

THE OBAMA ADMINISTRATION MANUFACTURING AGENDA

HEARING

BEFORE THE
SUBCOMMITTEE ON
ECONOMIC POLICY
OF THE
COMMITTEE ON
BANKING, HOUSING, AND URBAN AFFAIRS
UNITED STATES SENATE
ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

ON

EXAMINING THE OBAMA ADMINISTRATION'S MANUFACTURING AGENDA

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AUGUST 5, 2010
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Printed for the use of the Committee on Banking, Housing, and Urban Affairs



Available at: <http://www.access.gpo.gov/congress/senate/senate05sh.html>

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U.S. GOVERNMENT PRINTING OFFICE

62-666 PDF

WASHINGTON : 2010

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THE OBAMA ADMINISTRATION MANUFACTURING AGENDA

THURSDAY, AUGUST 5, 2010

U.S. SENATE,
SUBCOMMITTEE ON ECONOMIC POLICY,
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS,
Washington, DC.

The Subcommittee met at 10:31 a.m., in room SD-538, Dirksen Senate Office Building, Senator Sherrod Brown (Chairman of the Subcommittee) presiding.

OPENING STATEMENT OF CHAIRMAN SHERROD BROWN

Chairman BROWN. This hearing of the Economic Policy Subcommittee will come to order. Thanks to both panels. I will introduce the first panel in a moment, and the second panel—there is a vote called at 11:30, so we unfortunately have an hour instead of an hour and a half, but the questions will be focused in, I think, useful answers.

In America, we have always been good at making things. American companies and workers laid down railways and highways, built aircraft and semi-computers, manufactured medical equipment and appliances. In turn, workers have been rewarded with a pathway to the middle class, good wages to provide a home, and economic opportunity for our children. Our Nation's spirit of innovation helps send humans to space and develop the technology needed to defend our Nation and cement our status as an economic superpower. But we are at risk of this slipping away unless we develop a more coherent national manufacturing strategy.

In fact, it has been a long time since we even asked ourselves in this country if we needed a manufacturing strategy. Absent such a strategy, our economy has tilted away from manufacturing with disastrous results for the Nation's middle class. Since 1987, manufacturing's share of GDP has declined more than 30 percent. Put another way, 30 years ago, U.S. manufacturing made up about 25 percent of our GDP; financial services made up about 11 percent of our GDP 30 years ago. Today those numbers have almost flipped. We see where that got us in terms of the financial crisis. We see where we are now in terms of lost manufacturing jobs and what that has meant to our cities, to our rural areas, to the prosperity of this country.

We know this matters for several reasons. Jobs in manufacturing pay more on average than service jobs and have strong multiplier effects, according three to four jobs in other sectors of our economy.

Second, manufacturing has in our history led the economy out of recession because it tends to respond quickly to changing economic conditions while creating tangible wealth.

Since the beginning of the Bush recession, we have seen profits in large financial institutions and other service firms increase dramatically. At the same time, our Nation's unemployment rate is still hovering, as we know too painfully, at 9.5 percent. Unlike wealth created by the click of a mouse, wealth created by expanded production requires an expanded workforce.

This Subcommittee has conducted about 10 hearings on the challenges and opportunities facing American manufacturers in the 21st century. There are short-term challenges, such as the dire need for auto suppliers to get access to credit and the competitive disadvantage from unfairly subsidized imports. And there are long-term challenges, such as how we maintain the capacity to supply our military forces and how we achieve energy independence.

This morning we will hear from two of the Administration's point people on developing and implementing a manufacturing agenda. One lesson this Subcommittee has learned is that there is no clear path to manufacturing success; rather, we have heard in this room over the past year, and as I have heard in factories and plants and businesses across Ohio, we need a strategy that combines a predictable climate for investments and innovation with sector-based workforce training. We need a strategy that ensures strong supply chains and opens new markets. Domestic manufacturers need our Government to enforce trade rules that, when breached, undermine the ability of our Nation's manufacturers to compete domestically and abroad, and our national manufacturing strategy must leverage our investments in energy and our defense industrial base.

Our Government has taken steps to coordinate agencies through the Assistant Secretary of Commerce for Manufacturing and Services, whom we will hear from this morning. President Obama has also named a Senior Consular for Manufacturing, Ron Bloom, following his work at the restructuring—the successful restructuring, I would emphasize—of the auto industry. Today we will hear how the Administration is helping to rebuild manufacturing as a way to rebuild our economy.

For Ohio and our Nation, manufacturing matters. We know that. On behalf of auto workers and machine shop owners and clean energy entrepreneurs in the manufacturing cities and towns in my States and the Commonwealth of Virginia and all over this country, I am hopeful we have an Administration that also believes it matters. Thank you.

We will hear from Senator Warner. Welcome.

STATEMENT OF SENATOR MARK R. WARNER

Senator WARNER. Thank you, Mr. Chairman. I know we have got votes coming, so I will let us get to the witnesses. But I just want to publicly say, you know, what a leader you have been in this sector and in this space and a tireless advocate for making sure that we have a manufacturing sector in America. Nobody is better about that than Sherrod Brown. As he recently pointed out, he showed me data just recently showing that the traditional canard—and you may have already mentioned this—that somehow the reason we

cannot compete on a manufacturing basis is because our wages are way too high is not based in fact since we are 16th in the world in terms of manufacturing-related wages. And I look very forward to hearing the witnesses and the testimony.

Thank you for your leadership.

Chairman BROWN. Thank you, Senator Warner. Thank you for your leadership on all kinds of economic issues.

I want to introduce William Strauss, who will sit alone on our first panel, senior economist and advisor at the Federal Reserve in Chicago. Mr. Strauss joined the Federal Reserve Bank of Chicago in 1982. His chief responsibilities include analyzing the current performance of both the Midwest economy and the manufacturing sector for use in monetary policy. He produces the monthly Chicago Fed Midwestern Manufacturing Index, organizes the bank's annual Economic Outlook Symposium and annual Auto Outlook Symposium, conducts several economic workshops and industrial roundtables throughout the year. He has taught as an adjunct faculty member at both Loyola in Chicago and Webster in Chicago. He currently teaches at the University of Chicago, the Graham School of General Studies and at DePaul, the Kellstadt Graduate School of Business. He earned his B.A. in economics and geography from SUNY in Buffalo and an M.A. in economics from Northwestern in Chicago.

Mr. Strauss, welcome, and we look forward to your testimony.

**STATEMENT OF WILLIAM A. STRAUSS, SENIOR ECONOMIST
AND ECONOMIC ADVISOR, FEDERAL RESERVE BANK OF
CHICAGO**

Mr. STRAUSS. Thank you, Mr. Chairman.

Chairman Brown and Members of the Economic Policy Subcommittee, I am pleased to share with you some perspectives on long-term trends in manufacturing and some observations about how the recent recession and recovery are affecting manufacturing.

In understanding the performance of the manufacturing sector, one major issue is the extent to which we should be focusing on the number of people employed in the sector or its overall production and output. Interestingly, over the long term, each leads to the opposite conclusion about the strength of manufacturing in the United States. Let us start off with employment.

Manufacturing employment as a share of total employment in the United States has been declining over the past 60 years, moving down from 31 percent in 1950 to 9 percent in 2009. However, observations on the amount of real goods production are far different. Manufacturing output in 2007 amounted to a level of over 600 percent higher than that in 1950. That translates into an average growth of 3.4 percent per year.

So how was manufacturing able to produce such an output surge over the past 60 years even with declining employment? The answer is: Productivity. With the application of new process technologies, better management, and new product innovations, productivity growth in the manufacturing sector averaged 2.9 percent over the past 60 years.

Between 1950 and 2007, productivity growth and technological advancement allowed manufacturing output growth to exceed the

growth of the overall economy. Yet though it seems to be a contradiction at the same time, the manufacturing sector's share of GDP has been declining.

This seeming paradox can be easily explained. The greater efficiency of the manufacturing sector has afforded either a slower increase or an outright decline in the prices of goods that they manufacture. And while declining prices have led to a greater unit demand for manufactured products, increased demand has not fully compensated for the lower prices.

So, too, the output growth in overall manufacturing has not translated into an increase in every manufacturing sector. One of the great strengths of the U.S. economy is its ability to reinvent itself over time, creating new business lines while casting others aside.

Over the past 20 years, manufacturing output has risen on average by 2.2 percent per year, yet individual performances ranged widely, for example, from 15-percent growth in the computer and electronic components manufacturing per year to a minus 7-percent per year for apparel.

Nor has manufacturing immunized itself from the business cycle. The recent recession impacted the economy quite harshly. Manufacturing output, which peaked in December of 2007, fell 17.5 percent, bottoming in June of last year. With this severe loss of output, manufacturing jobs declined by 16 percent during 2008 and 2009. And over 2.1 million manufacturing workers lost their jobs on net, representing 26 percent of all job losses.

While the overall economy's recovery has been moderate since last year, manufacturing has experienced a robust recovery. Over the past year, manufacturing output has increased nearly 9 percent and has recovered 42 percent of the loss experienced during the recession. Interestingly, the two industries that have experienced the largest increases over the past year were the same industries that were the hardest hit: motor vehicles and parts, and primary metals. In fact, this year, the manufacturing sector has actually been adding jobs each and every month, for a total of 136,000 jobs, representing nearly one out of every four private sector jobs created this year.

The manufacturing sector remains a vibrant, innovative industry in the U.S. Output has been rising at a solid pace over time, and most of this growth, in particular over the past 30 years, has been achieved by improving productivity. This increase in productivity has been a double-edged sword. On the one side, the increasing productivity has fostered a globally competitive sector. On the other side, being more productive often means that a producer can increase output without the need to add labor.

These movements in output, productivity, and labor have not been confined to the past few years but have been taking place for decades. If these manufacturing sector trends continue, we can look forward to a sector that will continue to produce an ever-increasing amount of output, while contributing to a stronger U.S. economy.

Chairman BROWN. Thanks. I apologize. I was just asking him a question briefly. Thank you, Mr. Strauss, for your testimony. And welcome, Senator Merkley.

I am concerned—I appreciate your testimony, and I appreciate your public service in Chicago. I am concerned that in your testimony there was—understanding the role of productivity, we have the most productive workforce in the world. We know that. But we also look, as Senator Warner said, at a country like Germany which pays much higher wages, has significantly higher unionization rates than we do, they export in value in dollar terms, in deutsche mark terms, more goods than we do, a country four times the size in population, more or less. And I know that we are very productive. I know German workers are very productive.

Just to kind of transition, just 2 weeks ago Chairman Bernanke sat in the seat that you are sitting in, and I asked him if China's exchange rate policy is a subsidy. I think most of us believe on this Committee—and I will not speak for others, but most of us believe that there is a currency issue. How would you answer that question? Is China's currency undervalued? And how much is it undervalued, if it is? And then proceed on that, and I will follow up.

Mr. STRAUSS. So with regard to some of these currency issues, certainly, you know, I have read and I have heard different testimony as well as different studies that have suggested that China's currency is undervalued. That would imply that there was a subsidy taking place.

I would also highlight, though, that if, in fact, it was a revaluation of that, it is not necessarily clear, Senator, that that would necessarily bring jobs back, you know, in a large amount. Businesses are looking for the least-cost way of doing their business, and quite often a lot of the goods that we are talking about are relatively low-value-added. In part, that is why it was moved to China, was to try to take advantage of their relatively lower-skilled, lower-paid wages that take place there, and that there would be alternative sources for that that could very well tend to be outside of the United States.

Chairman BROWN. Does it concern you that as we have lost—as we have seen the hollowing out of—you are in the Midwest, in Chicago. I know my State is not your jurisdiction, most of my State, but I know that you know what has happened in medium-sized towns and fairly big cities and small towns with the hollowing out of manufacturing.

Does it concern you that the business model that we as a manufacturing Nation have pursued in the last 20 years, I believe is unprecedented in history, that our business model for many of America's corporations are to lobby the Congress for a certain kind of trade law and tax law, then move production to another country, and then sell those products back into the United States, into the mother country if you will? I do not know that that has ever happened in history. That is not the whole story. The whole story is—part is productivity. But does that concern you as a business model, that we have decided by the way we write tax law and trade law, the way we deal with currency, the way we deal with everything from the International Trade Commission to the Department of Commerce, that that has become the operating business plan for much of America's large corporations?

Mr. STRAUSS. Well, Mr. Chairman, I certainly can appreciate and understand the concerns about communities, when they see a fac-

tory that gets closed and how that could impact that community quite severely. You know, those kind of decisions are, of course, best left to Congress with regard to these issues surrounding subsidies for taxation and so forth.

I can just share that, you know, historically over time manufacturing as a whole has risen quite significantly because of how efficient we are. And I would just exercise caution with regard to moving forward with any kind of policy that would cause our manufacturing firms to become less efficient, less productive, which has allowed it to grow over this period.

Chairman BROWN. So you think our trade policy and our tax policy has served American efficiency and productivity about as well as we can? You think that our trade policy and tax policy contributes significantly to our rising productivity?

Mr. STRAUSS. That is a question that I am not prepared to answer at this point, Senator.

Chairman BROWN. OK. Senator Merkley. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman.

I agree with Senator Brown on—we may have different views on how we go at trade, but I share his concern about currency manipulation by China, and I think it is an issue that we do—it is our responsibility to take on.

I guess where I would like to focus my line of questioning is on small- to mid-sized businesses, manufacturing businesses I think that have been particularly hard hit. Mr. Strauss, I would like you to address three issues.

One, recently I got added to an America COMPETES legislation that would allow small- and medium-sized businesses to kind of access high-performance computing, which, again, helps them—larger companies have already used these tools to improve productivity. I would like comments on that.

I would like comments as well, one of the things that we talked about is you talked about low value. We have lost a lot of apparel-related jobs in my State. I do not think they are coming back. But I am particularly interested in, you know, high-value-added manufacturing where we need higher-skilled labor. And one of the concerns that I have, as a former Governor, one of the things that made me crazy was the lack of coordination on Federal job training programs. I think we have 34 separate programs and a series of different agencies within different secretariats at the Federal level and would love any kind of comment you might have on consolidation of workforce training. Particularly as we add toward higher-value training apprenticeship programs, I would argue that one of the reasons why Germany, Switzerland, and others do better than we do on value-added manufacturing is they put a lot more in their training initiatives.

Then, finally, you know, while you may not want to ask a question—answer a question about trade policy, I do think we have not served our small- and medium-sized manufacturing companies well on making them familiar with how they can do a better job of exporting. You know, for so long America's market was so large that you did not need to look abroad. I would be curious whether you have any thoughts on that.

So high-value computing in terms of aiding small- and medium-sized manufacturing, workforce training broadly writ, and then what we could do from a policy perspective to actually add the ability for small- and medium-sized manufacturing entities to export.

Mr. STRAUSS. Thank you for the opportunity of addressing those concerns, Senator Warner. I share every one of them and understand the issues there.

So with regard to the high performance that has come about, we had the opportunity in Chicago of having the largest trade show in the country and the second largest in the world take place every 2 years, the International Manufacturing Technology Show, and this is the year that it will be coming to Chicago in September. And it is just an absolute marvel to go and tour that show and to see how over time the type of manufacturing has changed.

In particular, the ramp-up that we have seen in productivity over the past 30 years coincides with the introduction of this computer numerical control, the CNC manufacturing, to manufacturers that began in earnest in the late 1970s. And over time, companies have still kind of been trying to figure out the ways of continuing to become more and more efficient.

This machinery, for one example, we had a conference in Chicago about 5 years ago where we invited companies from all around the region to talk about how productivity is going, and certainly one of the questions I often ask when I do tours is can we stream even more productivity out of this.

The story revolves around a woman that was running a machine shop. The machine had gotten so efficient that she brought in a second machine and asked one of her workers to start running that machine at the same time as his primary machine. And he objected at first, suggesting that, you know, "I have got my machine. That is my responsibility." And she used the analogy of, "When you load up the dishwasher at home and you close it up and start to run, do you sit there and watch it run for the next half-hour or do you go and do other things?"

It was just this fact that technology has moved to the place where we continue to be able to bring more and more efficiency to our processes.

With regard to the education side, I wholly agree with you—and I think it is more than just in manufacturing; it is across our country—that education needs to be a primary focus for our workforce. Certainly in manufacturing I hear from contacts that they find it a challenge to find qualified workers who have the skills to operate in a computerized sector. So whatever we can do with regard to job force training, with regard to apprenticeship programs, those are certainly key.

And with regard to the exports, I agree with you as well that for many years we were able to proceed with living off of how good we were doing within our own economy, and that allowed especially smaller companies to be quite successful without thinking internationally. But at an ever-increasing rate we see more and more small firms, and helped out through some of these Gold Key programs, export to countries, and I try to keep tabs on that as well.

Chairman BROWN. Thank you, Senator Warner. I think your point about small manufacturers is so important. I have watched

particularly machine shops, tool and die, small machine shops, small specialty shops supply companies that, you know, are 50, 100, typically nonunion, occasionally union employers, 50, 100 employees that they are in the auto supply chain or some other supply component manufacturer. The large company will move to Mexico or move to China. They do not have the wherewithal to export typically, and they have lost their biggest customer. The Manufacturing Extension Partnership program helps. So do the Export Assistance Centers. But clearly they are not enough.

Senator WARNER. Mr. Chairman, I would just add that, you know, they really—that might be a subject of a future hearing, because I really think that sector—we may not be able to solve every challenge, but there could be targeted assistance to that group.

Chairman BROWN. I agree. Senator Merkley.

Senator MERKLEY. Thank you for your testimony. You have framed it in the context of your expertise in the Midwest. I come from the Northwest. Oregon is one of 17 States where manufacturing makes up more than 10 percent of employment. It is a source of good-paying, stable jobs except when those jobs go to Mexico or Asia, as they routinely have following the challenge in the rest of the Nation.

But as you think about the challenges and dynamics in the Midwest and then recognize that other regions have some different factors at work, what do you see? If you are looking at the Northwest, what makes the Northwest manufacturing economy different than the area that you spend most of your time on in terms of the Midwest? And are there insights we can draw about some of the challenges around the rest of the country?

Mr. STRAUSS. Well, certainly, when I think of the Northwest, you know, I think a very big part of that is the aviation industry, and that has been one of our great opportunities for exports as it has tended to dominate, especially recently, in terms of our exports, the rest of the world.

The point about some of these trends that we see in terms of employment, you know, these are issues—the productivity that we have been experiencing in the United States is not solely a U.S. phenomenon. We are seeing productivity growth happening all around the world and similar trends with regard to the loss of employment.

In fact, in a study that was put out by the Bureau of Labor Statistics 5 years ago—it is hard to get data from China, but there was a study that was put out 5 years ago by BLS which looked at manufacturing trends between 1995 and 2002, and their estimates are that China went from having 98 million workers in manufacturing in 1995 down to 83 million in 2002. So, in essence, China lost the same number of jobs in manufacturing that we have in manufacturing, and we can add to that list Brazil, Russia, and so forth.

These productivity trends are happening all around the world on the employment share.

Senator MERKLEY. Well, thank you. I am not sure that got really to the heart of the distinctions in the regions, but one thing I think that is in common across the country is that you have a workforce that is less prepared in areas such as welding, machine operation,

and so forth. Just about everybody I knew took metal shop and wood shop in either middle school or high school. And added to that was the fact that we grew up building things in garages. And neither of those is true now. The classes in school are gone, and the kids are on the computers rather than utilizing tools.

At times that is used as an explanation of why firms are choosing to go abroad, just not enough folks trained in the crafts, if you will, or interested in the crafts.

Do you see that as a real factor? And if so, what do you suggest we do on that?

Mr. STRAUSS. Well, in your example with regard to welders, when industry was doing—the machinery industry was doing quite well several years ago, as commodity prices began to move up quite sharply, we were hearing about a dearth of available workers who really had the skills for welding, and things have softened up. Clearly, while things have improved, we are still quite weak. But, nonetheless, these kinds of skilled type of jobs, there tend to be shortages. And what we can do is to, you know, foster greater amounts of skills training, you know, again, through some of these technical schools, apprenticeship programs, and just, you know, allow firms themselves to train their workforce.

Senator MERKLEY. Well, I will conclude with one last question, and that is, up through about the mid-1970s, as productivity increased, the wages of working Americans increased. And at about that time, those two curves started dramatically diverging. And you would think with this increase in productivity that you are talking about we would have a proportional increase in wages. But as you look at the divergence in those two curves, the upward path on productivity and the flat line on compensation to working families, any insights on that?

Mr. STRAUSS. Well, I share your concern with regard to the real increases in wages that have been taking place. Again, to get back to the education side, clearly we have seen over time that there are rewards to greater amounts of education. Again, when you look at the differentials between obtaining a college degree, an associate degree, or even technical training, there are definitely rewards. So education is a big key to continued advancement. Again, I would encourage those type of things.

The only other thing I would just highlight is that one of the benefits of this surge of productivity has been the ability of the goods that most Americans need to purchase to have been showing—or getting relatively slower rates of increase or, in fact, outright declines. As an example, the auto industry, you know, for the past 10 years, prices of those vehicles have actually fallen by roughly 0.4 percent each and every year for the past 10 years, making those products more affordable to the average American.

Senator WARNER. Mr. Chairman, could I just ask one—

Chairman BROWN. Senator Warner.

Senator WARNER. Could you repeat again, Mr. Strauss, what you said about the workforce size in China actually declining as well within the manufacturing sector?

Mr. STRAUSS. Yes, there was a report that was put out by the Bureau of Labor Statistics back in 2005 that employment in China peaked at 98 million in—

Senator WARNER. In manufacturing.

Mr. STRAUSS. In manufacturing, in 1995. Keep in mind the size of our entire workforce is 140-some-odd million. So this is 98 in manufacturing, and by 2002 it had fallen down to 83 million. In fact, it fell even further to 80 million in 2000 because of the Asian crisis, but then it bounced back up to 83 million.

But, nonetheless, we are seeing these downward trends around the world.

Chairman BROWN. Thank you, Senator Warner, and I appreciated your comment about the cost of automobiles has dropped 0.4 percent a year for *X* number of years. I would add that is not the whole—that is good, but that is not the whole story when you look at what has happened with wages in this country over this 10 years. I think it is important to keep that in context.

But, Mr. Strauss, thank you for joining us and thank you for your service.

Mr. STRAUSS. It has been my pleasure.

Chairman BROWN. We appreciate it very much.

I will call forward Ms. Nicole Lamb-Hale and Mr. Roger Kilmer, if they would come forward. I also want to, while we are switching there, just recognize that in the audience is Pat Mulloy, who is a member of the China Economic and Security Commission and his being such an advocate for American manufacturing. Pat, thanks for sitting in on this as an official and listening to this testimony. This is very helpful testimony from Mr. Strauss and the two panelists now.

Nicole Lamb-Hale was nominated by President Obama and unanimously confirmed by the Senate to serve as the Assistant Secretary of Commerce for Manufacturing and Services. She helps to strengthen in this role the competitive position of U.S. industries in domestic and foreign markets by coordinating Commerce Department strategies and policies with U.S. industries in mind. Manufacturing and Services, her portfolio, which is within the International Trade Administration of the Commerce Department, convenes experts inside and outside the Government to arrive at solutions on issues faced by U.S. industry. Prior to joining the Obama administration, Ms. Lamb-Hale was a managing partner of the Detroit law firm of Foley & Lardner, where she specialized in business restructuring in the manufacturing sector.

Roger Kilmer has been with the Manufacturing Extension Partnership since 1993 and with NIST since 1974. Previously he was the MEP deputy director serving as the chief operating officer, and chief financial officer. He received the Department of Commerce Silver Medal Award for Leadership as the NIST-MEP liaison to the Interagency Technology Reinvestment Project Initiative and the Bronze Medal for Superior Leadership at NIST's Unmanned Ground Vehicle Robotics Program. The MEP is a \$300 million public-private partnership program leveraging Federal support by teaming with industry as well as State and local organizations and has played a very important role—I know in my State, I assume also in Oregon and Virginia—with small companies especially. With nearly 300 manufacturing extension offices in all 50 States and Puerto Rico, the MEP provides companies with services

and access to resources that enhance growth and increase productivity.

So thank you both for joining us. Ms. Lamb-Hale, if you would begin.

STATEMENT OF NICOLE Y. LAMB-HALE, ASSISTANT SECRETARY FOR MANUFACTURING AND SERVICES, DEPARTMENT OF COMMERCE

Ms. LAMB-HALE. Thank you, Senator Brown. Chairman Brown and Members of the Subcommittee, thank you for this opportunity to testify before you today on the President's Manufacturing Agenda and what we at the Department of Commerce are doing to promote U.S. manufacturing. The Department of Commerce is committed to promoting this important sector. We do this every day by working to create the right business environment to help manufacturers sustain and grow their companies and create jobs.

As you know, in December 2009, the Obama administration released a manufacturing strategy entitled, "A Framework For Revitalizing American Manufacturing." The Department of Commerce addresses several of the framework's components, including helping communities and workers transition to a better future. We are working with other agencies, such as the Departments of Transportation and Treasury, as well as the Small Business Administration, to address others.

As Assistant Secretary of Commerce for Manufacturing and Services, also known as MAS, I believe that it is critical to ensure that our manufacturing sector is strong. MAS actively works to ensure that our manufacturing sector is competitive globally. Our programs and partnerships to promote U.S. manufacturing are strategically developed to support the needs of the U.S. manufacturing sector and the President's Manufacturing Agenda.

MAS industry analysts and economists have extensive knowledge about manufacturing. Based on their economic, statistical, and policy analyses, we provide decision makers objective data and information to develop and implement policies and initiatives to support U.S. manufacturing competitiveness.

MAS follows a three-pronged approach, which I call "the three Cs," to convene, to collaborate, and to connect. We convene experts both inside and outside of the Federal Government to work toward solutions to the problems faced by U.S. industry. MAS collaborates with agencies around the Federal Government to implement solutions that will sustain and increase the global competitiveness of U.S. industry. And MAS works to connect industry with Federal Government resources that can help U.S. companies compete abroad.

I would like to share with you a few examples of the three Cs at work. MAS convenes the Manufacturing Council, created to advise the Secretary of Commerce on manufacturing issues and to ensure regular communication between the Federal Government and the manufacturing sector. Commerce Secretary Gary Locke will announce the newly appointed members of the current Manufacturing Council this afternoon at two o'clock in the Senate Visitors Center. The Council will immediately begin to look at the critical issues affecting manufacturing, such as finance and energy.

MAS collaborates with other agencies to help deliver MAS programs. For example, MAS developed the Department's Sustainable Manufacturing Initiative. We work with industry and other Federal agencies to showcase sustainable manufacturing practices that help companies reduce operating costs to be more effective.

In September, we will launch a new initiative, Manufacture America, which will help to connect manufacturers to resources to help them rethink, retool, and rebuild their operations. The initiative is designed to enable them to explore new products, markets, processes, and sources of finance. We expect that this initiative will help to sustain and create jobs, and we will be particularly focused on the needs of small- and medium-sized manufacturers.

The Administration's framework recognizes that exporting goods is a key component for revitalizing U.S. manufacturing. In this year's State of the Union Address, President Obama announced the National Export Initiative, or the NEI, and set the ambitious goals of doubling U.S. exports in 5 years to support several million jobs. MAS and other bureaus are developing initiatives and improving the implementation of existing programs to support the NEI goals. We are also strengthening interagency coordination on NEI efforts by working with other agencies across the Trade Promotion Coordinating Committee.

Both emerging markets and our key traditional trading partners offer export opportunities for U.S. manufactured goods. Manufacturing export leaders are likely to be found in high-growth sectors, such as medical devices, aerospace, clean energy and energy efficiency, technology industries, and infrastructure. MAS is currently developing sector-specific global strategies to guide policies to enhance U.S. manufacturing exports. We have taken on or are planning a variety of actions to expand exports to emerging and traditional markets.

For example, Secretary Locke led a Clean Energy Mission to China in May that resulted in immediate sales by mission participants valued at over \$20 million. The mission came at a critical time when the Chinese leadership expressed a clear commitment to adopt clean energy technologies and U.S. companies are developing and commercializing these technologies.

The Department and ITA are prioritizing existing programs that offer the highest return on investment. One such program is the Market Development Cooperator Program. For every Federal dollar awarded through that program, we estimate that \$131 in exports is generated.

MAS is also working to address the manufacturers' critical financing needs. For many of the companies that will participate in Manufacture America, financing is a significant challenge. We are working with the Treasury Department and local banking groups to help small- and medium-sized manufacturers better understand the resources available to them, including access to capital.

President Obama has proposed legislation that includes a \$30 billion Small Business Lending Fund and a State Small Business Credit Initiative. These are two parts of a small business job package that the President hopes to sign into law.

I have mentioned just some of the strategic initiatives that we are employing to support President Obama's Manufacturing Initia-

tive and his agenda. We at the Department of Commerce continue to work to ensure that the business environments, both domestic and international, are fair to U.S. manufacturers, their workers, and their communities.

Again, thank you for the opportunity to testify on the activities of the Department of Commerce in manufacturing and services as we undertake to enhance the competitiveness of U.S. manufacturing.

Chairman BROWN. Thank you, Ms. Lamb-Hale.

Mr. Kilmer, welcome.

STATEMENT OF ROGER D. KILMER, DIRECTOR, HOLLINGS MANUFACTURING EXTENSION PARTNERSHIP, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, DEPARTMENT OF COMMERCE

Mr. KILMER. Chairman Brown, Members of the Committee, thank you for this opportunity to appear before you today to discuss the efforts of the Hollings Manufacturing Extension Partnership, known as MEP, and how it supports American manufacturers. Today, I would like to highlight a few of the services that MEP offers to assist small- and medium-sized manufacturers with growth strategies and the access to capital to support that growth.

But first, I would like to give you a brief overview of the program. With a nationwide network of over 400 locations around the country, MEP helps manufacturers strategically implement business growth opportunities to improve their competitive position in the market. In fiscal year 2009, MEP served nearly 33,000 manufacturing clients, resulting in more than \$3.6 billion in new sales, \$1.1 billion in cost savings, and the creation or retention of nearly 52,000 jobs.

Through MEP's Next Generation Strategy, we are working with manufacturers to harness technology and innovation, the results of new business opportunities. MEP facilitates the adoption of technological innovations, especially clean technologies and processes that improve the manufacturer's competitive position. We all know improving manufacturing processes, developing new products, or accessing new markets requires capital. For most smaller manufacturers, identifying and securing capital is often a complex and frustrating process. With capital becoming significantly scarcer in today's financial climate, that process will become more difficult for even historically successful companies.

This case is highlighted in a recent report by the MEP Advisory Board, which found that many small manufacturers, even those with orders that are relatively healthy, have been unable to finance growth or execute business and product diversification plans in this current environment.

Accordingly, MEP is tackling the access to capital issue from a number of angles. Today, I would like to give you an overview of MEP's ongoing work in these areas.

MEP is working through its network of partnerships with other Federal, State, and local organizations to more effectively access the myriad of programs that can provide capital to finance smaller manufacturers growth. As an example, at the Federal level, MEP uses its participation in the Interagency Network of Enterprise As-

sistance Providers as a mechanism to learn about programs that can provide financing to manufacturers. We use this information as input to a quick reference guide to growth financing that we developed as a tool for Center staff to assist manufacturers in accessing Federal programs to provide loans and financial assistance.

MEP is also sharing information on private sources of capital and finance. For example, MEP is reaching out to the equipment leasing community to provide manufacturers with information on leasing strategies as possible options for equipment acquisition. MEP has also engaged the Independent Community Bankers of America, which represents nearly 5,000 community banks throughout the U.S. Through these engagements, MEP looks to enhance the financial institutions' understanding of how the MEP system can serve as a technical resource on manufacturing issues, thereby supporting manufacturers as a good investment by these institutions.

Another example where financing is a factor is when MEP helps companies develop export opportunities. In collaboration with ITA's U.S. Export Assistance Centers, MEP has developed the ExporTech program to assist companies with developing an international growth plan. The ExporTech program connects the company with organizations and resources, including financial resources, such as Eximbank, that can help them move quickly beyond planning to actual export sales.

Another expanding area that requires access to financial resources involves improving the energy efficiency of manufacturing operations. As a result of the emphasis placed on reducing energy consumption, MEP is delivering services and technologies that help its clients make equipment and process changes to become more energy efficient.

We are piloting a new collaborative effort called E3, which stands for "Economy, Energy, and the Environment." It is a model that combines the resources of five Federal agencies, local government, and utilities to enhance sustainability and competitiveness in local and regional economies.

Another program is the Green Supplier Network, or GSN, which is a collaboration between MEP, EPA, and other State and local resources focused on the dual challenge of reducing the environmental impact while simultaneously increasing the companies' efficiency, productivity, and profitability.

As I have mentioned throughout my testimony, raising capital is one of the most basic of business functions, but for many smaller manufacturers, it is often difficult. To help bridge this gap, MEP continues to look at ways to improve manufacturers' access to financing options. Smaller manufacturers positioned to move to the next level of growth, whether it is through the development of new products, markets, or sales, need to have clear strategies for securing the necessary capital resources to achieve that growth.

With our partnerships and a toolbox of services, MEP is uniquely positioned to provide smaller manufacturers with a better understanding of the range of financial options and resources that match their exact needs. The continued incorporation of this type of service will give U.S. manufacturers the information they need to successfully implement their business growth strategies, resulting in

new sales, expanded markets, technology adoption, and sustainability.

Again, thank you for the opportunity to testify today and I will be glad to answer any questions.

Chairman BROWN. Thank you, Mr. Kilmer.

I will start with you, Mr. Kilmer. I understand MEP has a partnership with the Energy Department to help determine domestic capacity for energy programs funded by ARA, and all of us were concerned about the—probably the most salient of those was the Texas wind turbine farm and not having developed enough supply chain. So I understand the way it works is when DOE receives a Buy America waiver request, it forwards on to you that information and then you advertise for the product specification through your network. And I understand there is an incentive, a bit of an incentive for you to find those suppliers. How is that working? How are you doing on that?

Mr. KILMER. It is actually working very well. We are pretty much, if you will, on the front end of that process, but we have already had quite a bit of success in terms of being able to find local suppliers. I think one of the advantages that we have is with a national network, we can broadcast this to anywhere in the country to be able to find those domestic sources for the components that they are looking for.

Chairman BROWN. Do you see the potential, if you are doing that with DOE, is there a potential for, for instance, DOT? I was speaking with the Secretary on the way to Columbus 1 day about high-speed rail, and pretty much the only countries that have a very well developed high-speed rail manufacturing system or manufacturing capacity are France, Germany, China, and Japan. That is not to say we don't build a lot of the components. I know in Dayton, for instance, there is a locomotive company that builds interesting components for rail. Could we apply what you are doing to DOT and even to DOD?

Mr. KILMER. Yes, absolutely. And in fact—

Chairman BROWN. Do you need legislative authority to do that?

Mr. KILMER. No, we do not. Actually, an example, and I will give it in kind of the wind energy one, we have had examples in States where a potential manufacturer would like to move operations to the U.S., but one of their concerns obviously is the access to the suppliers. And so what we are able to do is actually to work with them and with the States that are involved to identify and locate those suppliers that can actually help support that manufacturing operation, which can—

Chairman BROWN. This is a company that assembles the final—

Mr. KILMER. The wind turbines, and so, like you said, there are companies—many of our small manufacturers make all of the same components that they have been providing to perhaps the automotive industry that are similar to what would be needed in—

Chairman BROWN. Do you need an official request from DOT to begin that process, the way you worked it with DOE?

Mr. KILMER. We have actually started some conversations with DOT, but again, it is very preliminary at this point. Any help

would be useful, but I think, quite honestly, they understand the need and we are something that can help them.

Chairman BROWN. And I think they understand that if we are going to—there is talk of over the next 20 years building some 25,000 rail cars and low thousands, I don't know if it is 1,000 or 2,000 locomotives, for high-speed and less than high-speed rail and streetcars and we don't have the capacity to do that while other countries have both the engineering sophistication and experience and capacity. But there is no reason we can't be doing more of, obviously, the supply chain here. Thank you for that and we will follow up on that.

Ms. Lamb-Hale, partly coming out of Senator Warner's first comments about wages and manufacturing in some number of European countries contrasted with ours, I want to talk a little bit about Germany and get your thought on making a comparison and sort of where we go. German exports came to \$1.1 trillion in 2009, roughly \$125 billion more than our exports, than we exported. Their unemployment has dropped from 9.1 percent to 7.6 percent. Their yearly trade balance went from a deficit 12 years ago of \$6 billion to—a trade deficit of \$6 billion to a surplus of \$267 million in a decade. Our trade deficit that same year, in 2008, was \$569 billion and something close to \$600 million, \$700 million a day from China bilaterally alone. And Germany's annual growth rate per capita exceeded ours.

What do we learn from that? What is missing? What are they doing we are not doing in manufacturing, and how do you figure out a strategy that, as you put together manufacturing policy for President Obama and for all of us, what do we learn from them?

Ms. LAMB-HALE. Well, I think that we learn about the importance of exporting. I think as has been—the comments that have been made today have suggested, and I think it is true that often, because of the position, the strong position that the United States has traditionally had with respect to our internal markets, we haven't focused on exporting as much, and that is why the President announced the National Export Initiative with the goal of doubling exports in 5 years to support, we believe, two million new jobs.

I think we need to look for new markets. I think that Germany has been particularly successful in exporting and I think we need to focus on that. And we are working very hard to make sure that small- and medium-sized businesses understand the tools that are available to help them to do that.

One of the things that we are really excited about is in terms of the launch of Manufacture America is that it is going to really take to the communities themselves, particularly communities who have been hardest hit by manufacturing job losses, the resources that are available that many don't know about, and that is not their fault. That is our fault.

So the Manufacture America initiative will include exposing small- and medium-sized businesses to exporting tools that are available through the USIACs and other agencies. It will talk about best practices, like sustainable manufacturing practices. It will highlight success stories of small- and medium-sized businesses who have successfully retooled to new markets or to new

products. I think that it is really important for us to ensure that the information and the resources that are available, both through the Federal Government and State and local governments are known to small- and medium-sized businesses, and exporting is key to that.

Chairman BROWN. Good. Thank you. I appreciate your emphasis on small companies exporting, as Senator Warner talked about, because that sort of seems to me the biggest hole in this picture.

The other hole in this picture is, and I will not ask you to answer this, but when we have appealed to the Administration on some currency issues on individual industries, China, for instance, has pretty much just from scratch started up a whole paper industry, coated paper industry. While China may have invented paper some centuries ago, they really didn't have much of a coated paper industry. Ohio does. New York does. I think Virginia does. I assume maybe Oregon certainly has a paper industry, I don't know if they have a coated paper industry. But China imports all of its wood pulp from Brazil, brings it to China, processes it, and sends it to us, and clearly it is gaming the system.

We need—again, I am not asking you, this is not in your jurisdiction—but it is very important the Administration move on investigating currency practices on those kinds of issues, because these companies will simply go out of business if this continues when they were always very competitive before that. And if they are out of business, they are not part of the President's export program, obviously.

Senator Warner.

Senator WARNER. Thank you, Mr. Chairman.

I want to come back to that comment in a moment, but I want to just reiterate a point that I think both Ms. Lamb-Hale and Mr. Kilmer made, and that is the real dire problem we have got in terms of getting the manufacturing business access to capital, I think we are at a crisis mode right now. Large capital companies are sitting with the healthiest balance sheets they have had in years right now and the supply chain, I know that the Chairman has talked about in Ohio, but those small- to mid-sized companies in the supply chain are dying on the vine right now, and not because the large companies or the manufacturers know they are going to come back and make orders at some point, but their supply chain, if they can't get their credit lines renewed during this period, those companies are—the traditional small businesses that get washed out in a recession had been washed out.

Now we are cutting into companies who have many, many long years of history. Ultimately, if they get washed out, our economy will revitalize them, but the ability to get a true robust recovery will be undermined by their failure to have access to capital.

And I wish my colleagues from the other side of the aisle were here. This small business initiative, which has the lending pool, which has the targeted small business State initiatives that have a proven track record, the SBA programs, the tax breaks for small businesses, all geared at access to credit for small businesses, particularly manufacturing businesses. If we can't accomplish that, this place is pretty darn broken.

I know both my colleagues have been big supporters of that. I really wish we would do it. I hope if we are not able to get—we have that continued intransigence, that you will continue to look at other initiatives, because waiting another, at least in my State and I know probably in Oregon and Ohio, as well, another year-plus of delay, even if you have got a healthy, a relatively healthy cash-flow, you are not even going to be able to expand. You may have to shut down.

I also, and I know I am giving more of a speech and a testimony here, I want to ask Ms. Lamb-Hale, following up again on the aspect of what you were talking about in terms of—the Chairman was talking about in terms of ability to try to get assemblage of an area like, for example, high-speed rail, one of the things, my former job as Governor was economic development recruitment and Virginia did a pretty good job when we were competing against even my colleagues in Oregon or Ohio. But when we came against South Korea or when we came against China, we came against Brazil, where their Federal Government was able to intervene in terms of the economic development sweetener package, in terms of site locations, we fell down.

Ms. Lamb-Hale, we have talked to Secretary Locke at some point about this. We have got legislation called the America Recruits Act that would layer on up to \$10,000 additional per job that would go on top of an already existing State and local economic development effort to try to bring jobs back into this country. These would be foreign-based jobs coming back in, or jobs that might locate otherwise abroad targeted directly at IT and at manufacturing. And many of our rural communities now have become much more price competitive than they were, say, a decade or two ago in manufacturing, and I would just echo what the Chairman has said.

If we are going to make the kind of investments we are going to make in high-speed rail, which I hope we will, we sure as heck would love to be able to have some of that manufacturing done here in this country, and that site location, that initial site location of where that assemblage would be made, to be able to be competitive, no matter what kind of tax breaks Ohio offers or Virginia offers or Oregon offers, without that initial kind of extra incentive on the front end—and this would be only available for jobs coming into the country, so it wouldn't supplement the battles between Ohio and Virginia or *versus* Oregon, it would be those jobs that are otherwise going to go to India or going to go to China or going to go to South Korea, bringing them back.

I would again ask you to go back, and Secretary Locke has been initially supportive, but we would love to see more support on that type of an issue from the Commerce Department, from the Administration.

Ms. LAMB-HALE. Oh yes, definitely. And I just wanted to mention that one of the things that we are doing is we are really increasing our interagency cooperation, and particularly to the point you raised on access to capital, with the Treasury Department.

In response to a request of our former Manufacturing Council—the new one will be announced this afternoon—but as part of the recommendation of our prior Manufacturing Council, we have included as an *ex officio* member the Treasury Department, and we

will have active participation of that Department to try to address access to capital issues. So I think that that is very important. That is something that was really a request directly from our Manufacturing Council and that is something that we are doing to really try to see what the Administration can do to make sure that those issues are addressed.

Senator WARNER. I would also just—I applaud that, and I know the vote has started and I am going to have to head off, but I would also urge you, again, let us look at what we can do in terms of creative incentives onsite location.

Ms. LAMB-HALE. Yes.

Senator WARNER. You know, it is no longer Ohio *versus* Virginia.

Ms. LAMB-HALE. It is true.

Senator WARNER. It is America *versus* the rest of the world, and we have got to have the same kind of tool box that other countries offer. Thank you.

Chairman BROWN. Thank you, Senator Warner.

Senator Merkley.

Senator MERKLEY. Thank you very much, Mr. Chair, and thank you all for the testimony.

One of the things that we keep confronting are nontariff barriers to American manufactured products. We had last year the “Cash for Clunkers” program to encourage and help sustain the production and sale of cars here. A story was circulating around Capitol Hill that whereas we did not require the cars that were being subsidized to be built in America because of international treaty obligations, that China had turned around and done something very similar but had restricted it to cars made in China.

I am not sure if that story was exactly correct or not, but it is an example of the type of stories we hear often of barriers to American products abroad. How much truth is there to nontariff barriers and why is it we seem to have such a hard time playing hardball to get a fair, level playing field for American products?

Ms. LAMB-HALE. Is that question addressed to me, Senator?

Senator MERKLEY. To either or both of you.

Ms. LAMB-HALE. OK. First, I would like to say that the Obama administration is committed to enforcing our trade laws and we are working very hard to do so. I think that, certainly, we believe that American products are very competitive and can beat other products from other countries if they are given a fair chance, and we work very hard through our Import Administration and in cooperation with USTR to enforce our trade laws to ensure the level playing field that you describe.

Senator MERKLEY. So do you think we are there, or are there, in fact, significant challenges? I must say, often, the reaction among some is a hesitancy to hold other nations accountable for their nontariff barriers for fear of triggering a trade war on the short-term problems that that might create. But how do you go about holding countries accountable that are creating barriers to favor their own companies to the disadvantage of the United States?

Ms. LAMB-HALE. I think that you maintain vigilance in pursuing the enforcement of trade laws, and that is what the Obama administration has committed to do. We continue to do it. I mean, much of what we do is the subject of pending cases that we can't speak

to specifically, but certainly vigilance is what is important and we are committed, because we understand what that does to—you know, the lack of that will do to our manufacturing base in this country, and we are committed to making sure that it is strong and that American products can compete on a level playing field.

Senator MERKLEY. Is there anything you would like to add, Mr. Kilmer?

Mr. KILMER. Not really. That would not be the area that I would be that familiar with.

Senator MERKLEY. All right. Andy Grove wrote a recent article about the loss of manufacturing in the United States, and one thing that he observed is that while there are firms such as Intel that have established sizable manufacturing operations, and we are fortunate to have a couple of those in Oregon, that there are a lot of firms, younger firms that are designing products but immediately, as soon as the designs are done, set up production facilities offshore, and that that compromises the ability to scale up here in the United States and create significant, substantial manufacturing jobs here.

Is this an issue that we are focused on, and how does it affect both the production of manufacturing jobs and how does it affect our national security and how do we change that dynamic?

Mr. KILMER. I would agree that there needs to be a strong connection between the basic research, the design and development aspects of it and the actual production. I do know that that certainly is a challenge. I think the things that we are starting to see is when you look at the total manufacturing enterprise, not just the labor costs, that you are seeing a tendency to reevaluate that and to bring some of that effort back to the U.S. to tie the actual manufacturing process more closely to the customer base that it is serving.

There is a ways to go on that, but I do see a change in thinking where it really is critical to look at the entire enterprise from beginning to end and all of the components of cost, not just the labor element, but certainly the logistics, *et cetera*, that go along with that.

Ms. LAMB-HALE. And, Senator, I would just like to add that—and this is partly in response to Senator Warner's comments about making sure that America is competitive for site selection and such—the Secretary is working very hard on an initiative that we hope to stand up very shortly that will help in that regard, because we do know that our States are competing with countries. So we have to make sure that, where appropriate and not choosing winners and losers among the States, that the Federal Government weighs in so that our siting manufacturing in the United States is more competitive.

So we look forward to working with you on that, because I think that is critical to what Mr. Grove spoke about, as well, is just making sure that the whole package is competitive so that companies can locate here and that we can create the jobs that we need to do to sustain our growth in the 21st century.

Senator MERKLEY. Thank you.

Chairman BROWN. Thank you, Senator Brown.

We have been called to a vote, so I thank you both very much for being here. Ms. Lamb-Hale, I appreciate your comments about enforcing trade law. Your administration has gone further than the administrations of either party, of your predecessors in either party, both on manufacturing policy and enforcement of trade law. But, frankly, the jury is still out on how aggressive this Administration is enforcing trade law. Being better than previous administrations is a very low bar on enforcement. We need to see a more aggressive posture from your Department, not your specific portfolio but your Department and the Treasury Department and USTR, so we will talk more about that later.

I know my colleagues may have other questions they can submit for the record. The record will remain open for 7 days for Mr. Strauss or either of you on this panel to submit any other information.

Mr. Strauss, we appreciate your staying and listening to other panelists. I appreciate all of your being here.

The Subcommittee will adjourn.

[Whereupon, at 11:35 a.m., the hearing was adjourned.]

[Prepared statements and responses to written questions supplied for the record follow:]

PREPARED STATEMENT OF WILLIAM A. STRAUSS

SENIOR ECONOMIST AND ECONOMIC ADVISOR, FEDERAL RESERVE BANK OF CHICAGO

AUGUST 5, 2010

Chairman Brown and Members of the Economic Policy Subcommittee, I am pleased to share with you some perspectives on long-term trends in manufacturing and some observations about how the recent recession and recovery are affecting manufacturing. My name is William Strauss, and I am a Senior Economist and Economic Advisor for the Federal Reserve Bank of Chicago. The Chicago Federal Reserve District comprises parts of the States of Indiana, Illinois, Michigan, and Wisconsin, as well as all of Iowa. The Midwest economy was built upon the superior distribution channels that allowed manufacturing to become a vital part of the region. While the Midwest has been diversifying its economy over time, manufacturing remains one of the key industries that distinguishes our region from other regions of the country. My specialty is tracking the performance of the Midwest Economy, and in particular, the manufacturing sector. This information is shared within the Federal Reserve and helps provide an assessment on how the economy of this important region is performing. It also adds to the mosaic of information that policy-makers need in order to craft the most appropriate monetary policy for the country.

I use a variety of tools to assist me in providing this insight into the performance of the manufacturing sector. I analyze the multitude of data, both Government and private sector statistics that we as economists are fortunate to have available to us. In addition, I organize a series of industrial and manufacturing roundtables, held throughout the year, that brings together representatives from manufacturers and other key firms to discuss how conditions within their industry have changed over the recent period; to provide their outlook for their business; and to share any concerns that they might have about issues affecting their business.

In the early part of the past decade, there was great concern that we were losing our manufacturing base, and I proceeded to look at longer-term trends as a way of gauging whether the losses in manufacturing were cyclical or structural. My conclusion at that time was that it was far more likely to be a cyclical rather than a structural issue facing the sector. While manufacturing output fell by 6.4 percent between September 2000 and November 2001, by May 2005 manufacturing output was at an all-time high, and by December 2007 manufacturing output in the United States was 11.4 percent higher than its previous peak.

Is U.S. Manufacturing Disappearing?

When discussing the health of the manufacturing sector one major issue is whether we should be taking into account the number of people employed in the sector or looking at the amount of output created in manufacturing. Interestingly, each leads to the opposite conclusion about the strength of manufacturing in the United States. Let us start off with employment.

Manufacturing employment as a share of total employment in the United States has been declining over the past 60 years. In 1950, nearly 31 percent of nonfarm workers were employed in manufacturing; this share has been declining at an average rate of 2 percent per year, falling to 28.4 percent in 1960, 25.1 percent in 1970, 20.7 percent in 1980, 16.2 percent in 1990, 13.1 percent in 2000, and 9.1 percent in 2009. Even with this downward trend in manufacturing's share of jobs, employment in manufacturing has on average been fairly stable over the past 60 years, averaging -0.1 percent per year. In contrast, the increase in nonfarm employment averaged 1.9 percent per year, and this led to the reduction in manufacturing's share of jobs. However, there is a break that occurs during this period. Between 1950 and 1979, manufacturing employment increased on average by 1.4 percent per year (over the same time period nonfarm employment was rising on average by 2.4 percent per year), and between 1980 and 2009, manufacturing employment declined on average by 1.6 percent per year (over the same time nonfarm employment growth slowed, rising on average by 1.3 percent per year). In 2006, we had about as many workers in manufacturing as we had in 1950, just over 14 million workers. So looking at manufacturing employment leads one to believe that the sector is in decline or at best stagnant.

However, you get a very different conclusion if you focus on the amount of goods being produced by the manufacturing sector. While employment has changed very little over the past 60 years, output in manufacturing has increased at an annual rate of 3.4 percent. Manufacturing output in 2007 (the recent peak in manufacturing output) was over 600 percent higher than in 1950.

Productivity Is the Key

So how was manufacturing able to see output surge over the past 60 years with little change in its employment? The answer can be found by looking at productivity. The increase in both the number of machines and the quality of the machines over time has allowed manufacturing sector output to rise. Productivity growth in the manufacturing sector has averaged 2.9 percent over the past 60 years. This means that because of improving efficiency in the manufacturing sector, output can rise each and every year by around 2.9 percent without the need to add any workers. What took 1,000 workers to produce in 1950 was able to be produced by 184 workers in 2009. Between 1950 and 1979, productivity growth in the manufacturing sector was matched by the productivity growth of the nonfarm economy—both averaged a rate of 2.5 percent each year. However, with the adaptation of CNC (Computer Numerical Control) manufacturing during late 1970s, productivity growth in the manufacturing sector increased. Productivity growth in the manufacturing sector increased to average 3.3 percent per year between 1980 and 2009 while productivity growth in the nonfarm economy declined to average 2 percent per year over the same time period. Manufacturing output between 1950 and 1979 increased on average by 4.2 percent per year, and then between 1980 and 2009 manufacturing production growth slowed, averaging 2.2 percent per year. (Similarly, real gross domestic product (GDP) growth in the United States slowed down: Real GDP growth between 1950 and 1979 was 3.8 percent per year, and then between 1980 and 2009 real GDP growth slowed averaging 2.8 percent per year.) So over the past 30 years relatively slower manufacturing output growth and faster productivity growth led to a declining manufacturing labor force.

Between 1950 and 1979, productivity growth rates in both durable manufacturing and nondurable manufacturing were nearly identical, averaging 2.6 percent and 2.7 percent per year, respectively. However, between 1980 and 2009, productivity growth for durable manufacturing surged, to average 3.9 percent per year, and productivity growth for nondurable manufacturing declined, to average 2.4 percent per year. Durable goods manufacturing makes greater use of machinery, and it was clearly aided by the advancements in the capabilities of machines over this period.

Efficiency Leads to Lower Prices

Another interesting observation about manufacturing's long-term position in the U.S. economy is that, as stated previously, between 1950 and 2007 (prior to the severe recession) manufacturing output was just over 600 percent higher, while over the same period, growth in real GDP of the U.S. was a smaller 560 percent. Yet, the manufacturing share of GDP declined over this period. In 1950, the manufacturing share of the U.S. economy was 27 percent, and by 2007 it had fallen to 12.1 percent. How did a sector that experienced growth at a faster pace than the overall economy become a smaller part of the overall economy? The answer again is productivity growth. The greater efficiency of the manufacturing sector afforded either a slower increase or an outright decline in the prices of this sector's goods. As one example, inflation (as measured by the Consumer Price Index) averaged 3.7 percent between 1980 and 2009, while at the same time the prices for new vehicles averaged 1.7 percent. So while the number of manufactured goods had been rising over time, their relative value compared with what other sectors had produced or provided did not keep pace. This allowed manufactured goods to be less costly to consumers and led to the manufacturing sector's declining share of GDP.

The Rising Tide of Output Does Not Lift All Boats Equally

The rise in overall manufacturing has not translated into an increase in every manufacturing sector. One of the great strengths of the U.S. economy is its ability to "re-invent" itself over time. Industries that are experiencing rising demand are able to gain access to capital and labor, while those industries that are struggling are forced to either become more competitive or risk going out of business. This is the model of our economy that has allowed to U.S. to become the largest economy in the world.

Over the past 20 years, manufacturing output has risen on average by 2.2 percent per year, yet manufacturing's performance ranged from 15.0 percent growth per year for computer and electronic components manufacturing to -7.0 percent per year for apparel. The durable goods manufacturing sector output increased on average by 3.5 percent per year, while the nondurable goods manufacturing sector's increase was at a more tepid 0.4 percent per year.

The more intensive use of capital by the durable goods manufacturing sector has afforded its businesses the greater use of CNC manufacturing technology. Over the past 20 years, productivity in the manufacturing sector increased by 96 percent, yet

durable goods manufacturing productivity rose by 123 percent compared with 64 percent for nondurable goods manufacturing productivity.

Analyzing the Current Manufacturing Downturn and Recovery

The recent recession had a very negative impact on the economy. Real GDP fell 4.1 percent between the second quarter 2008 and the second quarter of 2009—the largest drop in output since the 1930s. Employment declined by 6.1 percent during 2008 and 2009, representing nearly 8.4 million workers. Manufacturing output, which peaked in December 2007, fell 17.5 percent, bottoming in June 2009. With this severe loss of output, manufacturing jobs declined by 16 percent during 2008 and 2009. Over 2.1 million manufacturing workers lost their jobs, representing 26 percent of all job losses.

A greater loss in manufacturing during a recession is not unusual. Outsized reductions in manufacturing output and jobs are typically observed. For example, during the two previous post-World War II deep recessions, during the mid-1970s and early 1980s, real GDP declined 3.2 percent and 2.6 percent, respectively. During these two severe recessions, manufacturing output fell 15.7 percent and 11.6 percent, respectively. Even when the economic downturn is not too sharp for the overall economy, manufacturing tends to take a bigger hit. For example, during the recession of the early 1990s and 2001, real GDP declined by a fairly moderate 1.4 percent and 0.3 percent, yet manufacturing output fell by a more significant 3.8 percent and 6.4 percent, respectively.

Economic output began to expand in the third quarter of 2009, and over the past year output has risen 3.2 percent. However, a large part of the gain has been due to the inventory cycle. The change in inventories has contributed 60 percent of the growth over the past year. The increase in real final sales (real GDP less the change in inventories) was a more reduced 1.2 percent over the past year. In contrast, manufacturing has experienced an extremely robust recovery, rising by 8.9 percent, and it has recovered 42.3 percent of the loss experienced during the recession. In fact, this year the manufacturing sector has added jobs each and every month, for a total of 136,000 jobs, representing nearly 1 out of every 4 (23 percent) private sector jobs created this year.

Industry Cycles

The 17.5 percent reduction experienced by the manufacturing sector was not equally shared among its subsectors. While all manufacturing industries experienced a decline, some were harder hit than others. The two industries most adversely affected during the recent recession were motor vehicles and parts and primary metals, whose output fell nearly 49 percent and 44 percent, respectively. Similarly, the 8.9 percent increase in manufacturing over the past year has not been equally distributed. For example, the two industries that have experienced the largest increases over the past year were the same industries that had been the hardest hit, motor vehicles and parts and primary metals, with gains of over 52 percent and 46 percent, respectively. These two industries are quite important to the Chicago Fed District. Our District produces around 30 percent of all the vehicles and over 30 percent of all the steel in the country. This has allowed the Chicago Fed Midwest Manufacturing Index to increase over the past year at a faster rate than the overall economy. While manufacturing output was 8.9 percent higher over the past year, manufacturing output in the Chicago District was 13.2 percent higher.

The U.S. Appears To Be Positioned To Continue Experiencing Strong Productivity Gains

Since much of the gains in U.S. manufacturing have been due to strong productivity, a natural question to raise is whether these gains will continue into the future. Often we think that advancement in technology will lead to such productivity gains. Spending by the U.S. on research and development can be used as a proxy for the effort being devoted to new technology. On this front, the U.S. appears to be in relatively good shape as we continue to invest heavily in research and development. As a percent of our GDP, research and development has averaged 2.5 percent between 1953 and 2008. Between 1999 and 2008 it has averaged 2.7 percent, with 2008 at 2.8 percent.

The private sector has played an ever-increasing role in research and development spending. Fifty years ago the majority of research and development was being undertaken by the Government. However, more recently, the private sector has taken over as the major spender for research and development. The privately funded share of research and development averaged 36 percent during the 1960s; 47 percent in the 1970s; 54 percent in the 1980s; 66 percent in the 1990s; and 72 percent between 2000 and 2008.

Every 2 years, Chicago hosts one of the premier manufacturing shows in the world, the International Manufacturing Technology Show (IMTS). It is breathtaking to see the cutting-edge technologies that are available to manufacturers. I typically ask exhibitors of more standard manufacturing equipment to explain to me the differences between the new equipment compared with what was displayed 2 years earlier. The response is almost universal: The new pieces of equipment are more accurate, faster, more versatile, and less expensive than their predecessors.

I often have the opportunity to tour manufacturing production facilities, and I am impressed by the continuous improvements in technology that companies employ. I always ask these producers the following question: Can they envision being able to be even more productive? Nearly all of the manufactures without hesitation tell me they absolutely can become even more efficient, and many then launch into a description of their near-term plans that will make them even more productive.

Back to the Future

The transition that the manufacturing sector has been undertaking over the past 60 years is not the first time the U.S. has experienced an outsized increase in productivity driving output higher and employment lower. Something very similar has been taking place in the American agricultural industry over the past century.

In 1870, just over half of employment was dedicated to agriculture. Farm output today is higher than ever before (take, for instance, 2009 gross value added: farm business was over 400 percent higher than in 1950), yet we are able to produce all this output with only 1.6 percent of our employment dedicated to farming.

Conclusion

The manufacturing sector remains a vibrant and innovative industry in the U.S. Manufacturing output has been rising at a solid pace over time, although it has been more affected by business cycle downturns than the overall economy. Most of this growth, especially over the past 30 years, has been achieved by improving productivity. This increase in productivity has been a double-edged sword. On the one side, increasing productivity has fostered a globally competitive sector with the ability to produce an ever-increasing amount of goods with relatively lower price increases relative to the overall economy. On the other side, being more productive means that a producer can increase output without the need to add labor. If productivity is quite strong, the employer can actually achieve production goals using fewer workers.

The movements in output, productivity, and labor have not been occurring just over the past few years but have been taking place for decades. If the manufacturing sector follows the example offered by the agricultural sector, we can look forward to an industry that will continue to produce an ever-increasing amount of output, contributing to a stronger U.S. economy, with manufacturing employment representing a smaller share of the overall U.S. labor market.

PREPARED STATEMENT OF NICOLE Y. LAMB-HALE

ASSISTANT SECRETARY FOR MANUFACTURING AND SERVICES, DEPARTMENT OF
COMMERCE

AUGUST 5, 2010

Chairman Brown, Ranking Member DeMint, and Members of the Subcommittee, thank you for this opportunity to testify before you today on the President's Manufacturing Agenda and what we at the Department of Commerce are doing to promote U.S. manufacturing. The Department of Commerce is committed to promoting this important sector. We do this every day by working to create the right business environment to help manufacturers sustain and grow their companies and create jobs.

In December 2009, the Obama administration released a manufacturing strategy entitled *A Framework for Revitalizing American Manufacturing*. The framework, based on input from all Federal departments and agencies whose work impacts U.S. manufacturers, focuses on effectively targeting cost drivers that affect manufacturing in the United States. Department of Commerce programs directly address three of the seven framework components: investing in the creation of new technologies and business practices; helping communities and workers transition to a better future; and ensuring market access and a level playing field. In addition, the Department is working with other agencies, such as the Department of Transportation, the Treasury Department, and the Small Business Administration to address other *Framework* elements.

As the *Framework* recognizes, exporting goods is a key component for revitalizing U.S. manufacturing. In this year's State of the Union address, President Obama announced the National Export Initiative (NEI) and set the ambitious goal of doubling U.S. exports in 5 years, supporting several million jobs. Secretary of Commerce Gary Locke is part of the President's Export Promotion Cabinet that is working hard to reach these goals. The Department and the International Trade Administration (ITA), of which my unit is a part, are strategically developing initiatives and improving the implementation of existing programs to support the National Export Initiative goals. We are also strengthening interagency coordination by working with other agencies through the Trade Promotion Coordinating Committee (TPCC).

As Assistant Secretary of Commerce for Manufacturing and Services, MAS, I believe that it is critical to ensure that our manufacturing capacity in the United States is strong. Manufacturing is a vital part of the U.S. economy. Preliminary figures show that the sector supported 11.67 million jobs as of June 2010.¹ It accounted for about 8.9 percent of total nonfarm employment in the United States. Manufacturing industries are also responsible for a significant share of U.S. economic production, generating almost \$1.64 trillion in GDP in 2008.

MAS plays an active role in helping to ensure that strong manufacturing capacity. Our initiatives and programs to promote U.S. manufacturing, and the ways we work with other Federal and State Government agencies and the private sector, are strategically developed to support the needs of the U.S. manufacturing sector, the President's manufacturing agenda, and the National Export Initiative.

Manufacturing and Services is dedicated to strengthening the global competitiveness of U.S. industry, expanding its market access, and increasing exports. MAS helps shape U.S. trade policy, participates in trade negotiations, organizes trade capacity building programs, and evaluates the impact of domestic and international economic and regulatory policies on U.S. manufacturers and service industries. MAS is also developing sector-specific global strategies to guide policies to enhance U.S. manufacturing exports.

MAS also works with other U.S. Government agencies in developing a public policy environment that advances U.S. competitiveness at home and abroad.

Within MAS, we have a Manufacturing group and a Services group, each comprised of teams of industry analysts with extensive expertise in their sectors. Our third group, Industry Analysis, performs economic and statistical analysis to support U.S. industry competitiveness and evaluates industry recommendations for trade negotiations.

MAS develops and implement programs and provide decision makers input necessary to promulgate and implement policies that support U.S. competitiveness, which, in turn, helps industry create jobs. As part of the International Trade Administration, we also understand trade and how the domestic and global markets interact and impact U.S. competitiveness.

Under my leadership, MAS follows a three-prong approach, which I've called "The 3 Cs": to convene, to collaborate, and to connect. We convene experts both inside and outside of the Federal Government to work toward solutions to the problems faced by U.S. industry. MAS also collaborates with our sister bureaus in the Department of Commerce, with agencies across the Federal Government, and with State and local governments to develop solutions that will sustain and increase the global competitiveness of U.S. industry. For example, MAS developed the Department's Sustainable Manufacturing Initiative (SMI) and works with industry, other Federal agencies, and State and local governments to showcase sustainable manufacturing practices that can help companies reduce operating costs and damage to the environment.

MAS also works to connect industry through our new Manufacture America Initiative. Consistent with Secretary Locke's CommerceConnect initiative, Manufacture America will focus specifically on linking manufacturers to the resources and tools available in the Federal Government and elsewhere to help companies rethink, retool, and rebuild to support jobs in the 21st century economy.

MAS administers the Department's Manufacturing Council, the advisory committee to the Secretary of Commerce, created to ensure regular communication between the Federal Government and the manufacturing sector. The Council also fosters collaboration across all U.S. manufacturing sectors to promote new ideas for continuously improving manufacturing competitiveness.

When we renewed the Manufacturing Council's charter this past spring, we increased private sector membership from 15 to 25 members to broaden the spectrum of views heard. We also followed the advice of the previous Council and added the Secretaries of Labor, Energy, and Treasury as *ex-officio* (nonvoting) members to bet-

¹ Revised figures will be available on August 6, 2010.

ter address the cross-cutting issues this Council will be addressing, such as access to credit, workforce development, and energy independence.

Today, Secretary Locke will announce the newly appointed members of the current Manufacturing Council. The new Council is a diverse mix of people from across the country representing different industries within the manufacturing sector. The Council members also reflect a balance between small- and medium-sized enterprises (SMEs) and larger companies. We expect that the Council will get right to work advising the Secretary on critical issues affecting manufacturing competitiveness.

MAS also oversees key Department of Commerce initiatives to address manufacturers' needs, including the Sustainable Manufacturing and Energy Efficiency Initiatives. The Sustainable Manufacturing Initiative identifies U.S. industry's most pressing sustainable manufacturing challenges and coordinates public and private sector efforts to address these challenges. Through the Energy Efficiency Initiative, MAS promotes the use and commercial deployment of energy efficient technologies and helps manufacturers learn about the resources available from State and Federal Governments to promote efficiency.

Other DOC bureaus, including the National Institute of Standards and Technology (NIST), the U.S. Patent and Trade Office (PTO), Economic Development Administration (EDA), and Minority Business Development Agency (MBDA), also have programs in place to address manufacturers' needs. We work closely with our sister bureaus, including the Manufacturing Extension Partnership (MEP) at NIST, in delivering our programs. These Departmental programs support businesses and entrepreneurs throughout the manufacturing life cycle, from innovation to commercialization to competitiveness. Census, in the Economics and Statistics Administration (ESA), contributes data for understanding markets. CommerceConnect and EDA help small- and medium-sized manufacturers access Commerce programs designed to help them. Manufacturing.gov, maintained by MEP and MAS, has an online clearinghouse of information and resource tools dedicated to helping U.S. manufacturers improve or maintain competitiveness.

With respect to the National Export Initiative, MAS is active in helping the Secretary and Under Secretary for International Trade, Francisco Sanchez, implement the Initiative.

Emerging markets—such as China, South Africa, India, Brazil, and Indonesia—offer key opportunities. Manufacturing export leaders are likely to be found in high growth sectors such as medical devices, aerospace, clean energy and energy efficiency, technology industries and infrastructure, among others.

Secretary Locke led a clean energy mission to China in May of this year, based in part on the recommendations of industry experts, country specialists, commercial officers, and others in Commerce. Our various Commerce offices worked together to organize the mission that registered immediate sales by mission participants valued at over \$20 million. Additionally, the 24 U.S. companies participating on the mission met with potential business partners in Hong Kong, Shanghai, and Beijing as well as with officials at every level of the Chinese government. The mission came at a critical time—when the Chinese leadership expressed a clear commitment to adopt clean energy technologies and when U.S. companies are developing and commercializing technologies related to clean energy, energy efficiency, and electric energy storage, transmission, and distribution.

This is just one example of how the Department, ITA, and MAS are already working to meet the ambitious goals of the NEI. During the first 12 months, we have taken or plan to take a variety of actions. Secretary Locke has personally spoken with top exporters to discuss strategies to help them expand their exports. Such strategies include leveraging Commerce programs to help increase exports; USG advocacy in support of bids for foreign procurement contracts; the reduction or elimination of market barriers; or more aggressive promotion of U.S. goods and services through collaborative efforts with the Office of the U.S. Trade Representative and other agencies.

MAS is using its analytical capabilities to identify sectors and markets where American exporters have a competitive edge. We are conducting outreach to U.S. businesses to educate them about export opportunities. The Department and ITA are prioritizing existing programs that seem most effective. One such program is the Market Development Cooperator Program (MDCP), administered by MAS. An MDCP award establishes a partnership between ITA and nonprofit industry groups, such as trade associations and chambers of commerce, to encourage projects that enhance the global competitiveness of U.S. manufacturing and service industries.

Also critical to NEI efforts are CommerceConnect, International Buyer Programs at trade shows, an increased number of executive-level trade missions, strengthening our strategic partnerships to identify single market exporters and encourage

them to expand into additional markets, and increasing the number of foreign buyers attending trade shows in the United States.

But in order to export more, we need to manufacture more products here at home. In September, I will launch Manufacture America, which I mentioned earlier. Manufacture America is an initiative to connect manufacturers in States that have been hardest hit with manufacturing job losses to resources to help them rethink, retool and rebuild their operations through exploring new products, markets, processes and sources of finance. We are collaborating in this effort with our sister bureaus in the Department of Commerce as well as with other Federal, State, and local agencies to develop solutions that will sustain and increase the global competitiveness of U.S. manufacturers.

During 2009, the Manufacturing Council raised the problem that many small- and medium-sized companies were having in accessing credit—even those companies that were financially sound. President Obama has proposed legislation that includes a \$30 billion small business lending fund and a State small business credit initiative. These two items are part of a small business jobs package the President hopes to sign into law. Let me reiterate the message I hear every day from small- and medium-sized manufacturers: Access to capital is one of the primary concerns for U.S. small- and medium-sized manufacturers today!

For many companies that will participate in the Manufacture America Initiative, financing is a significant challenge. Through that Initiative, we will work with the Treasury Department and local banking groups to help small- and medium-sized manufacturers better understand the resources available to them, including access to capital.

MAS has also developed tools to help companies better understand their financing options for participating in international trade. The “Trade Finance Guide: A Quick Reference for U.S. Exporters” helps U.S. companies, especially small- and medium-sized enterprises, learn the basics of trade finance so that they can turn their export opportunities into actual sales and achieve the ultimate goal of being paid—on time—for those sales. Concise, two-page chapters offer the basics of numerous financing techniques, from open accounts, to forfaiting, to Government assisted foreign-buyer financing.

These are just some of the most strategic programs that the Commerce Department is employing to support President Obama’s manufacturing agenda. While manufacturers themselves are best positioned to sustain and expand their companies and sectors, they cannot do it in a vacuum. We at the Department of Commerce work to ensure that the business environments—both domestic and international—are fair to U.S. manufacturers, their workers, and their communities.

Again, thank you for this opportunity to testify on the effort of Department of Commerce and Manufacturing and Services to enhance the competitiveness of U.S. manufacturing.

PREPARED STATEMENT OF ROGER D. KILMER

DIRECTOR, HOLLINGS MANUFACTURING EXTENSION PARTNERSHIP, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, DEPARTMENT OF COMMERCE

AUGUST 5, 2010

Chairman Brown, Ranking Member DeMint, and Members of the Subcommittee, thank you for the opportunity to appear before you today to discuss the efforts of the National Institute of Standards and Technology (NIST) Hollings Manufacturing Extension Partnership (MEP) to support manufacturers based in the United States (U.S.). Today I would like to highlight a few of the services that MEP offers to assist manufacturers with growth strategies and access to capital to support that growth. But first, I would like to give a brief overview of the program.

MEP Support of U.S. Manufacturers

Since 1989, the MEP program has been working to improve the competitiveness of U.S. manufacturers. With a nationwide network of centers in nearly 400 locations, MEP serves as trusted advisors to our small- and medium-sized manufacturing clients, helping them to strategically implement business growth opportunities and to improve their competitive position in the market. We have helped clients obtain significant and measurable economic impacts. In FY2009, MEP served nearly 33,000 manufacturing clients and recent results from a client survey indicate that

MEP services resulted in more than \$3.6 billion in new sales, \$1.1 billion in cost savings and the creation or retention of more than 52,000 jobs.¹

Today with manufacturing industry markets both contracting in some sectors and expanding in others and business success factors changing, manufacturers must establish competitive niches to capture new business opportunities and MEP is focused on addressing these new challenges and opportunities facing U.S. manufacturers. Through our next generation strategy, we are working with manufacturers to harness technology and innovation that results in new business opportunities. We have outlined a framework of five critical areas—supplier development, technology acceleration, sustainability, workforce and continuous improvement—in which MEP is working not only to help manufacturers’ problem-solve to survive, but also to grow by developing new sales, new markets and new products.

To support this program, the President’s FY2011 request for MEP builds upon the foundation that the America COMPETES Act (P.L. 110-69) established, and puts the program on a path grow to \$180 million by FY2015. The proposed budget of \$129.7 million represents an increase of \$5 million over FY2010 enacted levels to support the Obama administration’s policy initiatives for reinventing domestic manufacturing. MEP will assist in creating jobs and responding to future challenges and opportunities in the manufacturing sector. Through the locally based Centers, MEP supports the adoption of technological innovations that spur economic growth and foster development of new products, expanded markets, and process improvements. MEP also facilitates the adoption of technological innovations by smaller U.S. manufacturers, especially clean technologies and processes that improve manufacturers’ competitive position.

MEP is building upon efforts to implement and provide a number of new Growth Services to U.S. manufacturers in order to promote innovation and competitive practices, including:

- the acceleration of technology adoption and the development of new products and processes;
- green and sustainable manufacturing practices and products;
- market diversification to support development of new markets and supply chain opportunities; and
- an enabled manufacturing workforce that spans all levels of the organization.

Addressing Challenges Manufacturers Face in Accessing Capital

As we all know, improving manufacturing processes, developing new products, or accessing new markets often requires capital. For most small- and medium-sized manufacturers, identifying and securing capital for sales and growth is often a complex and frustrating process. With capital becoming significantly scarcer in today’s financial climate, that process has become more difficult for even historically successful companies. The scarcity of available capital and credit has particular impact on the manufacturing sector which is capital intensive and often requires the financing of inventories and receivables over longer periods of time.

This case is highlighted in the February 2010 report by the Manufacturing Extension Partnership Advisory Board (Advisory Board), the program’s Federal Advisory Committee, which noted that with the contraction, restructuring, and impaired capital of the financial sector of the economy, there is currently a distinct gap in access to capital for most small manufacturers. The Advisory Board found that many small manufacturers, even those with orders that are relatively healthy, have been unable to finance growth or execute business and product diversification plans in the current environment due to factors that include: prevailing underwriting practices, devalued assets, and a risk aversion associated with transforming from legacy products and practices to investing in new products.²

In his remarks during the Federal Reserve forum, “Addressing the Needs of Small Business” on July 12, 2010, Chairman Bernanke noted that businesses in Michigan have cited the interconnectedness of the auto supply chain and the crucial role of stable financing for small businesses ranging from parts suppliers to independent

¹The Manufacturing Extension Partnership: Partnering for Manufacturing Innovation and Growth—2009.

²“Innovation and Product Development in the 21st Century”, Gary Yakimov and Lindsey Woolsey with Contributions from MEP Staff, Hollings Manufacturing Extension Partnership Advisory Board February 2010.

automobile dealers as a major factor in the recovery of the auto industry as a whole.³

With regard to small companies and product diversification, the Advisory Board in its report noted the major challenge of offsetting the lenders perspective of perceived financial deficiencies of borrowers brought about by asset devaluation and what banks see as transitional risk to cash flows as companies diversify.

The Advisory Board also observed that access to capital can be significantly improved through targeted initiatives that mitigate risk taking or loan losses by lenders, or by loan enhancement programs which directly reduce specific risks on a loan by loan basis. The Advisory Board has concluded that the solutions likely lie in the public and private sector working together in a creative and collaborative effort.⁴

Accordingly, MEP has been looking at what actions we can take to respond to these circumstances and I will discuss a few of those options below. MEP recognizes that each company must determine its own funding and finance strategy—one that matches the exact needs of the business at its particular stage of growth with the most appropriate financial strategy and sources of capital. In that sense, we see that many business growth decisions are also investment decisions for our manufacturers. To support our manufacturers in that decision process, MEP has been educating and facilitating partnerships, to provide companies with information on financial resources and strategies.

MEP Assistance to Manufacturers via Financial Services

MEP is tackling this issue from a number of angles. We are providing information to companies on Federal and State Government resources, private sources of capital and finance, and strategies for use of financial services for smaller manufacturers. Today I would like to give an overview of MEP's ongoing work in this area.

Federal and State Government Sources of Funding

We are working to improve the ability of the MEP system to more effectively access the myriad of Government programs that can provide capital to finance smaller manufacturers' growth.

A 2007 study by RSM McGladrey indicated that Federal and State Government programs remain an underutilized source for company financing. Many smaller companies still often overlook some of the best financing options available, especially in the Federal tax areas.⁵

MEP is working to capture and disseminate knowledge of Federal and State programs that provide loans, grants, and tax incentives to smaller manufacturers through revolving loan funds, guaranteed loans, energy grants, or tax credits. We are promoting, throughout the MEP system and partner agencies, a systematic and integrated sharing of knowledge of these programs so that the information can be better utilized by the smaller manufacturers to make sound financial decisions. MEP uses its participation in the Interagency Network of Enterprise Assistance Providers, an innovative network that includes representatives from Federal financial assistance programs such as the Export Import Bank and the Small Business Administration, to facilitate the exchange and deployment of knowledge of Federal programs that provide loans and financial assistance to manufacturers. MEP has also established a partnership with The Council of Community and Economic Research (C2ER), a national organization representing economic development research professionals at chambers of commerce, State agencies and economic development organizations, to provide MEP centers and client companies with access to the C2ER database on about 1700 State incentive and financial assistance programs available to U.S. manufacturers.

MEP has developed a *Quick Reference Guide to Growth Financing*—to disseminate information on State and Federal Sources of funding. The reference guide was developed to assist MEP centers, field staff, interested partners and manufacturers to better understand some of the general financing options, programs, and techniques available to small- and medium-sized enterprises (SMEs) in pursuing growth-oriented strategies.

³“Restoring the Flow of Credit to Small Businesses”, Remarks by Ben S. Bernanke, Chairman, Board of Governors of the Federal Reserve System, at the Federal Reserve Meeting Series: “Addressing the Financing Needs of Small Businesses” Washington, DC, July 12, 2010.

⁴“Innovation and Product Development in the 21st Century”, Gary Yakimov and Lindsey Woolsey with Contributions from MEP Staff, Hollings Manufacturing Extension Partnership Advisory Board February 2010.

⁵*Forging New Partnerships: How To Thrive in Today's Global Value Chain*, The Manufacturing Institute, the National Association of Manufacturers and RSM McGladrey, Inc., 2007, p. 49.

Private Sources of Capital and Finance

MEP is also capturing and disseminating information on private sources of capital and finance. There are a number of private sources available to smaller manufacturers, and we are working to increase these opportunities for client companies. For example, MEP is reaching out to the equipment leasing community to provide manufacturers with information on leasing strategies as possible financing options for equipment acquisition. MEP has also engaged the Independent Community Bankers of America (ICBA), which represents nearly 5,000 community banks throughout the U.S., to explore ways to harness the expertise of the financial community to enhance manufacturers' understanding of what makes a manufacturer "lendable." The intent is to build the knowledge of what lenders or investors are looking for from manufacturers so we can help our companies' access capital to grow and expand. Through these engagements, MEP looks to enhance the financial institutions' understanding of how the MEP system can serve as a technical resource on manufacturing issues—thereby supporting manufacturers as a good investment by these institutions.

Greater Knowledge and Use of Financial Strategies

MEP is working to educate smaller manufacturers on internal financial practices and strategies that can leverage company capacity and enhance chances for accessing outside capital. MEP Centers have been providing information to clients on how to utilize better cash management practices, tax incentives (such as the R&D tax credit) and supplier management strategies to leverage internal capacity to fund growth. We have been working with technical advisors and private lenders to understand how a company's values, cash management practices, and customer management philosophies impact "lendability" and "investment attractiveness."

It is important to note that MEP works in tandem with the Small Business Administration (SBA) on financial services to facilitate the delivery of SBA loans and guarantees to MEP client companies. MEP does this by educating its client companies and the manufacturing community on what SBA products are available and helps them be better prepared to gain access to the SBA loans and guarantees.

MEP—Helping Companies Export

MEP works with companies to enhance their strategies; helping them identify opportunities for business growth and it is tied to financial services by developing financial approaches necessary to implement these strategies. One of our newer service offerings is focused on providing smaller manufacturers with the tools and knowledge they need to move into global markets.

In today's economy, more companies are considering expansion into international markets. In fact, exporting is rapidly becoming the fastest growing segment of the market. In collaboration with International Trade Administration's U.S. Export Assistance Centers, MEP has developed the ExporTech program to assist companies with developing an international growth plan. The ExporTech program provides experts who review and comment on the company's export plans, and connects the company with organizations and resources, including financial resources, that can move them quickly beyond planning to actual export sales.

ExporTech is customized to the specific learning needs of the participants; each workshop is limited to six to eight companies to provide sufficient time and attention to each company's specific requirements. The companies meet for three one-day sessions over a 3-month period, and, between sessions, participants work on developing their export plans.

The program's small workshop size and customized format focuses on merging strategy with results. Throughout the program, local experts knowledgeable in all aspects of exporting are brought in to provide information and guidance and enable companies to accelerate their growth plan and speed to market. The program's customized agenda and small group discussion format ensure that companies walk away with information and guidance that specifically applies to their business. In the final work session, a panel of experienced international businesspeople reviews and provides feedback on each participating company's export growth plan.

To date MEP has completed sessions in the following 18 States: Arizona, Colorado, Idaho, Louisiana, Maryland, Minnesota, Missouri, Nevada, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Oklahoma, Pennsylvania, South Carolina, South Dakota, and Washington. MEP is continuing to provide this service for smaller manufacturers across the country. A few examples of the results of the work MEP has done with clients under ExporTech are:

- A fourth-generation family owned company in Bronx, NY, has been in business since 1902. A provider and assembler of hollowware for the hotel and banquet industry, this company credits ExporTech with revitalizing the company's international efforts. They more than doubled their international sales by exploring

new opportunities to utilize their existing infrastructure and sales force in new ways.

- A manufacturer of fabricated and machined equipment, products, and tools in the energy industry looked to expand their customer base internationally. The company enrolled ExporTech to help develop and guide their exporting program. With the logistical knowledge and information of the world market provided by ExporTech the companies exports went from 8 percent to over 50 percent of their total revenue.
- A Certified Small Disadvantaged Business in the defense industry was looking to expand its 100 percent domestic customer base and develop new markets internationally. ExporTech helped provide the resources needed to initiate the move into the international market and most importantly helped to accelerate the process of obtaining an export license. The company grew from no exports to over \$250,000 in export sales in 1 year through the support and knowledge of the ExporTech program which helped them find international opportunities

Increasing Competitiveness via Energy Efficiency

As an emphasis is placed on renewable energy in our economy, MEP is delivering technologies and processes that help its clients become more competitive and energy efficient. MEP is finding for its clients that ‘Green’ has proven to be complementary to traditional “Lean” concepts—already delivered by our Centers—and provides important production cost savings. The benefits of Lean manufacturing include reduced cycle time, reduced inventory, reduced work-in-process costs, increased capacity, improved lead time, increased productivity, improved quality, and increased profits.

Uniting Lean with Green process concepts opens up additional opportunities to help improve the balance sheet. Companies that embrace Lean and Green production processes are seeking to reduce their environmental impact while simultaneously increasing their efficiency, productivity, and profitability. Typically this is being done through reduction of total energy use—waste sent to landfills, greenhouse gas emissions, and water consumption, among other negative environmental impacts. This approach aligns with Lean concepts to reduce work-in-process costs, increase productivity and quality, and increase profits.

While some manufacturers remain skeptical of the words “sustainability” and “green,” there is a clear indication that efforts to become more energy efficient and better environmental stewards have reached a tipping point amongst manufacturers.

While many manufacturers understand what needs to be done, many do not and require assistance in the identification and navigation of the path forward.⁶

E3 (Economy, Energy, and the Environment)

Oftentimes, introducing “Green Lean” production processes is not done alone but in partnership with local, State, and Federal Government resources, and utilities. E3 is a model that combines the resources of five Federal agencies, working with local government and utilities, to enhance sustainability and competitiveness in local and regional economies and to spur job growth and innovation. Federal and local resources are being combined to conduct in-depth front-end assessments and gap analyses of company manufacturing processes, the results of which are used to develop comprehensive improvement plans on behalf of and in collaboration with the participating communities. The Federal agencies involved in this effort are:

- MEP (NIST)
- Pollution Prevention Program (Environmental Protection Agency)
- Industrial Technologies Program (Department of Energy)
- Employment and Training Administration (Department of Labor)
- Small Business Development Centers (Small Business Administration)

These agencies work with local partners, utilities, and manufacturers to sustain the manufacturing infrastructure of a region, make manufacturing plants more energy efficient and cost effective, reduce the environmental impact of participants, and improve the economy by creating and retaining jobs.

⁶“Innovation and Product Development in the 21st Century”, Gary Yakimov and Lindsey Woolsey with Contributions from MEP Staff, Hollings Manufacturing Extension Partnership Advisory Board February 2010.

Green Suppliers Network (GSN)

Most manufacturers agree that greening the supply chain is the next evolution in achieving improved energy efficiency. From materials to components to design, finished product, and end use, many original equipment manufacturers (OEMs) are requesting that their suppliers adhere to standards of environmental quality and processes. These developments have seen the supply chain adapt from one of compliance to environmental mandates by OEMs to one of using Green Lean to create value or lower costs. Suppliers once viewed environmental quality as something thrust upon them, but are beginning to understand that by becoming Lean and Green they are more economically competitive and thus more likely to survive in a competitive supply chain where all suppliers are now adhering to environmental quality control. In the new value chain model of Green, socially responsible suppliers will be the most successful. A significant challenge over the next several years will be helping more and more companies make the transition to Green Lean and fostering growth within the growing green economy.

GSN is an innovative collaboration between the Environmental Protection Agency, MEP, State and local government, and industry that focuses on the dual challenge of reducing the negative environmental impact of small- and mid-sized manufacturing suppliers while simultaneously increasing those companies' efficiency, productivity, and profitability. GSN reviewers employ "Lean and Clean" technologies, which concentrate on the root causes of waste of one process line in a facility and provide a framework for achieving specific, measurable, environmental business objectives. Among other things companies learn to establish systems to use energy more efficiently and improve the use and selection of more environmentally friendly raw materials.

Conclusion

As I have mentioned throughout my testimony, raising capital is one of the most basic of business activities, but for many smaller manufacturers it is often a complex and frustrating process. To help bridge this gap, MEP continues to look at ways to improve manufacturer's access to financing options.

Smaller manufacturers positioned to move to the next level of growth—whether it is through the development of new products, markets, or sales—need to have clear strategies for securing the necessary capital resources to achieve growth. Many smaller manufacturers do not discover until the implementation phase of their growth plan that they may be unable to proceed without additional capital. With our toolbox of services, MEP is uniquely positioned to provide smaller manufacturers with a better understanding of the range of financial options and resources that match their exact needs. The continued incorporation of this type of service in the MEP toolkit and the overall MEP Next Generation Strategy will give U.S. manufacturers the information they need to successfully implement their business growth strategies, resulting in new sales, expanded markets, technology adoption and sustainability.

Thank you for the opportunity to testify today on how the MEP program assists America's smaller manufacturers to increase their competitiveness. I am happy to answer any questions the Committee may have.

**RESPONSES TO WRITTEN QUESTIONS OF CHAIRMAN BROWN
FROM WILLIAM A. STRAUSS**

Q.1. You claim that increasing productivity can account for manufacturing output to rise. On one level it makes sense that what took 1,000 workers to build in 1950 can be built by less than 200 workers today—however, this doesn't account for the over 40,000 American plants that have shut down since 1999, according to the Alliance for American Manufacturing. These are not jobs making buggy whips either. These are increasingly high-tech jobs. Where did those jobs go? How can this be explained only by productivity growth? Don't we have to consider that some of the lost jobs are due to competition from manufactured imports and off-shoring?

A.1. There are many factors that have been impacting manufacturing over the past 60 years. These include improving productivity, market segment shifts, competition from imports, offshoring, and outsourcing functions to domestic firms. Over time, such factors have led to a very dynamic sector—one that illustrates economist Joseph Schumpeter's "creative destruction" principle.

Manufacturing is a profitable business. Profits of U.S. manufacturers tend to outperform profits in the overall economy. Economies all around the world are evolving and creating an increasingly larger manufacturing base. Over time, this has added increasing foreign competition for the U.S. One solution to this challenge is to allow our manufacturers to be as globally competitive as we can. At the same time, the U.S. should be vigilant that the World Trade Organization rules are being adhered to by our trading partners.

While increased foreign competition has probably slowed production growth, it has benefited consumers of manufactured products, offering greater choice and more competitive pricing. In addition, the greater competition from overseas has fostered an environment in U.S. manufacturing that pushes producers to be globally competitive. This increased efficiency of domestic producers offers them an increased likelihood for their future success.

Finally, employment losses in the manufacturing sector are not unique to the United States. Economies all around the world are experiencing similar trends: Strong productivity growth in the manufacturing sector is leading to a declining share of overall employment for this sector. A report by the U.S. Bureau of Labor Statistics (Monthly Labor Review, July 2005) highlights that manufacturing employment in China fell from 98 million workers in 1995 to 83 million workers in 2002—a 15 percent drop in 7 years.

Q.2. The growth rate of real value added in manufacturing from 1997–2007 (decade before the Great Recession) was 3.0 percent—about the same for all private industry. But if we net out computers and related electronic equipment (NAICS 334) which accounts for just 9 percent of manufacturing employment, growth was less than 1 percent over the period (0.9 percent). In addition, although the computer sector was the big driver of growth in manufacturing, it was rapidly losing market share to foreign producers. How could the manufacturing sector be growing so fast yet losing market share and shedding employment (almost 30 percent over the decade)?

A.2. Computers have been playing an ever-increasing role in consumer products and business machines. It is hard to imagine doing something that does not involve utilizing a high-tech piece of equipment.

The computer and electronic products sector has exhibited long-run trends that are similar to those of total manufacturing. These trends include large output gains, declining levels of employment, and rising productivity. For example, between 1997 and 2007, output in the computer and electronic products industry rose by an exceptionally strong 15.4 percent per year—an increase of 317 percent over the past 10 years. At the same time, employment in this sector fell 2.4 percent per year—a 22 percent reduction over the past 10 years. Productivity in this sector has also been quite strong, rising by 11.7 percent per year over the same 10-year span.

Strong productivity growth has allowed the computer and electronic sector's employment to decline, even in the face of rising output. An industry can experience strong output growth with declining market share if the total market demand is rising even faster than domestic production. When this occurs, both domestic production and imports can increase.

Q.3. Some economists, including Susan Houseman of the Upjohn Institute, note that because price declines associated with shifts in sourcing are not picked up in Government price indexes, offshoring results in an overstatement of output and productivity growth. What is your assessment? Is the growth rate of manufacturing real value added overstated and if so, by about how much?

A.3. Summary: Joint research between Susan Houseman and Federal Reserve Board economists Christopher Kurz, Paul Lengermann, and Benjamin Mandel, examined the implications of offshoring by U.S. manufacturers for official measures of productivity and value added.¹ They concluded that the price declines associated with shifts in sourcing have not been captured in the input price indexes published by the Bureau of Economic Analysis (BEA) and, as result, that the real growth of imported intermediate inputs has been understated. If input growth has been understated, it follows that the growth in multifactor productivity and real value-added have been overstated. Specifically, the authors find that from 1997 to 2007, the published average annual growth rate of multifactor productivity growth in manufacturing, at 1.3 percent, may have been overstated by 0.1 to 0.2 percentage point; similarly, the average annual increase in real value added, at 3 percent, may have been overstated by 0.2 to 0.5 percentage point.

Detail: Price declines associated with the shift to low-cost foreign suppliers generally are not captured in the BEA's intermediate input price index, which is itself an amalgam of two Bureau of Labor Statistics (BLS) price indexes, the Producer Price Index and Import Price Index. This measurement issue is analogous to the widely discussed problem of outlet substitution bias in the Consumer Price Index (CPI). Just as the CPI fails to fully capture lower prices for consumers due to the entry and expansion of big-

¹Houseman, Susan, Christopher Kurz, Paul Lengermann, and Benjamin Mandel, "Offshoring Bias in U.S. Manufacturing: Implications for Productivity and Value Added", Federal Reserve Board, International Finance Discussion Paper (forthcoming, 2010).

box retailers like Wal-Mart, import price indexes and the intermediate input price indexes based on them do not capture the price drops associated with a shift to new low-cost suppliers in China and other developing countries.

The bias to the input price index is proportional to the growth in input share captured by the low-cost foreign supplier and the percentage discount offered by that supplier. Although the actual input price changes from offshoring are not systematically observed, evidence from import price microdata from the BLS, industry case studies, and the business press indicate that there are sizable discounts from offshoring to low-wage countries.

Provided this evidence is representative of the actual discounts manufacturers realized from offshoring, the authors conclude that the growth in the real value of intermediate inputs used by U.S. manufacturers has been significantly understated. This understatement implies that between 1997 and 2007 average annual multi-factor productivity growth in manufacturing may have been overstated by 0.1 to 0.2 percentage points and real value-added growth may have been overstated by 0.2 to 0.5 percentage points. Furthermore, although offshoring bias represents a relatively small share of real value-added growth in the computer industry, the authors find it may have accounted for one-fifth to one-half of the growth in real value added in the rest of manufacturing.

**RESPONSES TO WRITTEN QUESTIONS OF CHAIRMAN BROWN
FROM NICOLE Y. LAMB-HALE**

Q.1. MAS was established in 2004 as part of the Bush Administration's manufacturing initiative. In December 2009, the Obama administration released its manufacturing framework. What role did MAS play in the current Administration's manufacturing agenda? How has the transition to a new Administration and the release of its new framework affected, if at all, the mission and function of MAS?

A.1. The Obama administration's "A Framework for Revitalizing American Manufacturing" (Framework) established a clear outline for revitalizing and enhancing the competitiveness of U.S. manufacturing. Manufacturing and Services (MAS) participated in the interagency discussions that resulted in the Framework. MAS is actively engaged in Department of Commerce programs that directly address two of the seven Framework components: helping communities and workers transition to a better future and ensuring market access and a level playing field. MAS is also working with the Department of Transportation and other agencies to address additional Framework components.

To address the challenges U.S. manufacturers face as a result of the economic downturn and changes in the global business environment, we have given considerable thought to how to help U.S. manufacturing revitalize itself. We have redoubled our efforts to meet with industry to hear about its concerns and suggested solutions through our 20-plus private sector advisory committees, to connect industry representatives with Federal and State programs that will help them meet their needs, and to develop partnerships and re-

sources—collaborating both with public and private sectors—that are accessible and results-oriented, especially for SMEs.

For example, through our new initiative—Manufacture America: Rethink, Retool, and Rebuild to Support Jobs—we are developing road shows and follow-up activities that will provide information to manufacturers, especially small- and medium-sized manufacturers, on access to capital and the benefits and methods of exporting. To meet the goals of the President's National Export Initiative (NEI) and help U.S. companies find new demand, we, as part of the International Trade Administration (ITA), are helping manufacturers export to new foreign markets which offer an expanded demand for their products.

Q.2. The stated mission of MAS is to enhance the global competitiveness of U.S. industry, expanding its market access, and increasing its exports. What activities does MAS conduct to achieve this mission? To what extent has MAS met its own performance goals for this effort?

A.2. MAS fulfills its mission and goals by combining its analytical capabilities, in-depth industry knowledge, and interaction with industry to provide assessments, recommendations, and programs that improve U.S. business competitiveness and export performance. Specifically, MAS provides critical trade-related economic and policy analysis and information, ensures appropriate industry input into trade and domestic policy discussions, advocates for U.S. industry on standards issues, identifies and addresses industry-specific trade barriers, and reaches out to industry to explain the benefits of and opportunities for exporting to enhance U.S. competitiveness.

MAS meets its performance goals in several ways. We develop industry-specific recommendations for trade policies to eliminate trade barriers and open markets, based on advice from our private sector advisory committees and our industry and trade expertise. We work with other units in ITA to monitor the implementation of trade agreements and explain to industry the opportunities to export, including trade finance options. For example, we have organized several roundtables with industry to explain trade finance options and availability.

We develop initiatives that help industries increase exports, such as the Sustainable Manufacturing Initiative (SMI), the Market Development Cooperator Program (MDCP), and the Civil Nuclear Public-Private Partnership. Through the SMI, companies learn about sustainable manufacturing practices that can lower operating costs, making their products more competitive in other markets. The MDCP provides financial and technical assistance to non-profit industry groups to support projects that enhance the global competitiveness of U.S. companies, especially small- and medium-sized enterprises. Our Civil Nuclear partnership supports U.S. industry's involvement in the global expansion of nuclear energy, while partnering closely with other countries to shape their civil nuclear programs in ways most conducive to nonproliferation.

We also work with other agencies to ensure that, for regulations that affect export-dependent sectors, relevant agencies consider all

viable alternatives so that regulatory goals are achieved without unnecessarily harming U.S. competitiveness globally.

Q.3. How does MAS identify the needs of manufacturers? Does it target specific sectors? To what degree does MAS seek to identify broad policy factors such as access to credit that may be of concern to manufacturers? How do you plan to involve Congress in this discussion?

A.3. MAS manages over 20 private sector advisory committees that provide information and recommendations on a wide variety of topics that impact manufacturers. For example, the Manufacturing Council advises the Secretary of Commerce on Government policies and programs that impact U.S. manufacturing, including access to capital, energy policy, and regulatory and tax reform. In 2009, the Council recommended to Secretary of Commerce Gary Locke that the Administration take steps to ensure that domestic manufacturers have access to credit that had been restricted as a result of the economic downturn. This recommendation was a top priority of the Council because access to capital is necessary for manufacturers to finance day-to-day operations and expand domestic operations. As a result, MAS elevated the issue of access to capital in the policy debate and Congress is currently considering the Small Business Jobs Bill Package that includes a provision to provide \$30 billion in capital for small- and medium-sized firms. The Council has also noted that the uncertainty over making the R&D tax credit permanent has contributed to the slowness in creating manufacturing jobs. We are pleased to be able to discuss with the Council that President Obama supports making the R&D tax credit permanent.

In addition, the 16 Industry Trade Advisory Committees (ITACs) provide advice to the Secretary of Commerce and the United States Trade Representative on U.S. trade policy and negotiations. Thirteen of the ITAC committees focus on specific industry sectors in order to provide expert advice on those sectors and how they are or would be affected by specific negotiating positions and implementation policies. Three committees focus on issues that cut across all industries: intellectual property rights, customs, and standards.

The President's Export Council (PEC) advises the President on broad policy issues that hinder or help U.S. companies to export. Five Senators and five members of the House of Representatives serve as members of the PEC, along with representatives from the private sector and Executive Branch Departments and agencies.

In addition to the Congressional representation on the PEC, I have personally met with representatives from the Senate and House Manufacturing Caucuses. I plan to continue this proactive dialogue with members to keep them up-to-date on what we are hearing from manufacturers.

In addition to our work with the advisory committees, MAS industry analysts maintain in-depth knowledge through discussions with industries and research about the challenges and trends that industries face. Based on that expertise, MAS helps industries become more competitive. For example, our industry specialists and economists analyzed the provisions of the Manufacturing Enhancement Act of 2010 prior to its enactment. This analysis provided pol-

icy guidance to the Administration and Congress on those provisions that reduce or eliminate duties on imports used by U.S. manufacturers without harming domestic producers. Reduction or elimination of import duties on manufacturing components helps reduce operating costs and makes U.S. companies more competitive globally.

Our domestic regulatory analysis program analyzes proposed regulations that affect export-dependent sectors to ensure that all viable alternatives are considered so that regulatory goals are achieved without unnecessarily affecting U.S. competitiveness globally. For example, we are reaching out to industry and working with other agencies to ensure the proposed rule on industrial boilers (“National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial & Institutional Boilers and Process Heaters”) meets human health and safety concerns without putting an undue competitiveness burden on export dependent industries, such as the U.S. forest and paper industries.

Q.4. Innovation has historically been a cornerstone of U.S. economic competitiveness. Commerce’s Manufacturing in America report, issued several years ago, highlighted the vital role support for research and innovation plays in creating a strong manufacturing sector. These themes have continued to be stressed in recent discussions of a framework for promoting U.S. manufacturing. To what degree has MAS focused on understanding where our Federal Government could play a more effective role in assisting innovative firms in expanding market opportunities to meet the demands of U.S. consumers and to export? What opportunities do you see for the U.S. Congress to work with agencies in increasing that effectiveness?

A.4. Under the National Export Initiative (NEI), I have co-lead, with Assistant Secretary of Energy for Policy and International Affairs David Sandalow, an interagency effort in the Trade Promotion Coordinating Committee (TPCC) to identify actions by departments and agencies that will help increase U.S. exports in the innovative and emerging sectors of renewable energy and energy efficiency. We expect our strategy to be announced this fall, and agencies to begin work immediately thereafter.

MAS is also planning to increase funding for awards under the Market Development Cooperator Program (MDCP). These awards provide matching funds and technical assistance to organizations to help develop new markets. The program has proven to be an effective tool to help small- and medium-sized companies develop markets for their cutting edge products.

MAS has helped lead the development of a number of studies, drawing on experiences of OECD member countries, that look at the conditions necessary for an innovative economy. These studies examine policies and best practices in the areas of access to capital, regulations, standards, and Government procurement that Federal or local governments can adopt to help firms innovate.

MAS worked with other agencies to develop the President’s new National Space Policy designed to energize competitive domestic industries, develop innovative technologies, and foster new indus-

tries. This Policy will keep U.S. business at the cutting edge and competitive in the global market.

MAS recognized an opportunity for Federal agencies to better communicate to U.S. industries the broad range of Federal programs that further sustainable manufacturing. MAS worked with several Departments and agencies to develop the Sustainable Business Clearinghouse (www.manufacture.gov/sustainability). This interactive Web site gives companies access to information on Federal programs that companies can use to develop innovative products and services that further sustainable manufacturing.

Through its Sustainable Manufacturing in America Regional Tours (SMART), MAS spotlight innovative products and processes that U.S. companies have adopted to manufacture in a sustainable fashion. We work with other agencies and local governments to organize these tours, and Congressional members have helped in organizing and attending several such tours.

In addition to participation in our SMART project, we welcome Congress's continual interest in and work to improve the domestic and global business environment for all U.S. manufacturing companies. Often time, when MAS officials are doing an event across the United States, we invite members of Congress to participate. We would encourage greater participation at these events as they give members an opportunity to hear directly from industry constituents on specific topics and also to learn more about the programs and services that MAS has to offer.

Q.5. According to the United Nations, the recent financial crisis severely affected manufacturing production of major industrialized countries in 2009, but generated comparatively milder impact for developing countries such as China and India. How do you assess the impact of the recent financial crisis on U.S. Manufacturing? To what degree can you identify actions Congress can take to improve the performance and trends in the U.S. manufacturing sector?

A.5. The recent financial crisis has had a number of deleterious effects on U.S. manufacturing. First, it reduced lines of credits that are used to pay for intermediate inputs in advance of sales. As a consequence, production had to be pulled back. Second, it reduced lines of credit to U.S. manufacturing's customers, so that demand for U.S. manufactured products was significantly cut. Both of these factors tended to reduce profitability during the worst of the crisis. Third, worsening profitability and tighter credit also impaired U.S. manufacturers' ability to invest. China and India may have avoided much of the financial stress in the global economy because their economies are less reliant on international capital markets. Although their economies did not slip into recession, they did grow more slowly than the trends suggested.

We welcome Congress's continued interest in and your efforts to enhance the global competitiveness of U.S. manufacturers, such as support for the Small Business Jobs Bill Package that would improve access to capital for small- and medium-sized businesses. Specifically, in the trade arena, Congress should continue to engage the Administration and stakeholders to address outstanding concerns regarding pending trade agreements with Panama, Colombia, and South Korea.

Q.6. Through the Recovery Act, Congress and the Administration have invested billions into renewable energy production, mass transit and high-speed rail, and medical IT among other initiatives important to Americans. How do we ensure that we do not depend on other countries for the manufacturing of these kinds of goods and services? How do we help develop domestic capacity for wind and other renewable energy manufacturing?

A.6. Clear policies and initiatives are critical for stimulating domestic development of these sectors. Above all, comprehensive energy reform is needed to build the clean energy economy by setting a price on carbon that will jumpstart private sector investments and innovation in clean energy.

In addition, stimulating development of these products in the U.S. can be furthered through reducing the barriers and impediments to these products and services in other markets. For example, international harmonization of standards and improving the regulatory environment in markets that are difficult to penetrate can improve the ability of U.S. companies to sell abroad and ultimately help U.S. sectors grow.

As demand grows, U.S. manufacturers will need to be prepared to compete. MAS's Manufacture America Initiative is designed to help companies find ways to retool their manufacturing processes to make new products in high demand and to rethink which markets they can supply, including export markets. Our Manufacture America road show that we are planning for Pittsburgh, PA, in late September will focus on opportunities in the energy sector.

MAS leads ITA's Civil Nuclear Trade Initiative. Through this Initiative, we are strongly supporting U.S. industry's involvement in the global expansion of nuclear energy, while partnering closely with other countries to shape their civil nuclear programs in ways most conducive to nonproliferation. For example, we are preparing a guide for U.S. civil nuclear companies on how to export their products. We also are working to resolve problems the industry faces globally as well as promoting and advocating for U.S. exports through trade and policy missions and consultations with other governments.

Q.7. What can we do to recapture or create jobs lost to imports? Recent figures show American consumers are still spending, but how do we help U.S. manufacturers more competitive *vis-a-vis* imports?

A.7. Successful firms are our engines of employment growth. Our analysis shows that successful firms share a number of characteristics, such as exporting, investing larger shares of their revenue, and engaging in more research and development than less successful companies.

In working to meet the goals of President Obama's National Export Initiative (NEI), the Department of Commerce is encouraging companies to increase the number of markets to which they export. We, in MAS, are providing information to help companies become more competitive globally. Our Manufacture America Initiative, will help companies learn about ways to rethink, retool, rebuild their operations to be more competitive against imports and to be competitive globally. Through our Sustainable Manufacturing Ini-

tiative, firms learn best practices for becoming more energy efficient and for reducing waste, thereby lowering operating costs and enhancing their competitiveness against imports. Ensuring that U.S. companies find and use Federal programs designed to improve their competitiveness or increase their opportunities to export is critical.