



Moving Forward

Moving Forward

Throughout its history, the United States has faced numerous challenges that have threatened to derail its economic growth and prosperity. However, the United States always has been able to meet and overcome these challenges, and in so doing, increase the standard of living of its citizens. The private sector has been the primary driver of this increased prosperity, as businesses innovate to remain competitive.

Working with the private sector, government has also played a key role in supporting innovation by providing the necessary building blocks. In particular, the Federal government has provided funding and support for basic research, funding that has been important to many of the major innovations of the 20th century. The Federal government also helped encourage the creation of arguably the world's leading system of higher education. First-rate colleges and universities train the workers needed to lead innovative activities in the private sector. The infrastructure needed by business to innovate and compete, from railroads in the 19th century to broadband Internet networks in the late 20th and early 21st century, was built with support from the Federal government. In these three areas a government role is necessary, as the private sector will not invest sufficiently on its own.

In the first decade of the 21st century, the U.S. economy was no longer growing as rapidly as it had in the past: job creation slowed, and income levels stagnated for large segments of the population. It is no coincidence that the ability of the United States to innovate also suffered during this period. Federal support for basic research has not kept pace with the growth of the economy, the education system has not done a good enough job preparing students to become skilled workers, and the nation's infrastructure has not kept up with growing needs of the U.S. population and U.S. businesses.

Other factors have also diminished the innovative capacity of the United States. The manufacturing sector, a key driver of innovation in the past, has been experiencing a long period of decline. At the same time, the United States has had difficulty accessing certain foreign markets, enforcing intellectual property rights around the world, and achieving a balanced tax system. Each of these factors, as well as others highlighted in this report, need to be addressed if the United States is to regain its preeminent innovative capacity.

Although the list of problems is long, and though it will take time to overcome them, there is also a long list of policy tools that will allow the United States to address and correct these problems. Any sensible and successful approach to overcoming these problems must start by implementing the following 10 key policy proposals:

1. Continue to support government funding for basic research

For the United States to maintain a leadership role in innovation, it is critically important that the Federal government continue its support for basic research. Also, since quality scientific education and scientific advances take many years, investments in research should be stable to improve career prospects of new science doctorates and to encourage younger students to choose science as a career.

2. Enhance and extend the R&D tax credit

Although the Federal government's role in R&D is crucial, private R&D investment remains important and a simplified, enhanced, and extended corporate R&D tax credit would create the proper incentives for private industry to undertake the risks associated with R&D spending.

3. Speed the movement of ideas from basic science labs to commercial application

Entrepreneurs can find it difficult to get early-stage funding for their ideas. Other barriers to commercialization exist, such as lack of business experience on the part of would-be entrepreneurs. "Proof of Concept" centers can help overcome this barrier by supporting entrepreneurs at all stages of the development process and these centers need further encouragement. The Administration is committed to continuing its i6 Green Challenges to help develop these centers. Other initiatives that should be encouraged include the Advanced Manufacturing Partnership where industry, academia and government can collaborate and accelerate the development of emerging technologies.

4. Address STEM shortcomings

Poor STEM participation and performance in the nation's schools must be remedied, as students are leaving secondary schools poorly trained to continue

studying in STEM fields. One avenue to address these problems is initiatives such as “Educate to Innovate,” public-private partnerships that expand STEM education to all students, particularly those of underrepresented groups, through interactive games and other methods. Another avenue to promote and prepare disadvantaged youth and dislocated workers for STEM careers, while simultaneously enhancing the competitive position of local and regional employers, was DOL’s STEM Opportunities in the Workforce System Initiative. These 2009 grants focused primarily on expanding and aligning current and new STEM workforce education and training strategies, activities, and resources in One-Stop Career Centers. Also, additional funding is needed to train more STEM teachers. Programs such as NSF’s Widening Implementation and Demonstration of Evidence based Reforms (WIDER) should be implemented to improve undergraduate STEM instruction and outcomes at universities.

5. Increase spectrum for wireless communications

The United States faces a spectrum crunch in the coming years, which could severely constrain innovation. The goals set by the “National Wireless Initiative,” include doubling the amount of spectrum available for wireless broadband services and helping rural areas gain access to wireless broadband services.

6. Increase access to data to help spur innovation

Open access to data is a crucial component of a successful innovation policy, and steps taken to encourage this include the launch of data.gov, a platform that provides public access to valuable datasets; an initiative to simplify access to high value data by, for example, creating standards; and the use of challenges and prizes to bring together communities of innovators to help spur new technologies. These efforts need to be continued and expanded.

7. Coordinate Federal support for manufacturing

For the manufacturing sector to reverse its decline, it is vital to continue funding and supporting manufacturing specific programs like NIST’s MEP, SelectUSA, and the individual pieces of the Advanced Manufacturing Partnership. In addition, it is important to re-focus and improve coordination of manufacturing programs under the Office of Manufacturing Policy’s new structure led by co-chair’s NEC Director Sperling and Commerce Secretary Bryson.

8. Continue and strengthen efforts to foster regional clusters and entrepreneurship

Evidence shows that regional innovation clusters increase jobs and wages. Multiple efforts are already under way within the Federal government to promote and encourage entrepreneurship and clusters and these efforts must continue. In the area of encouraging clusters, efforts include the i6 Challenge (a competitive grant program that encourages innovative partnership models), EDA's efforts through the Taskforce for the Advancement of Regional Innovation Clusters, the Department of Agriculture's initiatives to bring regional strategies to rural areas and the recently reauthorized SBA Small Business Innovation Research and Small Business Technology Transfer programs. To encourage entrepreneurs, the Startup America initiative is increasing access to capital and facilitating mentorships and the Startup America Partnership has launched an online network that provides entrepreneurs access to valuable resources from dozens of companies. Efforts like these will need continued support in the years ahead in order to ensure entrepreneurs have the resources they need to help drive innovation.

9. Promote America's exports and improve access to foreign markets

It is vital that U.S. businesses have fair and open access to foreign markets. To help ensure firms have this access, the Administration launched the National Export Initiative (NEI), and Congress enacted legislation the President submitted to implement free trade agreements with Panama, Colombia, and South Korea. To build on this momentum, the United States is participating in the Trans-Pacific Partnership negotiations, a free trade agreement with key partners in the Asia-Pacific region. This agreement, when finalized, will be a significant step forward as it not only addresses traditional trade issues, but also includes regulatory harmonization, trade and investment in innovative products and services (including digital technologies), and mechanisms to ensure state-owned enterprises compete fairly with private companies.

10. Ensure that the conditions exist in which private enterprise can thrive

The private sector is the engine of innovation in the United States and it is crucial that both established firms and entrepreneurs in the private sector have the best possible environment in which to innovate. To this end, areas that should be the

focus of attention in the United States in the years ahead include reforming the corporate tax system, and ensuring that the intellectual property system continues to function in a way that encourages growth.

The United States is facing economic challenges as important and concerning as any we have faced in our history. Meeting these challenges will require effort and the enactment of policies, such as those listed above and others mentioned throughout this report. However, there is little doubt that the United States can meet these challenges and subsequently become more innovative and competitive, providing new jobs, new businesses, and new industries.