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Needed: a National Strategy to Preserve Public Research Universities

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Public research universities are the backbone of advanced education and research in the United States. They enroll the majority of college students regardless of socioeconomic circumstances, produce the greatest number of scientists, engineers, doctors, teachers, and other learned professionals, and conduct most of the nation's academic research. They are committed to public engagement in every area where knowledge and expertise can make a difference: agricultural extension, economic development, clinical care, the list goes on.

But while public research universities are international leaders in higher education and a source of national pride, they did not achieve their standing by themselves. The 1862 Morrill Land Grant Act provided revenue from the sale of federal lands that allowed states to build public universities to offer educational opportunities to the working class and to conduct basic and applied research on key national priorities like agriculture and industry. That act was a visionary effort to promote a federal-state partnership that spurred the development of outstanding higher education in this country.

Today, however, the state side of the partnership is failing. State support of public universities, on a per student basis, has been declining for over two decades. Even before the current economic crisis, it was at the lowest level in 25 years. As the global recession has deepened, lower tax revenues have driven state after state to further reduce appropriations, with cuts ranging as high as 20 percent to 30 percent threatening to cripple many leading public universities and erode their world-class quality.

This is a time when the strength, prosperity, and welfare of a nation demand a highly educated citizenry and institutions with the ability to discover new knowledge, develop innovative applications of discoveries, and transfer them to the marketplace through entrepreneurial activities. Yet such vital national needs are no longer top state priorities. The model of state-based support of

graduate training made sense when university expertise was closely tied to local natural-resource bases like agriculture, manufacturing, and mining. But today's university expertise has implications far beyond state boundaries. Highly trained and skilled labor has become more mobile and innovation more globally distributed. Many of the benefits from graduate training—like the benefits of research—are public goods that provide only limited returns to the states in which they are located. The bulk of the benefits is realized beyond state boundaries.

Hence, it should be no surprise that many states have concluded that they cannot, will not, and probably should not invest to sustain world-class quality in graduate and professional education—particularly at the expense of other priorities such as broadening access to baccalaureate education. Today, not only is state support woefully inadequate to achieve state goals, but state goals no longer accumulate to meet national needs.

The declining priority that states have given to public higher education makes sense for them but is a disaster for the nation. The growing mismatch between state priorities and national needs suggests that it's time once again to realign responsibilities between the state and the nation for higher education and provide adequate resources to sustain American leadership.

We write "once again" because this is not a brand-new issue. The success of university research in winning World War II—with innovations such as radar and electronics—and Vannevar Bush's seminal report, "Science, the Endless Frontier: A Report to the President on a Program for Postwar Scientific Research" (1945), convinced national leaders that university research was too important for national security, public health, and economic prosperity to allow it to be entirely dependent upon the vicissitudes of state appropriations and philanthropy. Hence, the federal government assumed the primary responsibility for the support of research, now at a level of \$30-billion each year—an effort that has been estimated to have stimulated roughly half of the nation's economic growth during the latter half of the 20th century, while sustaining the nation's security and public health.

Once more, it is time for the federal government to step in and provide the support necessary to keep our crucial graduate programs among the best in the world. Educating scientists and engineers, physicians and teachers, business leaders and

entrepreneurs is vital to developing the human capital that is now key to national prosperity and security in the global, knowledge-driven economy. It cannot be left dependent on shifting state priorities and declining state support.

So how might this work? A new structure would distribute the primary responsibilities for the support of the nation's flagship public research universities among the states, the federal government, and private donors. The states, consistent with their current priorities for enhancing work-force quality, would focus their limited resources on providing access to quality education at the associate and baccalaureate levels, augmented by student tuition and private philanthropy. The federal government would become, in addition to a leader in supporting university research, the primary patron of advanced education at the graduate and professional level. Private patrons, including foundations and individual donors, would continue to provide much of the support for the humanities, the arts, the preservation of knowledge and culture, and the university's role in serving as an informed critic of society—all of great importance to the nation. Those functions would also continue to receive state support because they are essential to high-quality baccalaureate education.

How much additional federal investment will this new approach require? We suggest a magnitude roughly comparable to those of other major federal programs for the support of higher education, such as university research (\$30-billion per year), the Pell Grant program (\$26-billion per year), or the forgone federal tax revenues associated with the beneficial tax treatment of charitable giving and endowment earnings (\$22-billion per year).

Those additional resources would best be allocated to universities based on a combination of merit and impact. For example, competitive traineeship programs might be used in some disciplines, while grants for other fields might be based on graduation rates or the size of graduate faculties or student enrollments. Other grants could be designed to stimulate and support newly emerging disciplines in areas of national priority, like nanotechnology or global sustainability. In all cases, the key objective would be the direct support of graduate programs through sustained block grants to universities—rather than grants to individual faculty members or students.

Of course, such an approach needs further refinement. For

example, additional federal support might require states to match those appropriations or maintain certain levels of support for higher education (even if redirected to focus on undergraduate education). The amount of federal support might vary depending on the size and quality of a university's graduate programs. Additional federal support might require some modification in university governance to represent interests beyond the state. Federal support for public universities might also suggest a loosening of state regulations about in-state enrollment in graduate programs or a strengthening of university control over graduate tuition dollars.

We leave those details to further discussion. What matters now is that, more than ever before, America needs to develop a strategy for building and sustaining a system of research universities that is the best in the world. As the states inevitably play a declining role in the support of advanced education and research, it is time for the federal government to move beyond its policy of giving money only to individuals—students through financial aid and scholars through research grants. It must provide direct support to select institutions with the intent of sustaining those missions of advanced graduate-level training that are of particular importance to the nation.

Most developed nations in Europe and Asia have embraced this strategic approach to creating and sustaining selected research universities at world-class levels. Britain, China, France, Germany, India, Japan, Singapore, and South Korea have established major national grant programs, as have the Bologna Process and the Lisbon Declaration of the European University Association at the regional level. In fact, today the United States essentially stands alone in its failure to develop a national strategy for sustaining the quality of its research-intensive universities.

The nation's earlier vision and commitment to create public universities competitive with the best in the world were a reflection of the democratic spirit of a young America. Flagship public research universities have been vital not only to regional prosperity but also to national security and well-being. Today we face the challenges of a hypercompetitive global, knowledge-driven society in which other nations recognize the positive impact that building world-class universities can have. America already has them. They are one of our nation's greatest assets. Preserving their quality and capacity requires bold national investment.

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