

Restoring U.S. Competitiveness: Navigating a Path Forward Through Innovation and Entrepreneurship

SPECIAL REPORT Aug. 8, 2011

Introduction

o country in the history of the world can match the United States of America's track record of success in the area of innovation, but this position has recently begun to erode as other nations have emerged as leaders in the global economy. If the United States economy is to remain competitive, the country must continue to strengthen the innovative edge that has always been a driving economic force. Unfortunately, outdated policies and other barriers are hindering innovation and dampening the entrepreneurial ecosystem that fuels our economy.

In a period of economic duress with an unemployment rate of more than nine percent, the federal government must take a proactive approach towards spurring innovation by providing the necessary support to job creating businesses large and small. There are several ways that the government can and should be helpful in this respect.

Startup companies, especially those in the technology sector, will never materi-

Chris Lang.
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CPPI President Chris Long convenes the forum

alize without the brilliant minds that turn great ideas into reality. The workforce of tomorrow demands that we have a large supply of highly skilled individuals, including both native-born students and their foreign counterparts, so that American businesses will no longer be disadvantaged when competing against their competitors around the globe. Comprehensive immigration reform and a renewed commitment to turning the

CPPI's recent forum explored immigration and education reform, federal funding for research and development, barriers to entrepreneurship, and tax reform.

students of today into the innovators of tomorrow will ultimately help restore American competitiveness.

imilarly, United States tax policy has recently shown itself to be out of sync with the realities of the global economic system, and structural changes will be necessary if the United States is to remain competitive. For instance, America's corporate tax rate is one of the highest among developed nations. In addition, trillions of dollars in corporate earnings remain overseas, and United States-based multi-national companies face an onerous tax penalty in repatriating those profits. With nations such as China and India developing a more hospitable business climate and creating incentives to attract manufacturing and research and development activities, the status quo is no longer an option for the United States. Robust policy changes, coupled with

targeted government funding to spur innovation in research laboratories around the country, are vital to our success.

n June 16, 2011, the Center for **Public Policy Innovation (CPPI)** launched the first in a series of events in the nation's capital to examine these issues and others. CPPI's standing room only Public Policy Forum attracted a broad cross section of participants from government, academia, and industry, all of whom were eager to engage in an interactive panel discussion on the important topics of innovation and entrepreneurship. Moderated by Gautham Nagesh of *The Hill* newspaper, the panel consisted of Tom Weithman from the Commonwealth of Virginia's Center for Innovative Technology (CIT), Brink Lindsey from the Ewing Marion Kauffman Foundation, and John Backus of New Atlantic Ventures, each of whom lent their collective expertise to exploring American competitiveness issues. The panelists fielded thought-provoking questions



Gautham Nagesh of *The Hill* newspaper

and comments from the audiwhich ence, was invited to submit discussion topics and questions via Twitter and text messaging to make for a more inclusive and complete discussion.

Among the most pressing issues discussed at CPPI's recent forum were immigration and education reform, federal



An overflow crowd participates in the discussion via text messaging and Twitter

funding for research and development, barriers to entrepreneurship, and tax reform.

any of these same topics were also addressed in the remarks delivered by the event's keynote speaker, Peggy Johnson, Executive Vice President and President of Global Market Development for the United States-based mobile technology company Qualcomm, as well as the symposium's final speaker, Congressman Jared Polis (CO-2), a well-known entrepreneur who recently founded the bipartisan Congressional Caucus on Innovation and Entrepreneurship. Although the speakers' views varied from issue to issue, the consensus was clear: fundamental policy changes are necessary if the United States is to maintain its competitive edge in the global economy of the 21st Century.



Barriers to Entrepreneurship

Encouraging Innovation by Removing Barriers to Entrepreneurship

tartup companies aren't just the largest source of job creation; they're also a durable form of job creation as new firms age. Nurturing the entrepreneurial ecosystem will require structural changes if the United States aims to remain competitive in the world economy.

"America's economic future rests in its continued leadership in innovation," said Congressman Polis at the event. "Disturbingly, studies show that entrepreneurs are leaving our shores because many feel that the business climate overseas offers them better opportunities. We must accelerate American innovation by reducing barriers to entrepreneurship so we can create jobs here at home. Working together, Democrats and Republicans must foster an economic climate that will create the next generation of great American innovators."



Venture Capitalist John Backus lends his expertise to the discussion

One major hurdle for entrepreneurial businessmen and women is the capital gap that Backus, the noted venture capitalist, knows all too well. He began his remarks on a positive note, exclaiming that our future is "incredibly bright," especially when you consider the fact that at least 500,000 people in America now make a substantial part of their living developing applications for mobile phones and tablet computers that didn't even exist a couple of years ago. However, despite this optimism, Backus told attendees that corporate pension funds are "pretty much gone" as a funding source for the venture capital (VC) community and that the endowments that had once been a good source of capital are also becoming more elusive.

Backus also expressed concern that the implementation of the 2010 Dodd-Frank financial reform package has made it difficult for American institutions to invest in venture funds. Taken together, these forces make it challenging for the VC community to continue investing in bright new companies.

Backus critiqued the current tax system, saying, "If we could make one simple change to our tax code, on a revenue neutral basis, it would be to change the short and long term definitions of capital gains: change the short term to two or three years from one, at the current ordinary income rates, and this will bring in more revenue. Then leave the 15 percent rate for medium term investments, and create a super-low, super-long term rate of 5 percent for assets held over five years. I would also make stock options issued to employees at a private company subject to capital gains treatment, and leave carried interest tax rates for Venture Capitalists at 15 percent. If you broaden the definition of capital gains and factor in

stock options, all of the sudden it's a little more worthwhile for an entrepreneur to work for one of these startups."

hen Nagesh asked the panelists whether the so-called "500 shareholder rule" was a significant obstacle for growing new companies, Backus surprised his fellow panelists by saying that the rule, which sets the threshold at which a growing company has to publicly reveal certain financial details, isn't really a big deal. "The threshold doesn't necessarily mean that you have to go public, but that you have to report information as if you were public. The real issue is all of the secondary markets and the mismatch of information," he said.

While the venture capitalist admitted that there are lots of companies that went public during the technology boom of the 1990s that never should have done so, he lamented the fact that so few companies are able to go public today due to some of the onerous rules and regulations placed upon them. "It's a terrible problem that fewer companies are going public today," Backus commented.

Backus also suggested that companies under a certain size limit should be able to comply with a simplified version of Sarbanes-Oxley, a legislative package dealing with securities issues that was signed into law in 2002 to restore investor confidence and deter fraud following the accounting scandals involving several companies including Enron and WorldCom. Critics point out that Sarbanes-Oxley disproportionately affects smaller companies, who are less able to deal with the increased costs of auditing than larger ones. If you lessen the

burden placed on smaller companies you might increase the number of firms that are able go public, Backus argued, saying, "It's not a panacea, but Sarbanes-Oxley restrictions have been a challenge for companies."

Another stumbling block for new ideas is the current system for transferring knowledge out of American universities. Lindsey explained that while many universities have started technology transfer offices to try and commercialize ideas, in many instances those offices suffer from a bottleneck that prevents good ideas from moving forward. The Kauffman Foundation has proposed moving to a free agency model: in most cases professors can choose anyone, anywhere in the world to work with on their research, but when it comes time to commercialize their work, these same professors are locked into using their home university's possibly ineffective technology transfer office. A system where entrepreneurial professors would be allowed to choose their own licensing agents from anywhere in the world offers the potential to ameliorate the situation and spur the development of new businesses.

hile Backus and Lindsey focused the bulk of their remarks on the policy and regulatory hurdles to entrepreneurship, Weithman suggested that entrepreneurship should be encouraged through academia, citing a program that has had success in working with youths from disadvantaged populations. The idea of starting a business was made available to these students at an early age, broadening their horizons and helping them to think outside the box about their economic future.



CPPI tweets from the June 16th event on Restoring U.S. Competitiveness

@CPPIOnline

Thank you to attendees for participating in #CPPI June 16 policy forum, please stay tuned for info regarding other upcoming CPPI events

@jaredpolis supports immigration reform so foreign students in the U.S. can legally remain here and leverage their skills & abilities

@jaredpolis comments that his focus is on promoting human capital and education to improve the economy

Corporate tax reform is another solution to restore economic vitality to the United States from @jaredpolis

Also, we appreciate the support of our #CPPI speakers: @KauffmanFDN, @jaredpolis, @RepZoeLofgren, @jcbackus, and @gnagesh!

The Workforce of Tomorrow

The Importance of Immigration and Education Reform to the Workforce of Tomorrow

n Johnson's keynote address, she noted that Qualcomm has grown from a small San Diego, California, startup company to a global leader in developing and delivering innovative digital wireless communications products in less than 25 years. According to Johnson, Qualcomm could not have succeeded without government policies that encouraged innovation. After all, said Johnson, "It was a group of professors at a public university who started out by perusing federal grants that resulted in the creation of our company... It was America's welcome to immigrants that brought many of the best and brightest to our shores and to our company." However, Johnson cited recent troubling statistics to show how the domestic climate has changed. The United States currently ranks 27th among developed nations in the proportion of college students receiving degrees in science or engineering, and 48th in the quality of math and science education. These alarming numbers are a clear indicator that when it comes



Keynote speaker Peggy Johnson from Qualcomm highl government policies that foster innovation

to fostering American competitiveness and innovation, human capital is a factor that cannot be left out of the equation.

In order to remain competitive, it's vital that the workforce of tomorrow be made up of highly skilled workers who will drive innovation. This will require additional investment in skills, education and training, according to Lindsey. "Human capital has stagnated. High school graduation rates peaked in the 1960s and college graduation rates peaked in the 1980s. A decline in those figures will lead to less productivity overall, and a negative drag on the economy," argued the Kauffman Foundation's Senior Scholar for Research and Policy.

ongressman Polis also emphasized the importance of strengthening education in his closing remarks."I think that our intellectual capital is going to be a way for us to have a competitive advantage in the longer term, and the best way to boost our intellectual capital is to do a better job in the area of education," he said.

Interestingly, CPPI's panelists noted that strengthening education – especially in the so-called "STEM" areas of Science, Technology, Engineering, and Mathematics – is crucial to American competitiveness, however our current schoolaged generation has not embraced these fields. "I'm a father of two, and I'm telling you that's a hard problem to solve. Math and science are still stigmatized in a lot of ways... I don't know how you get that cool back," said Bauckus.

The problem really lies at the K through 12 levels, according to Backus, who responded to a question about whether grant funding could support college-level studies in these areas by saying, "If you aren't

engaging students during their younger years, you're never going to get those kids active once they hit college."

The state of education in this country has not gone unnoticed by the White House. In September 2010, President Barack Obama announced the ambitious goal of recruiting 10,000 STEM teachers over the next two years and preparing 100,000 STEM teachers over the next decade. In a statement, President Obama said, "When I came

The "STEM" areas of Science, Technology, Engineering, and Mathematics are crucial to American competitiveness.

into office, I set a goal of moving our nation from the middle to the top of the pack in math and science education. Strengthening STEM education is vital to preparing our students to compete in the 21st Century economy and we need to recruit and train math and science teachers to support our nation's students." ii

While producing necessary intellectual capital is crucial to the business sector, it is also important for industry to be able to retain intellectual capital. The United States is home to some of the greatest universities in the world; and, every year, at least 50,000 workers with advanced degrees leave the country for better opportunities elsewhere. iii "If there were enough United States citizens graduating with this sort of expertise then you could shut the door to the immigrant communities and our business community would have all the talent they need. But shutting the door to immigrants with STEM expertise is just not

feasible at this point," Backus commented.

Highly skilled immigrants positively impact the United States economy in many ways. According to a recent study by Vivek Washwa of Duke University and his co-authors, approximately 25 percent of technology and engineering companies that were launched in the United States between 1995 and 2005 had at least one immigrant key founder. iv

gn-born employees clearly play a valuable role in moving American businesses forward, as evidenced by the fact that 25 percent of international patent applications from the United States were submitted by non-citizens.

fortunately, it has become increasingly difficult for policymakers to argue in favor of increasing the number of skilled visas given the high rate of unemployment among American workers today.

Interestingly, according to Lindsey, data also suggests that immigrants are often more entrepreneurial by nature than native-born Americans. Immigrants have already taken the bold step of leaving their home and family and moving far away to create a better life. These individuals have an entrepreneurial attitude that is somewhat unusual in today's workplace. However, Lindsey also complained that skilled immigration is often lumped together with illegal immigration, making it difficult for Congress to successfully intervene and increase the talent pool available to businesses large and small.

Of the many policy reforms that could spark economic growth and create jobs in the private sector, eliminating barriers to skilled immigration and encouraging STEM education are among the most needed.



@jcbackus predicts huge changes in education with a shift from physical classrooms to more Internet courses.

Thank you to the generous support of @Qualcomm for making this #CPPI public policy forum a success!

Congressman @jaredpolis should arrive as soon he finishes a vote on the floor!

One audience member asked how can we make entrepreneurship and science "cool" in school to attract more students to these fields?

Brink Lindsey of @KauffmanFDN suggests an area of focus should be technology transfer out of universities

On average, 1/4 of U.S. tech companies founded from 1995-2005 have a foreignborn person as the lead technologist from @KauffmanFDN

Tom Weithman suggests basic R&D struggles because it is difficult to trace the outcomes

Government-Funde(

The Value of Government-Funded Research

n the 1970s, most of the nation's top innovations were the result of corporations working alone. However, in recent years, approximately twothirds of award-winning United States innovations have involved collaboration between businesses, government, universities, or other organizations. In fact, only 11 of the United States' entities that produced award-winning innovations in 2006 were not beneficiaries of federal funding. vi

Weithman knows well the value of government-funded research. In 2004, he established CIT GAP Funds, a family of seedstage venture funds focused on making equity investments in the Commonwealth of Virginia's most promising companies.

ile the impact of federal funding on corporate research and development (R&D) may be hard to quantify, it is extremely important, said Weithman. CIT's partnership model was launched several years ago when the capital gap in the Commonwealth of Virginia for seed stage funding became apparent. CIT leverages private sector capital and public dollars across their portfolio, mobilizing those resources into new companies, and leveraging public dollars at a rate of 16 to 1.

Despite the current budget environment, it seems clear that the government should reexamine its commitment to R&D.

One success story at the federal level involves the United States Small Business Administration's (SBA) Office of Technology, which administers the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. Through these two competitive initiatives, SBA ensures that the nation's small, hightech, innovative businesses are a significant part of the federal government's R&D efforts. Eleven federal agencies participate in the SBIR program and five participate in the STTR program; awarding approximately \$2 billion to small high-tech businesses nationwide. vii Participating agencies are certainly encouraged by the results of the programs' early stage investments: the SBIR program has received plaudits for its effectiveness in spawning successful, job creating commercial ventures; and one recent study concluded that the program produces as much as 25 percent of the nation's most important innovations each year. viii



Tom Weithman discussed the value of government funded research







Panel moderator @gnagesh asks great question, what stands in the way of entrepreneurs and what policies can help?

U.S. long-term economic prospects depend on revision of law and policy to better support innovation from Brink Lindsey @KauffmanFDN

Interesting point made by panelist @jcbackus venture capital industry has unintentionally come under attack in last 10 years

Brink Lindsey of @KauffmanFDN comments some economic sources of growth are stagnant highlighting the need for innovation

Panelist Tom Weithman of the Center for Innovative Technology works to fill the capital gap in the Commonwealth of Virginia

U.S. Patent and Trademark Office granted 219,614 patents in 2010, a jump of 40% from recession-year lows in 2008 via @uspto

he Defense Advanced Research Projects Agency (DARPA) is another research-intensive federal government agency that has been highly successful in bringing about new waves of innovation and technological advancement through the years. DAR-



Brink Lindsey of the Kauffman Foundation

PA's strategic investments in basic research have brought about advancements in a large number of areas, such as satellite-based technologies, cognitive speech recognition, electronic surveillance, stealth technology, and advanced composite materials, among others. Most importantly, however, it was the organization's original idea to link time-sharing computers into a national system that led to the creation of the Internet.

Despite these success stories, federally funded R&D is unfortunately on the decline. Total federal R&D spending grew at a sluggish 2.5 percent per year from 1994 to 2004, a figure that is much lower than the long-term average of 3.5 percent growth per year from 1953 to 2004. ix

ronment, it seems clear that the government should reexamine its commitment to R&D in a number of areas, especially given the economic competition facing the United States.

Corporate Tax Reform

The Impact of Corporate Tax Incentives on American Competitiveness

ver the past 50 years, many countries have incentivized domestic growth and boosted their global competitiveness by reducing corporate tax rates within their borders. During the 1980s, the average statutory corporate tax rate among OECD nations was nearly 50 percent; and by 2001, the rate had fallen under 35 percent. X Many countries have also created specific economic incentives, such as tax holidays that attract international investment, to promote lasting growth in their economies. While other nations have adapted to meet the challenges of a global economy, the United States corporate tax rate remains one of the highest in the developed world.

Congressman Polis acknowledged that America's corporate tax system has hindered our ability to compete in the global economy, saying, "Companies have a disincentive to grow their business here in the United States, especially when they face a 20 percent tax on earnings brought back

U.S. Rep. Jared Polis (CO-2) delivers closing remarks

home from overseas."Though the Colorado congressman isn't necessarily in favor of implementing a tax holiday, he stated that capital would flow back into the United States if Congress were to step up to the plate and offer a deep discount on the tax rate for a limited period of time.

Unfortunately, an inhospitable corporate tax climate has negatively impacted manufacturing in the United States and, along with it, the corporate R&D that drives innovation and, ultimately, global competitiveness. In the 1980s, the United States had the best R&D tax incentive for companies among OECD countries; however, by 2011, the United States had dropped to 17th on the list. First enacted 30 years ago, the R&D tax credit provides incentive for private sector investment in R&D and it creates domestic, high-wage R&D jobs. For manufacturers, this translates into new product development and increased productivity.

According to the Milken Institute's report *Jobs for America*, which was released in January 2010, total employment in the United States would increase by 510,000 people within a decade if the R&D tax credit were to be made permanent. The credit, which is used by companies of all sizes, will expire in December of 2011 for the 15th time.^{xii} A stronger, permanent R&D tax credit will ensure that American companies are better positioned to compete on a global scale and create much needed jobs domestically, rather than overseas.

When American companies outsource manufacturing, the nation loses more than jobs; it loses its innovative advantage. As manufacturing moves to other, more business friendly locales, R&D dollars aren't far behind. In the book *Great Again*, author Henry Nothhaft writes, "Manufactur-





ing is the vehicle through which the wealth created by innovation is dispersed throughout all of society and not just to a tiny elite. But beginning in the 1980s, our nation began to divorce innovation from production." xiii

nfortunately, the exodus of manufacturing has become increasingly apparent in the semiconductor industry over the past several years. In 2009, there were 16 semiconductor plants built world-wide. Of those, six were built in China and only one was built in the United States. This discrepancy is due in large part to the generous tax incentives and other policies that have been implemented by other nations to encourage domestic production. In China, for example, semiconductor plants don't pay any taxes for first five years and pay only half of the top rate of 25 percent for the next five years. xiv For the United States to remain competitive globally, American tax reform must be addressed in a meaningful manner.

Conclusion

Over the last several decades technology has advanced in ways that our fore-fathers could never have imagined. However, in recent years, antiquated policies have caused the entrepreneurial ecosys-

tem to become stagnant, thereby threatening the economic growth and innovative spirit that made the United States into an industrial powerhouse. The U.S. economy doesn't exist in a vacuum, and public policy at the federal, state, and local levels must acknowledge the realities of the interconnected and complex global economic system.

At CPPI's recent Public Policy Forum on innovation & entrepreneurship, Peggy Johnson said that federal policies are an important catalyst for bringing about the next generation of innovators, commenting, "Federal government policies played a key role in the success of [Qualcomm's] inventions, and they are critical to enabling the next generation of U.S. innovation." Qualcomm's success is a testament to what is possible when government policies in the areas of immigration, education, tax reform, and R&D are geared towards fostering economic growth in the United States.

The repressed state of innovation today does not represent a death sentence for American competitiveness, but it does warrant a call for action. CPPI stands ready to address the complex policy challenges associated with competing in the 21st Century economy.



Other remarks from Peggy Johnson highlight innovative mobile apps that improve the quality of life for people around the world

Peggy Johnson of @Qualcomm key note remarks focus on investment in the future to once again make America's economy strong

Did you know that the companies Apple, CNN, and Disney were all founded during a recession via @KauffmanFDN

CPPI President Chris Long opening remarks highlight restoring economic vitality by creating new jobs through innovation

CPPI's Public Policy Forum on Restoring U.S. Competitiveness: Innovation & Entrepreneurship has a hashtag #CPPI

The #CPPI public policy forum will commence at 12 noon to focus on how innovation and entrepreneurism can restore U.S. jobs

"Jobs Created by Startup Companies Have Long-Lasting Economic Impact." Ewing Marion Kauffman Foundation press release. August 2, 2010. http://www.kauffman.org/newsroom/jobs-created-by-startup-companies-have-long-lasting-economic-impact.aspx.

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