reforms with more proactive macro policy. That's the French-German pact that I want.

Second, U.S. should emulate Northern Europe in making growth more inclusive. Learn your lesson from Brexit and from the Trump victory, and come up with ways to say, of course, it's good to have to push innovation. Do it in a way that does not discourage innovation, but make growth more inclusive.

Just to finish I want to cite Alexis de Tocqueville because I'm in the U.S. Okay? And nearly 200 years ago, in 1835, in his book on democracy in America, Alexis de Tocqueville wrote the following, "I cannot help fearing that man may reach a point where they look on every new theory as a danger, on any new innovation as a toilsome trouble, on any social advance as a first step towards revolution, and that they may absolutely refuse to move at all for fear of being carried off their feet."

My hope is that the lessons Europe and the U.S. can learn from each other's experience will contribute to dispel this apprehension by showing the way towards a more inclusive and sustainable growth path. Thank you very much. (Applause)

MS. BOUSHEY: Okay. So thank you, Philippe, for an engaging discussion. I will not even attempt to be as witty or wave my hands around as much as you did. (Laughter) Maybe I will because I've been inspired. I thought it was fantastic, so thank you.

I also fear that I may be a little less optimistic. I've been trying to get out of my dour mood for, I don't know, what, six to eight weeks now. And I think that a lot of my talk today reflects that. My sense that what we're seeing here in the United States is not a country or a population that is enthralled with the creative destructive process because too many people feel that they're being left behind and then their communities are part of what's been destroyed. So, again, not to start off on a downer, but I think that's a lot of what -- as I was listening, realizing that my remarks are really moving in a slightly different -- quite a different direction.

There's one statistic that I've come back to time and time again since the election that is really sticking with me that I'm struggling to -- that I think a lot of us should be thinking about and that I've been thinking about a lot, which is that Hillary Clinton won in the communities. I actually don't remember what the unit of analysis was, so let's just use community, but in places where the economy was growing and Donald Trump won in places where it was not.

And when we think about the economy and what we're supposed to be doing as economists in terms of economic policy, you know, the biggest, most important thing to most people out there in the United States is that the economy provides them with a good job. And that a job then allows them to have affordable housing, health care, and access to opportunities for self-betterment. This is a part of the American dream, right, and part of the idea that your children will do better than you do. And all of this hinges on having that good job.

But for too many people here in the United States, even though we have fairly strong growth, even though we have fairly low unemployment, for too many people we are failing to meet those objectives. And even for those who aren't poor, because I know there's been a lot of talk since the election that a lot of folks that voted for Trump weren't poor, right, but there is this sense that part of what is happening in terms of our economy and why we need inclusive growth is that we're not doing as well as we think that we should.

So I want to lay out a few comments, hopefully, and dialogue with what you've already heard. And hopefully, we can have an interesting conversation. Let me wave my arm a little bit just to feel like I can bump up the energy in the room. I'll just do that every few minutes if I say something too dour.

So I have two findings that I want to start my remarks up here this evening. So the first comes, and we're going to quote a lot of Raj Chetty here this evening, the first comes from Raj Chetty from new research that was released last week, where they've been looking at absolute income mobility; really the probability that your child does better than you or that you do better than your parents. And what they found looking back to children born in 1940 is that there's been a sharp decline in economic mobility. It's been a downward slope here in the United States in the post-war era.

So let me give you two numbers here. Of children born in 1940, 92 percent earned more than their parents in inflation-adjusted terms. For children born in 1980, only half, 50 percent, actually earn more than their parents. That is a remarkable decline in what I think most of us think is a fundamental tenet of America, which is that we're going to do better generation after generation. It's quite simply not true.

And the people for whom it has been more not true than others? People who are in the middle class, those living in the Rust Belt, and men are the ones who've experienced the largest declines and the likelihood of their children earning more than their parents. So that seems like an important thing that we need to be thinking about as we're thinking about how we're going to have an inclusive economy.

What's behind this mobility? So Raj Chetty and his co-authors estimate -- in their analysis they find that what's behind the lower mobility is both higher inequality and the unequal distribution of economic growth. But they find that higher growth alone is not going to solve the problem. And, in fact, the bigger issue actually today is high inequality. So even if some of those high wages that people are earning is because they're extremely talented and innovative, there's something pernicious going on in terms of the level of inequality in the United States, at least in terms of affecting overall mobility.

So this connection between how well the economy delivers for families and economic growth is, I think, at the very core and the heart of economics, or should be. And it's, of course, one that's just been reverberating through our politics. And for a long time, economists and the policymakers that we advise have believed that as the economy grows, the gains will be distributed across society. And what we now know is that that's simply not been happening.

We used to believe this because of some research that was done in the middle of the 20th century, in no small part by Simon Kuznets, who postulated that as economy grew there would be this period where you would have heightened inequality, but then that would dissipate. And after reaching a certain level of development, then things would become more equal, and so we didn't really need to worry about inequality. And perhaps inequality is because of a good cause, so also we don't need to worry about it, which is one of the things that I take from your lecture in some ways.

Yet we know that I think that Chetty's data causes us to bring this into question. We need to rethink this dynamic between inequality and growth.

And this leads me to the second finding I want to elevate, also from new research released a week or two ago. This is by Thomas Piketty, Emmanuel Saez, and their colleague Gabriel Zucman, who've combined data from a variety of sources, both surveys and administrative data, to build a new series on the distribution of national income. So picture GDP growth data, NEPA data that comes out every quarter, and we know what's going on with the economy. What they've done is matched that information to information on what's happening across families, so you can account for all of the income.

Their data shows that the bottom half of the income distribution in the United States has been completely -- completely -- shut out from economic growth. It is striking. From 1980 to 2014, average national income per adult in the United States grew by 61 percent, yet the average pre-tax income of the bottom 50 percent, after we adjust for inflation, grew by 1 percent. In contrast, incomes have skyrocketed at the top, rising 121 percent for the top 10 percent, 205 percent for the top 1 percent, and 636 for the top .001 percent. I'm sounding like I got a lot of numbers there, so I dare you to remember all those, but incomes rising very much at the top.

The other groups, including the OECD, are doing similar analysis and this new way of looking at growth is one thing that I hope policymakers will start considering in future years, adding this to our national economic statistics. Of course, I'm actually very concerned that we're going to be moving in the opposite direction. You talked about BLS data in your remarks and one thing that President-elect Trump has talked about on Twitter is his disdain for the BLS and for the work that it does, and so I have a lot of concern about the measurement that we're going to be having for these kinds of issues that we're talking today. But if we move in a different direction, adding information on income distribution to our nation's national income data would be a good place to start.

So these two new findings, I think, require that we focus new attention on what we know about the optimal growth path and looking deeper at the purpose and role of the inequality in our economy and our society. So a key question that I think we have to answer is do we need inequality for an economy to growth?

You've heard an argument for why inequality -- why there might be some good things about making sure that folks at the top, that this is due to innovation. But there are a lot of other mechanisms that we can pinpoint in economic research that show that the story isn't that simple, that the kind of skyrocketing inequality that we have here in the United States today is curtailing the ability of families to have their children do better than they do and it's curtailing our ability to have strong economic growth.

So the way that I think about it is thinking about the mechanisms through which inequality could affect the economy and our society, and there are some big buckets: debt and consumption, human capital, entrepreneurship and its effect on our institutions, which I'll pause on at the end. But let me walk briefly through the first three, so starting with the macro view. You have to pardon me; I'm getting over a bit of a cold here.

So let's start with the macro view. Many economists now believe that the United States is experiencing secular stagnation. So new research by Adrien Auclert and Rognlie find that the increases in inequality plays a role in this macro story, depressing aggregate economic growth, both in the short term and potentially the long run. In the short run inequality lowers consumption and economic output. In the long run it can lead to secular stagnation because investment never rises to match desired savings.

But there's another story in terms of the distribution of debt. So one of the books that I think is so important from the past few years that came out is one by Atif Mian and Amir Sufi, who showed that the rapid increase in debt in the rise up to the financial crisis in the early aughts, that the distribution of household debt across families amplified the collapse of consumption flowing from the bursting of the housing bubble, and that both exacerbated and extended the Great Recession and slowed the eventual recovery. So inequality in wealth, inequality to access to the kinds of credit that families had access to, had a direct effect on economic stability.

Shifting to a couple of microeconomic factors along the lines of how increasing income and wealth inequality contribute to economic growth, I point to work by sociologist Sean Reardon, who's shown that the educational gap between children of the rich and children of the middle class has exploded over the past 30 years. This larger gap is due both to rising income inequality and a strong connection between income and educational outcomes, with each trends about equally responsible. That's really important. So if how much your parents make matters just as much as what you actually learn in school, that says something about the effect of inequality on our society.

And that affects the potential for people to grow up and become entrepreneurs. One of the things that we know about the United States is that traditionally most of our entrepreneurs have come from the broad middle class. They haven't been very poor and they haven't been very rich. And it may be because there's a little bit of if you're in the middle class, you both have the economic stability, maybe a family with a house where you can start a business in the garage, or you have health insurance, you have that economic stability to do something, but you've got a little bit of that desire in your to actually make something of yourself. You aren't handed everything on a platter.

But one of the things we know is that alongside rising inequality, the potential for young people to grow up and to be entrepreneurs has been declining. So Raj Chetty and his co-authors did some really interesting research showing that they traced schoolchildren. Looked at their test scores when they were little kids in school and they looked at the probability that they got patents later on in life, and the children who got high test scores, but were from low-income families -- I may be saying this slightly wrong -- that it wasn't so much the test sores of the children when they were in third grade that predicted whether or not they got patents, but it was also the income of their parents. So smart kids from poor families not growing up to be those kinds of innovators because they don't have the same opportunity, that's an enormous loss of wealth and talent in our society.

So let me move along here. So finally, and more importantly I think for our conversation today and what we need to be thinking about in terms of inclusive growth for the United States moving forward, is the effect of inequality on our institutions. So I think as economists too often we tend to forget about the importance of institutions and norms and think about the messy reality of them.

At my center we've been looking at a lot at the political science literature and working with political scientists who are looking at the implications of inequality on political decision-making and democratic accountability. For example, work by Larry Bartels and Marty Gilens and Ben Page, who found that in the United States the likelihood that legislation becomes law is highly correlated with the wealthy support of that legislation. So if a policy preference of those at the top aligns with the rest of society there's a mutual benefit, but if it doesn't, in their findings, it doesn't happen.

So that's a problem because it means that that poses enormous challenges both for our democracy and for the ideas that are bubbling up to the top, the kinds of conversations that we have here at Brookings and how they're being influenced. But the effects of inequality on our institutions go far beyond these kind of retail politics.

We need to think about how one of the things that we've see over the past few months is, well, we've known for decades that Americans have had a decreasing trust in government. We've seen how this has played out over this election cycle and what it's going to -- I have a lot of questions about what trust in government's going to look like moving forward with the next administration. And here scholars are concerned about how the high levels of inequality erode social bonds and norms.

So these challenges to which inequality affects economic growth and stability means not only is the growth we're seeing now unequally distributed, but that in itself could be depressing future growth and depressing middle and working class lives even further. So what do you do? And what might be possible in the current political climate? So let me just lay out a few ideas.

I think that on the whole we've tended -- policymakers and the economists have tended to think about post-market gaps, addressing after -- using the tax and transfer system for redistribution rather than thinking about what we do before we get to those market outcomes. But I want to give a few ideas that actually focus on what could be called pre-distribution, focusing on these pre-market outcomes. And I want to focus on three areas, thinking about how we look at inequality and growth, not just at the bottom or not just at the top, but looking at all three. What are things we could do at the bottom, the middle, and the top? And in each of them I'll make a few comments on what I think about the politics.

So first, I think it's important that we start by thinking about talking about raising the bargaining power of labor through increasing access to collective bargaining. It's something that we've lost here in this country and I know that it's something that Philippe has written about or has talked about in his writing, as well. Strengthening labor, wither by unionization rates or by mandating worker representation in corporate decision-making in some way would help to ensure that people have voice at the table.

Now, I'm under no delusion that this Congress and this administration are huge fans of labor rights, but I do think that putting that at the forefront of our thinking, especially in thinking about the implications of this for labor law enforcement and for what it means for people to be able to earn a decent wage is an important thing to keep on our minds.

For families at the bottom we need to be very focused on anything we can do to boost wages. The federal minimum wage has not been increased in a number of years and the purchasing powers, of course, declined. But even in the 2016 election we saw four states -- Arizona, Colorado, Maine, and Washington -- pass ballots measures that will raise the minimum wage significantly by 2020. This is not the first election in recent years where you saw at the federal ticket level the election going to Republicans, but by ballot initiatives the people of those states voting for raising the minimum wage. There's an important, I think, message there for how people in those communities are thinking about what's good for their economies.

We also need to think about how we can make sure that there are policies that help people actually get to work and stay at work. We need policies that help caregivers manage their responsibilities, things like paid family leave, paid sick days. Now, during the presidential campaign Ivanka Trump, Donald Trump's daughter, encouraged her father to focus on paid maternity leave, which was quite exciting for those who have been thinking about this for quite some time. And I've heard through the grapevine that she wants to make this one of the President-elect's top 100 days' priorities.\

Now, I'm not sure if that's going to happen; I don't know how much power she'll have. I don't know if we'll see that, but given what we know about family economic stability, ensuring that dads as well as those of us who need to care for a sick or aging loved one are included in that policy should be a top priority. It's also important to ground that in the evidence of what we know from the four states that actually have this policy and what we can learn from their evidence.

Moving to the top, we need to talk about a tax policy here in the United States that encourages investment and discourages rent-seeking. Now, conventional logic here in the United States is that higher taxes on the wealthy will discourage them from investing. However, researchers have been finding something very different, and here I point to work also by Thomas Piketty and Emmanuel Saez, and this time with their colleague Stefanie Stantcheva, who find that a large share of the high pay for those at the top here in the United States is not productivity enhancing, meaning that low taxes for the very rich is actually discouraging growth. It's encouraging people to engage in tax avoidance, like parking their money overseas; or paying a lot of lawyers, which is not necessarily a creative destruction, growth-enhancing thing to pay lawyers to encourage you to figure out ways to avoid your taxes; or they are using their high earnings to pay themselves more through interlocking structures of U.S. corporate boards and salary-setting packages.

Now, I'm under no delusion that this current Congress and this administration are moving in that direction. In fact, they've said that one of their number one priorities is not only to not raise taxes, but to further lower taxes enormously for those at the top of the income spectrum and do things like eliminate the estate and gift tax. But if they actually care about the economy, I strongly encourage people from both sides of the aisle to take a look at this research and try to understand what it is that low taxes at the very top are actually doing to our economy, to investment, and to our society.

So I want to just close with just a couple more remarks and then I'll stop. So as economists I think we tend to be very heavily invested in models on how the economy works. That's what we do for a living. And the messiness of the real world and how economic outcomes shape and reshape the institutions that set the rules for how our market works, that is how government works, how institutions within the communities work, that's not really what we as economists, that's not what our discipline does, it's not always top of mind. Although it's very exciting to hear people starting to think about that and I would point, also, to *Why Nations Fail*, Daron Acemoğlu and James Robinson's book that certainly tries to think through this.

But I think in many of the economic trends that I've highlighted and this recent election should push us as economists to try to better understand the role of institutions and trust in institutions and how this affects -- how inequality affects them and how that in turn affects economic growth and stability.

One thing is that while our models predict that we can compensate losers in the economy, we can say that if we have a trade deal that is good overall for the economy and it promotes growth and on net it's going to be good for the United States, but some communities are devastated by it, we think as economists, well, you can compensate those folks. You can give them some money or you can give them some retraining. But the hard part is that that hasn't actually happened in the real world. Those families aren't compensated to the extent of what they've lost. Right?

I was in an event in North Carolina a number of years ago where this nice man stood up and talked about how his job had been lost in his community to some sort of trade something or other, and he'd got some retraining and he was psyched about that, but whatever he'd gotten retrained for, those jobs -- that plant was also leaving his community. And what he was really worried about was not just himself because he could move, but he was worried about the community that he'd lived in and all of the other people that were there.

And I think we haven't spent nearly enough time understanding the massive dislocation that millions of people in America feel from the kind of economic growth that we've seen. It's one thing to say, well, we can give people a couple thousand dollars in trade adjustment assistance, we can give them a little bit of unemployment insurance, but that doesn't rebuild their community. It doesn't create economic vitality.

So the only alternative, I think, for us has been to say, well, then just move. And that's, of course, what a lot of the best and the brightest and young people do in those communities, and that leaves a lot of people without that talent, without the youth and vitality, and super frustrated.

So I think we have to take more seriously what does inclusive growth mean? What does inequality mean? And how are we actually in the real world, not in our imaginations, not in a model, but how are we actually going to deal with the consequences of some communities benefiting from economic growth and others not?

I'll end there. (Applause)

MR. WESSEL: So I think we've learned a number of things. First of all, it is apparently possible to get an aerobic exercise while doing an economic lecture. (Laughter) You know, there's a lot of talk about how, you know, academics and think tank people are getting obese because they don't get enough exercise. And Philippe, I want to commend you. You set a role model for all of us. (Laughter and applause)

The second thing, I'm reminded that you can always boil these things down to a few simple observations and one of them is that we in America want all the good parts of the European economy and none of the bad parts. And the Europeans similarly like all the good parts of the American economy and none of the bad parts. And neither of us has figured out how to do that.

And the third thing is, which I'm serious, is that one really has to be in awe of the work that Raj Chetty has done. You can see how much, how often he came up in here.

Philippe, we're going to have a very short discussion and I'll leave time for a few questions at the end. But Philippe, I want to start with something that Heather said, which was basically she argued that the amount of inequality we have in the United States is now an impediment to the kind of innovation and growth that you would like to see. Do you agree with that?

MR. AGHION: Yeah, absolutely. I mean, I think the problem, you see -- I think France, for example, and the U.S. don't have the same starting point. I mean, probably you should raise minimum wage; probably you should raise bargaining power, you know, in collective negotiations; and probably you should raise the maximum marginal tax rates. You see what I mean?

In France, we have a very different situation because capital is over-taxed in France. By all means, some people have 140 percent tax rates on capital income or (inaudible). And maximum marginal tax rates can also with the (speaks in French) together can be extremely high and that's prevented the growth and didn't give us more social mobility. You have less social mobility in France than you have in neighboring countries.

And the minimum wage is another thing you mentioned. I'm sure you need to raise minimum wage here. In France, the problem is that minimum wage has gone up faster than productivity. And the problem is that, you see, if you were draw a curve where you have on the horizontal axis minimum wage and on the vertical axis social mobility, you would get an inverted U because beyond a certain level of minimum wage you discourage hirings and you get a much more dual labor market and that reduces social mobility. So you need other instruments, as well, to fight poverty other than minimum wage.

And in France we had the RSA, the minimum income. You have other instruments to complete the minimum wage when your minimum wage reaches a certain level. And so we could discuss those things.

But you see, you can -- I agree that you need -- and you mentioned education. Of course, when compared to Sweden and the Scandinavians, we know Goldin and Katz, for example, you didn't mention, have done this very interesting work showing that, in fact, you know, the gap has gone up. I mean, unaffordable tuitions have exacerbated the increasing wage inequality in the U.S. Of course, that problem you don't have in Scandinavia where education is free.

MR. WESSEL: So your argument is that we have too much inequality here and you agree with Heather that that's an impediment to the kind of changes we need?

MR. AGHION: I think it is. I think because you make the -- even the creative destruction (inaudible) because you see the social -- it comes to a point where mobility is impaired.

MR. WESSEL: So, Heather, let me ask you, so Philippe made a pretty compelling case that if we focus too much on reducing inequality, we may have a more equal society, but we will lose some of the growth, that we'll have more goods and services to share. So you emphasize very much all the things you thought we ought to do to reduce inequality. Are you at all concerned, though, that -- I mean, wouldn't we be better off if we had both more inclusive and more growth? And are we going to get more growth if we set as our only priority reducing inequality?

MS. BOUSHEY: So, yes, I think it would be great to have both. And I think that we -- I mean, so it's a matter of degrees. Right? Like, you know, a little bit of inequality, a good thing; too much inequality, very much a bad thing. And I think that here in the United States we seem to have tipped over the edge where you have less economic mobility and you have this very high inequality. And it does appear to us here, at least in the United States, that a lot of the very high incomes are more about rent seeking than they are about innovation.

MR. WESSEL: Right, and we'll get to that. But what about wouldn't we be better off with a faster growth rate even if we didn't have less inequality?

MS. BOUSHEY: So I take very seriously the new data that Piketty, Saez, and Zucman have just released. I do not think it is acceptable to have the United States growing per capita at 61 percent between 1980 and 2014, and the bottom 50 percent getting 1 percent of that. Why do we have growth then? I mean, so what's the point, right? I mean, isn't the point of having an economy is so that people can --

MR. AGHION: I would like to add just one thing. When we talk about inequality, I think we need to be very clear what we're talking about. There are various measures of inequality and the work of Chetty, again we'll mention Chetty as our reference -- my colleague and I like him very much -- there are several measures of inequality. One is broad inequality with Gini, for example, or the 9 tiers, the ratio of the 9 tiers to the 10th percentile or the (inaudible). That's one measure, kind of broad inequality, broad static inequality.

You have another static measure of inequality which is the share of income of the top 1 percent income earners.

MR. WESSEL: Right.

MR. AGHION: And then you have a more dynamic of equality which is social mobility.

MR. WESSEL: Right.

MR. AGHION: They have a relationship between them. For example, we know that where you have more social mobility, you tend to have less broad inequality. That's call the Great Gatsby Curve, okay. More or less, it's not completely true, but Chetty found it, you can find it on cross-country regression.

But what's very surprising is that the areas in the U.S. where you have more social mobility and less broad inequality, you also have a higher share of income of the top 1 percent. You see, it's very interesting. For example, California, some place in California compared to Alabama, Mississippi, you have much less social mobility in Alabama and Mississippi, you have more social mobility in these areas in California, but also the share of the top income is higher. It was also a more innovative place, typically. You see what I mean?

So when you talk about inequality, I think we need to be very clear which one am I concerned about? Am I concerned that someone is very rich? That doesn't bother me if someone else is very rich. J'en regarde pardon la cete desote, as we say in French. That's not the problem for me. You see what I mean? What's important is you have -- if a reform gives me boost growth, you know, and does not reduce social mobility, to increase social mobility, I take it even if it might increase top income inequality.

The only worry I might have with top income inequality is that the guy who has top income may use it to prevent future innovation. And then we go into the super (inaudible). But there you deal with it probably with progressive taxation, but partly with competition policy and partly with other things. For example, when they decided, the Supreme Court in the U.S., that companies could finance campaigns with no limit, that was very bad because it helped incumbents, of course, get the hedge over the potential entrant.

MR. WESSEL: So you made a very appealing point in your presentation that we should come up with some tax system that didn't penalize Steve Jobs or other innovators, but did penalize rentiers that would make it less likely that we have the incomes going to people who are just capitalizing. So how exactly are you going to do that? (Laughter)

MR. AGHION: There are various ways you can do. First, you can have special tax for real estate, for example, you know, which is different than what you would have for other things. Okay? So that's a way.

MR. WESSEL: This may (inaudible) that you get in the Trump (inaudible). (Laughter)

MR. AGHION: Of course, I don't pretend here to design -- yeah, Trump would not like it. I don't pretend here to design an optimal tax system. You know, there have been --

MR. WESSEL: Oh, you're thinking of profit.

MR. AGHION: -- you know, the bonus review on the tax system, which is a huge volume, the bonus review, and I would not pretend to redo the bonus review in one second. But certainly there are ways that you can -- or you have, you know, R&D tax credit or you may have ways that you can deal and, you know, distinguish Carlos Slim from Steve Jobs.

I wanted, by the way, to say about Stantcheva. You mentioned Stefanie. I work a lot with Stefanie actually. We do a lot of work on tax and innovation with Stefanie, so she works with Piketty and she worked with me, as well, and she's the same Stefanie Stantcheva. They did a paper with Ufuk Akcigit that you may know on mobility of researchers that came out recently. You see, yeah, The American Economic Review. And they showed that the maximum margin of tax rate has an effect on the mobility of inventors, so you have to be careful. It's important to have progressive taxation, but beware.

For example, when in Sweden they reduced the maximum margin of tax rate, which was at 90 percent, you see what I mean, there it was they lowered it to 57 percent and they put capital income tax at a flat 30 percent. Innovation boosted, you see what I mean? And they did it in a way that they maintained the social model.

So I think, you see, I want to look at their study because there may be (inaudible) there, maybe even from (inaudible) the U.S. you would increase a bit the marginal tax rate, you would certainly not have a negative (inaudible). But if you go directly from where you are to where Sweden was before 1990, I bet you you will have big effects there. And again, appealing to Stefanie Stantcheva, the same one.

MS. BOUSHEY: Yes.

MR. WESSEL: Do you want to respond to any of the 50 things he just said? (Laughter)

MS. BOUSHEY: Yeah.

MR. WESSEL: Pick one.

MS. BOUSHEY: Pick one.

MR. WESSEL: Please don't respond to all 50.

MS. BOUSHEY: No, I think that, yes, I have seen that study. Where we are in the United States, of course, is much lower marginal tax rates at the top, so I think we always have to ground this in the reality of where we are now, which is that, yes, if you taxed it -- I mean, did you say that taxes in France were at 140 percent for capital? I mean, if you go that high, right, that's ridiculous. You would not want to go from where we are to there, from here to there so quickly. But that doesn't change the fact that you could increase taxes at the top.

MR. AGHION: Of course, absolutely.

MS. BOUSHEY: And you could also be thinking, to your question, David, about how you could conceive of a tax that rewarded innovation. There are a lot of tax credits that we have that don't reward innovation, so you could actually start by instead of maybe trying to lower that, thinking about property, thinking about estate and gift taxes, which are really about social mobility. They're something that -- I mean, the United States was first in the developed world of putting together those kinds of taxes at the early part of the 20th century, and that's something that we've completely reversed and that there are calls now to eliminate the estate and gift tax altogether. That is not a recipe for innovation. That's a recipe for allowing a small number of American families to not only have the wealth, but to keep it in perpetuity.

MR. WESSEL: Let me ask two questions before I turn to the audience. So it seems to me, now asking economists to talk about politics is always somewhere between dangerous and foolish, but you had a wonderful line, Philippe, that you said that inclusive growth is the greatest vaccine against populism. But another way to look at it is that a recipe for more redistribution and more innovation and more competition, all that, seems to be very unsettling to people, that creative destruction is not very welcome if you're the one who's being destroyed.

It does not seem to be politically popular in a democracy to have the kind of reforms that either of you are talking about. So how can we be -- no one could be against more innovation and a greater distribution of the prosperity that innovation brings, but how do you respond to the rise of Marine Le Pen, the success of Brexit, the rise of

Donald Trump? Whether he won the popular vote or not, he turned out to be very popular. The Republicans have complete control of the Congress. The programs that both of you are enunciating do not seem to be sellable to democracies in advanced economies, so now what?

MS. BOUSHEY: Yeah. Well, they're not only not -- I mean, even though they remain popular, right, if you look at polls, policies like raising the taxes on the very wealthiest or making it harder for companies to ship their jobs overseas through the tax code or parking their money overseas, these are things that Americans want, but, yeah, they voted -- there was one candidate who had an inclusive growth policy agenda and then there was Donald Trump. And Americans -- I mean, most people voted for her, but Donald Trump won.

So I think that your question is very apt and don't think that I'm sure that all of us aren't thinking about that. I don't have good answers yet, but I do think that -- yeah.

MR. AGHION: I believe in several things. I mean, I won't say always Scandinavia or the (inaudible) Germany or Holland, but I think they have various things. First, they say everybody goes to very good schooling. You see what I mean? In Finland, you know, Chetty, again, has done interesting work -- my god, he's our hero today -- on the quality of teachers and the effect that you know about. We know teacher quality is very important.

So in Finland, to be a teacher, primary, secondary, or whatever, you need to go to high school, then 5 years in university, then 18 months of training as a teacher. And you're regularly retrained and there are tutors for each run, you know what I mean. They have anybody in difficulty, they have to -- they invest an enormous amount and very well in education. So you have a basis of education for everybody of very high quality.

Then they have a labor market where they retrain. You have a retraining system that works. And you have this like security system, but you have this very basic education where you learn how to learn.

Now, if on top of that you put a very good system where when you lose your job, you get 90 percent of your salary. Okay? You get very well retrained, you have a very good retraining system, and you are offered a job and health in such a way that you're always in contract with someone, then, you see, you leave the thing very differently. You see, it's like if you're skiing and I make you --

MR. WESSEL: Okay, but you've had a conservative government and you've had a socialist government.

MR. AGHION: (inaudible) in France.

MR. WESSEL: Yes.

MR. AGHION: But Hollande didn't listen to anything we said. I mean, they screwed up. I mean, don't start me on Hollande. I mean, I don't want to say -- no, that's okay.

MR. WESSEL: So you think that it's political? You think that a --

MR. AGHION: No, no, no. No, no, they didn't do it. I mean, they did other things.

MS. BOUSHEY: I think --

MR. AGHION: They didn't try to do it.

MR. WESSEL: All right.

MR. AGHION: But where they did it, you know, as we said in Demark, all the active labor market policies in (inaudible) countries have had big effects.

MR. WESSEL: You think you can sell those to voters?

MR. AGHION: I think -- my hope is that we can sell those to voters.

MR. WESSEL: Let me ask one final question and then I want to go to the audience. I only have time for a little bit. Neither of you mentioned the word "immigration" once. Is immigration a good way to get innovation to end monopolies and rentiers? Is it a good way to move the production possibility frontiers to spread productivity from one country to another? Is it a good way to reduce inequality or is it not? So you want to start?

MS. BOUSHEY: So it all depends on how you do it. I mean, I think it can do both and it depends on -- I mean, here in this country we have a lot of people who are here who don't have the right to work, right, which then makes it impossible for them to have good jobs or they're not secure in their rights as workers. Labor laws are not necessarily enforced in those cases, so that does then pull apart inequality. But we know that when communities have influxes of immigrants it's growth-enhancing. They tend to be entrepreneurs. They bring a lot of new ideas, and that can be a really good thing. And we know that there are a lot of people with talent all over the world who'd like to go to different places.

So, I mean, it's how you deal with dislocation and it's how you deal with the rules of whether or not someone can actually work. If you're going to let them work, then that seems like a growth-enhancing thing. But if you're not, then it's pulling things down.

MR. AGHION: Yeah, I very much agree. I mean, I think a country where you say no immigration, you condemn yourself. I mean, you see, for example, Japan. I was talking about Japan. One big problem they have is they have an aging population. And when you have an aging population it makes it less prone to innovate and to challenge that structure, I think. So immigration brings you new blood, new ideas.

If you look in France, for example, the big celebrities of France, many of them came from other countries. I won't talk about my own parents because, of course, I would look biased, but my mother created a firm in France and others, but they came with ideas from abroad. She was from Egypt, okay. And many people came from -- big names, you know, Gambetta and other big names in French history.

SPEAKER: Valls.

MR. AGHION: Valls. Valls, from Barcelona, I don't know, but I -- (Laughter) But, you know, many people came from -- that brings a lot. The whole thing is to manage it. So you need to have a policy to manage, to say, you know, how many. There is the working immigration, there is the human rights immigration. And you have to have a policy to manage it or to make sure that you integrate them properly and that they you treat them properly. But I think you did well manage immigration policy, so we agree on that.

MR. WESSEL: I'll that as a yes-but. All right. Do we have a mic, somewhere the mic? All right. I'm going to take three questions and they better be short and then the answers are going to be short.

The gentleman right here on the aisle and there's a gentleman here. Tell us who you are.

DR. HANCOCK: Yes, I'm Dr. Sam Hancock of Emerald Planet, Emerald Planet TV. Something we haven't talked -- or a number of topics we haven't talked about is innovation in renewable energy and the whole energy phenomena.

MR. AGHION: Yeah, okay.

DR. HANCOCK: And then also green agriculture. That's where many of the jobs are and that's usually at the middle and lower middle class persons.

MR. WESSEL: Okay, good, thank you. Can you pass the mic over here to this gentleman here?

MR. RYBECK: Hi. I'm Rick Rybeck with Just Economics. And David asked a question about how the tax system could be reformed to discourage rent-seeking and encourage investment. In this country we have a property tax and we think of it as one tax, but it's really two. It's a tax on privately created value in buildings and improvements and it's a tax on publicly created value and land. And some communities have, without changing the total revenue, simply reduced the tax rate on privately created building value while increasing the rate on publicly created land value. And without losing revenue they create wonderful incentives for job creation, more affordable housing. I'm just wondering if either of you have thought about this or have any ideas about it.

MR. WESSEL: Okay, Henry George. Over here, the gentleman right here.

MR. BONPAUL: Unner Bonpaul, independent consultant, for Heather Boushey specifically. Ex post inclusive growth, meaning how would you evaluate basic minimum income, say, versus the dollar for training, which is much harder to calibrate specifically to a labor market?

MR. WESSEL: Right, okay. Let me take one more. In the back, the guy right near you. Yeah. Tell us who you are.

MR. ASSAN: I'm Dalha Assan. I'm at the Federal Reserve. So this question was for Philippe. I liked how Heather mentioned Mian and Sufi's book. In that book they actually talk about the creative destruction process when they focus on the time in which during a financial crisis defaulters take on the entirety of the risk in a debt contract. And I wanted to find out your thoughts on their proposition of an index-contingent debt contract and whether that would allow for better equality in that destructive process.

MR. WESSEL: Okay. Why don't we start with, Heather, the tradeoff between a universal basic income and spending money on social programs, like training and education? Do you have a view on how we balance those?

MS. BOUSHEY: Yeah. I mean, I think it's interesting conversation. I have two initial reactions every time I think about the basic income guarantee. I mean, one is that firms know better than we do what they want us to know how to do. So I find it a sad statistic that firms do less training internally over -- that they're decreasing the amount over time. Because, you know, community colleges and individuals have a hard time, there's an information asymmetry there. So if we were going to do something, I'd like to encourage firms to do more training. And, of course, you know, that's sort of a different kind of agenda.

And then around the basic income, I mean, I do think that the most important thing is that we provide for people that don't have jobs now, but that we also keep our eyes on the prize that most people want to work. They want to have jobs. And that we don't get too sort of enamored with this. I mean, there's like so much excitement about it right now, at least I keep reading about it, and I want to make sure that we're really focusing on making sure that every job is a good job. So we're thinking about policies like the minimum wage of the Earned Income Tax Credit alongside that.

MR. WESSEL: Philippe, income contingent or state (inaudible)?

MR. AGHION: Yeah. No, I agree with that. I think it's a very good proposal. I am fond of their work. I'm a big fan of Sufi and Mian and I fully agree with what they propose, so I have nothing to comment. I think I cannot do better than what they would do, so I am publicly in the same direction.

Someone asked me about renewable energy, so that's a whole issue. So I've been doing some work on that with John Van Reenen, who is another co-author of Chetty. This is all, you know --

MR. WESSEL: It seems very incestuous.

MR. AGHION: It's incestuous.

MR. WESSEL: So can you identify the list of people --

MR. AGHION: We work with each other. Yeah, I share a lot of co-authors with Chetty.

MR. WESSEL: -- with whom you have not worked? (Laughter)

MR. AGHION: I have not had to write a paper with Chetty so far. But I share --

MR. WESSEL: (inaudible) by next week, I hope.

MR. AGHION: I share several co-authors with him. I compete with Chetty for my co-authors. So with John Van Reenen we did an interesting study where we showed we had data on patents by -- clean and dirty patents in the automotive industry. And we showed that those who have done dirty innovation in the past, there's a paper in the (inaudible) now, and keep doing what they used to do. You tend to keep doing what you did. That's what we call past dependence. So you need the role of the state to redirect (inaudible) progress.

We didn't talk about so far about the role of the state, by the way. That's a very important question, I'll come back to that in a moment.

So you need the state to redirect the (inaudible) change. You can do it partly with carbon tax, but because you have two externalities -- one is a direct pollution externality and one is a knowledge externality of the type I told you -- it's always good when you have two externalities to have more than one instrument to deal with them.

So in related work with Daron Acemoğlu -- again, it's incestuous, another co-author in the area -- we show that it's, of course, ultimate to have the combination of a carbon tax and direct subsidies to green innovation. But it's a very important thing because the thing is that when you factor in innovation, even, you know, Nordhaus and Nick Stern had a debate on the discount rate. I don't want to bother people on this, but the bottom line is when you factor in innovation, even with the discount rates of Nordhaus, you want to do what Nick Stern says. Because if you don't act now, not only you pollute, but you make the dirty technologies go even more ahead of the clean technologies and it will become even more costly to later on induce redirected (inaudible). It's like the dentist. You know, if you wait to go to the dentist, the cavity becomes bigger, so you want to deal with it.

So it's very interesting when you favor in innovation, you need to act now even with the Nordhaus discount rates because not only you create bad production externalities, but you have a bad knowledge externality, inducing more dirty innovation in the future. So there is a whole research there.

But also it's interesting with innovation, when you don't believe in innovation, you are necessarily in a Malthusian world. You say the only way to avoid pollution is to stop growing whereas when you have innovation in your world, you say, no, I can escape the Malthusian drop, but I need to direct innovation to a clean innovation, which means that you need to have the role of the state beyond law and order.

In France we have a debate. There are those who are attached to the old welfare state, the welfare state of catching up economy. There are those who believe that you should have only the state in charge of law and order and withdraw from everything. But I just gave you an example that you need the state, also, whenever you have externalities, and in particular to deal with the climate externality. So you need to go beyond (speaks in French).

MR. WESSEL: So with that, please join me thanking both Philippe and Heather. (Applause) And, again, I think for all my colleagues here at Brookings, we're very appreciative of the French government helping to make this possible.

And when you leave, if there are coffee cups and papers at your feet, you will make our maintenance staff happy and reduce inequality of happiness at Brookings. (Laughter)

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