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## ***Developing the Graduate Educated Talent We Need***

### **Council of Graduate Schools Message to the New Administration and Congressional Leaders**

The Council of Graduate Schools congratulates President Obama and the new Congress on their recent election. In the coming weeks, federal policymakers will begin to focus on a number of the country's critical economic and social issues. While pressing economic issues such as the fiscal cliff must be addressed, policymakers must take a longer view and focus on investments that are necessary to maintain our capacity for innovation, the foundation of a vibrant economy and job creation.

For many decades, U.S. graduate education has been a key driver of the nation's economic strength. Despite the loss of manufacturing jobs to lower-cost producers overseas, a high level of technical skills and a capacity for innovation, fueled by the graduate education system, have allowed the U.S. to remain competitive and retain an important role in global economic leadership. Our graduate schools and their research facilities have been consistently ranked among the best in the world (e.g. Times of London Rankings and Shanghai Jiao Tong University Rankings) and from 1997-2009 over half of the Nobel Prize winners in chemistry, physics, medicine, and economics had received their graduate degrees in the U.S.

Yet for a variety of reasons, the U.S. risks losing its dominant position among graduate education systems worldwide. The 2011-2012 period marked the second year of decline in new graduate enrollments, and these declines are driven by broad-based declines in domestic enrollment across most fields. Meanwhile, Europe has made major strides in restructuring its graduate education programs and in 2000 produced more doctorates in science and engineering than the U.S. Countries with rapidly growing economies, such as China and India, are also investing substantially in improving their graduate education systems as well as the undergraduate programs that feed graduate programs. In order for the U.S. to keep pace with its global counterparts and remain competitive, long-term investments in higher education, particularly graduate education and research and development, are imperative.

Investments in U.S. graduate education have a direct impact on our ability to sustain and develop a highly-skilled U.S. workforce. At a recent Congressional hearing, a representative from Microsoft reported that in August 2012, his company had more than 3,400 unfilled research and engineering positions in the U.S., a 34% increase in the number of unfilled positions compared to a year ago. Many other IT companies face a similar situation.

Some elements of the graduate education agenda are achievable in the near term through policy initiatives or reprioritization and enhanced leveraging of funding strategies. Sustaining U.S. competitiveness in the longer term will require the effective use of some new resources that set a target for future investments in an improved and more robust economy. The essential components of a national graduate education strategy include the following recommended actions:

## **1. Prioritize Financing of Graduate Education**

According to the Bureau of Labor Statistics, about 2.6 million new and replacement jobs are expected to require an advanced degree between 2010 and 2020. Yet the Budget Control Act of 2011 eliminated the in-school interest subsidy for graduate and professional students, creating an additional barrier to graduate study for many Americans. Currently, graduate students are paying 6.8 percent on unsubsidized federal loans while undergraduate students retain eligibility for subsidized federal loans at a rate of 3.4%. The effect of this new policy makes it more expensive for students to pursue graduate studies at the very time the country needs to develop more highly skilled talent. Going forward, federal policymakers must provide support for students to pursue graduate degrees in areas of national need so that the country will have the innovation capacity necessary to compete in the global economy.

Principles that should guide the development of policies to support graduate students include:

- Targeting support to students pursuing graduate degrees in areas of national need including energy, cybersecurity, climate change, health care, area studies and foreign language expertise among others.
- Ensuring that graduate students do not pay higher interest rates than undergraduate students.
- Providing funding for graduate students that is linked to indicators of success including completion and job placement.
- Reforming U.S. tax policy to include provisions that support graduate education. Specifically the U.S. should retain tax policies that exempt graduate fellowships and scholarships from taxation along with those that encourage employers to provide financial support to employees to pursue graduate education (Section 127).

## **2. Implement a COMPETES doctoral traineeship program**

The federal government should provide incentives to students to pursue doctoral study in areas of national need while simultaneously strengthening doctoral training more broadly. A strategic investment would be to significantly increase support for graduate education through implementation of a COMPETES doctoral traineeship program. The program should begin with supporting 5,000 new graduate students per year in fields associated with areas of national need, an investment amounting to \$325 million in year one and increasing to a steady expenditure of \$1.625 billion per year as the program reaches its steady state. This type of program was endorsed in a recent report from the National Research Council, *Research Universities and the Future of America: Ten Breakthrough Actions Vital to Our Nation's Prosperity and Security*. The program is needed to develop highly skilled talent and is essential if we are to revitalize the U.S. innovation system and keep the nation competitive in the global economy. Given the current fiscal environment, creative ways of moving forward on this program could include rededication of some current federal funds for doctoral education, enhanced cost sharing by corporate stakeholders, or launching the program as a pilot to assess the initial merits and impacts of a new funding mechanism.

## **3. Establish Visa Policies designed to retain international talent in the U.S.**

U.S. graduate schools continue to attract the best and brightest domestic and international students despite increased competition and investments in graduate education in other countries and regions of the world. Several policy proposals have been put forward in Congress to streamline the process for those international students who receive graduate degrees, particularly in STEM fields, who want to remain in the U.S. and contribute to our economy. Federal policymakers should adopt a 21<sup>st</sup> century

visa policy to retain talented international scholars who receive graduate degrees from U.S. graduate schools to help bolster our economy and spur job creation.

#### **4. Establish a Professional Plus Program for graduate students on research assistantships**

In recognition of the need to strengthen the preparation of graduate students for careers both in and beyond the academy, graduate schools have begun to initiate professional development programs for graduate students, but a key challenge is the lack of capacity within the university to provide these services, especially to graduate students funded on research assistantships. These students are well-prepared in their disciplines, but they must be provided with the opportunity to develop the full range of professional skills such as communication, project management and teamwork that will prepare them for the variety of career options open to them. Employers expect these skills of new hires and graduate students recognize the need to be better prepared for the careers they pursue.

Federal agencies should develop a Professional Plus Program which would provide supplemental support for student enhancement on any grants on which graduate research assistantships are funded. This funding would support professional development programs for all graduate students engaged in research projects with faculty. This type of professional development would be invaluable in terms of preparing researchers with a broader set of skills increasingly needed for research careers of the future. Attention also should be paid to broadening participation in graduate education to mirror the expanding diversity of the U.S. population and to promote opportunities for international research engagement of U.S. students.

#### **5. Support development of Master's degree programs designed to meet workforce needs**

The federal government should authorize a new federal competitive grant program across agencies to build capacity at universities to inspire innovation in master's degree programs and responsiveness to workforce needs.

Each successful program would be required to demonstrate maintenance of enrollment, completion rates, and job placement outcomes as well as ongoing involvement by employers to ensure that programs produce graduates for local, state, regional and national workforce needs. Programs will be required to secure at least two-thirds of program funding from sources other than the federal government. When fully implemented, this program would support development of 1,000 new or reinvented master's programs, including professional master's program in key areas at a broad range of 4-year institutions of higher education. Each institution would be eligible for a one-time \$500,000 5-year grant to support 200 grants per year.

#### **6. Establish a National Goal to increase the proportion of Americans with Graduate Degrees by 2020**

The U.S. has embarked on a goal to once again have the highest proportion of college graduates in the world by the year 2020. This is an important and laudable goal that is necessary to develop the talent the nation needs. Undergraduate education provides students with foundational knowledge and skills, offers graduates a range of employment options, and is important to the creation of a stable economy. However, U.S. graduate education cultivates advanced skills, scientific and technological leadership, and expertise which undergird innovation in a broad range of fields. Now is the time to expand the goal on undergraduate education by taking the next step and investing in U.S. graduate education as a strategic

national asset with an increased emphasis on preparing students for employment opportunities serving societal needs and economic development. In the U.S., 38% of higher education expenditures come from public sources, and 62% are from private sources. What is more, 45% of expenditures on higher education in the U.S. come from households. By comparison, across all Organisation for Economic and Co-operation and Development (OECD) countries, 70% of expenditures on higher education come from public sources, and 30% are from private sources.

For these reasons, we encourage the Administration to establish a national goal to increase the proportion of Americans with graduate degrees by 2020. This companion goal to the undergraduate one would create a pathway system for students that would put them and the country on the right track to prepare the highly skilled talent necessary to maintain our innovation, competitiveness and national security.

In summary, the historic partnership between higher education and government has produced much of the economic success we have experienced over the past 60 years. Like all partnerships, this one must be nourished if it is to continue to thrive. Federal support for graduate education and research must be sustained and aligned with key national goals.

The Council of Graduate Schools and its 495 U.S. member institutions of higher education stand ready to work with the new Administration to maintain our world-class graduate education system. We will fully support new strategies for developing the talent we need to be economically competitive and secure in the 21<sup>st</sup> century global economy.

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