

**Hearing on Trade, Manufacturing, and
Critical Supply Chains: Lessons from COVID-19**

HEARING
BEFORE THE
SUBCOMMITTEE ON TRADE
OF THE
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FOR IMMEDIATE RELEASE

CONTACT: (202) 225-3625

July 16, 2020

No. TR-6

Chairman Blumenauer Announces a Subcommittee Hearing on Trade, Manufacturing, and Critical Supply Chains: Lessons from COVID-19

House Ways and Means Trade Subcommittee Chairman Earl Blumenauer announced today that the Subcommittee will hold a hearing on “Trade, Manufacturing, and Critical Supply Chains: Lessons from COVID-19” on Thursday, July 23, at 2:00 PM EDT.

This hearing will take place remotely via Cisco Webex video conferencing. Members of the public may view the hearing via live webcast available at www.waysandmeans.house.gov. The webcast will not be available until the hearing starts.

In view of the limited time available to hear witnesses, oral testimony at this hearing will be from invited witnesses only. However, any individual or organization not scheduled for an oral appearance may submit a written statement for consideration by the Committee and for inclusion in the printed record of the hearing.

DETAILS FOR SUBMISSION OF WRITTEN COMMENTS:

Please Note: Any person(s) and/or organization(s) wishing to submit written comments for the hearing record must follow the appropriate link on the hearing page of the Committee website and complete the informational forms. From the Committee homepage, <http://waysandmeans.house.gov>, select “Hearings.” Select the hearing for which you would like to make a submission, and click on the link entitled, “Click here to provide a submission for the record.” Once you have followed the online instructions, submit all requested information. ATTACH your submission as a Word document, in compliance

with the formatting requirements listed below, **by the close of business on Thursday, August 6, 2020**. For questions, or if you encounter technical problems, please call (202) 225-3625.

FORMATTING REQUIREMENTS:

The Committee relies on electronic submissions for printing the official hearing record. As always, submissions will be included in the record according to the discretion of the Committee. The Committee will not alter the content of your submission, but reserves the right to format it according to guidelines. Any submission provided to the Committee by a witness, any materials submitted for the printed record, and any written comments in response to a request for written comments must conform to the guidelines listed below. Any submission not in compliance with these guidelines will not be printed, but will be maintained in the Committee files for review and use by the Committee.

All submissions and supplementary materials must be submitted in a single document via email, provided in Word format and must not exceed a total of 10 pages. Witnesses and submitters are advised that the Committee relies on electronic submissions for printing the official hearing record.

All submissions must include a list of all clients, persons and/or organizations on whose behalf the witness appears. The name, company, address, telephone, and fax numbers of each witness must be included in the body of the email. Please exclude any personal identifiable information in the attached submission.

Failure to follow the formatting requirements may result in the exclusion of a submission. All submissions for the record are final.

The Committee seeks to make its facilities accessible to persons with disabilities. If you require special accommodations, please call (202) 225-3625 in advance of the event (four business days' notice is requested). Questions regarding special accommodation needs in general (including availability of Committee materials in alternative formats) may be directed to the Committee as noted above.

Note: All Committee advisories and news releases are available at <http://www.waysandmeans.house.gov/>

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**Trade, Manufacturing, and Critical Supply Chains:
Lessons from COVID-19**
U.S. House of Representatives,
Subcommittee on Trade,
Committee on Ways and Means,
Washington, D.C

WITNESSES

DR. ERICA FUCHS

Professor of Engineering and Public Policy, Carnegie Mellon University

[Witness Statement](#)

DR. PRASHANT YADAV

Senior Fellow, Center for Global Development

[Witness Statement](#)

MS. ROXANNE BROWN

International Vice President at Large, United Steelworkers

[Witness Statement](#)

MS. KIM GLAS

President and CEO, National Council of Textile Organization

[Witness Statement](#)

DR. THOMAS DUESTERBERG

Senior Fellow, Hudson Institute

[Witness Statement](#)

The subcommittee met, pursuant to call, at 1:59 p.m., via Webex, Hon. Earl Blumenauer [chairman of the subcommittee] presiding.

Chairman Blumenauer. Let's call the committee to order.

Good afternoon and welcome.

We appreciate everybody joining us today. This is really a terrific turnout considering all the activity and turmoil going on around us. While many of us are back in Washington today, we are holding this committee virtually in compliance with the regulations for remote committee proceedings pursuant to House Resolution 965.

This authority has allowed us to continue to do our work on behalf of the American people while keeping our staff, families, and the broader community safe. While we are all starting to become familiar with navigating this technology, I do want to remind members of a few procedures.

First, consistent with the regulations, the committee will keep microphones muted to limit background noise. Members are responsible for unmuting themselves when they seek recognition or when recognized for their 5 minutes. Members and witnesses must have their cameras on at all times. We have got to keep track of you. Even if you step away from the proceedings, please leave your camera on, rather than logging out.

Finally, as you know, we may have votes during today's hearing. It looks like they are going to be later, but if we do have votes, it would be my intention not to recess. Members should go vote when their group is up and come back immediately. If your turn for questioning comes up while you have stepped away, I will get back to you.

Today, we are holding a hearing on "Trade, Manufacturing, and Critical Supply Chains: Lessons from COVID-19." It is a little poignant for us to start our proceedings, the first committee activity that I have been involved with since we lost Mr. Lewis, who really set the standard on so many different levels, was the conscience of the committee,

was someone who touched us all, and showed not just courage and stamina, but humility that is rare in our environment. He was truly a unique human being and will be sorely missed, but he will continue on in our memories with all the great times and experiences that we have shared with him. As John Lewis would have wanted, we must continue the peoples' work, and I hope all our work will be guided by his principles and his valiant example.

Today marks the first virtual hearing of the Trade Subcommittee. The hearing topic is one of the most utmost importance to our ability to emerge from this ongoing COVID-19 pandemic with a stronger, more resilient economy: reexamining the trade and manufacturing policies that have led to a fragile, I dare say brittle, and opaque global supply chains, and amplifying the painful lessons we are learning from COVID-19 to make sure we are better prepared for the inevitable future crises and challenges.

The pandemic highlights the impact of globalized supply chains designed to pursue the lowest price, whatever the true cost, without appropriately accounting for possible risks, such as unanticipated disruptions to sourcing, relying on complicated and multi-tiered supply networks that are easily disrupted, and losing key manufacturing flexibility in the United States. I think we fail to fully appreciate these vulnerabilities.

The pandemic has revealed the almost total extreme lack of transparency into supply chains, while exposing the dark underbelly of what were once considered innovative, cost-saving business models. The dependence on limited inventory and just-in-time delivery enhances our vulnerability.

COVID-19 has served as a very painful example of long-existing problems. In the spring, I was horrified to see medical facilities across the country, including hospitals and nursing homes in my community, struggle to secure personal protective equipment and lifesaving medical devices like ventilators.

We witnessed State governments forced to turn to unreliable suppliers charging exorbitant prices to obtain desperately needed medical products. While I had hoped that this dark period was behind us, in the past few weeks, we are seeing shortages emerge again as cases spike in various parts of the country.

Despite the tools at its disposal, such as the Defense Production Act, the administration has been unwilling to use the full power of the Federal Government to develop American productive capacity to meet the ballooning demand for these critical products.

For the richest country in the world, this seems an absurd and sad reality. COVID-19 underscores the decline in American manufacturing, which presents major economic, national security, and public health challenges that can no longer be ignored.

We must think strategically about our domestic manufacturing capacity, both in the context of the COVID-19 crisis and what comes next. These considerations must be understood in the ongoing and emerging economic, security, and technological competition with China.

China has not been shy about its intent to use industrial policies that deploy the full might of the Chinese economy in the furtherance of its strategic and geopolitical goals. The United States cannot sit idly by as China invests heavily in those ambitions.

As Members of Congress, it is incumbent upon us to seek out experts like our witnesses today to identify issues and to learn from past mistakes. Policymakers must think about how the United States can mitigate the risks while cultivating dynamic and innovative manufacturing capacities and economic opportunity for our workers and for our families.

As part of the effort to first understand and ultimately address the deficiency in our existing policy, I am pleased that we were able to convene this panel of experts who can

provide a diverse range of views and perspectives as we consider policies that ensure greater resilience in critical supply chains.

We must keep an open mind about the policy levers that are appropriate moving forward. I encourage my colleagues on the subcommittee to use today's hearing as an opportunity to actively examine available policy tools for addressing one of the most consequential challenges of our time.

In the conversations that have been developing around the topic of reexamining supply chains and the relationship between trade and manufacturing at home, there has been a lot of excitement regarding tax incentives, Buy American policies, or applying additional tariffs.

Our examination, I would argue, should not fixate on one particular tool to the exclusion of others. Let's keep an open mind and keep our eyes strategically focused on our objectives. Meaningful solutions will require us to work together, to be thoughtful, strategic, and creative. They will require our best tools and ideas to work in concert, likely across policy areas. Without prejudging what specific tools may be, I am confident that trade policy is an important part of the answer.

Today's hearing is intended to assist our committee in a robust, productive, and bipartisan effort to harness trade and manufacturing policies to create resilient and versatile supply chains. The future of the American economy, the health of our workforce, and our leadership in innovation is at stake.

With that, let me please turn to Ranking Member Mr. Buchanan for his opening comments.

Vern.

[\[The statement of Chairman Blumenauer follows:\]](#)

Mr. Buchanan. Thank you, Mr. Chairman. I also want to take a moment to offer

my condolences to the family of Congressman John Lewis.

John and I worked closely together on many issues as members of the Ways and Means Committee, including as chairman and ranking member of Oversight Subcommittee. In particular, we closely worked on Taxpayer First Act, the first reforms to the IRS in two decades. He was a remarkable man who dedicated his life to making our country better and more inclusive for all Americans.

His wisdom and inspiring presence will be dearly missed in this committee and this Congress, but never forgotten.

Thank you, Mr. Chairman, for holding this timely hearing. This important issue has been at the forefront of our minds as we have been fighting the COVID-19 pandemic. I hope we can work together to find bipartisan and commonsense solutions to making our medical independence, strengthen our supply chains, and create a seamless and nondisruptive manner, more manufacturing jobs and invest here in America.

I want to thank our witnesses for taking the time to testify and sharing your views with the subcommittee. This panel has shown us how important it is for us to be medically independent and to have a supply chain that are reliable and flexible, no matter how they are structured.

If we want stronger and more resilient supply chains here, then we must be the best place in the world to do business. I enthusiastically support the pro-growth Tax Cuts and Jobs Act because it helped to do just that by improving our tax incentives for manufacturers and conduct research and development in the United States.

Creating more jobs here at home, President Trump has enacted many commonsense regulatory reforms over the last several years that have also greatly improved our competitiveness around the world.

As we work together through the health and the economic effects of the pandemic,

Republicans understand that action is needed to make us more medically independent and prepare for the future crisis. The pandemic has showcased the urgency for having vital medical products like PPE and pharmaceutical availability quickly and reliably.

We cannot rely on our adversaries like China. This is why the Republicans have put forward the Faster Cures through Innovation Agenda, which seeks to create and expand tax incentives to make the United States more medically independent.

I am proud to have introduced the American Innovation Act, which allows startup businesses to expense more of their startup costs and preserve the important tax benefits like R&D credits in the hands of American innovators to develop cures and treatments so that they can be used with exciting new products as they are brought forth to the market.

This package is just the beginning. Committee Republicans continue to put forth winning pro-growth proposals that will strengthen our manufacturing base and create more investment in production in jobs here at home. It is vital for America to maintain its status as the premier location in the world for innovation and manufacturing. That is the goal of the Republican pro-growth agenda.

I also introduced a Securing America's Medicine Cabinet Act to create a new Federal office to stockpile adequate supplies of critical medicines, encouraging companies to ramp up manufacturing, and create the National Centers of Excellence for Advanced Pharmaceutical Manufacturing to develop and manufacture more active pharmaceutical ingredients within the United States.

Another key consideration when assessing supply chain resilience is diversity of supply. Our allies play a vital role with us making us medically independent and establishing dependable soft supply chains that isolate our adversaries, like strengthening our global standing and increasing export opportunities for U.S. manufacturers.

China poses serious threats for our supply chain and national security. Working

with trusted allies maximizes our strength, safeguards our role as a global leader in manufacturing and healthcare innovation, and it effectively discourages our partners from adopting localization measures that cut off our vital export markets.

Mr. Chairman, this is not a partisan issue. I believe we are both committed to ensuring to secure and dependable supply chains that benefit Americans. Let's work together to address the challenges we face in a seamless, proactive, stable way that ensures our health, security, and economic prosperity.

Thank you, again, Mr. Chairman, for calling this important hearing, and I want to also thank all of our witnesses.

I yield back.

[The statement of Mr. Buchanan follows:]

Chairman Blumenauer. Thank you very much, Congressman Buchanan. We appreciate your comments. We appreciate your leadership and partnership.

We have a distinguished panel of witnesses here today to discuss the policies to develop robust and resilient supply chains. I would first like to welcome Erica Fuchs, professor of engineering and public policy at Carnegie Mellon. Then we will hear from Prashant Yadav, senior fellow at the Center for Global Development. Following him will be Roxanne Brown, international vice president at large of the United Steelworkers. And then Ms. Kim Glas, President and CEO of the National Council of Textile Organizations. And following Ms. Glas is Tom Dueterberg, Senior Fellow at the Hudson Institute.

Each of your statements will be made part of the record in its entirety, but I would ask that you summarize your testimony in 5 minutes or less if you could.

Professor Fuchs, you may begin.

STATEMENT OF ERICA FUCHS, PROFESSOR OF ENGINEERING AND

PUBLIC POLICY, CARNEGIE MELLON UNIVERSITY

Dr. Fuchs. Thank you, Chairman Blumenauer, Ranking Member Buchanan, and members of the subcommittee.

During the pandemic, I spoke with a medium-sized U.S. medical supplier which had imported equipment from China capable of manufacturing 9 million masks per month. Surprisingly, their most challenging bottleneck was the ear loops for the masks.

To work in their automated machines, the elastic needed to be no-latex, a precise width and elasticity, and to come in a bag. They found a domestic supplier for a small fraction of the necessary elastic but on a spool, and for a while, a worker hand unspooled the elastic with the expected productivity slowdown.

When discussing critical technologies, we wouldn't think elastic, and yet that lack of elastic cost our country millions of masks a week. The lesson from this story, however, is not that we need to produce elastic per se. What is missing is the capability to pivot. Diversify the suppliers internationally, adapt the equipment, change the elastic, change the masks to not require elastic, change the regulations.

That inability to pivot is the tip of the iceberg for how dilapidated the U.S. manufacturing ecosystem is. First, for the U.S. to compete, we must make innovative products here that are demanded by the world. If we do it right, it can be a win-win for national security, the economy, and jobs.

Making advanced products domestically can create good jobs for hard-working high school graduates. I am not talking about automating everything. While automation, IT, and digitization are clearly important, they are just one set of a range of innovation. Our research shows that many of the advanced manufactured products on today's critical technology lists are likely to create more demand for skilled crafts people and empower

those skilled high school graduates to have more involvement in the innovation process itself.

How do we get that technology manufactured in the United States? Unfortunately, my research shows that the globalization of production makes it harder for U.S. innovators to bring their ideas to market. When firms moved manufacturing to developing countries, it reduced the cost of old products, making innovative new products have to be that much better to compete. We need to help U.S. innovators leap over this valley of death through mechanisms, such as increased and extended SBIR funding.

Second, the U.S. needs to rebuild its manufacturing ecosystem through strategic investment in infrastructure. Infrastructure for transit, energy, communications, and data address needs of society and manufacturing. Done right, it can also build national capabilities in the companies and skilled workers who become the manufacturing workforce of the future.

To lead in manufacturing the products of the future, we need to build the infrastructure of the future. The mason, foreman, engineer, and computer science skills relevant to intelligent transportation and urban infrastructure systems have corollaries in resilient grid infrastructure, privacy-preserving health infrastructure, and intelligent manufacturing.

Our investments and training should be strategic to leverage these overlaps and the career transitions between them.

Third, as you have heard, manufacturing the right advanced products domestically can increase national security and demand for skilled high school graduates. The right investments in infrastructure can serve triple duty in creating the groundwork for manufacturing success, but we must make the right investments, which brings me to my final point.

We cannot just produce more reports with lists of critical technologies. The U.S. needs a nimble entity that combines program managers and analysts to make strategic investments that ensure national technology competitiveness. That entity needs enough money for its investments to be influential, but a sufficient lack of money such that it is required to engage and influence other agencies to have a larger effect.

Getting these decisions right is going to require an organization with technical depth run by interdisciplinary teams of our best and brightest. Otherwise, as we are currently with COVID-19, we will be flying blind.

[The statement of Dr. Fuchs follows:]

Chairman Blumenauer. Thank you, Dr. Fuchs.

Dr. Yadav.

STATEMENT OF PRASHANT YADAV, SENIOR FELLOW, CENTER FOR GLOBAL DEVELOPMENT

Dr. Yadav. Chairman Blumenauer, Ranking Member Buchanan, and members of the committee, my name is Prashant Yadav. I am a senior fellow at the Center For Global Development, an affiliate professor at INSEAD, and a lecturer at Harvard Medical School.

Over the last two decades, my research has focused on global medical supply chains. Thank you for the opportunity to share my viewpoints as testimony to this committee and for convening this very important hearing.

Shortages of PPE testing supplies and other medical products have highlighted the grave challenges we face in our medical supply chain, but much of the discussion has focused on PPE where there is a high geographic concentration of manufacturers in China.

The supply chain for different types of medical products, though, varies a lot in its economic geography. For example, the supply chain for test kits is less dependent on manufacturing in China and more dependent on production of key components in Europe.

At the very aggregate level for all medical products, Ireland, Germany, Switzerland, China, and Mexico, together make up of about half of U.S. imports by value. It is important to remember that the U.S. is also a significant exporter of medical products with a 12-percent share of the global market.

When we start disaggregating this picture by product categories, a different picture emerges. China is the top exporter of face masks and active pharmaceutical ingredients, or API. India is a significant exporter of genetic medicines. So the organization of medical supply chains is based not just on lower labor costs but due to the clustering of technical know-how, tax incentives offered by certain governments, and proximity to R&D hubs. For API, for example, environmental legislation with the U.S. and EU was one of the factors that led to moving production to China and India.

Next, I will briefly present some ideas to make our medical supply chain more resilient. First, we should diversify a production basis but not limit it only to domestic manufacturing. It is tempting to think of producing all critical supplies within our national borders. However, if this is implemented hastily, it may further reduce the resilience of our medical supply chain.

COVID-19 has shown us the huge risks that geographical concentration of manufacturing brings. We have also experienced some of this at home when Hurricane Maria hit Puerto Rico, where a large part of our saline bag manufacturing was concentrated, and it led to shortages in hospitals across the U.S.

Reshoring production of medical products also doesn't happen with the flip of a switch. Building new production plants for medical products requires several years

sometimes to ensure that the steps required for sterile manufacturing, regulatory approvals, and process efficiency are steadfastly in place.

So we do need to create sufficient reactive capacity, capacity which can be scaled up and down quickly within the U.S. to be able to rapidly respond to surges in demand or disruptions in global supply. Through the U.S. International Development Finance Corporation, we can provide capital for U.S.-based medical companies so they can expand and diversify their supplier bases to additional countries, especially for PPE.

In addition to creating supply chain resilience, it will also allow us to contribute to economic development and create goodwill in countries in Africa, Latin America, and some parts of Asia, which are currently not well integrated into global supply chains.

Setting up alternate manufacturing sites and keeping spare capacity costs money. If left to their own devices, it is unclear if all companies in the medical supply chain will invest sufficiently in resilience, so we need a mandatory stress test for the medical supply chain.

Keeping adequate supplies for critical products in the Strategic National Stockpile is by far the most robust way to ensure we have enough supplies to meet our emergency needs. Purchasing for the stockpile can prioritize those manufacturers who have reactive manufacturing capacity in the U.S. in order to keep their supply lines running.

We need a congressionally mandated National Academy of Medicine expert committee to re-evaluate the governance of technical design off the SNS.

In summary, I would say, as we prepare for the massive supply chain that will be necessary to manufacture and distribute potential vaccines for COVID-19, we are reminded of the global nature of the vaccine supply chains, in which glass vials, adjuvants, other items come from a supply chain with a vast global footprint. We have a national imperative to ensure the security for our medical supply chain. But we need not frame

this issue of supply chain security as a zero-sum game.

Our national interests are best served by looking at diversification on medical manufacturing while preserving our trading partnerships and contributing to well-being around the world.

Thank you, and I look forward to your questions.

[[The statement of Dr. Yadav follows:](#)]

Chairman Blumenauer. Thank you, Professor.

Ms. Brown.

Are you unmuted, Ms. Brown?

**STATEMENT OF ROXANNE BROWN, INTERNATIONAL VICE PRESIDENT
AT LARGE, UNITED STEELWORKERS**

Ms. Brown. Thank you, Chairman, very much.

Thank you, Chairman Blumenauer, Ranking Member Buchanan, and members of the Subcommittee. My name is Roxanne Brown, and I am honored to serve as international vice president at large for the United Steelworkers Union.

I appreciate the opportunity to join you, and our union's international president, Tom Conway, sends his regards.

The Steelworkers is the largest industrial union in North America, and we represent workers in a vast array of industries and are uniquely positioned to discuss the themes of trade, manufacturing, and critical supply chains.

At the heart of my testimony is the need for a pragmatic, strategic, and thoughtful manufacturing plan for the U.S. that puts America's workers at its core. COVID-19 may be the catalyst for today's conversation, but our union has long known that, without a

strong, globally competitive manufacturing base, our members, our communities, and our country are all less secure, less resilient, and incapable of truly responding to crises when necessary.

Union members throughout this country continue to stand on the front lines in the face of this pandemic and provide the necessary supplies to help our frontline workers and communities stay safe during this unprecedented time.

For example, USW members at Qure Medical in South Carolina make rubber stoppers for syringes and other components for intravenous drug delivery. The demand for these products doubled as the COVID-19 crisis increased, and our members stepped in, working safely to produce these small but vital components.

At the beginning of the crisis, American Roots in Maine, which traditionally produced clothing items, faced layoffs. The company quickly retooled to produce face masks and face shields using a USW-represented paper company in New York as a supplier for the filters. This effort led to American Roots recalling all laid-off USW members and the company hiring 75 more employees.

These are just two examples of the untold stories of how U.S. workers in the domestic manufacturing industry stepped up in a time of extreme crisis for this country. They represent a small fraction of what an interconnected manufacturing economy can do in the face of crisis.

We also have to recognize the value of manufacturing as a bread-and-butter issue for American workers. Manufacturing workers earn 13 percent more in hourly compensation than comparable workers in the rest of the private sector. These amount to not just family sustaining wages but community sustaining wages.

With that, I will touch on a few items Congress should consider as part of a broad plan for U.S. manufacturing. First, spurring innovation. You must uplift the collective

R&D, engineering, and manufacturing capabilities that sustained innovation.

The American Association for the Advancement of Science highlights the historical trends on Federal R&D spending consistently dropping from 1.23 percent of GDP in 1976 to less than .71 percent today. We need to foster a supplier ecosystem.

For example, we need to improve our domestic pharmaceutical supply chain. The U.S. pays the highest prices in the world for its medicine. Many of which are derived from NIH-funded research, yet according to the FDA, only 28 percent of active pharmaceutical ingredient manufacturing is located in the United States.

We need to update our export facilitation program. It will take Federal resources to increase export. For example, the International Trade Administration's most recent budget posts a decrease of \$35 million from the previous year. This is the agency that investigates our country's trade enforcement cases, and without adequate resources, manufacturing workers will face continued dumped and subsidized goods.

We need to address existing foreign industrial overcapacity in many base commodities. That is why our union continues to support 232 tariff relief in steel and aluminum and strong trade enforcement mechanism. Until there is real global cooperation to contain industrial overcapacity, the U.S. should not let other countries export their unemployment.

And we need an empowered labor force. This requires an investment in our workforce and an ability to negotiate safer processes and conditions at the work site through collective bargaining.

Over the years, we have ceded jobs, manufacturing capacity, technology, and innovation to other nations. We cannot adequately reopen and restart this country without the policies needed to support a strong, domestic manufacturing base.

Our union is ready to work with Congress to craft a manufacturing plan that

recognizes the critical role of America's workers and invests in and encourages the ingenuity of domestic manufacturing.

Thank you, again, for the opportunity to testify today.

[[The statement of Ms. Brown follows:](#)]

Chairman Blumenauer. Thank you.

Ms. Glas.

We want to make sure everybody is muted if they are not speaking.

STATEMENT OF KIM GLAS, PRESIDENT AND CEO, NATIONAL COUNCIL OF TEXTILE ORGANIZATIONS

Ms. Glas. Mr. Chairman, ranking member, thank you so much. I am the president and CEO of the National Council of Textile Organizations, and on behalf of our 600,000 American workers who annually manufacture \$80 billion worth of U.S. textile products, I want to thank you for the opportunity today.

Before I begin my formal testimony, I want to acknowledge the profound loss of your colleague and friend, Congressman John Lewis. He was a friend to our industry, and we extend our deepest condolences to all of you, his dedicated staff, and his family, and his constituents.

The topic of your hearing today is a vital one to examine, and it is a timely discussion. The PPE crisis is the most illustrative example of our overreliance on China and the sheer breakdown of our global supply chains. I feel it is important to document the recent historic efforts of our domestic textile industry to alleviate the Nation's catastrophic PPE shortage and to acknowledge our heroes on the front lines.

U.S. textile manufacturers are supplying hundreds of millions of urgently needed

items, including face masks and isolation gowns, at a time when global suppliers have failed to meet the needs that this crisis requires.

The industry and its workforce are proud to serve the American people and want to work to help onshore this industry long-term. Regrettably, the economic crisis spawned by COVID-19 has forced the cancelation of virtually all normal U.S. textile production outside of some PPE production.

In fact, as hard as this might be to comprehend, we have companies who can make PPE in our own backyard but simply don't have enough orders. Existing conditions are so severe that century-old textile companies that survived the Great Depression, the onslaught of imports over the past 40 years, and the Great Recession are facing the reality of extinction.

If this economic situation persists, the goal of making the U.S. self-sufficient in PPE production will be unattainable due to the collapse of key parts of the domestic textile manufacturing sector. There is no doubt that China is the dominant supplier. For our industry, China ran a \$42 billion trade surplus for U.S. textile products in 2019, and their predatory practices have allowed China to become the dominant player for PPE, where they possessed more than 50 percent of the global production pre-COVID.

Since the onset of the pandemic in February, China's production of PPE has increased five times. And over the weekend, many of you saw the New York Times released an investigative video highlighting the production of PPE in Uighur camps with forced labor.

We need a robust manufacturing stimulus package for workers and the industry. We need strong, domestic procurement rules to help incentivize investment in the onshoring of our industry. We released a report with other key industry associations earlier this week outlining a pathway forward on domestic procurement policies.

This includes procurement policies to expand the Berry amendment rules for PPE purchases across the Federal Government, to help instruct Federal Government agencies to fully exhaust U.S. PPE production capacity, and we are also urging the government to award multiyear contracts to U.S. industry to help onshore some of these investments.

We have outlined plans to help improve stockpiling efforts with respect to the Strategic National Stockpile to ensure that we have the goods that we need when we need them and other tax grants and other incentives for our industry.

NCTO also believes we need to preserve the integrity of our tariff structure. We need to crack down on predatory trade practices that exacerbate offshoring. We need to eliminate loopholes in our tariff structure that may have unintended consequences, like the Section 321 de minimis waivers that mass distributors are using to exploit for millions of tariff-free entries. Each day it is impacting manufacturers here at home, as well as the health and safety of the products going to our consumers.

We must also block efforts to expand GSP treatment to cover textile and apparel products. There is a reason that these products have not been included in GSP over the years. Expanding GSP would have a devastating impact on our textile manufacturers and our trade agreement and trade preference partners, many of whom have also stepped up to help in this PPE crisis.

In closing, the time is right for a revival of American PPE textile manufacturing. It is already begun, but we stand at a crossroads. With the right policy framework, the domestic PPE supply chains built overnight can endure and grow, and we can create domestic self-sufficiency and diversification of our supply chains outside of China.

Thank you so much for the opportunity to testify, and we look forward to working with you.

[The statement of Ms. Glas follows:]

Chairman Blumenauer. Thank you. Very interesting.

Next, we have Tom Duesterberg from the Hudson Institute. Welcome.

**STATEMENT OF THOMAS DUESTERBERG, SENIOR FELLOW, HUDSON
INSTITUTE**

Dr. Duesterberg. Thank you, Chairman Blumenauer, Ranking Member Buchanan, members of the committee. Thank you for this opportunity to speak about the crucial issue, the resilience of our supply chains at a time of pandemic, economic crisis, and the growing challenge of Chinese mercantilism. The pandemic has impeded our ability to meet national economic and security needs, especially by cutting off not only the supply of goods but the transportation networks and indeed the movement of people throughout the world.

These weaknesses were already becoming evident in recent years as China and other competitors eroded America's industrial base. My recommendations in my testimony are intended to strengthen the overall economic and policy environment for a robust industrial sector that will meet both short and longer term national security, medical security, and advanced technology competitiveness needs.

While I support targeted measures to meet specific security needs, my overall framework seeks to avoid overreliance on subsidies for individual industries and on protective trade measures. We do have reliable allies that complement our own resources and manufacturing capabilities, and we are a major exporting power.

We need to avoid contributing to a destructive cycle of competitive subsidies and in so doing diminish market opportunities for our companies and to convince our friends to be more active in supporting our actions to combat Chinese mercantilism and other unfair

trade practices.

Let me now turn to some of the recommendations I outline in my testimony. In terms of tax policy, I support a corporate tax system which keeps corporate income tax rates competitive with the OECD average. I also support increasing the R&D tax credit to promote more reinvestment in American production capabilities. We should also incentivize, as several of the other panelists had mentioned, investment in skills training to ensure that we have the workforce required for advanced manufacturing. Some especially vital areas, such as crucial material products in the medical sector or in things like rare earth metals, which are needed to support most high-tech electronics, may require even stepped-up tax incentives.

I also support a sizeable increase in Federal support for basic scientific research and for enlarging our STEM and skilled workforce human capital. One of the other panelists mentioned the decline in U.S. investment in basic research and development, and I support at least \$100 billion a year increase in our investment in these areas.

In terms of trade policy, we should continue to push back against Chinese mercantilism using all the tools at our disposal. We should continue to attract allies to join us, although this is a tough sell with our European friends. I note that a competitive race over industrial policies and overreliance on purely domestic production can erode our ability to keep markets open and gain support for efforts to convince China to adhere to the accepted rules of international commerce.

We also need to have allied support to achieve much needed reform of the World Trade Organization, whose rules fail to cover egregious Chinese practices, such as state subsidization, IPR theft, and failure to adhere to the normal rules of transparency required by the WTO. Other measures, such as reducing Chinese access to Western capital markets and prohibiting purchase of sensitive technology companies, can supplement trade

policy.

Finally, I pay some attention in my testimony to China's increasing control of raw materials needed for advanced manufacturing, such as rare earths, gallium, cobalt, and magnesium, amongst others. U.S. depends on China for much of these materials. Trade policy and other measures need to address the Chinese exploitation of the Belt and Road Initiative practices in Africa, Central Asia, and South America, and their abuses of international standards on labor and environmental practices in their mines and the processing plants that are under their control.

Such actions are needed for U.S. firms in the semi-conductor, solar power, fiberoptic cable, telecom equipment, and electric vehicles industries.

Let me stop there, and I look forward to your questions.

[[The statement of Dr. Duesterberg follows:](#)]

Chairman Blumenauer. Thank you very much.

Professor Fuchs, you talked about infrastructure investments. We just recently passed H.R. 2, a massive multidimensional bill ranging from transportation to the grid, to sewer water. I don't want to take time on it right this minute, but I wonder if you would have a moment to look at what we passed and reflect on the extent to which this meets our needs or if there are gaps in this massive bill that remain unaddressed.

I would welcome thoughts that you might provide to us at some point. We are not done with that. It is going to go back and forth between the House and the Senate, hopefully, but I would be very interested in making sure that the infrastructure meets the needs that you care about if you wouldn't mind.

Dr. Fuchs. I would be honored to.

Chairman Blumenauer. Thank you. Thank you very much.

Ms. Brown, you talk about having the capacity to be able to develop the workforce.

We talk about this all the time, as you know. It is a topic of much discussion, but we seem to fall somewhat short. You have been around the block on this several times.

Do you have some thoughts and observations about what we might be able to do differently this time in the midst of the pandemic, in the midst of some of the concerns we have over equity and development? Is there something we can do different?

Ms. Brown. Thank you, Chairman. I very much appreciate that question.

I would say that overall -- and this is something that you are probably going to hear me say a lot today -- we are significantly lacking in this country in just an overall broad industrial policy that includes a lot of what my fellow panelists have spoken about today.

You know, from the Steelworker members' perspective, this has been a decades-long struggle. Like you said, I have been around the block a lot on this issue, and our union, in particular, has been before this subcommittee many times before on the issue of trade and unfair trade. And for us there are some really critical pieces that we need to see -- I am getting a little feedback on my end. Hopefully you all are not hearing that feedback as well.

But the investments in domestic manufacturing in terms of R&D, the strengthening of our trade laws in terms of a workforce, making sure that we have the workforce of not just today but the future. Training is a big piece of what needs to happen within the manufacturing space. When people often think about training, it is always directed to predominantly building trades union, but there is a huge opportunity as we talk about the role for domestic manufacturing and investments in manufacturing in this country for there to be a manufacturing workforce of the future.

And so there needs to be a lot more, I think, partnerships at the local level with schools and colleges with manufacturers in those communities to train up not just current manufacturing workers, but go into the high schools and attract young people to want to

come into the manufacturing space.

I think a lot of young people feel that this is not a sector that is viable anymore because of the devastation that we have seen over the last, you know, four decades or so in manufacturing. So, there is much that we can do in the way of trying to strengthen domestic manufacturing in just the workforce that will play a role in it.

Chairman Blumenauer. Thank you. Thank you very much.

Ms. Glas, I was struck by your description of how reliant we are on China. The fact that people are able to make the transition to help us move forward, but we still have gaps where there is an inability to take advantage of some of the capacity we have there now.

Do you have a sense of what it is that we do so that we end up being stronger when we are done, not more reliant on China and other countries?

Ms. Glas. Mr. Chairman, you raised a good point in your opening remarks about the fragility of the supply chain, and the pandemic response certainly exposed some fragilities within our own manufacturing sector for textiles. A lot of the finished products and the making of finished products have gone offshore for a variety of reasons, such as low labor costs.

Some in our industry have made PPE and have been in that business for a long period of time, but a lot of that went offshore decades ago because of the sourcing agents who chased the lowest priced product. Almost everybody in our industry that I speak to wants to make major investments to plug those holes and to bring automation and technology necessary to making PPE here, but they need some level of certainty.

You can't invest in technology and equipment without purchase orders or a sense of what that demand horizon will look like. And what we are asking for the Federal Government to do is to help U.S. manufacturers invest in this sector. And that can be

done for a variety of reasons.

Right now, the government is moving forward with trying to purchase products for our Strategic National Stockpile. These are going to be significant purchases, everything from testing kit swabs to isolation gowns. My recommendation is that we try to give our industry some longer-term contracts so that we can realize that investment, we can amortize it over a period of time, and it will help this industry grow.

There are certainly holes in our domestic PPE production chain, but, regardless, we literally had companies create supply chains overnight after getting calls from Governors, from the White House, from State legislators asking for PPE. So, this is a very versatile industry. They want those calls to happen. They want to be part of the solution, and they recognize that we have a crisis on our hands still months after COVID-19 really came into full force in March, and we are here to try to help onshore this industry.

Chairman Blumenauer. Thank you.

Dr. Yadav, I, again, for the sake of timing here, I want to move on and let my colleagues have their opportunity to make comments and ask questions, but I would like to follow up with you in the future about how we make sure, when the next crisis hits, that we aren't facing the same issues of supply chain fragility.

How do we learn from this experience?

And with your permission, I would like to explore that with you offline.

Dr. Yadav. Thank you, Chairman Blumenauer. I would be glad to.

Chairman Blumenauer. You are very kind. I appreciate it. I want to move on here.

We have Ranking Member Buchanan. You are recognized for your inquiries.

Mr. Buchanan. Again, thank you, Mr. Chairman, for the critical hearing. Also

want to take one more minute to thank our witnesses for being here today.

Dr. Duesterberg, let me ask you, there is a bipartisan concern, I believe, in the Congress that we are too reliant on China and other adversaries for key products. It is clear that China is not a reliable trading partner especially during times of crisis.

How do you suggest in terms of trade policy we make that work with our allies to present a united front against China? What are some of the prime opportunities you see in terms of bilateral, regional, and multilateral approaches?

Dr. Duesterberg. Thank you, Mr. Buchanan, for that question. We are too reliant on China for -- in a lot of different areas. I highlighted in my testimony raw materials such as rare earths. We are not the only country that is reliant on China for these types of products.

The Europeans, the European economy, especially the German economy, is highly dependent on the automobile sector. They are also trying to develop higher technology in industries like semi-conductors where the United States is dominant. There is ample opportunity for us to work together to fight back against China, China's control of mining and processing, and even production of these materials. That is just one area.

In terms of medical products, I think the pandemic has highlighted the ability to cooperate with our friends in the U.K., especially, to develop vaccines and other medicines to deal with the pandemic.

Mr. Buchanan. Doctor, let me -- I have got limited time. Let me ask another question.

Dr. Duesterberg. We definitely need help.

Mr. Buchanan. Can you hear me?

Dr. Duesterberg. I can hear you now, yeah. Sorry.

Mr. Buchanan. Let me move on just quickly because we are just limited on time.

I have got a bill I have introduced, Securing America's Medicine Cabinet Act about stockpiling drugs. The understanding I understand is that China produces, whether the ingredients or the production or the manufacturing, 70, 80 percent of our drugs. I am in Sarasota, Florida. We have one of the most senior communities in the country. Many of these are critical lifesaving drugs. So I would like to get your thoughts about how do we minimize that and get back where it makes some sense where we can produce ourselves in America -- I know for a lot of years, a lot of things were produced down in Puerto Rico, but it seemed like it has moved offshore.

So I guess the question is, is it your understanding as much as 70, 80 percent, a lot of these critical drugs, are being produced, manufactured, or managed out of China?

And then, if so, what can we do about it?

Dr. Duesterberg. Well, there is a lot of controversy over the data, but the data I have seen indicates that we are not that dependent on China for basic products nor the manufactured final drugs. In fact, we are much more dependent, if you will, on Ireland or Germany or Switzerland for advanced pharmaceuticals, but nonetheless, we produce about 70 percent of the pharmaceuticals of medical products that we need.

I think tax policy is key to returning production to the United States as your committee and your colleagues have proposed in several bills to make it more advantageous to produce in the United States. I also think we need to have serious consideration, as one of the other panelists said, of more stockpiling of drugs and doing stress tests so that the next pandemic that comes around, we will be prepared with the necessary stockpiles, but dependence on China is really not the major problem here.

We do need to bolster domestic production with a variety of initiatives that your committee and your colleagues have suggested.

Mr. Buchanan. Thank you.

And I will yield back, Mr. Chairman.

Chairman Blumenauer. Members will be recognized for 5 minutes to question our witnesses. We will not observe the Gibbons rule in this remote setting, but, instead, go in order of seniority, switching between minority and majority members.

We request that you unmute yourselves when you are recognized. Our colleague Congressman Pascrell is, unfortunately, unable to join us today, but he sent a statement that he would like to enter into the record. And I hope there is no objection to it being included.

Is there any objection?

If not, we will have it so inserted.

[The statement of Mr. Pascrell follows:]

Chairman Blumenauer. Congressman Kind.

Mr. Kind. Thank you, Mr. Chairman, and I too want to thank the witnesses for your testimony here today. And, listen, we are all heartbroken with the loss of our dear friend and colleague John Lewis, and our thoughts and prayers certainly go out to his family during this difficult time. And I too want to express our best wishes to Bill Pascrell and hope that he has a speedy recovery so he will join us shortly. So, get well, Bill, if you are tuning in right now.

Professor Fuchs, let me start with you. In regard to a global pandemic and just-in-time delivery, most companies, most manufacturers don't want excess inventory sitting on their shelves, sitting in the warehouse. And yet, just-in-time delivery, which is practiced, does catch us flat footed from time to time. Are there any answers to that other than just the Federal Government buying up supply and storing it in some warehouse waiting for the next pandemic to break out?

Dr. Fuchs. Thank you. I would say that just-in-time delivery as a manufacturing

system should not create any problems for our response. If anything, it would enhance our ability to respond. The key would be to have that capability or any other manufacturing capability, at least in some part, domestically in our response.

Mr. Kind. Well, staying with you for a second. Is there a way for us to encourage greater coordination between various Federal agencies -- I am thinking USTR, NIH, Commerce Department -- so we have a better ability to look around the corner and in better anticipation of a global pandemic and what we need to ramp up quickly before it is at our doorstep and before it is really too late? Because, listen, we are in the seventh month now when this virus hit our shores, and we are still running into PPE shortages. We are still running into testing shortages. That is just inexcusable for an industrial power like ours. Do you have any suggestions?

Dr. Fuchs. Absolutely. The type of agency that I am describing that would have the capability to guide strategic technology decision making should be able to address those challenges. Some people talk about events like these as black swans, but they are not, actually, to quote one of my colleagues. They have some probability distribution over time. And so what you need is both the analytic capabilities to identify -- we don't agree today on what is a critical technology -- nor should we ever have agreement, but we need analysts that can help us identify the tradeoffs in those technologies, and we also need program managers who can invest, then, strategically in what our holes are and our gaps are in the Nation and combine forces with other agencies to do that.

Mr. Kind. Dr. Yadav, can I ask you your thoughts on our ability to look around the corner and be in a better position to coordinate the supplies that we need to deal with a crisis like this?

Dr. Yadav. Thank you, Congressman Kind. I think two responses. One is, like Erica pointed out, I think interagency coordination in both looking at what is likely to

come and then getting prepared in terms of supply chain resilience, having the right manufacturing capacity both domestically, but also with our trading partners, is an area that requires more work. This pandemic has highlighted where we have gaps in agencies coordinating.

The second is, in response to your question on just in time inventories, I would say if the purchasers in the market, whether it is the Federal Government, the State purchasers, or private purchasers, if they are constantly looking for the lowest priced medical products, then companies in their quest for efficiency do go towards just-in-time manufacturing and just-in-time inventory. But if we engage in the concept of stress testing, where we ask companies to demonstrate how they will meet large surges in demand and destruction of global supply, that will bring some more emphasis on moving away from a very just-in-time driven philosophy of inventory and manufacturing, and, secondly, it may also bring about diversification of supply. So that could be an area which will help us get to that means. Thank you, Congressman.

Mr. Kind. Thank you.

Mr. Chairman, I see I am running out of time.

But Ms. Brown, I would like to follow up with you to explain the anomaly we are seeing in the marketplace right now where we have demand for scrap steel that is low, and yet prices are increasing, and that is typically not what happens in supply-and-demand marketplaces. So, I would love to just follow up at some point and get your perspective of why that is occurring.

Thank you, Mr. Chairman. I yield back.

Ms. Brown. Sir, I am happy to do that. Thank you.

Chairman Blumenauer. Thank you, Congressman Kind.

Congressman Nunes.

Mr. Nunes. Thank you, Mr. Chairman, and thank you to our witnesses who have joined us today.

Global supply chains are complex enough without having to deal with dishonest trade partners and maligned global actors. As a member of the Intelligence Committee, I have a unique perspective on this issue and its dire economic and national security implications. I have seen firsthand the predatory practices and unfair barriers American businesses face. If they wish, China could swiftly and easily block medical supply chains critical to our Nation's healthcare system. That is one reason why I recently introduced two bills that will help reshore our critical medical supply chains, to secure these supply chains we must incentivize and unleash American innovation.

China's economic abuses affect our medical supply chains as well as every other sector of our economy. For example, an agricultural company in my district recently discovered that one of their products was being counterfeited, built in China, and then sold back to the United States.

So I only have one question today, Mr. Chairman, and that is for Dr. Duesterberg. Welcome, Dr. Duesterberg. Thanks for being here. And I would just ask -- give you an opportunity, maybe, I know you have talked about it in your opening statement, but to talk about maybe some of the corruption that is occurring in our supply chain by Chinese companies. So kind of using that example that I gave of the company in my district where they copy something, start making it, then reselling it back in the U.S. I was hoping, thinking maybe you had some more opinions on that and examples, possibly. Thank you.

Dr. Duesterberg. Well, the theft of intellectual property, including the design of and production of materials has been going on for 20 or 30 years in China. I remember when I was the head of the Manufacturers Alliance, one of my members came to me and said, "well, a Chinese company just came to me and asked me to build this product that

goes into automobiles." He said, "Well, I already build this product for another American company, and this looks like exactly the same design that has already been used." So this has been going on for a long time.

In terms of medical products, there were good examples early on, especially when the pandemic was unfolding, especially in Europe. The Chinese first cut off supplies of personal protective equipment and other needed products, and then they started trying to flood the market, especially in Europe, and claimed to donate supplies. And some of those were so defective that the Europeans, who are more friendly to China than we are, just simply sent them back because they were so defective. And we have had examples here as well in the United States of subpar products being exported to us and the Chinese taking credit for trying to help out in the pandemic.

Mr. Nunes. Yeah. I noticed that even a lot of the tests that people have been sending me -- the COVID tests were still coming from -- or the swabs were at least coming from China. So it shows that we have a real vulnerability there.

Thank you, Mr. Chair, for your time, and thank you to all the witnesses today, and I yield back.

Chairman Blumenauer. Thank you, Congressman Nunes.

Congressman Davis. Danny, you are not unmuted. We can't hear you.

Mr. Davis. Now?

Chairman Blumenauer. Yeah. Got it.

Mr. Davis. Okay. Thank you. Thank you very much.

Let me thank you for holding this very important hearing, and I certainly want to thank all of our witnesses for being here. I am so accustomed to following Bill Pascrell, and so I wasn't sure it was my time.

But, Bill, we are missing you and look forward to you coming back.

I also need to just acknowledge that we have already begun to experience life a little bit without John Lewis.

And, John, it will never be the same without you.

Ms. Brown, let me ask you. Before COVID-19, while the unemployment rate was steadily decreasing in many parts of the country, but in other parts, including areas in my congressional district, you could see unemployment rates as high as 20 to 30 percent, mainly among those I refer to as hard-to-reach workers and those that have aged out of traditional vocational training and other programs. I have been working on developing legislation to expand the work opportunity tax credit in construction trades in an effort to capture those individuals but also to expand work opportunities post COVID-19 in manufacturing. Let me ask if you are familiar with the work opportunity tax credit, and how important do you think it is to expand programs like these to meet our COVID-19 needs and to expand the workforce in the future?

Ms. Brown. Thank you very much, Congressman Davis, for that question. You are absolutely right. Before COVID-19, the manufacturing sector, particularly in districts like yours, was already struggling. So, the pain that we are talking about right now that manufacturing has been experiencing during COVID was really bad, and what this crisis did was exacerbate it on the part of a lot of our members and communities across the country.

And I am not very familiar with the work opportunity tax credits, but what I am, unfortunately, very familiar with is trade adjustment issues. And on the manufacturing side, that is the program that exists to help manufacturing workers who do lose jobs as a result of unfair trade, which I know that this subcommittee is very aware of that program. And we would agree with you that it is really important to expand and strengthen these types of programs, especially at a time where manufacturing workers continue to feel the

weight of unbalanced and bad trade policies. And that is something that we would love to talk to the full committee, but certainly the subcommittee, about more in detail because we definitely have ideas about how programs like TAA can be strengthened.

And, ironically, this week there is a Verso mill in Mr. Kind's district, a paper mill in Wisconsin, where on Friday, tomorrow, we are getting ready to file a TAA claim on behalf of our 900 workers who are losing their jobs at that mill. So, again, to your point, Mr. Davis, you have 900 workers at this mill, a lot of them who are older. And I think anyone who knows where paper mills are, they are in some of the most rural parts of this country where oftentimes it is the paper mill, the Post Office, and the school. So, there is no real viable options when you lose an \$85,000 a year paper mill job that includes benefits like retirement. So, I completely agree with the sentiment of your question and absolutely look forward to talking about more how we expand programs like these.

Mr. Davis. Thank you very much.

And, Ms. Glas, if I could quickly ask for your perspective as to why we just can't seem to have the kind of supplies that are needed for the COVID right now. What has been happening?

Ms. Glas. Congressman, there is the quintessential question. I think our industry would say that we as a country have not fully maximized domestic production. There is capacity in our backyard today that could be retooled in real time to help with the PPE crisis. There is a disconnect between those who are seeking PPE and those who can make PPE. We need to better link the industry up with the needs of our local communities and our Federal Government.

It is a shame to me to read headlines in a newspaper regarding the vast demand for PPE right now and recognize that our industry has capacity to help. We have some of the best manufacturers in the world who are researching and developing technology to ensure

antimicrobial/antiviral fabrics are being made that ensure infections do not spread in the hospital setting. We need to be doing a lot more here. And it is a complicated question, Congressman, but I appreciate it because it is certainly the forefront of this hearing today.

Mr. Davis. Thank you very much, Mr. Chairman.

I yield back.

Chairman Blumenauer. Thank you, sir. Thank you.

Congressman Rice.

Mr. Rice. Thank you, Mr. Chairman.

My focus in Congress has been on trying to make our country competitive in tax policy and trade policy and regulatory policy and structure and so forth because I always felt like, if we just got the government out of the way and put our American workers on a competitive playing field, that they could compete with anyone. So many times from the other side of the aisle, I have heard, well, those jobs aren't coming back. But Dr. Fuchs, I think I hear you saying that we can get some of those jobs back. Is that right?

Dr. Fuchs. Absolutely. And for a matter of fact, by investing in critical technologies that involve innovations and advanced materials and processes, we can have greater demand for middle skills, for hard-working high school graduates.

Mr. Rice. Dr. Fuchs, do you think that competitive tax policy matters? I mean, if a company can pay half as much taxes in Ireland as in the United States or half as much taxes in China, do you think that factors into their decision making on where they locate?

Dr. Fuchs. Absolutely. I think we need to put everything on the table, right. So, we have tax policy. We have SBIR programs. So alone, one -- if we don't align these various incentives, it is not going to be enough. We need to align demand and reduction in costs as well as the appropriate funding mechanisms.

Mr. Rice. And, Dr. Fuchs, in your work, have you seen any uptick in imported

manufacturing jobs as a result of the Tax Cuts and Jobs Act?

Dr. Fuchs. Interesting. I have not studied that directly.

Mr. Rice. Okay. Thank you.

Dr. Yadav, I am a disciple -- are you there, Dr. Yadav? Yeah. I see you. I am a disciple of your compatriot at Harvard, Michael Porter, who is an expert in competitive theory. And a lot of the ideas that I have put forth, I have gotten from reading his materials and meeting with him. You mentioned that China, Mexico, and India are a lot of our imports. I think you were talking about medical supply chains. Is that correct?

Dr. Yadav. Yes, Congressman.

Mr. Rice. And you said that the reason is because of tax incentives that these other companies offer and their proximity to global supply hubs. Is that what you said?

Dr. Yadav. Proximity to R&D hubs. So what I was referring to, Congressman Rice, was the production of certain pharmaceuticals, which is carried out in Ireland, Switzerland, Germany, as they are the top exporting countries to the United States, is driven by a combination of tax incentives but also the fact that technology, know-how, and proximity to where R&D occurs, those factors are converging.

Mr. Rice. Dr. Yadav, what about our protection of intellectual property here? It seems that the pharmaceutical companies and others really like our intellectual property protections we offer here in this country. Is that correct?

Dr. Yadav. Yes. I think the United States is -- yes. The United States is a great example of trying to balance intellectual property, access, and innovation --

Mr. Rice. What if we conditioned some of that protection on production in the United States? Do you think that would be good incentive for people to bring production back here?

Dr. Yadav. Congressman, I haven't studied this in detail. I presume it would, but

I am happy to explore this and send a written response.

Mr. Rice. Ms. Brown, you were talking -- you are with the steelworkers, but you were talking about paper mills, and I have four paper mills in my district, and I have a couple of steel plants as well. One thing we saw, you know, as a result of the regulatory reform that we had gotten done before COVID, as a result of the trade reform that we had gotten done before COVID, as a result of the Tax Cuts and Jobs Act with the unemployment rates at below 4 percent nationwide, one problem that we were running into is that even with that, even with opportunity that hadn't been seen in decades in this country, we were struggling to get people off the sidelines and come into the manufacturing jobs. My tech schools were telling me they could place a thousand people in manufacturing jobs if they could find the students. How do you engage a lot of these poorer communities? How do you engage people to take advantage of these opportunities that -- you know, how do you get them out of generational poverty?

Ms. Brown. Thank you so much for the question. I really appreciate it. And I will just say at that, yes, while manufacturing pre-COVID-19 was in an improved place, it still definitely was not anywhere where we need it to be as a country.

Mr. Rice. Let me ask you this to follow up on that question. Do you believe that, if our country's regulatory tax trade policies were sufficient, just putting American workers on a level playing field, do you believe that the American steelworkers and the American paper workers can compete with anybody?

Ms. Brown. Absolutely. I think if tax policy is fair and puts actually American workers first and not American industry first, then certainly we would see some benefits for sure. And regulatory policy, when crafted correctly, can actually lead to competitiveness. So, I completely agree.

Oh. I am sorry. I was going to say to your earlier question, Mr. Rice, in terms of

attracting -- Chairman, are you wanting me to --

Chairman Blumenauer. We need to move on. The time has expired. Thank you, Ms. Brown. Thank you very much.

Congressman Kildee.

Mr. Kildee. Thank you, Mr. Chairman, and thanks to all the witnesses. And I want to start off by echoing some of the comments that my colleagues and some of the witnesses have made about our friend John Lewis. You know, the country will never be the same because he lived, and what we do every day will never be the same because he is gone. And I think one of the ways we honor this incredible giant is not just by commemorating his life but actually trying to continue to work for what his life was dedicated to, and so I am going to try to do that every single day. I am going to try to do a little bit of it right now.

At a hearing in April of 2015, Congressman Lewis said, and I quote: What does it profit a Nation such as the United States of America to gain a trade agreement and lose its soul, to lose their soul by leaving so many people in America and around the world behind when it comes to human rights, labor rights, the right to organize, collectively bargain, tech, the environment, unquote. So, I think we need to think about all of this in a very broad context. I would like to take a lead off of what John said a little over 5 years ago and ask the question that relates to this issue of human rights.

I think we have to enact fair trade policies and deal with this issue to contribute to opportunity for everybody but not engage in a race to the bottom that hurts American workers by embracing trade relationships with Nations that exploit their workers. My district has become a bit of a victim of this phenomenon. A company in my district, Hemlock Semiconductor, makes polysilicon for solar cells. These panels used to be made right here in the U.S. by our workers. For a long time, the U.S. didn't really care where

the solar panels came from as long as they were cheap. Now, our American manufacturing has been decimated, and we are heavily dependent on foreign countries, especially China, for solar panels. Today, more than 40 percent of the world's global polysilicon used in solar panels are made in Zhejiang Province in China. I know it is a place that that is notorious for its human rights abuses. And instead of employing thousands of people in my home State, we, by extension, support those abuses by supporting their market.

So, if I could start with Ms. Glas and then perhaps have Dr. Fuchs also comment. Could you talk about some of the trade policies that actually support some of these human rights abuses and are a race to the bottom for American workers?

Ms. Glas. Congressman, thank you for that question. Our industry is one of the largest employers globally of workers. And often in developing countries, a lot of women are employed in our sector making apparel and other textile products. Human rights abuses in our industry has been something that has been happening globally for decades. And it is no secret, even though it is getting a lot more attention in the media, that the atrocities happening with the Uighur population are not an isolated event. And even in this COVID-19 pandemic, believe it or not, prior to COVID, there were four manufacturing facilities that were in these essentially internment camps in the Xinjiang region of China where there has been documented reports of abuse of the Uighur Muslim minority, and now, post-COVID, there are 51.

And The New York Times did an 8-minute video segment -- I would encourage you all to watch it -- about the PPE production happening in this region of China. This was happening not just on PPE and not just on your solar panels, but also on yarn, on apparel, on other items, and this has been going on for a very, very long period of time. I know Congress has looked at this and started to act with respect to this serious problem.

It is important that we look at every enforcement tool with respect to cracking down on human rights abuses in the spirit of Congressman John Lewis and all of your collective commitment on human rights issues moving forward. Labor abuses are one type of the predatory trade practices, and this is a problem not just in China but in other areas of the world as well. The Uighur camps are an illustrative example of that overall abuse.

Mr. Kildee. Thank you. My time has expired. If, during the course of the hearing, others want to make a comment and add more follow-up later on. Thank you.

Chairman Blumenauer. Dave, do you want to take it away?

Mr. Schweikert. Thank you, Mr. Chairman. And I know we have all started with saying something kind about our departed colleague. I had an interesting situation a couple days ago. I have this amazing photo with him and my little girl when she was there in the committee with us, and, you know, it is one of her Hall of Fame over in her little room. So I am hoping there are situations like that where we can keep his memory alive and service to the country and even with someone like my 4-year-old for the next generation.

And to our panel, I actually want to get a little bit more granular, and let's see if we can do this. Some of the conversations have been wonderful, but I think it has been very textile and PPE. I want to understand. If you have a complex worldwide supply chain with a China concentration today, if Ways and Means, if we produced tax policies and incentive policies and regulatory policies that drew certain types of manufacturing. Before, a number of people were sounding like Taleb, if anyone gets the joke, on using the words "fragility" and "robustness." But I have always been concerned because we have discussions of so many products, so many pharmaceuticals, there may be one simple ingredient or one simple component that exists one place in the world. So, even if you make your supply chains more robust, do we have a competent way to actually look at

everything within that production line so you don't have one thing out there that is sitting in a dodgy place that gets held up for extortion? And we see this particularly with even the discussions of bringing certain pharmaceuticals back, whether it turns out there is one small precursor that exists in one location that actually stops the entire manufacturing process.

So my first question to my professors and my smart panel, do we have the ability to audit and understand all those components? And as we are talking about making ourselves robust, is it bringing all that to North America now that, you know, we have USMCA, or is it making sure that there is never that one fragility, that one product in one country, but that at least those things are in multiple places? So whoever would like to step up and, you know, assuage me of am I fixating on something that is either too complex or not important enough.

Dr. Fuchs. Thank you, Member Schweikert, for this fantastic question. Three brief answers which would be, one, tax policy with where we are today I believe is important but not enough, and that is why I was proposing the strategic infrastructure investments. The second is that we do not have the capacity, even within the Department of Defense. This is an enormous problem and not a trivially solved problem to map all of our supply chains. But, also, when I co-chaired the National Academies Committee on U.S. Science and Innovation Leadership for the 21st Century, in their opening remarks, both DARPA and the Department of Defense Strategic Protection Agency spoke that they did not have the capacity they wished they would have in terms of understanding our competitive position in different technologies internationally and how to act to best position themselves. And that is why I am proposing that we need to develop that strategic decision making capability, which we don't have today, including around areas that are not just defense but also areas where to uphold our values around human rights or

around privacy need technology and leadership.

Mr. Schweikert. Does anyone else have something to share on the concept of an individual component or individual ingredient having a rare concentration because, you know, even if we got a lot of the policy right, you still could hit that level of extortion in certain products?

Dr. Yadav. Congressman Schweikert, this is an area which I think is an important one to examine. For example, adjuvants that go into manufacturing vaccines, one in particular, comes from the bark of a specific tree, and it will take us many years to synthetically start manufacturing that adjuvant without the need for that soap bark tree, which, at this point, is native only to Chile or a couple of countries in Latin America. So there are numerous examples like this where, as we look at which --

Chairman Blumenauer. We need to wrap this up.

Dr. Yadav. And analyses of that.

Chairman Blumenauer. We have Congressman Panetta.

Mr. Panetta. Thank you, Mr. Chairman. I appreciate that.

And, Ranking Member Buchanan, I appreciate this opportunity.

This is the first hearing I have been a part of on the Ways and Means Committee since the passing of Congressman John Lewis. And, obviously, as a fellow Congressman and a fellow member on the Ways and Means Committee, I have got to say I never got used to being the colleague of John Lewis. It is something I never got used to. However, I hope that we can honor his memory by working hard and working together to try to live up to his legacy to ensure economic and social equality in this country, not just during this pandemic but clearly thereafter.

Now, as we have seen and as we are discussing today, this pandemic has tested our supply chains, which have proven to be less resilient than we thought and, unfortunately,

with devastating consequences. And these concerns go far beyond our economic panic about toilet paper and disinfectant wipes. But as we have seen, supply chain weaknesses do hinder our ability to fight this virus, especially with the lack of supplies for testing and for PPE. So, what it comes down to, and it is clearly stated by our expert witnesses: if we are to make it through this pandemic and to be prepared for the next one, we must repair our supply chains, and that does mean making greater investments at home and building up our domestic capacity, and, of course, ensuring a diverse supply chain capacity.

Now, one of the areas I think this has become evident is in testing. And I have always said that the lack of testing, the quantity and the quality, is the original sin of this pandemic. I think we know, without a vaccine, the way we are able to get through this is by testing more and testing better, especially with the asymptomatic nature of it. Unfortunately, we have been blind.

And when I visited a testing site last week in my district on the central coast of California, they said we are able to give out tests, so we have the quantity, but the quality was not good in the sense that they were getting the results back in literally 7 to 10 days, unfortunately. And to me, and to many people, that just doesn't work. And I think there is a reason why we read an op-ed by one of our prominent Governors, Larry Hogan, who had to go outside the normal supply chains to secure tests from South Korea when this first started. And I do believe that stems from a lack of unified, coordinated strategy when it comes to testing. Now, ideally I would have liked to have seen, and I have called for in legislation, the DPA invoked by this administration to ensure proper production of testing kits, testing supplies, testing swabs, you name it, in order to get more, better, quicker, more advanced types of testing, including point-on-contact type of testing where they can get the results instantly.

And so, Professor Fuchs, I want basically want to address my first question to you.

Do you believe it is important to have a national strategy for supply chains when it comes to testing for COVID-19?

Dr. Fuchs. I believe we do need coordination of the type that you have described, and for a matter of fact, the coordination, both to expand testing and also to push forward innovations if, for example, they are able to improve the false negative rates, for example. So, instead of one in every three tests being a false negative, if that were down to much less, we would have to do a lot less testing.

Mr. Panetta. And, Dr. Fuchs, if you could speak to this. Do you think the use of the Defense Production Act could have helped that?

Dr. Fuchs. There are many ways the Defense Production Act can be used, but I do believe that this is a national problem. I can't think of anything more obviously a network externality and a national problem to solve.

Mr. Panetta. Great. Thank you.

Ms. Glas, in regard to PPE, would the use of the Defense Production Act --

Ms. Glas. From our vantage point, yes, because the Defense Production Act would allow for contracting authority with guaranteed purchase for a period of time. And even getting to your point on testing kit swabs, -- prior to the pandemic, there were only two testing kit swab producers in the world. One is Copan, in Italy, and the other was Puritan in Maine, which has received funding through the Defense Production Act. We have a member company, and we were in touch with Dr. Peter Navarro very early on, who makes swabs and literally are making testing kit swabs today. So now we have three big producers, and the company's name is U.S. Cotton in Cleveland, Ohio. So we need to think about what long-term purchase orders are needed in order to help that production chain.

Mr. Panetta. Great. Thank you. Thanks to the witnesses.

Thank you, Mr. Chairman. I yield back.

Chairman Blumenauer. Super.

Congresswoman Murphy.

Ms. Murphy. Thank you, Mr. Chairman, and I join my colleagues in expressing sorrow for the loss of our colleague John Lewis. My prayers are with his family and his staff and our Nation as we mourn him.

Thank you to all of the witnesses for joining us today. I think the hearing today was a great idea and exactly the role our subcommittee should play when trying to better understand what is a complicated and dynamic subject in the middle of a pandemic. And I appreciated this opportunity to kind of take a breath and hear from experts and give us an opportunity to process the information you have provided and maybe be able to respond with thoughtful policy. So, thank you, Mr. Chairman, for your leadership here.

The COVID-19 pandemic has exposed some serious vulnerabilities in our ability to produce, procure, and scale capacity in response to supplier demand shocks as we have discussed with the various questioning before my turn. And I think it really raises questions about what we should do to make sure we always have access to critical supplies to save lives and protect our national security. However, I am concerned that some people who are already skeptical of global trade are using this crisis to advance long-held protectionist goals. And I think it is important that, while we address the issues at hand, we don't overcorrect in response to this pandemic and assume that all answers lead to tax cuts for businesses to increase domestic capacity. And I think having exclusive domestic sourcing is both unrealistic and counterproductive. It would just leave us as vulnerable to shocks here at home as to ones abroad.

And so, Dr. Yadav, your testimony rings true to me, and I share a lot of your views. I agree that the goal should be diversification, not domestication, of supply chains -- not

complete domestication of supply chains. So, in some instances, diversification will include increasing domestic capacity, what you call reactive capacity, but it should not be the only solution to build our resilience. Can you explain how diversification could have ameliorated some of the specific problems that have emerged during COVID-19, and, if possible, what does a diverse supply chain look like at some point?

Dr. Yadav. Thank you, Congresswoman Murphy, and thanks for that question. I believe fully that only domestic production will not help us build supply chain resilience. When we say diverse and geographically diverse sourcing basis what we imply is, if our PPE supplies, instead of coming largely from China, let's imagine they came from a number of manufacturing sites in the U.S., but in addition, from manufacturers that were in Latin America, in Southeast Asia, in countries in East Africa, perhaps. That would have helped us be more resilient and not have so much dependence on one particular region. So that is what we imply when we say diversified supply basis.

Ms. Murphy. So, it sounds to me like the anecdote to this crisis isn't necessarily retreating from global trade, but it is actually more global trade, just a smarter, more diversified global trade.

My next question for you is that you have this idea about stress testing the medical supply chain, like how we stress tested the banking sector in the wake of the financial crisis. Can you explain a little bit more about how this might work, in your view, and what the results might be if we conducted a test right now?

Dr. Yadav. So, if we conducted a test right now, I think the result would be there is very little ability to absorb a shock, either on the demand side or on the supply side. What we imply by a stress test would be asking all companies who have a license to sell their medical products in the United States demonstrates to a Federal agency under Health and Human Services every quarter or some period of time like that that not only their

manufacturing capacity but their suppliers and their suppliers' suppliers can cope with a certain threshold of increase in demand and a certain kind of supply destruction, including trade and export restrictions by certain countries. And if they can demonstrate that, then we would have resiliency. The key thing to keep in mind would be that we should not make this too onerous. Otherwise, smaller companies would find it difficult to participate in the medical market. Thank you, Congresswoman.

Ms. Murphy. Thank you, and I yield back.

Chairman Blumenauer. Thank you very much.

Terri Sewell.

Ms. Sewell. Thank you, Mr. Chairman. Can you hear me?

Chairman Blumenauer. Loud and clear.

Ms. Sewell. Like my colleagues, I too want to acknowledge the passing of our dear friend and colleague John Lewis. He may have represented Georgia for 33 years, but he will always be the boy from Troy and an Alabama native son. We share that in common. I was always greeted with a smile when he would call me the girl from Selma, Alabama, and it was my highlight and my honor to help co-host those pilgrimages from Selma to Montgomery. And I am just in awe that we no longer have John with us, but I do know that John's words, his actions, his deeds fill a lifetime, and he gives us a roadmap if we are only willing to follow it.

My question, actually, is to Ms. Kim Glas. You know, we owe it to John to fight for human rights and equality in all of its forms and especially in our areas in the Ways and Means Committee, whether it is trade policy, tax policy, healthcare policy, or in our everyday lives. I know that if John were still with us, he would have been deeply troubled by the reports coming out of China which found that forced labor is being used to make PPE and that these products are making their way into the U.S. supply chain. According

to the reports by The New York Times, only four companies produced PPE in the province before the outbreak. Now there are 51 producers, and at least 17 of those companies are using forced labor.

My question is, what efforts can we take to ensure that PPE produced by forced labor stays out of the United States and global supply chains? Should we be focusing on strengthening trade enforcement and trade procurement? Also, what do we do to strengthen our Southern Hemisphere supply chains? That has been a particular interest of mine. Ms. Glas.

Ms. Glas. Congresswoman, thank you so much for all your leadership. You have been such a strong supporter for industry in the Western Hemisphere region. To the question, this came up a little bit earlier related to the Uighur population and the atrocities happening with PPE production. It is not just PPE production. It is beyond that. But it is incomprehensible to think about that, in this period of time, the companies that are making PPE in that portion of the country in China under the most horrific human rights standards is allowed to happen. And in terms of trade enforcement moving ahead, we need onsite verification for those companies on the ground. We need a level of transparency that the Chinese Government simply isn't giving to our country or to other countries to help crack down on this particular supply chain. There is a buyer of these products that are being made in the most horrific labor conditions imaginable. Who is buying these products? Let's hold them accountable.

And for the question that you had related to diversifying our supply chains in the Western Hemisphere, we couldn't agree more. We have a strong relationship with our Western Hemisphere partners. You know the importance of CBTPA renewal, but just in general, 70 percent of U.S. textiles go to our Western Hemisphere for export that come back as finished product. How do we ensure that our trading partners get the benefits of

the trade agreements to ensure that they are also making PPE and that there is more near shoring of these products as well as self-sufficiency here at home?

Ms. Sewell. Very good. Well, we are trying to push in our bill helping the Western Hemisphere and making sure that our trading partners are given the same benefits, and also, we should make sure that they are not receiving these kinds of supplies made by forced labor.

My next question is for Erica Fuchs or for Roxanne Brown. I strongly agree with your testimony that emphasizes the need to strengthen workforce development here at home. The pandemic has highlighted how dependent we are on global supply chains for medical supplies during emergencies and why reducing that dependency by producing more critical healthcare supplies here at home is so important.

My question is, can we collaborate on the importance of workforce development and supply chain reform conversations, like how can we elaborate on the importance of that? And I want to know from you, Erica, if you could talk a little bit about the importance of workforce development and supply chain reform in that conversation and how we can elaborate on it. I have always had a strong auto manufacturing base in my district, and I really want to make sure that we are doing all that we can to uplift that workforce.

Dr. Fuchs. Yes. And automobiles are often assembled regionally for the regional market, and so that is a particularly good one. I actually would like to wrap in Member Murphy's comments as well in my response to you. In particular, I don't believe that we should be manufacturing all aspects of the domestic supply chain in the United States. Having studied, however, additive manufacturing and the future of beyond CMOS semiconductors, as well as the automotive industry, photonics and electronics for communications and computing, there are definitely certain capabilities that we need here

in order to be able to innovate and continue to lead in critical technologies. So I want to make sure I emphasize that.

On the workforce front, I would like to emphasize that I believe we can have -- well, not just believe. Our research shows that the types of activities in advance materials and processes can lead to better jobs for skilled high school graduates, and that is --

Chairman Blumenauer. We need to move on.

Ms. Sewell. Thank you, Mr. Chairman. Thank you.

Chairman Blumenauer. No. Thank you.

Congresswoman DelBene.

Ms. DelBene. Thank you, Mr. Chairman, and thanks to all of our witnesses for joining us. I share with my colleagues the incredible loss that we have had in losing our colleague John Lewis. It has been heartbreaking, and yet, he will continue to inspire me and I know inspire all of us to do better, and it has been an honor to have served with him. I also want to give a shoutout to Congressman Pascrell and tell him to get well soon so he will be back with us soon.

I wanted to follow up, I think, Dr. Yadav, you had talked about when you look at supply chains, the importance of clusters, bringing groups of things together, has been critically important to make sure that when products are manufactured, researchers are nearby. You talked about innovation happening near where manufacturing might be happening. I wondered if you could elaborate a little bit more on that. We have talked about components, and we just need to find all the components and put them together, and then we get a product and how we might bring more of that back to the United States. But, really, there is a long-term approach that is taking place in terms of bringing appropriate suppliers together, and so I wonder if you can talk about the strategy that we

would need to take to do that.

Dr. Yadav. Thank you, Congresswoman DelBene. The key point here is that when a company chooses its location for manufacturing, it typically likes to be in a place which is close to their key purchasers. So, if it is a component supplier, it wants to locate, in many instances, close to a finished product producer or a group of component suppliers who want to colocate or locate in closer proximity. And what that does is, especially in the medical supply chain, given that some of the medical devices and medical products require hundreds, if not thousands, of components, clusters emerge where manufacturers of each of the subcomponents' assemblies are in the cluster. So, if we are serious about U.S. manufacturing and having a greater manufacturing base for some medical products, we will have to think about how to create incentives not just for finished products or production or one component supplier but create some infrastructure that attracts the entire cluster. And that goes similar to Professor Fuchs' comment that some type of infrastructure will enable us to create those clusters domestically. Thank you.

Ms. DelBene. Professor Fuchs, do you want to elaborate on that a little bit more as well, in terms of what we are going to have to do to bring all of those components together and maybe some of the long-term thinking that it is going to require?

Dr. Fuchs. Yeah. I believe that what is particularly important or interesting about infrastructure investments, beyond the agglomeration economy as mentioned by, or in addition to the agglomeration economy, as mentioned by my colleague, is that we haven't really thought of infrastructure, which is currently dilapidated in the United States, as an opportunity to build the capability to build. And so, if we want to build the products of the future here, then we need to build the infrastructure of the future and leveraging the complementarities across manufacturing and infrastructure strategically.

Ms. DelBene. Thank you.

And then, lastly, Dr. Duesterberg, you actually mentioned how important it is that we talk about very basic raw materials, and you talked about rare earths and minerals. Currently, the United States is very dependent on China. You talked about One Belt, One Road in terms of international investments that have been made to kind of secure that supply chain. What can we do from a U.S. standpoint and trade policy and in other ways to address these areas that would be critical for us to have resiliency in our supply chain?

Dr. Duesterberg. Well, we do need to incentivize domestic production, and there are plenty of ideas on the table. The Department of Defense is supporting the processing plants and the purchasing of final products for rare earths.

I would like to focus a little bit on another component that I mentioned, which is for electric batteries. I mean, this is -- looking at my own electronic equipment, they are the key to mobile phones, to computers, electric vehicles, and to Boeing 787 aircraft. China has acquired mines in the Congo which exhibit appalling environmental and labor conditions. I mean, it is literally picks and shovels and burlap bags type of mining in many instances.

The World Trade Organization, I believe, allows us, allows anyone to prohibit the import of products that are based on exploitive labor or poor environmental practices. We need to call out the Chinese. We need to get together with our allies to try to call out their abusive practices. And also their financing, the Chinese financing through the Belt and Road is often exploitive and opaque, and China needs to join the procurement code of the World Trade Organization, as they have claimed they will do. So we should work with our allies to try to get them to adhere to international rules. I think it is very important for many, many parts of the U.S. manufacturing sector to call out the Chinese on these practices.

Ms. DelBene. Thank you. My time has expired. I appreciate your testimony.

Mr. Chairman, I yield back.

Chairman Blumenauer. Thank you very much.

Congressman Beyer.

Mr. Beyer. Mr. Chairman, thank you very much. You know, we all knew that John Lewis was dying. We hadn't seen him in 6 months. We got regular updates on his health, and we had plenty of time to pre-grieve. Still, something changed. You can sense this vacuum now. Quiet, humble, not a showboat, despite the fact that he was more famous and more accomplished than any of us. I just want to say that I miss him, and I want to be like him.

And a Trade Subcommittee hearing doesn't seem authentic without Billy Pascrell. I look forward to having Congressman Pascrell back.

Ms. Brown, you talked about the importance of unions in training workers in the manufacturing sector. I continue to be struck by the mismatch that we get so concerned about the offshoring of jobs, yet the last time I was over at the National Association of Manufacturing, they said that there are 600,000 manufacturing jobs empty in the United States because they can't find the right workers and that the average salary is \$77,000. What can we be doing to overcome this mismatch?

Ms. Brown. Thanks so much for the question.

Mr. Beyer. 600,000 jobs that are good-paying, especially, and what is the role of unions in that?

Ms. Brown. Thanks very much for the question. I think this harkens back to what I mentioned earlier about training. Obviously, across the country, there are a lot of industrial communities that have been hollowed out and devastated by job loss. And when those jobs go, a lot of the skilled workers that worked at those facilities -- welding and performing other jobs -- have to leave to try to find other jobs. And so, I think part of

it is, where are these facilities located, and is there already a group of workers who can perform the tasks of the jobs that are needed to fill those jobs? I think that is one piece of it.

The second piece of it is training. A lot of the technologies around manufacturing are changing, and so we need to make sure that we are skilling up manufacturing workers across this country. Unions do play a role. Our union is a manufacturing union. We don't do a hiring hall like building trades unions where they train their workers, but we do on-the-job training at our steel mills and at our refineries and our paper mills, but we need to go outside of that. So, this is where I talked about partnering with local colleges, partnering with high schools, tapping into those schools and colleges that are actually doing these programs and expand upon them, and communicate better about what manufacturing jobs are. A lot of people across this country don't feel like it is a viable option anymore because they have seen hollowing out. So those are some of the types of things that we can do.

Mr. Beyer. Thank you very much.

And, Ms. Glas, you talked about using FTAs as a way to secure market-oriented, democratic reforms. And, in fact, it showed up in a number of your testimonies. If we could raise the environmental and the labor standards in countries around the world, it would make us far more competitive, which brings me back to my great concern about us pulling out of TPP, which is going to lift environmental and labor standards in 11 countries and allow us to set the rules for international trade rather than letting China do it, which we spent most of the last 2 hours complaining about.

Do you think that there is a reason, a rationale, for recommitting to multilateral trade agreements around the world?

Ms. Glas. Congressman, this is a very sensitive issue for our particular sector.

Often during trade agreement negotiations, our sector is the sector that is traded away for market access for other products. So, oftentimes, when we go into a negotiating session, we are in a defensive posture. And we worked very, very hard on trying to cultivate the rules of TPP for our sector that would do no harm or do less harm, but at the end of the day, even according to the Congressional Research Service, our industry would have lost some jobs.

But that being said, the overarching view is tariffs play a very important tool for managing market access to the U.S. economy. It is very important for our free trade agreement countries who do have earned market access for textile and apparel and other products that we live up to the commitments of that agreement.

I am not naive enough to think that our market access isn't a prize because of so many consumers and our purchasing power. So we need to be smart about the partnerships that we create, the kind of trade agreements with a nonmarket economy, and how to ensure that China doesn't gain backdoor access to those agreements.

Chairman Blumenauer. We are going to have to wrap it up here.

Mr. Beyer. Great. Thank you, Mr. Chairman.

Chairman Blumenauer. No, no. Thank you.

We have gone through all our subcommittee members. We have some guests, other Ways and Means members not on the subcommittee, and we will recognize them, but we will start with Mr. Wenstrup.

Doctor.

Mr. Wenstrup. Well, thank you, Mr. Chairman, and thank you all for being here today. You know, I want to echo something that my colleague Mr. Panetta said that for me, someone who really never planned on running for office, to be able to sit in Congress and especially on a committee with John Lewis is just an amazing experience, and I think

you said it real well, Jimmy, so I appreciate that. And always a gentleman and, again, what an honor.

But thank you, Chairman.

Thank all the witnesses.

When I look at the issue of supply chains, I look at it through the view, very often, in the lens of our national security and certainly this pandemic has clearly underscored the fragility of our supply chains, revealed that we are too reliant on strategic competitors for key products. That has become very clear and, you know, [inaudible].

Somehow, I got muted, again. Am I back? I am back. Sorry. I won't try to take up too much of your time, but I hope you heard what I said about Mr. Lewis. But I am saying we can't wait until the next crisis to solve these vulnerabilities that we have, and to me, the conversation has to begin with strategic, data-driven assessment of where our supply chain vulnerabilities are, and barriers and bottlenecks for producing the key products, identifying our critical needs. And, you know, for me, it was easy to look through the lens as a doctor in the Army as to what we have, what we rely on, and then start to take a look at the active pharmaceutical ingredients, for example, who owns the products, the companies where we are getting our supplies and start to really focus on where we are vulnerable and then go ahead with so many of the great ideas that we were talking about here today, but actually targeting.

In the NDAA, I offered two amendments to do that, requiring the Secretary of Defense in consultation with agencies like FDA to report on the barriers to producing the critical medical supplies in the U.S. and identify potential allied partners with whom we can work to realign our manufacturing capabilities. And I think that is what everybody is pretty much agreeing to today, that we have to look at that. But I do want to start with the data-driven effort that we want to make.

And, obviously, redundancy in our supply chain is necessary as well. You know, we talk about tax incentives, partnerships, reducing tax burdens. I think all those things are on the table, but I also think that we do have to identify exactly what we are talking about as best we can. And, you know, with that in mind, I will ask Dr. Duesterberg, you know, I have been shocked to find out how little data we actually collect on things like active pharmaceutical ingredients and the components that make up a drug, for example.

And last fall the director of the FDA Center for Drug Evaluation and Research testified before the Energy and Commerce Committee that there are a number of limitations to FDA's data, including the fact that manufacturers of these active pharmaceutical ingredients are not required to report whether they are producing API at a given facility or the volume of API produced, and I just want your thoughts to discuss these limitations further, talk about what data we truly need done to understand this problem.

Dr. Duesterberg. Well, Congressman, I think you have put your finger on the issues, and I don't have a lot more to add, but we do need to get on this. There are, what, thousands of manufacturing facilities around the world on which we depend. It is probably been a little bit exaggerated about how much we depend on China, but FDA simply doesn't have the resources to actively investigate every single facility.

And I believe it is your amendment that would give a little bit of flexibility for and identify some critical manufacturing facilities that we can depend on in the United States, but in allied countries as well. I think that is one step, but we also need to ramp up, as you indicate, the analytic capability and insist on the quality controls. And it is just going to take more resources in the investigative, analytic side of FDA, I think.

Mr. Wenstrup. Well, thank you. I don't know if anybody else wants to comment on it, but I think getting that data is going to be key to targeting where we need to go most

rapidly, I guess.

Chairman Blumenauer. Okay. Thank you.

Congressman Schneider.

Mr. Schneider. Thank you, Mr. Chairman, and I want to specifically thank you for allowing me to waive onto the subcommittee today and thank all the witnesses for their testimony.

Like all before me, I am heartbroken at the passing of John Lewis. I am so sad he died, but I am so grateful that he lived, and the example he sets is something that is not just something I hold personally but share with my kids and everybody. I also want to wish Bill Pascrell a full and fast recovery.

As the witnesses have noted, COVID-19 has shone a harsh light on many of the underlying and persistent issues in our country from systematic racial and ethnic disparities to tenuous positions of Americans living paycheck to paycheck, but one of the unexpected problems, at least to most, has been the fragility of our critical supply chains.

This issue was evident early. In fact, I raised concerns over our supply chains in hearings with Secretaries Azar and Mnuchin back in February and March, respectfully. Sadly, by the middle of July, we still haven't solved this issue.

Testing capacity remains below where it needs to be. Hospitals in many States are over capacity in their ICUs. They are understaffed and anxious about still looming shortages of personal protective equipment, or PPE.

Six months into this pandemic, it is truly unconscionable that we are still facing shortages of the masks, gloves, and gowns we need to safely treat patients, protect our workers, and the residents in our nursing homes, competently open our schools, and get our economy ultimately on the road to economy.

All the economic stimulus in the world will do nothing unless we are able to

effectively control the spread of the virus, which is why it is so important we shore up our supply chains now and make them resilient and redundant. It would be easy to then say, "Let's make it all ourselves," but the picture, as our witnesses have discussed today, is far more complicated than that and it is important, I think, we explore that closely.

I want to start with Dr. Fuchs. As I was listening to your testimony, I was reminded of the saying "for want of a nail, the kingdom was lost." But one of your recommendations is that we must make innovative products here in the United States that can only be made here, or at least that can be made here best, and that are demanded by the world.

And I understand that because that is the value added -- what I like to say, just in general is, we need to invent here, make it here, and ship it around the world.

But my specific question is, how does that apply to the commodity products, like the PPE we are talking about, the gloves, the gowns, the masks that are not technically sophisticated but are absolutely necessary to safely open our economy or take care of our patients?

Dr. Fuchs. It is a great question, and I actually think I can respond to Congressman Wenstrup and your question in somewhat of a single unit in that regard.

I would argue that there is the capability to pivot into new areas and that that lies in our workforce. So one of the problems in the company that we were talking with in masks is that they didn't have the workforce capability to adapt that machine to take other forms of latex or we didn't have anyone signaling to create a new mask that just suctioned to the face with certain adhesives rather than having elastic.

So, some of that is signaling where we need to bring in innovation. And so, when I think of Congressman Wenstrup's question, we are using web scraping right now to scrape ThomasNet to understand what our capacity is in medical equipment supplies.

There are opportunities to use top, world-class analytic capabilities like machine learning and other capabilities to understand our supply chains because, right now, in a crisis like this, we can't use the Annual Survey of Manufacturers, which is skewed towards the largest manufacturers and whose most recent year is 2016. Our ThomasNet data suggests actually the capacity of small- and medium-sized manufacturers here may be quite significant.

So, we don't even know what is happening domestically no less --

Mr. Schneider. And I am sorry. I don't mean to cut you off, but I only have a minute left and you touched on a key point I want to make because we don't know what is happening domestically, and Dr. Yadav talks about the need to diversify, deconcentrate, but also manage our strategic supply. This is why I have been calling for a supply chain czar because I think we need the oversight to be able to do it and that is critical. I also want to touch on a piece of legislation I introduced called the COVID PREPARE Act because it is about being prepared. You hope for the best, but you always have to plan for the worst.

And the COVID PREPARE Act would require every Federal agency within the administration to report to Congress within 30 days their plan for how they are going to deal with the expected spike in cases and demand on supplies, resources, people, et cetera, come the fall. I introduced this. It is bipartisan legislation. I am hoping it is something my colleagues can support.

I am out of time, and I have so many questions. I have so many notes. I need a bigger desk, but thank you, again, for letting me be part of this conversation. It is critical we get our supply chains resolved, not just for this crisis, but for future challenges we face ahead.

And, with that, I yield back.

Chairman Blumenauer. Well, thank you. And we deeply appreciate your joining us, Brad, and adding to the conversation.

Congressman Gomez.

Mr. Gomez. Mr. Chairman, thank you for allowing me to waive on as well. I really appreciate you being inclusive.

Before I start on my questions, I just want to make a point of clarification on some comments that were made. Something seemed wrong, so I looked it up. The top source of U.S. imports by volume, the actual medicines themselves where they come from are India, Mexico, and China. Only if we measure medicine imports by value are Ireland, Germany, and Switzerland top sources. So, with that measure on, quote/unquote, value reflects transfer pricing and tax gimmicks, not where the actual medicine is being shipped from. So, I just want to point out that clarification.

One of the things that I have -- working on the USMCA working group is really kind of learning the lessons of the past, right? It took only 20 something years to learn the lessons and change of NAFTA and try to address those. One of the things I want to do is really ask that some of our speakers and our witnesses, what are the right lessons to learn from the COVID-19 supply chain problems and what happens if we don't learn those lessons?

Ms. Brown, let's start off with you first.

Ms. Brown. It is actually really simple. I think the right lesson to learn is just how absolutely critical it is to have a strong domestic supply chain in the United States. I mean, at its core, that is the lesson, right?

This is a conversation that for decades has only existed in spaces like this that are very focused on trade and trade policy, and the COVID-19, the crisis just ripped the Band-Aid off of the failures of trade policy, manufacturing policy, industrial policy in this

country, and so now the average American knows, man, we don't make masks here. China is the number one producer of masks in the world. We don't make enough ventilators here.

We had folks scrambling for gowns that some of our members' producers were trying to produce quickly. So that is the very basic lesson that is here, and there is a very serious opportunity that we have to do good on this, and I really hope that this conversation leads to some good.

Mr. Gomez. Dr. Fuchs.

Dr. Fuchs. Thank you, Congressman Gomez.

I would argue that the dilapidation of the U.S. domestic manufacturing capability is what we have learned. And that we need to respond to that. So not to be here again, we need to invest in having domestic manufacturing capability. When I worked with companies and they look at global manufacturing sites and where they should locate, they will often move to a site that previously had workers at another facility because those workers are ready enough to go and so in whatever country we happen to be looking at at the time. So we need to -- I think it is less exactly what we make -- I mean, except for critical technologies, but when we think beyond this, we need to have those workers who can pivot.

Mr. Gomez. Ms. Glas.

Ms. Glas. I will just reiterate the comments already made here about our industrial base. We can't have a conversation about the PPE crisis without having a China conversation.

Prior to COVID, 50 percent of these supplies were coming from China. They have increased their production five times. They are definitely going to cement, post-COVID, their strategic priority to ensure that they are the global supplier moving forward on PPE.

We need comprehensive solutions -- tax, grants, procurement, and trade -- to show a signal to U.S. industry, "It is time for you to invest," and to get industry that has not invested here to come to the United States. Those signals need to be sent now. It can't be a year from now, 2 years from now. These policies need to move concurrently to help ensure that we have these supply chains here.

Mr. Gomez. One of the things that I want to mention is that something that I have always noticed is that people always go back to their -- I guess, the policies that they are used to, right? Some people, tax cuts. Some people, workforce. And I appreciate your point that it can be a comprehensive approach that does make it -- brings back the manufacturing to this country.

One of the things that I am concerned about is that the role that immigration plays in our supply chain and our domestic production of these goods and this administration's attack on immigrants, even highly skilled immigrants from other countries.

Does anybody want to add anything to that?

Chairman Blumenauer. Jimmy, your time is expired.

Mr. Gomez. Well, I appreciate your time. I couldn't see the timer. So, thank you so much.

I yield back.

Chairman Blumenauer. I hear you. Thank you. Really appreciate it.

We had an opportunity this afternoon to understand the use of trade and manufacturing policies to build more resilient supply chains. I really express the committee's appreciation to the witnesses for their testimony, their engagement, and the opportunity to perhaps follow up with you.

Please be advised that members have 2 weeks to submit written questions to be answered later in writing if you would be willing. These questions and your answers will

be made part of the formal hearing record.

With that, the subcommittee stands adjourned.

Thank you very, very much.

[Whereupon, at 4:13 p.m., the subcommittee was adjourned.]

[Questions for the record follow:]

Questions from Trade Subcommittee Chairman Blumenauer to Dr. Fuchs, Ms. Glas, and

Dr. Yadav

Responses from Dr. Fuchs to Trade Subcommittee Chairman Blumenauer

Response from Ms. Glas to Trade Subcommittee Chairman Blumenauer

Response from Dr. Yadav to Trade Subcommittee Chairman Blumenauer

Question from Rep. Panetta to Dr. Yadav

Response from Dr. Yadav to Rep. Panetta

Questions from Rep. Marchant to Dr. Duesterberg

Responses from Dr. Duesterberg to Rep. Marchant

[Submissions for the record follow:]

Rep. Holding Submission for the Record

Rep. Flores Submission for the Record

Advanced Medical Technology Association Submission for the Record

Association of Equipment Manufacturers Submission for the Record

Center for Fiscal Equity Submission for the Record