

Remarks at Global Women Innovation Network Luncheon

Submitted on July 19, 2012 - 3:00pm

Categories:

AS PREPARED FOR DELIVERY

Thursday, July 19, 2012

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Acting Commerce Secretary Rebecca Blank Remarks at Global Women Innovation Network Luncheon

Thank you, Congresswoman Emerson and Congresswoman Schwartz. And thanks to everyone at GlobalWIN. It's great to be with women leaders from some of America's most innovative companies as well as the federal government.

When it comes to decision-making in the boardroom, on Capitol Hill, or anywhere else, the best decisions get made when there is more diversity of perspectives and opinions at the table.

All of you prove that to be true every day, both in the workplace and by being involved in organizations like this.

Innovation is one of the key issues for anyone who is concerned about long-term American competitiveness. That's certainly true for all of us at the Commerce Department and throughout the administration.

In fact, in January, we compiled a report about the competitiveness and innovative capacity of the entire U.S. economy.

In it, we discussed a number of what we called "alarm bells":

- The current federal share of research spending is half what it was in the Eisenhower administration.
- Today, America ranks 14th in the world in terms of the percentage of college graduates we produce. We used to be number one.
- The World Economic Forum now ranks our infrastructure 24th. We used to be in the top 10.

The good news, however, is that none of these trends is inevitable or unchangeable. There are clear policy avenues that we can take to reverse the trendlines.

Today, I'd like to start by highlighting three key areas where the government has a key role to play by making investments that support innovation and long-term competitiveness.

I realize we are facing large government deficits—I'm an economist and strongly believe we need to worry about that. But, the fact is, smart investments now will only help our long-term budget situation as well.

First, we should invest more federal dollars in basic research.

Basic R&D is an area that is under-provided in the private sector. Every major developed country recognizes the need to put public dollars into R&D.

In the U.S., the federal government has played a crucial role in developing key innovations in the 20th century. The Internet, satellite communications, semi-conductors and other job-generating advances would not have been possible without the wise investment of taxpayer dollars.

Unfortunately, since 1980, federal funding for basic research has dropped from 70 percent of all basic research funding to just 57 percent.

To reverse that trend, the President has set of goal of doubling federal funding for basic research and development by 2016.

In the 2011 and 2012 budgets, and in the proposed 2013 budget, there are substantial increases in funding for NSF, for Department of Energy labs, and for the National Institute of Standards and Technology at the Department of Commerce. These all support important core scientific research.

The fact is, governments around the world are increasing their public support at universities and research institutions. So must we.

Second—and to build on our R&D support—we must support the transfer of new technologies to help increase our productivity, especially in areas such as manufacturing.

Production and innovation are inextricably linked. Innovation is an iterative process, where ideas are tested in production, and those lessons feed back into new innovation.

Manufacturing companies in the United States account for 70 percent of private sector R&D and employ the majority of domestic scientists and engineers. Manufacturing R&D is also the dominant source of innovative technologies that are adopted into the service sector.

The government has played an active role in this space. For instance, for nearly 25 Years, our Manufacturing Extension Partnership—MEP—has funded centers around the country that consult with private sector companies facing technological problems. MEP puts them in touch with scientists and engineers who can help solve those problems.

The Advanced Manufacturing Partnership launched last summer and co-chaired by Susan Hockfield of MIT, is another important model to help advance tech transfer. This public-private partnership uses the convening power of the government to bring together top research universities with top U.S. manufacturers.

- As anyone who has spent time at a university knows, we can't simply assume that scientific discoveries will magically find their way into applications.
- If you haven't already, I encourage you to read this Partnership's first report which just came out this week.

Clearly, there is a role for universities, government, and the private sector to collaborate and make the connections that lead to the transfer of technologies from lab to marketplace.

Third, we need to ensure that America's intellectual property protection system remains strong.

Patents are a critical tool to help commercialize game-changing ideas. They're the fuel for innovation.

The Department of Commerce recently released a report on the role of IP in the economy. It shows that nearly 35 percent of our GDP—more than \$5 trillion—comes from what we call “IP-intensive industries.” These industries support about 40 million jobs.

The report also made clear that IP protections have a ripple effect in the market.

For example, a newly-patented technology in computer manufacturing could increase the demand for products in related industries, such as semiconductors.

For all these reasons, the landmark America Invents Act—signed into law last year by President Obama—is critically important. This new law is playing a crucial role in helping us build a 21st century IP system.

- For example, I was in Detroit last Friday to open the first-ever satellite office of the U.S. Patent and Trade Office—the Elijah McCoy office. It's named after a Michigan inventor who made lubrication systems for steam engines in the 1800s. His high-quality products popularized the expression, “the real McCoy.”
- We also announced three more patent office locations to open in the next few years—Dallas, Denver, and Silicon Valley. These offices will allow us to interact with more entrepreneurs and innovators, to learn what they need, and to put patents in their hands more quickly.

And I should note that we're already making great progress to create a more efficient patent system. For example, while patent filing in 2011 grew by 5 percent, our patent backlog actually dropped by about 10 percent.

Overall, whether it's R&D, tech transfer, or patents, this administration strongly believes that government can and must make smart, strategic investments that pay off. These investments are

crucial tools for companies like yours to do what you do best—which is create jobs.

But I'd like to spend my remaining time talking about something even more fundamental to strengthening American innovation—and that is education.

A globally competitive economy requires a globally competitive workforce. There are many important policy issues related to providing effective education and skill training to all of our children, but I want to focus on the need to increase the number of science, technology, engineering and mathematics graduates – the so-called STEM fields.

As you know, these fields produce many of the inventors and leaders who bring new ideas from the lab to the marketplace. We need these people now more than ever.

- Over the past decade, growth in STEM jobs was three times as fast as non-STEM jobs.
- These jobs now pay about 25 percent more than others—providing greater economic security for working families.
- And STEM workers help ensure that our businesses can develop the most cutting-edge products – helping us stay competitive in a global economy.

In recent years, however, only about 13 percent of U.S. college graduates got degrees in the STEM fields. That is much lower than in many of our competitor countries like Korea and Germany where 25 percent of their students receive STEM degrees.

One reason we have so few STEM workers is because women are seriously underrepresented in these fields. Women make up nearly half of America's labor force – but less than one-fourth of our STEM workforce.

That has remained fairly constant even though more women than men now attend and graduate college.

As long as more than half of our population can't find a path to science-related fields of study, we will have inadequate numbers of STEM graduates overall.

The good news is that women experience what we call a "STEM premium." Women in STEM jobs earn 22 percent more than women in non-STEM jobs. For men, that jump is only 13 percent.

Because of this, there is a smaller disparity in pay between men and women in STEM fields than elsewhere. This should, in theory, help attract more women to these jobs.

For some young women, this promise of a better, more financially secure life could play a powerful role in their career choice.

So why do so few women enter STEM fields? That's a difficult question with many possible answers.

Some of it is lack of information and lack of role models or lack of mentors. I myself never met a woman with a Ph.D. in economics until I was a Ph.D. student at MIT.

We need to make sure that women who hold science and technical degrees—including those who work in companies like yours—are visible to young girls, so that they can envision themselves in these careers.

And, from the federal government's perspective, we need to implement programs and policies that allow girls to ask questions and explore these exciting fields first-hand.

Thankfully, we have a president who gets it.

- For example, back in 2009, he launched Educate to Innovate. This campaign brings together the federal government with private-sector partners like Time Warner Cable—represented here today. Educate to Innovate has a particular focus on inspiring more girls, women, and minorities to explore science and technology.
- Another example is Race to the Top, made possible by the Recovery Act. With about \$4 billion in funding, Race to the Top provides competitive grants that support and reward states with high K-through-12 achievement. I should note that the only extra preference allowed in this competition is for states that focus on STEM.
- A third example of the President's commitment came just yesterday when he dedicated \$100 million for a new corps of high-quality STEM teachers at 50 sites around the U.S. These teachers will get up to \$20,000 on top of their base salary in exchange for making a multi-year commitment.

On top of that, the Commerce Department itself also has specific STEM education efforts. These range widely. . . .

- from our post-doctoral research opportunities at the National Institute for Standards and Technology—NIST. . .
- to our (National Oceanic and Atmospheric Administration's) Nancy Foster scholarships for women to study areas like oceanography. . .
- to our annual event at NIST headquarters where we bring in 300 girl scouts for an event called "Get Psyched!"
- To earn their patch, these girl scouts learn about lasers, metals, and alloys. . .
- they see first-hand how electric currents work. . .
- and, of course, no trip to our NIST labs would be complete without seeing what happens to a hot dog at negative 195 degrees Celsius. (Who says science can't be fun?)

Looking forward, the administration will continue to make investments to help girls and women enter and succeed in the STEM fields.

But we can't do it alone. I strongly believe that everyone here can help us find answers to the questions that still remain.

- What can we do to introduce and emphasize math and science education at much younger ages?

- How can we ensure that both boys and girls have the chance to be more exposed to high-tech fields?
- How do we raise the visibility of STEM careers throughout our culture, for both boys and girls?
- And, perhaps most importantly: How can we foster greater understanding that gender norms in STEM fields are something that our country simply cannot afford to tolerate nor perpetuate?

America's future competitiveness depends on all of us to take a personal, vested interest in these issues.

To sum it all up, we need more people like you.

- We need more women who understand why we must make key investments in innovation now. . .
- We need more women who have the skill sets to propel our private sector forward to compete and create jobs. . .
- And, yes, we need more women . . . and men . . . who have reached the point in their careers where they are able to identify and nurture young people to follow their lead.

In the long run, our ability to innovate and compete as a nation will determine what kind of economy—and what kind of country—we pass along to the next generation.

Thank you for being so committed to issues of innovation and competitiveness. And thank you for working closely with this administration as we move forward together.