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MANUFACTURING UNDER THE TRUMP ADMINISTRATION  
SIXTH ANNUAL JOHN WHITE FORUM ON MANUFACTURING

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**Media Perspective: What's New Under Trump:**

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## P R O C E E D I N G S

MR. WEST: Good morning, I'm Darrell West, vice president of Governance Studies here at the Brookings Institution. I would like to welcome you to the sixth annual John Hazen White Manufacturing Forum. And we are webcasting this event live, so I'd like to welcome our viewers from around the country and around the world. And I would especially like to welcome our viewers from Taco Comfort Solutions, which is a global manufacturing firm headquartered in Cranston, Rhode Island, and the company makes high efficiency heating, cooling, and air quality systems, and operates in many different countries around the world. The factory there is having its employees watch this forum so that they can understand the important role that manufacturing plays in the world economy and what our country needs to do in order to improve manufacturing. So we will be archiving the video for this event, so anyone who wishes to view it after today will have an opportunity; you just need to go to our website at Brookings.edu. We also have set up a Twitter feed at #USmfg, that's #USmfg. And you could also follow @Brookingsgov if you wish to post comments during the Forum.

We have several distinguished guests here with us this morning. Our benefactor, John Hazen White, is here along with his wife, Liz, and sons, John and Ben. Johnny is the chairman and owner of Taco. We would also like to welcome Will VandeWeil who is the CEO and president of Taco. And Johnny and his company have been very generous in making this forum possible. And this event continues our long association with the White family, which dates back over 25 years.

And today we are making a new addition to our collaboration. We're pleased to announce that Johnny has made another major gift to support a new initiative called the John Hazen White Global Manufacturing Initiative, and that initiative will look at what is happening in countries around the world in regard to manufacturing, and also what the United States can do to improve the climate for manufacturing. So, among other topics, this initiative will address regulation, workforce development, energy, and standard setting processes related to manufacturing. So we're very excited about this initiative, we're going to use it to support new research and new activities on that topic. And our goal is to use this work to have real impact on the world and improve the situation facing American workers.

So please join me in thanking Johnny, his family, Will, and the entire Taco community for all of their generosity. (Applause)

So for several years in this Forum we have explored different aspects of manufacturing. We've looked at the manufacturing renaissance and what has helped to bring this sector back, we've look at some of the obstacles facing the industries and ways to overcome them, we have examined the previous administration's focus on regional manufacturing hubs and what they are doing to encourage innovation and to create jobs. And so now with the comeback of manufacturing and its move into exporting and advanced manufacturing, today we want to focus on manufacturing under the Trump administration. During the course of the forum we will look at several different questions, such as what is President Trump doing to advance manufacturing, as well as his broader economic agenda, what policies will ensure economic growth in the midst of a complicated geopolitical and international environment, will some of the president's manufacturing policies spur job growth and cultivate a strong American economy, and what do republican and democratic leaders offer as potential solutions to provide economic security for ordinary Americans?

So this morning we have a great program that will examine these as well as other questions about the Trump administration. Our first panel will discuss some of the new initiatives and policies that we're seeing from the administration. After that we will have panels that discuss changes in the manufacturing industry domestically as well as what they situation is abroad, how other countries are trying to advance manufacturing and what is going on in the global arena.

To help us understand what is happening we have three distinguished experts. Tim Aeppel is a reporter for Reuters where he reports on issues related to economics and manufacturing. He is also a research affiliate for MIT's initiative on the digital economy. He started his writing career as a Christian Science Monitor reporter and later became chief economics correspondent at the Wall Street Journal.

Michelle Jamrisko is a reporter at Bloomberg News where she focuses on the economy. She's written a lot about U.S. manufacturing, the labor market, and the health of the U.S. economy, especially under the new administration.

And then Nancy Marshall-Genzer is a Senior Reporter at Marketplace. She's reported on many of Washington's current events. She has worked both at National Public Radio as well as NBC radio and television. She's a recipient of the American Medical Writers Association award for her efforts

on America's most profitable drug companies. And so she's written extensively about some of the topics that we'll be covering today.

So I want to start with Tim. So in a recent Reuters' article you discussed Trump's appeal in the small city of Elkhart, Indiana. And you wrote that, "The problem for many workers here is one of quality not quantity." So how is the Trump Administration trying to provide both more jobs and better jobs?

MR. AEPPEL: Well, I think that one of the biggest changes we've seen has been a look at the nature of the jobs that are being created. One of the things that the Obama administration and prior administrations have emphasized is the need for manufacturing jobs. The Obama administration famously promised to create one million manufacturing jobs, and he was really about numbers. What's interesting now is that through the presidential campaign there's been an actual discussion of what kind of jobs have been lost and what kind of jobs have been added. And I think Elkhart was an interesting place to look at this because it truly is a place where there are plenty of manufacturing jobs, they just aren't necessarily the manufacturing jobs that a lot of people think of when they hear about good manufacturing jobs. I'm thinking of places where they build a new auto plant and thousands of people will apply for a few hundred jobs --

SPEAKER: Louder please.

MR. AEPPEL: Oh, okay, sorry. There are a lot of places where there are plentiful jobs, but they aren't necessarily the jobs that people have become accustomed to thinking of as good manufacturing jobs. A lot of those disappeared during the downturns of the 1980s and into the '90s with the restructuring of the economy and off shoring.

Elkhart is a place where it has a very deeply rooted domestic industry because that's where most recreational vehicles are produced in North America, so they have a very strong industrial base. It just is a place where there's a lot of frustration among voters there and I think one of the things that's come out in this campaign was that just creating jobs isn't enough, there have to be jobs that people feel are career paths, that are secure, that offer middle class benefits and lifestyle. And that's the real challenge of the prior administration and this administration because the nature of global competition is particularly strong in manufacturing. It's the true nature of the business is that it has to compete globally

and that makes it very difficult to create the kind of jobs that people think of traditionally from the 1950s and '60s of jobs that didn't require a lot of training but still provided good incomes. Now people need to have a much higher level of capability, a much higher level of training for many of the best jobs. And I think that going forward is probably the biggest challenge that this administration faces, is that they've raised a lot of expectations that good jobs will come back. The missing piece are where are those people going to be coming from, how are they being training, who's going to pay for that, and how will the regulatory environment and the tax environment support those kind of changes.

MR. WEST: Okay. So, Michelle, you've written extensively about Trump's policies, so how would you describe the president's basic approach on manufacturing as well as the economy in general?

MS. JAMRISKO: Well, when you talk about manufacturing and his strategy toward the industry as well as across the U.S. economy you have to start from the premise of winners and loser. I mean we heard this a lot on the campaign, we continue to hear this from President Trump, and that is really at the core of his message on manufacturing. We have lost for so many decades and now we're going to win again. And he uses this as a sort of premise that he uses to start out with the trade policy. So trade is really the playing field on which we have lost. And this is how he started. From the very beginning of his term he fulfilled his promise on withdrawing from TPP, checked that box. That was an easy win for him. And then from there he moves on to other winning and losing. So he's really started from trade policy and wants to extend into infrastructure and tax reform. But on trade, after TPP, he's kind of moving into a sort of let's bilaterally kind of negotiate a lot of different trade deals, get some wins. Of course deal is something that you hear a lot from him as well. So we'll see, especially with South Korea coming up, he's talked about negotiating with other countries. He's trying to kind of jawbone not just companies, which is a whole other avenue for him, but countries too into kind of getting better deals.

So it's still early, it's a little bit untested, but this is at the kind of core of his economic message is trade is where we have lost, we have lost in manufacturing, we've lost jobs. As Tim has kind of talked about we need to kind of up the quality, we need to retrain the workforce. But not an easy thing to do across the board. So the rhetorical strategy has been number one, as opposed to maybe some previous presidents, but he's certainly moving into some other policy measures. We'll see also how he

uses pressure via protectionist measures perhaps. We have proposed steel tariffs, or at least consideration of steel tariffs in order. You know, others have said that that's unwise, that the economic consequences would be largely negative. From both sides of the aisle we see people advising against that. So we'll see where that takes us. But there are certainly some other measures as well that the Trump administration is exploring. There's a committee on foreign investment in the U.S., a very powerful tool that the president can use to kind of block some investment in the U.S. So there's different ways that they can pressure countries and companies as well to kind of move toward a sort of what they call a winning strategy.

So we'll see how these things play out, but certainly across the board a much more -- a different change, definitely a change in tone from the previous administration, but certainly one of we're going to win again.

MR. WEST: Okay. So, Nancy, you covered a recent investment conference where the Trump Administration encouraged States to make their own bilateral trade agreements. So how would that operate and what is your sense of the possible effectiveness of that approach?

MS. MARSHALL-GENZER: You know, it was fascinating. You were talking about bilateral deals, so some of you may have attended this recently, the Select USA Investment Conference at National Harbor at the Gaylord National Convention Center last month, and there were thousands of people there and basically it was matchmaking by the U.S. government. This was a conference that was sponsored by the Commerce Department and the International Trade Administration who invited foreign investors to come in and meet one on one with states and counties and U.S. Territories, like matchmaking. It was like speed dating. They even had a section set aside with little cocktail tables with numbers on them. So I'll meet you at table 12 at 10:30; okay, great, and then we'll make a deal. And the interesting thing was how enthusiastic the Trump Administration was about this event. Commerce Secretary Ross was there and he was actually emphasizing that hey, we have the biggest delegation ever from China. China of all places coming in to meet with our states and our territories, and even counties were represented there, trying to make deals. I talked to the Lieutenant Governor of Idaho who said look, trade is so important for us. We have to export our potatoes of course and all of our other agricultural products, and these markets are so important for us. And here the Trump administration --

you know, President Trump bashing China on the campaign trail, his Commerce Secretary is bragging about the size of the Chinese delegation to this summit. And there was a huge trade floor, every State seemed to be represented, with big booths. Foreign investors coming up, talking to them, deals being made. So, yeah, I think maybe bilateral is the way that they want to go. And they were very enthusiastic about this summit.

MR. WEST: Interesting. So I'll throw out a question I'd like each of you to respond to. We've kind of gotten a little bit into it, but how would you compare Trump's initiatives on manufacturing to those of President Obama? So we've talked a little bit about taxes, approach to regulation, trade policy, workforce development. What stands out for each of you in terms of the differences between the two Presidents?

Tim, you want to start first?

MR. AEPPEL: Sure. I mean I think one of the things that is most striking to me is the attitude about basic manufacturing jobs. And Elkhart is the perfect place for that and it's one of the reasons I got interested in that place. During the last recession unemployment there hit 20 percent. It was a place where Obama and members of his administration went frequently to talk about the need to revive manufacturing, but a lot of the discussion focused on bringing in electric car -- new kinds of manufacturing. And frankly what's come back there is the old kind of -- the RV manufacturing has roared back. So I think what the previous administration to this administration differs in sort of the level of skepticism and belief in basic manufacturing jobs. I think there was always a strong thread in the Obama Administration of well, would we really want those kind of jobs, are they really the kind of jobs of the future. And whether or not that's a valid argument now there seems to be a pretty wide swing rhetorically toward we want coal mining, we want all these jobs back. And people in these places love to hear it. I'm not sure it's an entirely feasible agenda, but to me that strikes me as the main shift that we've seen so far since there's not been really much substantive happening. This is more about the rhetoric.

MR. WEST: Okay. Michelle?

MS. JAMRISKO: Well, I think certainly one area where they differ, and they may have had the same goals, Presidents Obama and Trump, they may have had the same goals in advancing the workforce, but definitely a very different style and strategy. So one area that I've been interested in is the

apprenticeships programs. Under the previous administration you had a Labor Secretary who was just absolutely giddy about apprenticeships. He used to go to Germany and he would just gush in this on line diary about how amazing they were at getting people, young folks especially, into these jobs and not just in manufacturing but across the board in different industries. So the previous administration was certainly very enthusiastic about having companies get these apprenticeships under way. I think they ran into a bit of challenges around getting those companies to understand the legwork and get registered with the government in order to get some of the grant money, as well as just the idea that, you know, maybe they'll train these folks and then they'll go off and do some other job or, you know, what have you. So the apprenticeships we have I think is about half a million registered apprentices in the United States right now, and that's pretty much little change from about 10 or 15 years ago despite bipartisan pushes for them. So you saw a few weeks ago the Trump administration really pushing for more apprenticeships, but the difference in strategy is that they think, you know, it's regulation and everything else that has held companies back from getting on board with these whereas other folks will say well the companies need more incentives, they need more money or they need more upfront funding to do this. They're not just going to throw out a bunch of money, and especially if they're a public company, let their investors judge them for putting this other expense on the books that may be untested.

But it really is kind of a different approach that they have toward the workforce, and that's something I think that's going to be really key, especially as the President starts to kind of negotiate these other trade deals. Some of these workers that voted for him are going to be asking well how does that affect me, you're still focused on the big scale changes here, but I still lost my job 10 years ago, how do I retrain, how do I do this and that.

And one of the big questions in terms of funding is going to be how does the president kind of handle this very trimmed down budget and this approach to a slimmer government spending when he wants to really kind of revamp training and that sort of thing. I think he's relying on kind of, again, job owning companies into kind of doing their own training and putting their own money forth and investing in the workforce. And that's going to be a real challenge up ahead, whereas President Obama, whether or not you would agree with it, put forth more government money up front to do a lot of these training programs, these innovation institutes, as we mentioned earlier. So it was much more of a government led



approach whereas the Trump administration is, again, much more business focused.

MR. WEST: Nancy, what contrasts do you see between Presidents Trump and Obama on manufacturing?

MS. MARSHALL-GENZER: Well, I want to talk a little bit about these steel tariffs that you were mentioning. I'm not going to get too much into the weeds, but there's something called Section 232. It's an obscure part of a 1962 trade law that's very rarely used, but basically what it does is it says if the U.S. can determine that imports of a certain thing threaten national security then the U.S. can implement tariffs. So in February President Trump asked the Commerce Department to look into this, whether imports of cheap steel from abroad are threatening U.S. security. And normally Commerce has about 270 days to come up with this report; Trump wanted it on his desk by the end of June. It didn't happen and the report still isn't out yet, Commerce still hasn't made a determination on this. It's expected later this month or early in August, and after that President Trump has 90 days to decide whether to implement tariffs on cheap steel imports. And the argument for this is if the U.S. can't make enough of its own steel to produce things like tanks and important infrastructure like bridges, then that's a threat to our national security and we need to hike tariffs.

President Trump has been a proponent of tariffs. He was on the campaign trail, but he seems to be hesitating a little bit, maybe because they were talking about steel at the G20 summit recently and the G20 participants agreed to come up with their own plan on steel by November. So maybe the Trump Administration is waiting to see what the G20 comes up with. But I've been following that very closely because it could lead to a trade war. It really could backfire on us.

MR. WEST: The other contrast that I would note is I heard President Obama and his top people talking a lot about advanced manufacturing. Like they saw the future of manufacturing in terms of robotics, artificial intelligence, 3D printing, and other things like that. I do not hear a lot of that kind of emphasis from the current administration. They seem to be more interested in reinvigorating traditional manufacturing as opposed to the high tech formulations.

But I want to ask one more question of the panel and then we'll open the floor to the audience for any of your questions. So I want to turn each of you into profits. So let's assume we are gathering again a year from now, which we actually will be doing in July of 2018, but if we gathered a year

from now what do you think Trump will have been successful on in terms of his manufacturing initiatives? Which of his ideas will be implemented and perhaps even we'll be starting to see some results? And then conversely, what are the things that he's talked about that just simply aren't going to happen, aren't going to take place, or he's not going to be successful?

Any of you?

MS. MARSHALL-GENZER: I think on trade we are going to see a lot more bilateral deals. I think the Trump administration is going to continue encouraging States to kind of go their own way. As far as his manufacturing policies, I don't know. I think a lot will depend on tax reform frankly because U.S. companies seem to be holding back on inversions right now where they move their headquarters to another country because they're kind of waiting to see hey, are we going to get this big corporate tax cut. If we are, eh, maybe we'll stick around. But if tax reform doesn't happen or if it's really delayed then I think we're going to see more inversions.

MR. WEST: Okay. Michelle?

MS. JAMRISKO: I spoke with a lot of folks in the industry, especially before the panel today, and there's also a frustration that the priorities on the Hill were kind of misled. They were frustrated that healthcare came first in terms of the Trump strategy on the Hill. And as Nancy mentioned, tax reform is a big component of this. Tax is very much intertwined with the Trump strategy toward getting corporations to feel much more comfortable spending, investing on their own workforce and training. So that was a big part of it.

But the other big elephant in the room we talked about, I think we just touched, infrastructure. That's another big partisan push. You know, all three of the main presidential candidates were really pushing infrastructure packages and that could be a real opportunity to kind of fill in the gaps on some people who feel that they've been left behind in the global economy. So in terms of compensating those workers that are still kind of left out of these trade deals, or even with successful trade deals coming up and bilateral talks, you know, very much more closer to home infrastructure package might help kind of get people on board, you know, people across the country on board with the Trump strategy.

So I don't know that a year from now we'll be saying that that's passed and approved and

done, but I think early next year at least might be part of the conversation if they can move on taxes a little bit further.

MR. WEST: And to do tax reform they have to pass a budget first, so. Tim?

MR. AEPPEL: I'm particularly interested in seeing a year from now how companies have responded. I have been watching closely things like the Korean appliance makers have started announcing finally that they're going to build some plants to assemble appliances in the U.S. And these can sometimes be downplayed as things that were in the works for a long time or not creating that many jobs. But I think it's an interesting reflection of the climate and how companies thing. They're not going to suddenly up and change where they make things based on a new president being elected. But if you have the kind of climate we're in where there's clearly the feeling that there's -- whatever form it's going to take -- there's likely to be more barriers to doing business the old way of just bringing lots of containers into Los Angeles. You're going to see I think more of these kinds of examples. It's kind of what happened in the 1970s and '80s with the Japanese car makers when there was a big political cloud over manufacturing and what foreign companies should be doing. You saw companies found ways to do the final assembly of products in the U.S. I think it could happen in some electronics. There's talk about flat panel manufacturing. These sort of things which wouldn't have really been considered a year ago because I don't think that that's the way the larger discussion about trade -- as you both have pointed out -- just wasn't going in that direction. I think a year from now we'll see whether that part of Trump's agenda is successful in convincing companies to simply do more here for political reasons.

MR. WEST: Okay. Let's open the floor for questions from the audience. So if you have a question just raise your hand. This gentleman here on the aisle has a question. Do we have microphones? Okay, give us your name and your question and I'll repeat it for the audience.

Okay. So I'll just repeat the question. Manufacturing used to constitute a substantial part of our gross domestic product, now, according to the questioner, it's down to about 10 percent. Do you see that staying at that level or ever going back up?

MS. JAMRISKO: I see it generally staying at that level, yeah, around 12 percent share of GDP. And mainly because the services portion of our economy is just so large and so robust. I mean it's funny because I posed this question a year ago actually to Peter Navarro, who is now heading the White

House Trade Council, and Dan DiMicco who has kind of been an informal advisor since the president took office, and they both -- DiMicco, of course, being a former steel executive -- they both kind of approached this question as, you know, we can really increase that number. And I asked them about well, you know, as an economic student you think about an economy developing from a very agriculture based society to manufacturing to then services, and as the biggest economy in the world you would think that we're very reliant on services. And their approach was very different. I mean Dan DiMicco talked about how services have been the bane of our existence in terms of creating every bubble we've had for the past 30 years. He said there's the savings and loan crisis, there's the more recent housing crisis, the financial crisis, all these things. So they definitely look at our economy as something that could be much more reliant on manufacturing. They look at it, especially from Navarro's perspective, as a national security issue. And Nancy mentioned the national security imperative and steel tariffs. So they're saying "Made in America" is not just about the pride of having manufactured good here but about not having other people, specifically China, as a target of this administration, not having other people make those goods for us, which could create some security issues.

So I think their approach is yes, we can push that and should push that share higher, but I think from an economist's perspective and from others we're much more reliant on services on now and there's no kind of putting that genie back in the bottle. It's very hard to kind of reverse that and the big question is whether we want to.

MR. WEST: In the back, the gentleman on the aisle. There's a microphone coming up right behind you. So if you can give us your name and organization.

MR. STETTNER: Great. Andrew Stettner with the Century Foundation. I was wondering if any of the panelists were surprised by the Trump budget and zeroing out the manufacturing extension partnership which works with small, medium enterprises and reducing the Manufacturing USA Institutes? It kind of goes to the comment on this kind of different approach that seems to be taken.

MR. AEPPEL: I mean I didn't find it surprising only because those initiatives have kind of been in the crosshairs of a very powerful part of the political scene here in Washington, going back even under the previous administration. I mean it's always been a fight to keep those initiatives funded. I agree that there was a lot more enthusiasm spoken by the Obama administration about those things, but

when it came to funding them it was a constant battle to actually get them. I think there's a view amongst some that those are government involved -- you know it's somehow government picking winners and losers, it's government doing things that government shouldn't do. And that's clearly an element that's gotten stronger in the current environment. I'm not sure that that therefore was surprising for me. Maybe it was for one of you, but I'd be curious.

MS. MARSHALL-GENZER: I would say it just goes along with trimming government and not filling high positions and just trying to scale everything back and having more of a laissez faire economy.

MS. JAMRISKO: I think it was also important that those institutes and Select USA and some other initiatives under the Obama Administration definitely had his name on it. So just for political purposes the new president would kind of wipe that slate clean and we'll see what, if anything, he replaces it with other than, again, trying to convince companies to fund their own programs and training.

MR. WEST: Okay, in the very back standing against the wall there's a woman with her hand up.

MS. WAGNER: hello, good morning. My name is Stacey Wagner; I'm a small business owner. And you had mentioned that the Obama Administration had apparently pursued advanced manufacturing a little bit more visibly than the current administration. And we all know that advanced manufacturing is really the future of manufacturing. It will require fewer workers but they will be more high skilled workers. And I would like to get your opinions about whether if we take a step back and continue to support sort of traditional manufacturing does that put us at a risk both economically as well as insecurity because we're not the preeminent advanced manufacturing nation anymore.

MR. WEST: Okay. Maybe I can respond to that since I made the initial comment. I'm actually working on a book now about advanced manufacturing as it relates to robotics, artificial intelligence, virtual reality, and the new things that are coming along.

I think it's going to be hard for the Trump administration to push back on that because all those changes are basically coming out of the private sector. Like even though Obama talked a lot about that and put small amounts of money into encouraging it, you know, it's really the large tech companies that have developed that capability, they are pushing ahead. There's going to be an increase in industrial

robotics. China, for example, now has some factories that are all robots. You know, they have a handful of humans to kind of operate the control panels, but it's robots that are doing the work.

The current administration, the Treasury Secretary was asked about artificial intelligence and he basically downplayed it and said in a famous comment that was widely quoted, hey, you know, maybe in 50 or 100 years this stuff is going to happen but, you know, we shouldn't worry about it now. Almost everybody in the private sector does not share that view. They're pushing ahead, they see that as the future and they think there's going to be tremendous impact on the way manufacturing operates.

I don't know if anyone else has comments on that.

MS. MARSHALL-GENZER: I would agree. I mean you can't stop progress. Companies are going to do what they're going to do to keep up. And especially with this congress I don't know what kind of policies President Trump could get through to stop that. So I just -- it's the economy and the free market. Companies are going to do what they're going to do.

MR. WEST: There's a gentleman right here with his hand up. So if we could get a microphone over to him. And if you can give us your name and organization.

MR. RABINOWITZ: Thank you. I'm Dave Rabinowitz; I'm retired. And it's been over 75 years since the U.S. went to a 40 hour work week. Since that's time productivity has increased by more than a factor of 5 and yet people still expect to work 40 hours a week. Now, I remember when I was young reading science fiction stories about the future where things were manufactured by machines and robots, people didn't have to work so much, and it was considered a dream. Today it seems to be considered a nightmare. What's happened? (Laughter)

MR. WEST: Anyone want to respond to that?

MS. MARSHALL-GENZER: Well, I think part of is we're not really working 40 hours a week. I mean who checks their email on weekends, right? And as far as productivity, that's something they've been trying to figure out at the Federal Reserve, you know, why it is that we have all of these gadgets, these smart phones, and our productivity is not increasing like it did at say the end of the '90s. There is a theory that maybe it's more of a distraction, constantly checking Twitter during the weekday, or Facebook. That that's why our productivity hasn't increased. But I think we're working more than 40 hours a week because we're chained to our smart phones.

MR. WEST: There's a gentleman over here who has a question. We have a microphone coming over to you.

MR. SCARLISS: I'm Basile Scarliss. I lived and worked in Germany a while and what impressed me was their apprenticeship system, but it was a part of a comprehensive approach that involved research institutes to support small and medium sized enterprises, work between corporations, private companies, community colleges, and technical schools. And it had the support of the unions. I don't see that kind of comprehensive approach here in the United States. I also read that manufacturers claim they would expand if they could find the right people with skills.

Could you comment on all this and whether there's any hope for a serious apprenticeship program that will meet the needs of industry here?

MS. JAMRISKO: I think you've made two very important points there. One on sort of the structural or cultural difference here between us and say Germany, which is kind of top of the line in terms of apprenticeships. I've spoken with a German student before who was an apprentice and just hearing someone who's been through the system you get to see all the differences between, you know, a student in the U.S. and a student in Germany in terms of how they approach a career path. I mean you talk to any basically European high school student and they already kind of know some on the job training or they know something about what they will study, whereas here it's like you don't ask me what I'm going to major in, not even in my junior year in college yet. Maybe I'm still figuring it out. So there's definitely a different cultural expectation in terms of on the job training. I think that's one thing that is understood on both sides of the aisle. Presidents Obama and Trump both have faced this sort of challenge in getting high schools to get more involved in this. Community colleges, which was a big initiative under the Obama administration, to get them to kind of promote more manufacturing or sort of manual labor jobs, that they could maybe do internships or other training during high school and then get an internship during the summer, get a job during the summer or get hired after high school. So there's that component of it as well as this whole idea of does everyone need to go to college. Of course a big debate, especially with student loans being what they are and that being kind of a scary economic bubble. You know, maybe we should get more people on track for manufacturing jobs, which actually can be very well paying and provide good benefits.

So there is that debate going on just kind of on the cultural and structural side. And I'm forgetting now your second point on the --

MR. SCARLISS: Well, there's shortages --

MS. JAMRISKO: Oh, the skills gap.

MR. SCARLISS: (OFF MIC).

MS. JAMRISKO: Sure. And actually another very hot economic debate. Is it businesses not being able to find the right worker or are they not offering enough wages? Of course we've seen wage growth very unimpressive in this recovery. So there is that constant debate of whether or not the companies just need to ante up and get those workers. So that has been a very interesting conundrum, at least this far in the recovery, to see how tight can the labor market get, how small can that pool of unemployed get before companies really do feel the pressure to ramp up wages. And at the same time they're saying there's just not the same people with the same skills anymore. I need people who can do this or that and they're off studying something else or they're off training for something else. So that certainly gets back to the question of how early should we get these folks in these programs, in high school and in community colleges, or college and thereafter. And it's a big cultural difference.

Someone noted to me the other day that the average age in the U.S. of an apprentice is 29. So you kind of see that difference and maybe people go back to these sorts of training programs because they have to, not because they want to from the start.

MR. WEST: So, Michelle, if I could just ask one quick follow up on that. So in your earlier comment you said right now America has about 500,000 apprentices.

MS. JAMRISKO: Registered, yeah.

MR. WEST: A year from now do you think we're still going to have 500,000? Will it be 600,000, 700,000, or what?

MS. JAMRISKO: Well, I guess I've been in D.C. long enough to be cynical and say yes, we'll be around that level.

MR. WEST: 500,000.

MS. JAMRISKO: Despite the enthusiasm, yeah. I mean it might go up a little bit, but a year is a pretty short time to kind of get more people involved in that. And I think try as they might I think



it's going to take a longer time to get that number up meaningfully. And, again, that's registered with the government. So there may be other -- you know I don't know the numbers on apprenticeships countrywide, but they do get a certain subsidy of sorts from the government if they register.

MR. WEST: Okay. Tim, you were going to chip in?

MR. AEPPEL: Yeah, I just wanted to add one point about the apprenticeship programs in Germany. Actually I first started writing about manufacturing there so I spent a lot of time in German factories, and what struck me and I think is missing in the discussion now here is the other side of it, which we used to consider a very dark side in Europe of when a company makes a commitment to train a worker there's a pretty heavy two-way commitment there. It's very hard to get rid of a worker in Germany. And that's something that we used to always think was such a great thing. We had this great flexible economy here that wasn't, you know, bound down by the burden of workers. But if you are a young German, whether you're going to work in a factory or you're going to work in a bakery, or anyplace else, you're acquiring skills that are valued by your employer and respected by the society enough that the companies by and large -- that's changed somewhat in recent years -- but by and large the companies have a heavy commitment to keep you and not just consider you a nice thing to have when the economy is strong but a cost that as soon as there's a recession or a shift in business. So I think that's one of the parts of the discussion that often gets overlooked and it's a difficult one for Americans to have because of our sort of culture of our business, but I think it's an important part of it.

MR. WEST: The gentleman right here who has a question.

MR. MANHEIM: Frank Manheim, George Mason University. I have a son-in-law who has created a breakthrough self fueling harvester. And his fate has pointed out to me the huge deficit in manufacturing infrastructure in the U.S. He's found out he has only two choices when it comes to manufacturing his gear. Number one is China, number two is a large integrated corporation. And the money is also a huge lottery. There is no secure or normal pathway to funding. Government programs are lotteries and the shark tanks and all this other stuff is very dependent on subjective factors.

I'd like to get your view on the importance of this.

MS. MARSHALL-GENZER: Well, I wonder if he's tried the Small Business Administration at all. I know that their whole mandate is to help businesses get started and help direct them toward

financing. So it seems like that would be a good place for him to start.

MR. WEST: Okay. Other questions? In the very back there's a gentleman with his hand up. The microphone right there.

QUESTIONER: Hello, my name is (inaudible). I'm from (inaudible) on the USA. I'm interested in the implications and the impacts of NAFTA renegotiation on U.S. manufacturing. So can NAFTA renegotiation help U.S. manufacturing based on the current separation, or if you think it can how that could be realized.

Thank you.

MR. WEST: Okay. Thoughts on NAFTA?

MS. JAMRISKO: Well, I think that's going to be the one big test certainly that I'm going to be watching the rest of this year is how does President Trump kind of find a win in the NAFTA renegotiation. I mean I talked about how it was easy to say we'll withdraw from TPP, it was already kind of politically dead anyway. But NAFTA is the first big one that he's really going to have to kind of own. So we'll see next month as negotiations are kind of supposed to start in earnest. I think there's definitely enthusiasm on all three sides to modernize at least the NAFTA trade deal and we'll see if he can get some kind of tweaks, at least around the edges, around especially autos with Mexico and lumber on the Canadian side to maybe get some wins for the U.S.

MS. MARSHALL-GENZER: But I think we have to remember that Canada and Mexico are going to be trying to protect their industries also and they have things that they want. So the Trump Administration is going to have to bargain really well.

MR. WEST: So one question I have. We spend a lot of time talking about the Trump Administration. We haven't really mentioned the role of congress in all of this. So how do you see some of the new initiatives playing in congress? What are the things where you think members will be more receptive or less receptive to?

MS. MARSHALL-GENZER: I think it's always jobs in their districts, how will this affect my district, and jobs in my district. Will it bring jobs to my district? I think it gets down to that granular of a level.

MR. AEPPEL: But in a way the focus on traditional manufacturing probably makes it

even a bigger factor. I think there are a lot of members of congress who maybe not would ever say openly that they've given up on something, but the larger economy might have seemed to have given up on some big employer in their district or big economic force. And now again the same kind of optimism that you've gotten among working people I think would also impact the thinking of congressmen who have a district where there's a traditional industry that is in bad straights and could use some kind of help, either tax wise, investment wise. And I think that that would attract a lot of attention from maybe a different group of congressmen.

MR. WEST: Other questions? Right there on the aisle.

MR. LIEBOWITZ: Hi, I'm Zachary Liebowitz. Just finished up interning at a lobbying firm nearby. My question is whether considering that the European Union has indicated that should the Trump Administration go through on the steel tariff plan that will start taxing Kentucky Bourbon, do you think they will expand the list to include some items that are far more, you know, greater economic interests and such, like airplanes and other high value added items?

MR. WEST: You don't think Kentucky Bourbon is a broad economic interest? (Laughter)

MR. LIEBOWITZ: (Inaudible).

MS. MARSHALL-GENZER: That's a big risk, and not just for Kentucky Bourbon. I mean if the Trump Administration implements these steel tariffs we could see a big trade war and U.S. exporters that have nothing to do with steel could be affected, and not just bourbon, agricultural exports. And already agriculture economists are worried about this and are watching this very closely because they are afraid that they're going to get dragged into this, that other countries will retaliate against our exporters.

MS. JAMRISKO: Just this week to Wells Fargo economists were discussing the global economy and risk to it and where we've seen global growth kind of improve over the past couple of years, they still said kind of casually in a line after the first few paragraphs, but a global trade war is still the biggest risk to the global economy. So there certainly is that uncertainty. You know, you make a move on one side and there can be these after effects that are unintended or unclear on how they'll play out. So we'll certainly see if others would take repercussions or take retaliatory measures.

But I think the other thing is, especially with the steel measures that we were talking about, there is no certainty that it would help job loss abate here as well. So we're starting to see a lot of

people from both sides, again, former CEA Chairs from republican and democratic administrations, say you just can't bet on this as being a win. At the same time the Trump Administration has used this sort of strategy again of rhetorical bullying or rhetorical convincing to kind of change people's minds. So this could also be, okay, we're looking into this. It's a common diplomatic strategy. We're looking into this, we might do this or that, and then that might scare people into acting differently in some way on the trade playing field.

MR. WEST: Right there. Oh, over here there is a question.

QUESTIONER: (Inaudible) research and development. I'm currently retired. Looking at the future the Asian economies are supposed to grow at a much larger rate. So how is that going to affect manufacturing in the United States?

MR. WEST: Panelists?

MS. JAMRISKO: Well, I think one thing is, especially now that TPP at least on our side is dead, I think one thing to watch is how does the Trump Administration fill that gap, if there was one, in terms of getting U.S. exporters to have a bigger presence in Asia and get in on that game. And especially when China is the main target especially of, you know, Peter Navarro again, head of the White House Trade Council, who's made a career of kind of saying -- he's got a movie that's called Death by China. He's saying we've lost to China, China is targeting us, they're cheating, all this sort of thing. But at the same time, now that we're out of TPP there probably needs to be another focus in terms of getting U.S. exporters to have a bigger presence in that region because China is moving ahead, they're making waves in terms of negotiating regional trade deals and regional cooperatives that could leave the U.S. out, so there is that risk. But we'll see how that plays out as again the Trump Administration works on the bilateral trade deals that we've talked about. You know, South Korea again being one that's perhaps coming up, at least in talks.

MS. MARSHALL-GENZER: And Japan is trying to revitalize the TPP. So that could end up being a very strong trade pact that we would not be part of.

MR. AEPPEL: I think also the part of the coming to grips with how the rhetoric is going to play out now is going to be having more people realize how strong Asian economies have driven a lot of the existing strong manufacturing growth in the U.S. I mean if you're making a Caterpillar machine in

Illinois, you think well this is going to Chile but it turns out it's going to Chile to mine copper that ends up going into something else and suddenly the world becomes a much more complex place where Asian growth is a good thing for even a traditional U.S. manufacturer.

MR. WEST: Right there is a question.

MR. MAKSIMOVIC: Hi, Max Maksimovic, University of Maryland. Going back to something Michelle was saying, if the GDP fraction of manufacturing is going to be 12 percent and if we're going to end up getting productivity improvements, which we seem to be getting, then this story isn't going to end well in terms of employment. So could you speculate where we'll be at five or ten year's time with this? What's the end game? Are we going to have much more job programs or are we going to end up with giving up on manufacturing employment and focusing on manufacturing productivity, or something else?

MS. JAMRISKO: Well, I tend to think it's going to move slowly in terms of the share. Again, I think it's important also to note that we're talking about manufacturing as a share of GDP. Even if manufacturing were to gain however many millions of jobs over the next few years if services also gains that many you're still going to end up with the same share. So in some ways it's kind of maybe not the best measure of how manufacturing is doing. And again, if we have these sorts of advanced manufacturing jobs as well, you know, it really becomes also more about what is the quality of the job versus the quantity. So yeah, I would say in terms of the numbers I tend to think that it's very slow moving. A lot of these economic ages take a long time to play out and to this dismay of presidents who want to make their impact.

But I think there is enthusiasm again to get -- whether it be hard manufacturing jobs of the old type or the more advanced manufacturing jobs, there is enthusiasm to kind of grow that industry, but I think it will be slow and, again, maybe we should focus more on the quality or the type of job.

MR. WEST: Okay. I think we have time for one more question.

QUESTIONER: (Inaudible). The question which I have is we have been having a sustained deficit for many, many years and that deficit has included now advanced manufactured products and advanced technology. So my question is how long can we sustain this and if we're not able to sustain this that means it continues, what will be the effects on our economy?

MR. WEST: Okay. That is a good summary question. Maybe we'll have each of our panelists address it.

MS. MARSHALL-GENZER: You know, so much of that is tied up in politics like everything in this town. Yesterday I did a story on the Defense Authorization Bill which busts way through the spending caps, but everybody and his brother loves that Bill and they load it up with projects that they think will create jobs in their districts.

So I think really there needs to be more political will than there is right now to tackle the deficit. We may see it turn around. Look what happened in the second term with President Clinton, all the sudden we had a surplus after years and years of moaning about the deficit. But I think before anything can really get done on it we need more political will.

MR. WEST: Michelle?

MS. JAMRISKO: I actually tend to think that the energy around trimming the deficit has kind of subsided. I think there are so many other initiatives that people are focused on and you can't have all this and not pay for it. So I think, especially with something like infrastructure, that's going to be -- you know, if they get what they want on both sides it's going to be a huge package and you're just going to have to run up the deficit.

So I think, you know, people will talk a lot, especially at the beginning of a presidential term, about trimming the budget and being very cost savvy and everything else, but that tends to fall by the wayside when you have other things going on. We have tax reform that is supposed to help, you know, on that side but tax reform and healthcare to deal with and infrastructure and all these things can drain the budget still. So I'm not sure that that's going to make that much improvement.

MR. WEST: Okay, Tim, we will give you the final work on the panel.

MR. AEPPEL: My sense is that as far as when I talk to manufacturers in the U.S. that maybe 10 years ago everything seemed to be going overseas and that was driving a lot of what we're talking about in the manufacturing goods deficit. I mean I'm not sure that we're seeing any stampede to bring that stuff back, but there isn't the stampede to leave that there was. And so I see that as a hopeful sign for this question. I think the political question is what should we be doing about it. Again, going back to the kind of jobs you want to have, do we want to as a government target industries that are future

industries and do things to stimulate at least production in those areas where that would be more of a way to address a deficit question that the jobs question. I think that's one of the big issues going forward.

MR. WEST: Michelle?

MS. JAMRISKO: If I could just add one thing because it is also important to remember Trump the business man is big on debt. He once said I'm the king of debt. So his style is more borrow now, we'll show the effects, we'll show the success of these programs, and then we'll worry about the balance sheet at some point. And he has been saying, you know, we want to of course spend less on these programs and cut this and cut that, but that is an important thing to remember from a business perspective, from his mindset, that it's not so much let's worry about the cost up front but we're going to borrow right now and I have the confidence that this will yield results.

MR. WEST: Okay. I want to thank Tim, Nancy, and Michelle for sharing your thoughts. You've made a number of great comments. So please join me in expressing our appreciation.

(Applause)

Okay. We're going to go straight into our next panel, which is offering a U.S. perspective on manufacturing, looking at the effects of the shifting manufacturing landscape.

MS. CAMPBELL: Well, thank you all for joining us this morning for the second panel. As everyone, I'm sure, is well aware, U.S. manufacturing played a really significant role in the U.S. presidential election and is very important to the current administration. A lot of Trump support came from a lot of the former manufacturing hubs in the Midwest and, you know, workers who saw their jobs disappear over the last few decades. And many have been struggling to find new careers, to find jobs that pay as well as they used to.

You know, right now it just seems like people have been really struggling to find a solution on how to address kind of like the shifting landscape of manufacturing. And, you know, past administrations have put a lot of money towards job training and apprenticeships. The current administration wants to work on the federal apprenticeship programs. The President has also been using public relations, publicly pressuring companies to not move manufacturing abroad.

And so we kind of think like what does this all mean for U.S. manufacturing? Well, today we're going to talk a bit about the challenges facing the sector, what the federal government can or

cannot do related to boosting manufacturing, and kind of taking a look at whether or not it's even possible for the sector to kind of be revived in the way it was in the 1970s.

So on that note, I'm going to introduce our panelists. I have here Mark Muro, a senior fellow at the Metropolitan Policy Program here at Brookings. And I have John Hazen White, Jr., who's the executive chairman of Taco Group Holdings in Rhode Island, a leading manufacturer of heating and cooling equipment.

MR. WHITE: You know, actually, we call it "tay-co" there.

MS. CAMPBELL: Oh, Taco, of course.

MR. WHITE: But we really don't care what you call it as long as you buy it. (Laughter)

MS. CAMPBELL: Here I am asking how to pronounce everyone's name and I didn't even think to ask how to pronounce of the company.

MR. WHITE: No offense.

MS. CAMPBELL: Okay, so Taco Group Holdings in Rhode Island. And then we have Congressman David Cicilline, who's a Democrat representing Rhode Island's First District in the U.S. House of Representatives. Thank you for joining us.

So first, I kind of what to focus on the big picture. And Mark Muro, my first question is for you. What is the state of U.S. manufacturing today? There's been a lot of talk about, you know, it's suffering, we need to do a lot to fix it. But I don't think that tells the whole story, so maybe you can kind of tell us what's happening.

MR. MURO: Yeah, absolutely, thanks. Great to be here. So I do think President Trump deserves a huge amount of credit for stressing the importance of and placing a manufacturing revival at the center of the narrative of winning again. This is really important. And manufacturing really does matter for lots of reasons, not just the jobs of working people, but this is something like 60 to 70 percent of our export base and it's a huge center not that known of our innovation investments. Something like 90 percent of private sector innovation R&D is in the manufacturing sector. So it matters hugely.

How is it doing? I've been a big optimist about it and sort of argued consistently about its importance since the crisis. I have to say I'm concerned right now about the direction of the U.S. sector. It's not doing that great. We could look at employment, and I'll say a few things about that, since the



crisis, but we also need to think about basic productivity and output, which have been sort of cresting or plateauing a bit.

So let's just talk employment since the crisis, we had a pretty good surge, recapturing some of the horrific losses of the crisis, especially through the first three years or so of the recovery. Since then, auto has continued to surge and now is beginning to plateau, but the rest of the sector has been flattening a bit. Output has continued to drift upward, but not as impressively as it had been. And employment has been really quite flat now for four years.

So I've been more concerned. And I think the auto boom has somewhat obscured broader questions about the overall competitiveness of the -- and certainly employment, we can talk about that.

So what is wrong here, if anything? I mean, I think on employment it's being depressed by automation. I think that's part of the picture, not the whole picture. And automation is very much part of competitiveness, but it does mitigate against big expectations for massive employment. So that shouldn't be the hope, I think. You know, I think we should hope to see the steady creation of good jobs over time, increasing productivity, increasing output. And some of that's in question.

Trade globalization clearly an issue; we'll talk about that more, including the next panel. You know, I think Trump deserves credit for talking about especially some of the consequences of normalized trade with China in the 2000s.

But I think there are deeper competitive problems that are absolutely not being discussed much right now, certainly by Trump right now. A few just factoids.

Only some of the really important advanced manufacturing sectors -- auto, aerospace, pharma, machinery, and chemical -- really can be said to be vibrant. We have a lot of sort of I think zombie sections of the manufacturing economy.

MS. CAMPBELL: Like which ones?

MR. MURO: Just a number of generic kind of, you know, wholesale kind of commodity productions that are -- half of large U.S. metros saw losses in the last two and a half years. I think that's troubling. And then productivity and output, as I said, have been flattening. So a few issues there.

I just want to highlight right off, though, you know, some of the key issues. I think to me

the things that matter are innovation and technology, diffusion, how well we're coming up with great ideas, but how well they're smoothing -- they're flowing through the overall manufacturing sector into not just the leading firms in each area, like John's company, but through other companies.

Other nations are pushing harder on tech development and diffusion, I think, than this country. There really are skills gaps and workforce issues -- we heard about that in the first panel a bit -- as the sector strains to secure a younger, techier workforce to fill in and substitute for the retiring generation.

And then I think we have a lot of kind of thing regional clusters where they don't have everything that they need, you can't supply as much. There's a thin workforce in a lot of -- so this spatially and geography, we have, you know, places that are kind of patchy manufacturing sectors.

So against this backdrop I think we need to be thinking yes about trade. Automation, it's unclear what we do about it and it's important that we be a high-tech manufacturing sector. So we can talk about what automation means, but I do think we need to be thinking about things like building the innovation capacity and thinking about how technology is shared among firms; skills; and these regional areas.

So in that sense, I'm concerned about cuts to the federal R&D budget and technology sharing and diffusion. It is a concern that we have major cuts coming at the workforce system. I think it is welcome. I think the apprenticeship initiative, though, from the Trump administration is incredibly important.

And then we've got to be thinking about how are we helping states and regions and networks of companies build their regional capacity. Because you really -- you have a national economy, but you also -- really, manufacturing especially is a place-based activity. You know, how well is Cranston doing? How well is Wichita doing? And those things really matter.

So I'm just going to leave it there. You know, I would just say I am dubious of promises to bring back millions of jobs. Let's just -- I think that is not going to happen. But let's see if we can think about how to make America a little bit greater than it is in that sense right now.

MS. CAMPBELL: Well, you did mention your concern about cuts to federal programs that are kind of designed to boost the sector, which leads me to my second question for Congressman

Cicilline. What is the role of the federal government in boosting manufacturing? You know, I kind of wonder like should the government have a role? And if so, how effective can the government be in even doing anything to change the issues?

CONGRESSMAN CICILLINE: Well, thank you for having me and thank you to the White family and for Brookings for convening this conversation. Rhode Island, of course, is the birthplace of the American Industrial Revolution, so we have a very special role in the manufacturing history of our country. And I think the government has an important role.

First and foremost, recognizing that having a robust manufacturing sector matters to the country not only because manufacturing jobs pay on average more than non-manufacturing, so these are good-paying jobs, but also because having a manufacturing sector is very important to our national security and our capacity to prepare for the challenges we face in the 21st century. So it's really important that we make things and that we have a strong manufacturing sector, and I think the federal government has a role to play.

And while I think President Trump has been referenced already in our panel for sort of talking about the importance of the issues, I think when you look at the conduct of the administration and the conduct of the federal government, that's when we have to really kind of tease out is it really helping to grow manufacturing?

First, we should, as a national government, have a national manufacturing policy and strategy. There's been a piece of legislation introduced for a number of years really to coordinate the development of a comprehensive manufacturing strategy for our country, so that we're doing this in a thoughtful way.

The second thing is, and I thought Mark was going to reference the manufacturing community's partnership, making sure that there are regional ways for the ecosystems that are necessary to support manufacturing are developed. I introduced a piece of legislation to do that that I hope will move this year. And that's really to help, you know, the public and private sector build partnerships to really strengthen the ecosystems that we need for manufacturing.

Third, the federal government has to play a role in really investing in workforce training and skills development. This continues to be a challenge. I talk to manufacturers all the time, visit

manufacturing facilities, and they say I have a position, I just don't have someone with those skills. And that means not just focusing on, you know, as part of our agenda a four-year college, but career paths and technical schools and community colleges that are geared to jobs that are actually available in manufacturing and creating manufacturing pathways. And recognizing that manufacturing is an honorable profession and that if your kid comes home and says I want to be a manufacturer, that parents don't recoil and think, great, you know, making things is a good thing. It's a good job, it's an honest living. You can make stuff.

And I think the maker movement is helping to change some of the cultural stigma that attached for a long time to manufacturer that we've got to change. So I think the government can play a role in that.

And then finally, I think that we have an important responsibility to support the kind of Buy American provisions for the federal government. We spend a lot of money. We ought to be cultivating American manufacturers and supporting them by using our purchasing power as a government. I think it's quite different for the private sector, but for the government we ought to be supporting American jobs by -- and I'm working on some legislation with Senator Murphy to modernize our Buy American provisions which lots of companies get around -- lots of the federal government gets around very often. And the idea that we're not using American taxpayer money to support American business and American manufacturers to me doesn't make a lot of sense. So I think there are very specific things we can do.

But the last thing I want to mention is what Mark mentioned at the beginning, is I do also think we've got to figure out how we begin to respond to this very serious challenge of automation. I say challenge because it's great and it's important, but if you look at over the last 25 years, manufacturing has gone up and manufacturing jobs have declined. That's in large part because we know how to make things faster and more efficiently and with less people. And while that's good for output, this automation challenge is really a problem with respect to jobs.

And so figuring out a real strategy about how we anticipate over the next decade what the impact of automation will be on job loss and what that means in terms of our responsibilities as a country I think is a really critical responsibility.

MS. CAMPBELL: Right, and when you mentioned jobs and kind of like the skills gap is a

really good segue to my question for Mr. White. You know, there has been a lot of talk about the skills gap. Employers are saying we just can't find people with the skills we need to function in this high-tech manufacturing field today. I mean, what have you seen as the head of a manufacturing business? Is the workforce really not as prepared and why are they not prepared?

MR. WHITE: So first, I just would like to reach out to you on the Buy American. I hope that as you pursue that you involve people like me because it's a very difficult program.

CONGRESSMAN CICILLINE: I would agree.

MR. WHITE: Sorry, I hope you involve people like myself because it's a very difficult arena to play in.

CONGRESSMAN CICILLINE: But it's not actually for private businesses. It's for when the government makes a purchase to buy Taco products, for example.

MR. WHITE: But manufacturers like myself are held to a certain standard with Buy American, which is for difficult for me. So I hope you (inaudible) I'm reaching out.

CONGRESSMAN CICILLINE: Yeah, of course.

MR. WHITE: On the skills gap, what was the question again?

MS. CAMPBELL: So my question is how have you noticed that -- because I know you do a lot of workforce training, a lot of education within the company. And I'm wondering is it really as severe of a problem as people make it sound? Like are you looking for people for jobs and they just don't have the skills that you need?

MR. WHITE: Okay, yeah. So one of the big problems that we're all confronted with, because I don't think it's just manufacturing, but is this baby boomer bust or whatever you want to call it. Right? I mean, they're all leaving all of a sudden because they're all of retirement age. And so I didn't see this one coming.

When I began running this business in 1992, we were about \$30 million in sales and we had 500 people. Now we're going to be bumping 300 million and we have 500 people. And the good news is they're the same 500 people. But the bad news is I didn't see this baby boomer bust thing coming, right, when we would lose these folks.

Our attitude at Taco for the last 25 years has been that we have the best workforce I

have ever seen anywhere in the world. And if they're not up to speed on any particular thing, then my attitude has been train them. You know, the one asset that all companies like Taco have that is absolutely not going to become obsolete the moment the sun comes up is the people. And people want to learn and grow and develop.

So yeah, there's a skills gap, of course, because to the point about automation and whatnot, you know, we haven't lost jobs because we don't have jobs to fill. We've lost jobs because we're increased productivity. About that simple.

So people want to become a part of that train ride, I think. And so I think for companies like mine to provide the opportunity for people to grow and develop, part of running a company like this, and I'm going to touch on -- part of running a company like Taco, I think, is to consider it a bit of a social responsibility. You know, we have -- Taco globally now has a little over 1,000 people. Well, imagine the impact doing the right things and providing these jobs can have on not only those 1,000 people, but their families and the suppliers and the customers. I mean, we've become part of the infrastructure of the world and every manufacturer has that ability. So I think to train and provide is incumbent upon us.

I think I talked last year on the same panel about a company I read about up in, I don't remember, Wisconsin or somewhere up in that part of the country, and there was a company in town that employed 2,000 that made parts for the auto industry. And this baby boomer thing began to happen and people were retiring, people were leaving. They couldn't replace them because the parents of the kids in the schools were saying, no, you're not going into manufacturing. It's dark, it's dirty, you're going to go to college. You're going to get an English degree. That's what I did. (Laughter) You're going to get an English degree or you're going to get an art degree and, by golly, you know.

So the company went to the town and worked with the city and came up with a plan to bring high school kids into the factory. At which point these kids saw what looked like a big video game because of the automation and the robotics. Pretty cool stuff. My company's the same way.

So they went home and told their parents we need to go together, and they brought all of the families in. And then the companies said to the families now look, if Louie's going to go to Harvard, okay, good. But for the rest of these kids, they don't all want to go to college and here's what we offer for them. We will pay them, you know, 60-, \$70,000 a year to come work here, learn, train, apprenticeships,

whatever they're going to do. And oh, by the way, we'll educate them.

So what a win-win this was and that saved the company because that company was buttoned up and moving to Mexico. And as a result of this -- and I want to lead that program in Rhode Island. I so badly want to lead that same program because we're up against the same scenario.

So I guess circling back to your question about a skilled or unskilled workforce, I just think it's incumbent upon us to train people and to offer the ability. They will take that chance to learn. Right? People want to learn.

MR. MURO: Yeah, and I think it's true that historically the attitude of a lot of manufacturers are we can't find people, government's doing a bad job of training them, and, therefore, we have a skills gap. You know, and you're sort of articulating a different path that, first, we're going to keep moving up the productivity curve and we're going to do cool things that are attractive, but we're going to invest in younger workers to help them stay with you.

MR. WHITE: You know, in the last panel they were talking about automation and advanced manufacturing. Well, advanced manufacturing or not, I mean, I don't think you'd consider Taco an advanced manufacturing company. We're not making solar panels or electric cars or computers, but, you know, if you haven't kept up to date in any kind of manufacturing, then you're not here. Right?

So I think advancing and improving technology is absolutely a reality.

MR. MURO: But just a quick note. In our classification at Brookings you are advanced.

MR. WHITE: Wow, really? Woo-hoo. (Laughter) Thank you.

MR. MURO: And (inaudible) just ran the calculation. So three-quarters of American manufacturing companies are -- of employment is advanced. Basically, if you're not advanced, meaning spending money on R&D and building a trained STEM-oriented workforce, you're not here.

CONGRESSMAN CICILLINE: But can I just build on -- I think Mr. White is being really modest in this and this is a really important point to make, not just in the area of manufacturing, but I think a larger point. Taco is a company, because of John's leadership, that -- and his father and mother were the same -- that has decided it's worth investing in the workforce. It recognizes the most valuable asset it has are the people who work at Taco. And it's not just education. It's child care and art programs and basically fully supportive of the workers there.

As a result, he has a turnover rate which is teeny tiny, which is a good business outcome. But it's also a recognition as a business leader that this sort of sense of sharing in the prosperity of the company by ensuring that you attract the best talent and can keep it so that as you're being required to innovate and be more efficient and produce more and come up with new ideas, you have a workforce that is both long-term, but deeply invested in the work of the company and really highly skilled.

It's a good reminder that that model works in lots of other sectors, but we need business leaders and business owners who understand the value of valuing your workers, investing in your workers, and having a real culture of shared prosperity.

It used to be, I think, sort of, you know, in the '50s and '60s and maybe even '70s that was the business culture all across America. I would say that, sadly, that's more of an exception in a lot of places today than the rule, the Johnny Whites of the world. And I just think that it's a reminder that if we were to return to that kind of shared prosperity in the way we think about economic development and economic strategies to grow jobs, we would be more successful as a country, we'd be more prosperous. People would make better wages and we'd be more productive and more competitive.

So I just don't want to skip over that because it's a big decision to take, that was made, because of Johnny's leadership and his family's. That makes a difference.

MS. CAMPBELL: Well, I mean, that's a good point and that raises the question, well, how do you get business leaders to do that if they're not required to? How do you solve that problem? Like if that model works, how can you persuade business leaders to see that the same way, to invest in their workers and that that's a good business model? I don't know.

CONGRESSMAN CICILLINE: I mean, I think I ask John this question every time we talk about it, like why is it that more business owners, knowing the success that you have brought to Taco using this model, why isn't it more prevalent? Why is it that there's so much focus on the value of a stock and the --

MR. WHITE: I think it's because most of them went to business school. (Laughter)

MS. CAMPBELL: Because they went to business school.

MR. WHITE: I didn't go to business school, right. To me, as I said, and I don't say this lightly, a manufacturing company is the greatest creator of -- manufacturing jobs are the greatest creator



of wealth. There's no question about that. And it's a trickle down, right?

So you have this thing called the net economic multiplier effect. Everybody know what that is? So every dollar I spend on building a product trickles out to suppliers and to, I don't know, fuel oil, whatever, you know, to support the business. So it's a great creator of wealth.

But it's also a social responsibility and this is where businesses can go terribly, terribly wrong. They forget that these are human beings that make this machine go. These are not machines. These are not robots. And so to invest in them and their wellbeing, this has been my life, to invest in these people and their families because I love them.

You see, this is another difference. Right? A lot of these things are done for balance sheets and P&L, no question, and stockholders. And that's just too bad. But a private company like mine doesn't have to do that. So there is a difference and some people are constrained by not being able to do the things we do because of these requirements.

But I just think it's a whole lot of fun to run this business. I've never come to work and dreaded having to do anything because I've got a bunch of people to have fun with, you know, and that's a difference in my outlook as to so many.

MS. CAMPBELL: Well, that's an interesting perspective. So now I'm going to open up my questions to whichever one of the panelists wants to chime in, feel free. So one of the things President Trump has done is he's been blaming globalization, free trade on a lot of the loss of manufacturing jobs, and there is some truth to that. The North American Free Trade Agreement, NAFTA, has been responsible for the shift of a lot of jobs to Mexico. And I'm wondering what is the incentive? If it's that much cheaper to have a factory in Mexico where the labor is so cheap, what is the incentive for manufacturers to stay here in the United States?

MR. MURO: I would say they have to have a climate and especially regional ecosystems that allow them to do something uniquely well in the United States that has higher value than it would be elsewhere. Actually, I think some of the pressures to offshore are easing a bit right now. In fact, the same kind of automation and productivity we're talking about is actually making the United States relatively more attractive than China.

So there's, I think, an opening for creating opportunities for U.S. manufacturers, but they

need to be able to do something here better than elsewhere. And it's not just about cheap, but it's about better. So there has to be -- you know, I think there are some advantages. U.S. software prowess is important and we're beginning to see the emergence of very interesting, small, manufacturing startups that can do quite a lot because the workers are doing it all on laptop and sort of outsourcing production and creating very creative small companies. So technology's an advantage.

We need to have very adept workers. We need to figure out a better way to do this training. And I think one of the concerns is we probably need to be thinking how do we make sure there are skilled, relevant workers in companies that aren't managed by John White? Right? I mean, I think there is a market failure a bit here, that companies don't feel they can invest in training enough because they don't capture the whole benefit of training that worker who might move on. So I think we are going to need some kind of incentives for companies to partner with community colleges and so on to train this workforce.

And then we've got to make sure that we have that roster of great regional training -- regional manufacturing centers. One of the concerns is that China's beginning to build these big ecosystems with dense arrays of suppliers and skilled workers and so on. We have to make sure that we have multiple Silicon Valleys. Detroit actually is a very powerful manufacturing platform. I would say parts of Rhode Island have some of this. But we've got to have those places where you can put it all together and do it. So I think we're going to -- and some of this is going to require policy.

CONGRESSMAN CICILLINE: Yeah, I think the other thing is -- a couple ones. One is recognizing the quality of American-made goods is still a brand. Like people still around the world want to buy stuff made in America because it means a certain quality of the work or a certain quality of the product. And we should never forget that and that's still a competitive edge.

We need to have a tax code that at least levels the playing field, it doesn't create an economic disadvantage for American manufacturers and reward people who, in fact, manufacture overseas, which our current tax code does. I mean, at least level the playing field. The idea that we incentivize companies to ship operations overseas under the tax code is completely wrong. I also have a bill to fix that.

The other thing is I think recognizing why would we manufacture in the United States, the

kind of existence of rule of law and the protection of intellectual property really matters. So in advanced manufacturing and in new companies they want to have confidence that what they're making can't be stolen. And if it's stolen, they can protect it. That doesn't exist in many other parts of the world.

And I think, as Mark was saying, the regional economic hubs really matter because our competitors in this sector are starting to figure that out and developing very strong ecosystems, and we need to do that. And so I would say those are some reasons you'd want to do it here.

MR. WHITE: Can I just pop in on this real quick?

MS. CAMPBELL: Yeah, go ahead, John.

MR. WHITE: There are different reasons for moving around the world with manufacturing, also. You know, you can't discount -- so at Taco, if you looked at my P&L you would see that I don't chase cheap labor. I don't have manufacturing in Mexico and China and things, per se, because it wouldn't help me as much as the need to be able to buy at what I call worldwide material prices, which is a huge percentage of our cost base.

So I'm concerned terribly, and I have been since the campaign, and I won't mention who I voted for, but you can probably guess and I wouldn't mention it at the Brookings -- that still leaves it ambiguous, right? -- but I've been very concerned about the notion of tariffs and taxes on imports because we rely on materials.

See, another reason we -- so we own a foundry, actually, in Vietnam. It manufactures stainless steel components because foundries have been regulated out of business in the United States. And that's okay because a lot of it's environmental, but we have to be able to buy material, so we've had to do some of that.

So there are different reasons people do it. One is to chase cheap labor and one is to fulfill requirements, and that would be why we do some manufacturing outside of the country, not to just import at a low cost.

MS. CAMPBELL: Yeah, so it sounds like what's more important to you then is like being able to import materials at an affordable price. Is that what you're saying?

MR. WHITE: Yeah.

MS. CAMPBELL: Okay. And so as a result of like free trade agreements, for example,

like NAFTA, the federal government was trying to kind of mitigate, you know, the labor -- the effects on the workforce in the United States. And one of the programs was the trade adjustment program for a displaced worker. And, you know, it's gotten a lot of federal money to help workers displaced by NAFTA to get more training, to switch to new careers. But, you know, the research has been limited on how effective these training programs are actually.

So I'm wondering why is it so hard to help people switch careers, learn new skills? Is there something that these policies are missing? And I would love to get some thoughts on like what could possibly be done to fix the programs or at least make them more effective.

MR. MURO: Yeah, I could say just a couple things. So I think these programs like trade adjustment assistance, which is the most worked-out of all of these what are called labor market adjustment programs, conceptualize transitions as sort of a one-time emergency when, in fact, I think we need to be creating an atmosphere and supports for workers who will anticipate that they will need to retrain themselves or adjust themselves to disruptive trends multiple times.

So we've acted as if loss of a job or an insecure job is a bug in the system when it's actually, I think, a feature now. All of us will be at minimum needing to retrain. Fortunately, if you work for Taco, you can do it with the company, but for many people they're out of a job. And not only are they in trouble in their career, but they don't have the skills for the next job. So TAA represents I think a good recognition by, in this case, the federal government that this will be -- that disruption will occur in association with trade. I think also tech, also, is now meaning that we need to take adjustment much more seriously.

So I've been talking about the idea of instead of viewing disruption and adjustment as one-time emergencies for, say, your trade (inaudible) company goes out of business or your coal community loses the mine, right, or your base closing, the base in your region closes, we should be thinking about this more holistically. I call it a universal basic adjustment premium or something, so not the complete reverse of a basic income, but something that people can know that is there that would be meaningful; serious training, intelligence about where jobs are, which may not be in your immediate community, and maybe support for mobility, maybe you need to move to Phoenix, which is, I think, part of the picture for some. And if you're of a certain age, maybe you do get an early retirement.

But we should be thinking very boldly so people have the wherewithal to really weather and flourish in what is going to be, I think, a very dynamic economy in the next decade.

MS. CAMPBELL: And so we've talked a lot about here in this conference about automation and like the role and the impact on manufacturing, especially on the workforce. Well, technology's just going to keep advancing, it's just going to become more productive, making it easier to do things that people once did. So why tell a kid, hey, don't go to college, go to manufacturing if it really looks like that job prospects could be just shrinking and shrinking? Maybe I'm reading it wrong.

CONGRESSMAN CICILLINE: You're reading it wrong.

MS. CAMPBELL: Okay. (Laughter)

CONGRESSMAN CICILLINE: I think the attraction to young people and to people thinking about beginning a career is that this is an area of bold, exciting change. I mean, innovation and rapid changes in the development of manufacturing processes and new products is a place where so much is happening and it's going to continue. I mean, it's very dynamic. And so I think people used to think of manufacturing as Johnny described it, kind of dark and dirty and they would never want -- I think people are starting to understand, no, actually, manufacturing is making stuff. And that is happening in very exciting ways in very different sectors and is going to continue to be a rapidly changing thing from driverless cars to, you know, on and on and on.

So I think young people, particularly of the maker movement, are starting to understand like this is actually a cool place to have a career. And it's a career where if you invest in yourself and you invest in your skills, you're going to see yourself move often and in exciting way.

I mean, I think to your earlier question, the challenge we have for a lot of the workforce that's been in manufacturing for a long time is just human nature. I mean, it used to be you would work for a manufacturer for your whole life, for your whole career, and then you would stop after 40 years or 30 years. And, you know, if you're someone who's been in manufacturing who's 65 or 66, you have to go get new skills. You're like, get new -- I just want to keep working, you know. That's just human nature, like to learn a whole bunch of new stuff or to have to move your family at your stage of your career. Those are hard transitions.

But I think younger workers in this space who see how rapidly changing this is, can easily

understand that this is exciting. Your wages will be above non-manufacturing. It'll be very different and very dynamic. And so I think whether the net amount of jobs in that sector grows or not is a challenge, but I don't think it will be hard to say to people that there's a lot of exciting career opportunities in this sector.

MR. MURO: And I would just add, it will be cooler if there's some kind of safety net or some kind of --

CONGRESSMAN CICILLINE: That reduces the risk.

MR. MURO: -- base so that you take a flier on an incredible creative thing, it doesn't work out, you can know you can retrain quickly and jump into something else. So it's more a sort of software-like quick failure, quick success. But it's going to be more like that, I think. And there's a reason: because so much of this stuff is now digital, you know, manufacturing companies being run out of laptops with five people running them.

MR. WHITE: So remember, to that point, that a person doesn't get to 66 and have to all of a sudden learn all this stuff because if they've been in this job for 25 years, they've been learning it every day. So a lot of people have evolved. It's more of a matter of do those jobs remain? Right? Or does the company go away or somehow eliminate jobs? People are learning every day.

And I will attest, again, to the fact that people are absolutely not going to become obsolete. They are the one thing we all have that will grow and grow and grow.

MS. CAMPBELL: Well, that brings me to my next question, maybe you can answer it. I'm curious to find out how the structure of your training programs, what you've seen that works. I mean, are workers like in a classroom setting? What is it like? Are they spending part of their workday -- is it more like hands-on? I'm really curious. Like people talk a lot about this workplace training, but it's kind of vague. Maybe you can give us more examples of like what is this actually -- what does a good model look like?

MR. WHITE: Yeah, so really quickly because there may be some questions. But we decided in the early '90s to create what was called the Taco Learning Center, which was -- because at that time we were just coming out of a recession and we began to implement new equipment and automation and some productivity improvements. And we had a workforce which was still in a different

era essentially.

So our choice was Rhode Island was losing Brown & Sharpe and Cleveland Twist Drill and all of these high-tech manufacturing companies and all of these people were in the street, so our choice was to replace with available high-skilled workers or train. And my dad, and it's his legacy, I will say his greatest legacy, was to say these are our people; let's keep them and train them, and he created the Taco Learning Center. And it involved gauge reading, blueprint reading, you know, CNC programming, English as a second language, job-related things.

But what people did was when they started to learn things, they wanted to learn more. And so we began to implement programs in accounting for the non-accounting types, you know, marketing for the non-marketing types. And eventually we were doing GED programs and citizenship programs and eventually summer camps for the employees' children. And now we have up to and including an onsite MBA, and they're in our building. I just built the building in 2013 as a whole learning center facility, right, because my people are worth the investment and the time and the care. And that's what it looks like it takes.

CONGRESSMAN CICILLINE: And what's your turnover rate for your employees?

MR. WHITE: Half a percent. Well, it may be a little more now. You know, I don't know, but that's what it's been.

CONGRESSMAN CICILLINE: Right.

MS. CAMPBELL: No, that's really fascinating. And I know that we're wrapping up here, so I want to open up the panel to questions from the audience. So if anyone has any questions. Sir?

SPEAKER: Frank (inaudible), George Mason University. Mr. White mentioned I think loss of foundries in the U.S. and that, as a result, he formed a company in Vietnam. How important was that loss of foundries and what would it take to bring it back? What were the specific regulatory problems that affected the loss of foundries?

MR. WHITE: Mostly environmental. We're talking about the loss of foundries, I mentioned that before. Cast iron, steel, the steel business has suffered in this country, too. And a lot of those regulations were environmental, you know, because that stuff is messy. And I don't know how important it is to bring all that back. Maybe there's tradeoffs that wouldn't be so great.

But all I can say is -- and we actually didn't create the foundry in Vietnam. It came with an acquisition we did several years back, but it's turned out to be a great thing. And that, by the way, is a wonderful country. It's an interesting story, but wonderful country. And that little factory, that little foundry functions just like my factory in Cranston, Rhode Island. It's clean, it's swept. People are having learning programs. You know, it's an amazing place.

But yeah, we've had to do that just because it's hard to buy that type of material in this country at a competitive -- remember, at a competitive price.

MS. CAMPBELL: Any other questions over there?

MR. BERNOWITZ: Thank you. David Bernowitz. People take it for granted that manufacturing jobs are well paid, but when you get down to it, it doesn't really take more skill to run a punch press than to run a word processor or even a vacuum cleaner. And I think historically, the reason manufacturing jobs have been well paid has been primarily labor unions. With the decline of the labor movement, is there nay reason to expect manufacturing jobs to continue to be well paid? If you look at Asia, they're not well paid at all.

MS. CAMPBELL: Who would like to answer that?

MR. MURO: I can say one -- so what's actually happening right now, you're both right and wrong, I think. What's happening is that there's a kind of polarization of or hollowing out of the wage distribution in companies. So you're actually seeing in many manufacturing companies relatively more engineering and higher-skilled people and then not so much in the middle and then more lower wage people. I mean, I'm thinking now especially of, you know, the hardcore, big, advanced manufacturing companies.

So I think, you know, you've put your finger on something. Like everything else in America, there's a polarization occurring in which both is happening. But I think there are good jobs at the top and then there are other jobs that can be okay, but are often paid less.

CONGRESSMAN CICILLINE: And just as a statistic, in 2015, the average manufacturing worker in the United States earned \$81,289 annual, including pay and benefits. The average worker in non-farm industries earned \$63,830. So at least as of 2015, they're still significantly better wages, that is while there's a declining union representation during that same period. So I think increase has remained



pretty consistent. It's something we should pay close attention to, though, if that's the point of the question, I think.

MS. CAMPBELL: I think there was a question here. Yes, with the tie.

SPEAKER: One of the topics that was brought up was the issue of more adjustment tax and tariffs, so considering that has been considered in the House, and which Mr. Cicilline is a part of, like where do you think that is going and how much of a concern is it for a lot of people?

CONGRESSMAN CICILLINE: I think it's going nowhere. It's where it belongs.

(Laughter)

MS. CAMPBELL: That was a short and sweet answer. Any other questions? Over there?

MS. FONG: Thank you. Lee Wang Fong, East (inaudible) Center. My question is for Mr. White. I'm interested the demographic situation of your staff. What's the average age of your staff and what's the percentage of the below 30 and over 50? And for your company what's the critical challenge of your company for further development? Thank you.

MR. WHITE: What was the last part of that question?

MS. FONG: What's the critical challenge for your company now and further development? Thank you.

MR. WHITE: Wow. You know, if I had to answer the question about the average age, I don't know. Like me, right, old. (Laughter) But that's because we all grew up together. Right? As I said, these are the same people and we all seemed to start at about the same time.

But in seriousness, you know, people are leaving, so we are seeing an influx of new -- I don't want to say younger people, but they are. Right? And so it's providing, I think, the ability to deal with what you ask is our biggest challenge, which is advancement in R&D, advancement in technology in terms of products, not just manufacturing, but also in manufacturing. So this new sort of influx of talent is bringing with it current mindsets which are allowing us to expand in those areas.

I tell you, there's nothing more important for a company's survival, like mine, than one sales growth to, and not necessarily in this order, to R&D and new product development. Right. That's where profitability and growth comes in. So bringing new talent in that looks at things differently has been

a great solution to what I've viewed as our biggest challenge.

MS. CAMPBELL: Any other questions? Ma'am?

MS. SUGARA: Good morning. My name is Rosemary Sugara. I'm the president of a company called Sugara International Group. We focus on SMEs and manufacturing.

Looking at manufacturing, how can we work with the students, young people from elementary, high school, college to get the training and the practice like the Germans are doing? And how do you make them understand that manufacturing can be also -- they can also manufacture apart from being just employed? After getting this curricula they may come up as manufacturers. How do you deal with that and how do you make them look at working with the companies in summer?

Let them go to companies that can work with them as interns in summer and then eventually they can work with them, so that they understand manufacturing is also a job. A job also can be manufacturing just like agriculture. You can never convince young people to do agriculture because they think it's all dirt, just like manufacturing. But it can be beyond just working as a manufacturer and in agriculture. So how do we make the young people understand that they can also manufacture by working with other companies? We should have such a -- you know, the government should consider that working with the small children up to high level, beyond STEM innovation ideas. Just manufacturing, how do you do it?

CONGRESSMAN CICILLINE: Yeah, I think it's a great question and, you know, part of it is I think schools, both traditional public schools, career and technical schools, need to affirmatively engage in developing a manufacturing path so young people see that as a career opportunity and they're actually trained for the skills that they'll need to enter manufacturing. I think you're absolutely right, apprenticeship and internship programs so young people can see what it means to be a manufacturer; supporting little things like 3D printing in school where everyone's a manufacturer, so people start to understand that it's cool to make things.

And then, frankly, you know, as a country I think really disabusing ourselves of this notion, and I think we are finally getting there, that someone else is going to do manufacturing. We're going to be a service economy because it's dirty and it's dark and dangerous. And I think we did that for decades where we sort of suggested that this isn't something we should be focused on it, it's not a good

thing, let somebody else do it. I think we recognize now to be a strong country and to be a successful country we need to make things. And the manufacturing sector's important to the future prosperity of America. And so just changing the way we, even some old people like me, talk about manufacturing to send messages to young people that it's an exciting opportunity, a great career.

And finally, we have to stop telling every young person they're going to go to college. If they want to go to college it ought to be affordable and achievable, but we ought to honor and recognize the value of lots of other young people who want to do other things besides going to a four-year college. They can have a very good career, make a good living, support themselves and their family, and we should applaud that and not make them feel like that's somehow less important or less in some way than someone who decides to go to a four-year college.

MR. WHITE: We've had this discussion, haven't we, over the years, right? So I want to just add to this a little bit, which is simply we have a luxury at Taco, which is that Rhode Island's a small place and we've become kind of a big fish in this little pond. But it's allowed us to do something very unique and that is to create a community, not just a company where people go to work, it's a community. So it involves the families.

And what we found is that there's a bit of generational thing going on, you know. We've got now second generation, which is the old way, right, back in the great generation. Fathers and sons followed one another to employment, and we see some of that at Taco.

And even in our summer camps, we have these four summer camps and they're 25 years old now and we're seeing the kids of kids, you know, coming to the camps. So it's a community and I view that as a very heavy responsibility on my shoulders is to create a community and support it.

MS. CAMPBELL: There are questions in the back, with the glasses.

MR. MATTHEW: Renee Matthew. I'm with the federal government. Thank you for a very interesting presentation. And Mr. White, I applaud your community orientation. I think that it's a lost art.

I have two questions, one for Mr. White. I'm curious to know what -- you must be a very profitable company to be able to offer the extensive community outreach and training that you do. Do you think that's unique? That's my first question.

And the second question is for the congressman. I'm wondering if you could please give like two or three bullet points on your bill on revolutionizing the manufacturing sector? Thank you.

CONGRESSMAN CICILLINE: You can go first and tell them how rich you are.

(Laughter)

MR. WHITE: Well, you know, it's a very interesting point, actually, because when we started the Taco Learning Center we were not far from broke and it's why we did it. And we as a community and as a family have brought this company forward to a prosperous, winning machine. Is it as profitable as I would like to see it? I don't think anybody would say yes, right, but I'm going to say it's really well sustainable and, most importantly, it's providing back to the people.

SPEAKER: (inaudible)

MR. WHITE: Oh, no, no, there's no -- no. (Laughter) No, no, listen, ma'am, I bang heads every single day of my life all over the world. But you know what this company has that no other company has? Us. They got me and these guys, and that's unbeatable. So that's the value added.

No. That's why I talk about material price being so important. I compete every day all over the world and it isn't easy and it's getting tougher, you know, because people don't like me out there. I've learned that, my competitors. So they don't let me just walk in and have fun with their accounts, right. It's a challenge.

CONGRESSMAN CICILLINE: The Investing in the Manufacturing Community is a partnership legislation; essentially incentivizes communities to identify manufacturers, the people in the public sector, universities, community colleges, private sector businesses to work with local and state governments to develop economic development strategies to support the manufacturing sector; to kind of really develop the ecosystems and then receive priority for federal funding to support the development of that manufacturing ecosystem.

It's also bipartisan and bicameral. It's introduced in the House and the Senate by a Republican and Democrat in both chambers.

SPEAKER: What's your bill (inaudible)?

CONGRESSMAN CICILLINE: The bill number is -- where's Ross Brennan? -- 4505, H.R. 4505. Thank you, Ross.

MS. CAMPBELL: So we have time for one more question. I know there was a man with -- yes, right there, who I had tried to call way in the back.

MR. CLOSTER: Thank you. My name is Harold Closter. I'm an independent consultant. I think we've drifted a little bit away from the title "Manufacturing Under the Trump Administration," and I want to bring the conversation back to that a little bit. And I want to go back to the environmental discussion that was touched upon briefly.

And so my question is I am very mystified by the cheerfulness with which the Trump administration is gutting the environmental laws that we have in this country and that people seem to applaud the disappearance of clean water, the disappearance of clean air. The people in West Virginia still can't drink water in Charleston, West Virginia. You still can't drink water in Flint, Michigan. And yet their representatives are cheerfully voting constantly to gut these laws.

So my question for anyone on the panel is to what extent do the laws that we currently have in place really prevent growth of the manufacturing sector? What about the argument that people are making that green energy manufacturing is one of the fastest-growing developing areas of the manufacturing economy? And is it worth it in the long run to destroy our environment to create jobs, more coal mining jobs or other jobs on a very small scale that -- to what extent does that help our economy and the wellbeing of our country?

MS. CAMPBELL: Who would like to take that?

CONGRESSMAN CICILLINE: I'm happy to start. I agree with you, I'm not at all cheerful about the environmental degradation that is being proposed and the defunding of important environmental protections. I think it is both bad for us in terms of our wellbeing and it's also bad for our economy in the long term. And there's lots of examples around the world of why that's not good in the long term to not have clean air, clean water, clean energy.

I think the argument about manufacturing in the green sector is exactly the right one. There's a huge growth in the development of green sector manufacturing jobs and a teeny, tiny growth, if you can call it that, in coal jobs. And in fact, even if coal came back as a real source of energy, the coal jobs wouldn't.

There was a great piece in the *New York Times* a few weeks ago about automation now

that exists in the coal industry, so even if we had a big increase in the demand for coal, the number of jobs that would be created would be very, very small, you know, not to mention the environmental consequences.

So I think you're right. We hear a lot from our colleagues on the other side of the aisle in the House at least that, you know, the regulations are strangling business and if it weren't for regulations, you know, business would be able to grow even further. My view of it has always been if there's a regulation that protects the public health, safety, and wellbeing, we ought to keep it in place. If it doesn't provide a useful purpose, we shouldn't have it.

And, in fact, despite what they say, President Obama repealed many more regulations than he ever gets credit for. We ought to have regulations that make sense, that are not overly onerous, that produce a result that's favorable. But the notion of wouldn't we be much better off if we had no regulations, that's been tried in some countries you can visit and it's actually not such a great model for success in the short term or in the long term.

So I think you're absolutely right. Please be assured that there's a whole group of us that are not cheerfully embracing any of this environment degradation or accept that argument that that's a real impediment to job growth. And unfortunately, we're in the minority right now, but we're fighting hard to make our point.

MR. WHITE: Yeah, but, you know, also, companies like mine, make no mistake, are investing millions and millions and millions of dollars in environmentally improving products, and some of which is because we're regulated by the DOE and whatnot. But it doesn't matter, we're going to do it anyway, you know, because it's the right thing to do. Energy efficiency, it's a small thing, but my product line consumes 45 percent of the energy consumed in the United States of America: pumps and motors. So we have to improve that and it's what we're doing, so a lot of money is being spent regardless of regulations.

MR. MURO: Yeah. I mean, I would just add two. Within reason, stringent regulation actually calls forth problem-solving --

MR. WHITE: Surely, absolutely.

MR. MURO: -- that can be extremely valuable in world markets when you have, like,

clean energy technology right now is something like a \$1.5 trillion global opportunity. And that's what is concerning about the U.S. not fully participating in the emergence and structuring of that business. It sounds like you're operating in global markets while problem-solving for clean energy or clean solutions here. So I think that actually smart, stringent regulation is actually a competitive advantage for a lot of countries and a lot of firms..

MR. WHITE: Sure it is.

MS. CAMPBELL: Great. Well, thank you all. This is a lot to think about. And thank you all for joining us. And there is another panel if you want to stick around, but I want to thank our panelists for being here and contributing. So thank you all. (Applause)

(Recess)

MS. SWANSON: Okay, great. I think we'll go ahead and get started here. My name is Ana Swanson, and I'm reporter at the *Washington Post* covering international trade and economics. I'm pleased to be moderating this final panel on international trade and policy under the Trump administration.

So trade has been a really interesting topic to write about recently. Over the last six months, it's become a really passionate area of debate, no longer dry and theoretical; it's very real for a lot of people. And I mean, these are exciting times. Times of change are always interesting for reporters, and you know, from what it's kind of a bonanza in D.C., as well, for trade law-firms and lobbyists.

But for companies, it is a time both of opportunity, but also, of great risk; the very real risk of a trade war or of changing trade agreements that might affect supply chains and of course, the policy uncertainty that it's bringing investment and other company decisions into question.

So I have with me here to talk about these issues, three distinguished panelists. To my right is Ray Fogarty, the director of the Chafee Center for International Business at Bryant University. Then we have Michelle Drew Rodriguez, manufacturing leader of the Deloitte Center for Industry Insights, and on the right is Mario Rebello, managing director of government relations for Lenovo.

So Ray, I'd like to start with you. We've heard a lot recently about the rising trend towards protectionism globally. I know you look very closely at international trade statistics in your work, so I'd like to ask you, you know, what does the data on international trade tell us about the real progress

of protectionism around the world?

I mean, you know, we hear a lot about this rising trend which has propelled both the election of President Trump, incidents like Brexit, but on the other hand, we also have new trade agreements being signed. A new trade agreement just like week between the EU and Japan in principle, and you know, Japan going ahead with TPP meetings today.

What do you see as the broad trend for trade in the future?

MR. FOGARTY: Well, I think businesses are looking for free and fair trade as the president's policies have stated, as far as the campaign. I think one of the things we have to be aware of is that the G20 came out and made a definitive statement that they are not for protectionism.

So, regardless, the administration as well as all of 20 leading countries have now been on record through the G20 process last week, and I think that's an encouraging sign. I also think that from a political standpoint, it's a checklist, so that the president has checked that off as one of the things he promised that under the Free and Fair Trade Act, as far as what he was considering is now -- it has to be to the advantage of whichever (sic).

So he has left himself and the United States a way to go back to the trade agreements very specifically to rewrite some of the things that have happened over the years. So I'm encouraged that -- let's get this over with. Let's now serve business, because businesses cannot operate without knowing what the consistent policies are.

So from a trade assistant standpoint, which I do, companies that I talk to -- they want to be able to set up policies that are consistent with what they'd like to do for business expansion. So I'm encouraged that he's checked it off his list, and it's just happened last week. I think it's still a little bit young to absorb that, because it's -- while it sounds simplistic to be anti-protectionist, I think global trade is very important not to be --

(Break in recording)

MR. FOGARTY: -- not to be held hostage to people that have a view that there isn't free and fair trade. So companies want that consistency.

MS. SWANSON: And I mean, we talked about kind of getting this over with. I'm afraid it might be a very long process to come (Laughter). But I want to ask you, Mario, about negotiations of



trade deals. So with the renegotiation of the North American Free Trade Act, actually, the U.S. trade representative has received more than 12,000 comments. They'll have to be reading all of those.

MR. REBELLO: True.

MS. SWANSON: (Laughs) So how would you sum up these actual and proposed changes to trade agreements? How might they affect international supply chains? We have this proposal to renegotiate NAFTA. Yesterday, there was an announcement about reforms to the U.S. Korea trade deal, which the administration specified was not a re-negotiation but certainly, some reforms. And you know, other deals in the works from EU and Japan and China.

Are these already having an effect on the business community? And how are multi-national companies dealing with this kind of uncertainty?

MR. REBELLO: Sure. For sure, they are. So part of what we do at Lenovo is we have manufacturing facilities in every region of the world, and we're operating in about 40 countries of actual manufacturing. However, we always look at the U.S. policy as the sort of the key indicator, because what happens here will dictate what happens elsewhere around the world, whether it be China, whether it be EU, whether it be South America or Eastern European.

So the U.S. policy positions or sort of the lack of clarity of what direction the U.S. is going in, other than being more protectionist is having ripple effects across every aspect of our operation, our industry in particular, and how other countries are sort of positioning, either to take advantage of opportunity that the U.S. is creating for them or many countries are sort of in a holding pattern in terms of coming up with their own policy, until they see what is it that the U.S. is going to dictate as policy.

So this uncertainty or this period or this period of waiting for clarity is actually forcing us to slow down, not only in our industry, but we're seeing this across the board, where we're holding to make decisions until we have clarity. And what is the policy? Whether it be tariffs, whether it be work requirements with respect to workers moving country A to country B to able -- that are skilled, that are -- can resource the needs of the company?

So in general, this -- we welcome the discussion around trade policy, but at the same time, like Ray says, the sooner they are able to resolve these issues that will bring clarity, I think the sooner the industry as a whole would be able to move forward and make decisions, once we understand

what the policy is of what the tariff is going to be or what the requirements -- the regulatory requirements.

Until then, I can say that we're in a holding pattern. If we're to make investments -- making investments or even increasing productivity, because it's just not clear what the policy is that will benefit the manufacturing process, in particular.

MS. SWANSON: Great. Okay. Well, I'd like to ask you much more -- all of you much more about that uncertainty and how that is affecting global businesses now. But first, Michelle, I know a lot of work at Deloitte focuses on manufacturing competitiveness internationally.

MS. RODRIGUEZ: Mm-hmm.

MS. SWANSON: And as the Trump administration is looking to improve America's manufacturing capacity and renegotiate some of these trade deals to boost manufacturing exports and other exports as well, what kind of lessons do you see looking around the world? What countries are rising in their competitiveness and what can the U.S. learn from their examples?

MS. RODRIGUEZ: Yes. I think it's been really interesting to study the global manufacturing competitiveness landscape. It's very dynamic. It's you know, ever-changing. And we've conducted a study since 2010 called the Global Manufacturing Competitiveness Index in which we ask global manufacturing CEOs and executives around the world, over 500 responded in the last initiative that we conducted last year, to really assess which countries are most competitive from a manufacturing perspective.

What are the key drivers of global manufacturing competitiveness in that global manufacturing competitiveness? And what our 2016 Competitiveness Index indicated is that there's a rising in the advanced manufacturing nations. So it's kind of a back to the future story, in which the U.S., Germany, Japan, countries that have a strong foundational manufacturing base -- you know, those countries that have invested vigorously in the innovation ecosystem -- we're really seeing that pay off according to global manufacturing executives.

And they have you know, once again indicated that talent is the number one driver of the global manufacturing competitiveness index. So we have seen you know, the skills gap issue. I know it was talked about in previous panels. We do a lot of research around talent and how to address the skills shortage, both in the U.S. and abroad.

So you know, I think there's lessons from other countries, other nations, whether it's a apprenticeship programs, whether it's different pathways in terms of manufacturing careers that could be you know, built upon in the U.S. and furthered. So I'd say a strong focus on talent and technology and innovation would really you know, benefit all American manufacturing.

MS. SWANSON: Mm-hmm. What kind of policies more specifically? You mentioned a few -- you know, apprenticeships.

MS. RODRIGUEZ: Mm-hmm.

MS. SWANSON: But just to get concretely into policy, you know, we're seeing the Trump Administration put some of these ideas for apprenticeship and other programs.

MS. RODRIGUEZ: Mm-hmm.

MS. SWANSON: What do you think would be you know, the best things that could be done to increase manufacturing competitiveness in the U.S.? And I'll open this up to other panelists, as well --

MS. RODRIGUEZ: Sure.

MS. SWANSON: -- if you'd like to comment.

MS. RODRIGUEZ: I'll take a short stab.

MS. SWANSON: Certainly.

MS. RODRIGUEZ: And I'd love to hear from the panelists, as well. But I'd say, you know, there are you know, cross-party issues that are top of mind when you talk about infrastructure, when you talk about taxes. You know, to your point, having clear and concise and stable policy, I think more than any one individual policy, I think just lessening the uncertainty overall and making some clear and distinct choices would benefit all manufacturers, I think, more in a lot of the interviews that I conduct, more than any one particular policy.

They say, you know, broad brush. If we can start making policy decisions you know, pass the election cycles, if we can have a clear and concise and stable policy landscape, that will increase American competitiveness and help attract foreign domestic investments overall. So we'd love to get your perspectives to this.

MR. REBELLO: I would agree with that, and just looking at it from a U.S. perspective.

So we're currently in the marketplace some decisions whether or not we're going to locate or expand our manufacturing footprint. We have manufacturing here in the U.S. in North Carolina.

The other piece of clarity that I think would also be very helpful for the U.S. is right now, you have 50 states that are competing against each other --

MS. SWANSON: Mm-hmm.

MR. REBELLO: -- trying to undermine their incentives or inducing companies to come to their state. So we're competing against ourselves. I think that having a policy framework clear at the federal level that addresses -- so the multi-lateral bilateral issues between countries, but more importantly, working with the states to establish more of a consistency or more consistent policy.

So from state A to state B, I think it would also be very helpful. And having been in state government and having incentivized companies to come and locate in Rhode Island, it's always great to get that win, but at what cost? I know it was very expensive for us to you know, locate or convince a number of companies to move their facilities or establish facilities when were in state government. It's expensive.

It's expensive. It's on an employee-worker basis, you know, trying to get that talent. But you go over to the state of Massachusetts or Connecticut, different incentives are in place. So I think that one area of improvement from a policy perspective is to have more consistency at the state level so that policies are more reflective, or so that you're not forcing states to compete against each other for manufacturing jobs or jobs in the U.S. So, I just think that that's a ripe area.

MS. SWANSON: Mm-hmm.

MR. REBELLO: And I think that state governments would appreciate that with local governments, to have more consistency, or at least know what their liabilities are or opportunities are. But right now, I think that we've created a -- not an environment where states are competing against each other; counties are competing against each other, and to be honest, I don't think that's healthy from a U.S. policy perspective, and I would encourage governments to be more collaborative and work with companies that are looking to expand or build their network out here in the U.S.

(Break in recording)

MR. FOGARTY: Well, statistically, we have 300,000 companies that trade on a daily

basis, but that number is much bigger when you look at reality of trade, because many companies make a one trade transaction, so the opportunity to grow our economy is very large in trade, because for every \$200,000 of new sales, a job is created.

So if you look at the talent acquisition -- well, requiring talent from a global perspective as you grow globally, that's one of the biggest issues. Because right now, it's an issue, and it has been, not from the Trump administration, from overall administrations for the last 10 years, that there is no set policy on how to immigrate now in this country.

It used to be fairly given, and now, it's becoming more and more complex. So I'm not saying Democrat Republican as far as that as an issue. What I'm saying is that the business owners want that flexibility to be able to hire who and what they want. That's how America became great, if you want to put it in that term.

America will continue to be great, as long as we're a melting pot. America will continue to be great from a global perspective that we bring people in from all over the world for the companies in our state, which happens to be Rhode Island, or our region.

It's important to bring in that diversity of talent and to have the ability to hire those -- train and hire those individuals. At the same time, Tako is probably the best example that I know of that has retained their current employees and paid attention to their current employees' needs.

Their turnover rate is extremely low, and there is a reason for that. So, you have to retain your current employees. You have to train the current employees that as was stated at an earlier panel, but you also have to be able to require new and diverse talent to grow globally.

If we do do that, we have a trillion dollars of sales from manufacturers right now on a global basis. We could double that. That's a huge impact on our economy. So, statistically, to me, it's nothing but a win-win situation. It's not a competitive situation where it's a win-lose. It's a situation where trade is a win-win for companies as well as individuals who work for those companies.

MS. SWANSON: That segues into my next question. I'm glad you brought up trade and the benefit to the economy. You know, one of the Trump administration's biggest goals has been bringing the U.S. back to faster rates of economic growth, rates like 3 percent, which we haven't seen a long time, due to both demographic changes, but also, declining productivity in the U.S.

And we saw the administration release something, I think just this morning, about their economic plan, talking about increasing productivity and how the key to that was investment. But it strikes me in the kind of policy answer, indeed, that you're describing.

You know, companies may be withholding investment due to uncertainty in policies surrounding trade and manufacturing. But what kind of -- what are you seeing in your own work? Are you seeing a lot of evidence of you know, uncertainty right now? You know, holding decisions back? What do you think the future of that could look like?

(Break in recording)

MS. SWANSON: I'll just open it up for --

MR. REBELLO: Sure. I'll start. On my end, and I'm speaking from both the Lenovo perspective as well as sort of industry perspective, and we are holding back on making some of these key decisions, because the reality is, it's not just the policy. It's the other pieces of the equation that need to come together.

For example, global supply chains for our particular industry and high tech manufacturing or electronic components, the reality is that the global supply chain does not pass through the United States. So for us to set up shop and expand or grow here, unless these other components are taking shape at the same time --

(Break in recording)

MR. REBELLO: So if we need to source material and gather the components of either a PC, a server or a mobile phone, we're going to have to shift them into the United States, because the reality is we just can't buy them, or we can't source them here in the U.S.

So that adds additional delay. It adds additional factors of cost to the equation that will increase the cost to manufacturing here in the U.S. So from a high tech perspective, we will continue to invent here in the U.S. We will continue to architect in the U.S.

But the harsh reality is, the supply chain, the global supply chains don't -- are not structured for us to grow manufacturing here in the U.S., whether it be us, whether it be our competitors, whether it be Apple, Dell, HP, other hardware manufacturers, we're all manufacturing abroad, and we all support the concept that the Trump administration is driving, which is drive more growth here. Drive jobs

here. We'd love to.

But the factors that will enable us to do so are not conducive. So part of it is policy; not having clarity on what the tax code is, what the tax reforms are going to be, what the incentives are to operate in country. But the other component which policy doesn't address is this whole issue of global supply chain.

And in order to have high manufacturing or technology manufacturing take place here, those issues have also -- also have to be addressed in a manner that will allow companies to grow jobs and really grow the output overall here in the U.S.

MS. SWANSON: Mm-hmm.

MS. RODRIGUEZ: I would add, I think the complexity of the global supply chain is something that cuts across many of the policies and aspects that should be considered, in terms of -- in order to create an environment, to your point, that interconnects all elements of the supply chain in the U.S., you know, there are a number of sectors where the global supply chain doesn't pass through the U.S., but there are still a number that do in the U.S.

And particularly, when we look at those other sectors, I think creating a competitive environment and an infrastructure from -- all the way from materials to -- and you know, and in production, keeping enough of that in the U.S., so that if the end product is made in America, that it doesn't -- that there are options, either in the U.S. or Canada or Mexico to create that ecosystem that is required.

I think because of globalization, because of the rush for low cost labor, you know, some sectors, you know, have moved more quickly to the global landscape than others. And so I think it's a complex issue that require incentives and motivations to keep all elements at the supply chain feasible to be produced here.

MS. SWANSON: Mm-hmm.

MR. REBELLO: And also, I'd like to bring up that in speaking with the businesses in preparation of today, some of the companies are extremely concerned about the intellectual property infringement that happens, and I don't want to give a particular country out there, but there's many countries that it's acceptable to go out and steal the intellectual property.

It's not acceptable in the U.S. -- sets a standard that even though some people aren't

following, they need to follow that. And if we don't become and continue to be one of the leaders, and this is the way you have to do trade, then it's going to become an issue with -- if we're on the sidelines.

We need to be involved in all of these discussions and negotiations. And companies need to be very aware that it's a -- you know, the U.S. came from -- where we came from as a company, manufacturers and industrial revolution, and it's really important.

My opinion is to make sure that those things are enforced as far as the progression of where and what the countries are doing, so that we are playing on a level playing field. And that's what the business owners are telling myself, as far as -- they're concerned about that, because there's rules and regulations that we can set up, but if we're not setting the course for the rest of --

And I'm not saying that we should be the world leader or world policemen. That's passé, as far as I'm concerned as a country. But we do have a role to play there, to say this is the way we do it and this is what can happen. This is the way it should happen, if you really want free and fair trade.

MS. SWANSON: Mm-hmm. Great.

Before this, Michelle, you were talking about manufacturing as kind of a system -- thinking about manufacturing as a system of systems.

MS. RODRIGUEZ: Mm-hmm.

MS. SWANSON: And I think that's really interesting, especially with regard to the NAFTA debate --

MS. SWANSON: -- because you know, I've heard -- some (inaudible) describe this not just as the U.S. competing against China, but as the entire North American manufacturing hub competing against regional hubs against Europe and in Asia.

Do you -- you know, is that your perception of you know, how business needs to be operating? And you know, also, we were talking about the costs for companies are such that it makes sense to look at certain parts of this budget outside of the U.S.

How do you think policy can go about bringing as much of that supply chain back to the U.S. as possible, while also, not you know, disrupting growth and business?

MS. RODRIGUEZ: Sure. I think to your first point, I think it's absolutely a system of systems, and it's not a zero sum game. I mean, we need to look at trade as beneficial both inbound and



outbound in creating an environment that supports exports, and minimizing retaliatory measures, whether you know, tariffs are other things are element implemented.

I think we need to create an environment that supports free and fair and enforced trade, and look at it holistically. One element that came up in our recent study, the Global Manufacturing Competitiveness Index, is that regional viewpoint that you alluded to. So by 2020 in the top 15 countries in terms of global manufacturing competitiveness, three of them are in North America.

So, Canada, U.S. and Mexico for the first time ever, global executives are indicating the U.S. will move to the number one global manufacturing competitiveness nation. But it's strongly supported by Mexico and Canada, so we can't look at U.S. singularly, but as a regional hub, if you will. And there's two other regional hubs in those top 15, so all 15 of the top nations by 2020 fall into three regions; North America being one. Two of the nations are in Europe, so Europe -- we're seeing a squeezing effect taking place.

And the remaining of the top 15 are all in Asia. So quite a number of the most competitive manufacturing nations are in Asia, both because you know, let's face it, population and market size you know, are dictating companies to move there, as well as we're seeing -- we coined the term Mighty Five. So, Malaysia, India, Vietnam, Thailand and India -- those five nations have risen to the top -- within the top 15.

And so we're seeing this regional effect take place where there is kind of a hub and spoke and taking all elements, whether it's the highly innovative nations, whether it's the low cost and combination thereof. And so you need all of those aspects to create the system of systems within manufacturing, and all of those regions are inter-connected. So you can't, you know, just look at U.S. policy in a vacuum, but you need to take the broader context in mind.

MS. SWANSON: Mario or Ray, do you have any thoughts on you know, what kind of policies could bring parts of that supply chain back to the U.S. best without also disrupting growth or business?

MR. REBELLO: I'll let Ray go first (Laughter).

MR. FOGARTY: Well, near-shoring is happening, meaning things are coming back to America. It's a reality. So manufacturing is bringing back what it has lost, little by little. Has it shown up

statistically? No. But when you look at manufacturing, we had a large fallout since 1988 where in our state, we had 116,000 jobs, and now we have 40,000 jobs dependent upon manufacturing.

So you have to look at manufacturing as the -- not just the direct jobs, but the indirect jobs that correlate to statistically how many jobs are dependent upon manufacturing. So it's a much bigger sector than people give it credit for, because of the multiplying job. Very conservatively, it's two to one. Most likely it's three to four to one, as far as manufacturing goes.

So when you look at a direct job, then you look at the correlation of that. And that's a big number, because most people want to just say what's the direct job. They don't want to say what's the economic multiplier for that. So what we're doing as far as global sales and things like that -- it creates jobs on a widespread basis.

But we've got to allow business to make business decisions. If a company wants to buy a company somewhere else, regardless of where it is around the world, to be closer to their supply chain, it's okay. It's not bad. So it's not -- and importations, it's really -- if you look at the global economy, importations is three to one as far as exports versus imports.

You know what that means? We're a very competitive -- we're a wealthy nation and we're importing things because we can get it cheaper. So what do you want to do? Do you want to artificially increase the price so that we have more jobs? I don't think so, because imports are extremely important to the overall process of free and fair trade.

MS. SWANSON: I'm glad that you brought up the effect in workers, because before we open it up for audience questions, I do want to ask -- you know, I mean, the origin of a lot of this political discussion we're having around trade is the aftermath of the financial crisis, and the effect of trade, you know, either real and perceived on lower and middle income people in the U.S.

So, in an era of you know, multi-national companies that obviously have very real obligations to their shareholders to generate profits, I mean, what do you see as the role that companies play in that debate? And you know, in either providing opportunities or not for you know, more lower and middle income people in America?

MS. RODRIGUEZ: Well, I'd say talent, you know, being the number driver of competitiveness with manufacturer is -- you know, talent is the asset that all companies have that is most

vital. And so retaining and attracting and developing the top talent is truly what is going to define and differentiate manufacturer today from the future.

So I think it's in their best business interest to develop and retain top talent. And I think you know, through our skills gap study, we show between 2015 and 2025, two million jobs in the U.S. will go unfilled in the manufacturing industry because of the skills shortage; because they're not able to find and attract and retain the top talent.

They're going to other sectors. They're going to other countries and nations. And so attracting and developing the talent, you know, whether it's at the shop floor level, whether it's in the executive suite, you know, all spectrums of talent is going to be the -- you know, one of the key battlegrounds in the manufacturing landscape.

MR. REBELLO: I'll validate that. So when we look to increase manufacturing or employment levels in a particular facility, the first thing that we look at is talent. Is there talent within an hour's drive, is typically the barrier. More than an hour's drive, the talent just falls off for us.

So we make decisions on where to move manufacturing or where to move production based upon the talent. And then overlay the policies on top of where is it favorable. So as a company, we operate 40 manufacturing facilities in these regions that Michelle has called out. And so what we're able to do is shift manufacturing, shift production from Country A to Country B based upon where the talent is, based upon the incentives to manufacture locally, as well as what the overall policies are of gathering and being able to produce in a particular company.

But our number one criteria is talent. If the talent isn't there, we will move on to the next facility to figure out where do we locate a site; where do we employ from. And here in the U.S. -- so we operate in North Carolina. So we have our manufacturing facility right outside of Raleigh, about 45 minutes outside of Raleigh, because that's what we determined is the threshold in that geography.

Then we have our operational center within, you know, 10 miles of downtown Raleigh. But we're able to attract the talent, and that's what's driving us. And we have 5,000 employees here on the ground in North Carolina, but we located in a facility and a site that had plenty of skilled workers, and that was a decision for us, and that's what we're going to continue and invest, because we'd love to be in other parts of the U.S., but the skills aren't there.

MS. SWANSON: Mm-hmm.

MR. REBELLO: So that's a driving decision for us not to locate if the talent isn't there.

MS. RODRIGUEZ: Yeah, we're seeing more and more manufacturing companies move to where the talent is. So, GE moving to Boston, your site moving from rural to the Raleigh area, and it's that ecosystem. So you take research, you know, whether it's national laboratories or universities. You know, a strong vibrant community college as well as industry.

You know, having those various components of the innovation ecosystem fulfilled is typically you know, a very virtuous and cyclical you know, compounding factor that reinforces and attracts more. And with everything going on with urbanization and just general populations worldwide moving more to urban centers, we're seeing the businesses follow suit as well, to (inaudible).

MR. REBELLO: Correct. And you know, there's been a lot of discussion around the transportation or sort of the infrastructure investment. Those are critical for us.

MS. SWANSON: Mm-hmm.

MR. REBELLO: As decision makers, where we locate facilities, where do we establish and grow our business, we always also look at the infrastructure. And there is a need to improve the U.S. infrastructure. If the U.S. really wants to grow at that 3 percent, some significant investments have to be made in the infrastructure to move people and product from Point A to Point B.

And right now, as we all know, a lot of infrastructure is crumbling. So making an investment and having certainty that that investment is going to take place would be another factor that would help companies make decisions on whether or not we invest to grow here in the U.S.

MS. SWANSON: Mm-hmm. Are there other policies that you know, would be good at filling -- would be needed to fill that gap? I know, you know, Ray, you look at trade adjustment assistance, as well.

MR. FOGARTY: Yeah. And one of the things I'd like to say is that you know, I've been involved in -- primarily because my wife is a high school teacher, but I've been involved in our local high school, and we have a charter school within the public high school.

We have nine different tracks now; one of them is manufacturing. You know, what really interests students as was said in a prior panel is the maker mentality.

(Break in recording)

MR. FOGARTY: Students like to make things. Young adults like to make things. They like to do something with their hands as well as their intellect.

MS. SWANSON: Mm-hmm.

MR. FOGARTY: So I work at a university that sometimes, you know, it's -- it could be looked at as a fantastic university, because we do a lot with companies such as Fidelity. But that is a component. The other component now is we have more students that work with us. Once they see a manufacturer and what they do and how proud they feel working for them, it's -- I think that's the excitement to me, is to take that talent, get it into the workforce.

And I think manufacturing is no longer that -- you know, it used to be even 10 years ago, people would say, well, manufacturing -- I don't want my kids to go into manufacturing. I do. I want my kids to be very successful and I was see them make something, do something, create something.

And I think that's the beauty behind America is the talent that comes in from all over the world to create something that no one's seen before. So that's exciting to me for manufacturer in the future.

MS. RODRIGUEZ: I'm+ glad you brought that up. We are actually releasing a study today on the perception of manufacturing industry, and it finds that once students are more familiar with manufacturing, that they're twice as likely to enter a career. So it's really opening the doors and helping the public, helping parents, helping students understand what manufacturing really looks like today; what modern manufacturing is and how vibrant and high tech and innovative it is.

And I think the maker movement and all of the robotic challenges for students -- and you see all of these types of programs that are really, you know, more about advanced manufacturing, more about modern manufacturing, and our study with NAM and the manufacturing institute that's releasing today shows that a fact of the perception, you know, significantly changing in the American public, and you know, much more towards a vibrant, modern (inaudible).

(Simultaneous discussion)

MR. FOGARTY: The NAM was a process. That was a long process, because --

MS. SWANSON: Mm-hmm.

MR. FOGARTY: -- again, like 10 years ago, that wasn't a consistent theme.

MS. RODRIGUEZ: Right, right.

MR. FOGARTY: And now it's being lived. You know, students at our university, they want to turn around and they want to make something while they're -- they can do their academic things. But we have a maker's space now. Brandeis has one of the best maker's space, meaning students are running their own -- let's make a product. Let's get together. Let's convert.

They don't want to go out and you know, do what they do. They want to go out and make things, and it's exciting to see that, because that's what they want to do for entertainment now (Laughter), which that was not what happened 10 years ago.

MS. SWANSON: Kids these days, they're just (Laughter) --

MR. FOGARTY: Well, it's exciting.

MS. SWANSON: -- manufacturing things. Great.

Well, that's a very nice optimistic note to open this up for audience questions. If you could identify and please ask a question, rather than just making a statement. We have a couple of microphones moving around. Let's see. We'll go here first.

(Break in recording)

MR. WIXEN: Hi, Max Wixen with University of Maryland. I just want to follow up the discussion of talent and issues about (inaudible). If basically, you're saying that you're looking for locations with talent that is one hour of your location, what does that suggest about future trends about maybe a conglomeration of industry, about sort of -- most manufacturing moves to a centers, and the rest of the country -- is there sort of much scope for manufacturing in more rural areas, in sort of less populated states?

MR. REBELLO: I'll take -- my immediate response from what I'm seeing is it's -- growth in jobs in a particular manufacturer is being more concentrated. They're looking at a handful of centers around the U.S. that really aren't in a position to support the manufacturing that have the talent, that have the ability to deliver a low cost energy or alternative forms of energy to reduce the cost.

So unfortunately, I don't see it spreading out across the country, and states around recognizing -- there's a few states out there that are more aggressive than others, and I'm being very

smart. I'm bringing these jobs into their region, and they're building this ecosystem; these systems within a geography to really support this growth, and I'm just seeing that continue.

And unfortunately, it's going to be maybe a dozen or so sites around the U.S. that will have this heavy concentration. You'll always have some outliers, for some reason, but the reality is it's being concentrated and it's moving closer to the population centers around the country. That's what I'm seeing.

MS. RODRIGUEZ: Mm-hmm. Yeah, I would say that's happening in the U.S. and globally, as well. So you know, you look at nations that are strategically investing in either the capability set or the skill set required for manufacturing or other industries, and you see it, you know, to supplement their population, their job growth.

And so ideally, you know, we all in this room would love to see those systems -- ecosystems at the original base. You know, many of them thrive and flourish in the U.S., but there are other nations that are very aggressively investing in the innovation ecosystem that ultimately attracts businesses and attracts you know, investments.

(Break in recording)

(Discussion off the record)

MS. SWANSON: All right. Let's go here.

(Break in recording)

MR. LEBOWITZ: Zachary Lebowitz. If someone wants to work at an aviation industry, the Avasee Group, you know, at some point, one interesting thing on those. A couple of years ago, Toyota relocated its headquarters from California to Plano, and there was discussion about whether air service played a role.

You know, for many other panelists -- we're talking about competitiveness. How important is air service to the competitiveness, you know, equation here since that has been viewed as a very important point in major cities, like Mott or New York or Washington or you know, Chicago, Detroit, Seattle?

MR. FOGARTY: I can jump in on a very local basis. We just expanded our airport so that we can do European flights as well as coast-to-coast flights. It's a huge economic multiplier that

people want to go out where they are from the airport. They want direct flights.

And they will establish, if you're a business person, believe it or not, Boston is one hour away. But they would much rather drive to Providence, 20 minutes away and then fly from there. And what has happened was the effect of Norwegian Airlines coming into Providence, which we now have multiple flights going all over Europe.

And it's reduced our costs, but it's also -- number one, I think, it's time for business owners today and business persons and convenience as far as travel. So I think you're spot on, and I think Mario had said it earlier, that you need the infrastructure. You need the trade infrastructure and the airports are very important part of that. Aviation is a very important part of that.

So I think you're right on target.

MS. SWANSON: Any questions?

(Break in recording)

SPEAKER: -- policy on manufacturing has been basically laissez-faire, with no -- not picking winners and losers. But with today's more specific and specialized ecosystems --

(Break in recording)

SPEAKER: -- time could change that?

(Break in recording)

MS. RODRIGUEZ: That's a good question, I think.

MR. FOGARTY: (Laughter) That's a good question.

MS. RODRIGUEZ: I think there is a --

MR. FOGARTY: It's a good question.

MS. RODRIGUEZ: Right. And so I think you're right in that typically, industrial or manufacturing policy is viewed upon differently in the U.S. as opposed to other countries in the world, other nations are -- you know, manufacturing systematically is viewed as one of the key measures to economic prosperity.

So you know, Deloitte World Economic Forum, MIT, Harvard, we've all done studies linking product complexity and export complexity of a nation with economic prosperity. So as the product -- as you make more complex and high tech things, your economy flourishes. And other nations know



this and actively are developing policies to help implement that.

So you know, the U.S. historically has had a very strong innovative entrepreneurial foundation that we've benefited from. So whether it's our national lab system where so many of our basic science takes place -- it's really a gem of our ecosystem in an innovation perspective, or whether it's our entrepreneurial, you know, mechanisms.

I think there are aspects that we should encourage and flourish, whether that's "industrial policy" or just creating an environment for things like innovation and high tech and entrepreneurship flourish, benefit. I think that would be advantageous to the U.S.

MR. FOGARTY: And I would like to say on innovation, it's very easy to use the term innovation, just like entrepreneurial things of the past. Now people are using the term innovation. So I asked the question to an expert in London around September. I said, innovation has -- what's in the root of a company and how you extract that innovation.

You don't want a 500 person company and have 400 of them be innovators, because you wouldn't be able to produce the product and get it out there. You've got to be profitable.

MS. SWANSON: Mm-hmm.

MR. FOGARTY: But you definitely want to instill the innovation amongst everyone in the company, so that it doesn't matter who or what level you're at, that you're of that innovation factory and the spirit of innovation. So this gentleman who is again, a worldwide expert, and I -- at the time talking to him, I didn't really know that, but I found out pretty quick.

He goes, here's the handbook on innovation. This is what you're talking about. This is what I did. This is who I collaborated with. And that was the question I was asking him. Using a buzzword doesn't mean there's going to be success, but having innovation be part of what your company is, and I think that's the beauty behind the U.S. success, global years. We have the freedom and flexibility to fail.

So you know, I had a really good boss very early, and the number one thing he says, I'm giving you the freedom to fail. And I was young at the time, and I walked out and I said, do you want me to fail? Do you expect me to fail? No, he was saying it and -- I grew -- what that meant to me was I can take chances without getting fired. You know?

So I embraced that. And as long as you're doing 8 out of 10, not -- you know, I did two really well, whatever two is in your job. So don't be afraid to experiment, innovate, but make sure it goes in and it goes out quickly. So you know, that's again why I think manufacturing is really important for us for the future. And I've always been a supporter of manufacturing over other disciplines in business, because it's such a big multiplier on our economy.

MS. SWANSON: Great. Let's take one final question.

(Break in recording)

MS. SWANSON: Can we do the lady in the back there?

(Break in recording)

SPEAKER: Thank you for a very interesting panel. My question is for Mr. Rubello. Earlier, you said that the conditions didn't exist in the United States for the supply chain for your industry to pass through the United States. I think we've all heard the example of, if the Apple iPhone were produced here, it would cost \$10,000.

What are the factors that prevent portions of the supply chain moving back into the United States in your industry?

MS. RODRIGUEZ: Yeah, that's a great question. You know, is it just -- wage costs was something that came up to me as you were speaking, or what are --

(Simultaneous discussion)

MR. REBELLO: Right. Wage is a component.

MS. RODRIGUEZ: Mm-hmm.

MR. REBELLO: But there are other components. It's where do you source the material in the electronics field, whether it be a mobile device, a laptop, a high performance computing or a server. There's only four or five places in the world where you can actually source the material. That's one component.

And typically, the U.S. is not a place where we source. That just doesn't -- the material isn't here. That's a problem. So getting the material here in a timely fashion -- it's an additional layer of expense that we have to incur. So that's one element.

The second element is the component parts. We have to rely on others to -- whether it

be a battery, whether it be a chip, whether it be other components of the electronic device, it's just not manufactured in the U.S. That's the hard truth. It's manufactured in other parts of the world, as well.

So again, if you're going to build a facility in the U.S., you have to account for the cost issues of labor. Then you have to figure out, all right, how am I going to get product, source the material to bring in to the U.S., and then I have to have the regulatory approval to bring it into the U.S. So we have products sitting at the border waiting to come in so that we can manufacture in the U.S.

So it's not that you can put it in a containership and after a certain period of time, the content goes bad or the chip goes bad if it sits on the dock and there is a heat or cold index. The chip may not work. So these are the supply chain elements of our particular industry that don't exist in the U.S.

Now for that to happen, to encourage companies like Lenovo, Apple, HP, Dell to manufacture in the U.S., a policy would have to encourage those suppliers to move those supply chains into a location that's more conducive, where we can gain access pretty quickly to it in the U.S. But today, those supply chains don't exist. They're not here.

We have to go to China. We'll have to go to other parts of Asia. We'll have to go to parts of Africa for these components. Or in the chips, it's great that they're created or invented here in the U.S., but the companies that own those patents and those portfolios manufacture in other parts of the world. It's just the ecosystem.

Until you get that ecosystem to move, to relocate and to be more flexible in our particular industry, in the telecommunications technology sector, we will never have an iPhone manufactured in the U.S. That's the hard truth. Or we'll never have a PC manufactured -- right now, there is not one single PC maker that will make a PC in the U.S.

That's just -- but that tells the policy makers, look at the policy that's driving those decisions. What can be done to influence and to bring those supply chains or relocate those supply chains to an environment where you can pull from it that's closer to the U.S., or actually through the U.S.?

But until that happens, the tech sector won't manufacture our hardware in the U.S. It's just that we'll be adding 30 to 40 percent more cost to that device to have it manufactured here in the U.S. The consumer, the end user, that's all of us, right? We're price sensitive when it comes to our --

We all love our iPhone. We all love our PC and our device, but we don't want to pay a higher premium than what we're paying today. And so that becomes a key factor not to manufacture in the U.S.

MS. SWANSON: All right. Well, I think we're out of time. Thank you so much for coming to the panel today. I hope you enjoy your afternoon on a very balmy day (Laughter). (Applause)

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I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

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