

# THE 2007 STATE NEW ECONOMY INDEX



BENCHMARKING

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TRANSFORMATION

IN THE STATES

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technology development and export promotion throughout the country.<sup>171</sup> As a result, states should not only provide their share of matching funds but also provide additional support to enable MEP centers to help manufacturers develop new products and find new markets. For example, the Hosiery Textile Center, located on the campuses of two community colleges in western North Carolina, helps the large number of local hosiery firms (as well as firms located in other parts of the country) to compete in a global environment through training, R&D, testing, e-commerce, environmental services, and new product development.<sup>172</sup> Where appropriate, the MEP program should partner with states in development of such sector-based support programs.

## CO-INVEST IN THE SKILLS OF THE WORKFORCE

States need to adopt policies to ensure that companies in the United States have the skilled workers they need to be productive, while simultaneously ensuring that American workers have the skills they need to navigate, adapt, and prosper in the New Economy. States can do several things to improve the skills of the workforce:

### *Improve the Quality of Teaching in Colleges and Universities*

In an economy where more than 60 percent of high school graduates attend college, and where many jobs require the kinds of skills taught in college, it is critical that a state's colleges and universities are focused on the highest level of excellence in teaching undergraduates. Unfortunately, this is often not the case. As the recent Spellings Commission report on the future of higher education noted, "There are also disturbing signs that many students who do earn degrees have not actually mastered the reading, writing and thinking skills we expect of college graduates. Over the past decade, literacy among college graduates has actually declined."<sup>173</sup>

There are a number of reasons for this, but perhaps the most important is that in many colleges and universities, faculty are held accountable not for the quality of their teaching, but their production of peer-reviewed scholarly publications. Teaching, and ensuring that students can think, write and perform at the highest levels, is often an afterthought.

Solving this problem will not be easy. Nor is it clear exactly what the right remedy is. But there is one helpful and easy step states should take. **States should require any higher education institution getting state support to participate**

**in the National Survey of Student Engagement (NSSE) and make the results public.** The NSSE, initially launched with support from The Pew Charitable Trusts, is designed to obtain, on an annual basis, information from scores of colleges and universities nationwide about student participation in programs and activities that institutions provide for their learning and personal development, including their views of the quality of teaching.<sup>174</sup> The results provide an estimate of how undergraduates spend their time and what they gain from attending college. Survey items reflect behaviors by students and institutions that are associated with desired outcomes. Yet, what is remarkable about the survey is that participating institutions generally do not release the results so that parents and students can benchmark them against other universities and colleges. Requiring that this information be made public would put pressure on colleges and universities to improve their undergraduate teaching. States should also require state supported colleges and universities to report the completion rate and time to degree for each degree program, disaggregated by gender, race, and ethnicity.

### *Increase the Supply and Quality of Scientists and Engineers*

If America and states are to succeed in the innovation-powered global economy, boosting science, technology, engineering and mathematics (STEM) degrees is particularly important. The number of Americans majoring in math and science has failed to keep pace with demand. The only factor keeping severe shortages from occurring has been foreign immigration of scientists and engineers. But America may not be able to depend on this pipeline in the future, as other nations, such as China and India, are becoming more attractive and are experiencing less brain drain.<sup>175</sup> More STEM degrees would spur both national and state growth. Goldstein finds that higher percentages of graduate science degrees among all degrees awarded in a region are associated with increases in per-worker earnings.<sup>176</sup> States could take three steps to expand the supply of scientists and engineers:

**Encourage universities to institute Professional Masters of Science and Engineering programs.** As subdisciplines within sciences emerge and industry expresses needs for employees with particular skills, universities have begun to establish professional masters degree and certificate programs as a means of preparing a needed workforce or as a means of mid-career change for professionals in such fields as biotechnology, nanotechnology, and computer sciences. Because of this rise of interest, particularly in the sciences, the Sloan Foundation launched a Professional Master's Degree project in 1997. The program has grown to more than

1,300 students enrolled in more than 100 programs distributed among more than 50 universities. These programs tend to be more interdisciplinary than traditional doctoral programs and provide an alternative to doctoral education for students who enroll in them. States should work to expand these programs and create new ones, especially programs that have stronger ties to industry, such as engineering co-op programs and internships.<sup>177</sup>

**Tie state higher education funding to increases in degrees awarded in STEM fields.** A significant share of college students intending to major in STEM fields do not graduate with STEM degrees. States can help encourage universities and colleges to do a better job of increasing STEM degrees by rewarding institutions that increase STEM degrees. For example, Ontario's Technology Opportunity Program provided \$228 million over 3 years, matched by \$136 million from the private sector, to universities and colleges that commit to meeting goals for significantly increasing enrollments in fields such as electrical engineering, computer and software engineering, communications engineering and computer science.

**Create and expand specialty math and science magnet high schools.** Policy makers are increasingly focused on increasing the number of scientists and engineers, and toward that end on improving science education in high school. Perhaps the most effective strategy to achieve that is to expand the number of students enrolled in specialty math and science high schools. Several states have established high schools with an emphasis on mathematics, science and technology, such as the North Carolina School for Science and Mathematics in Durham and the Illinois Mathematics and Science Academy in Aurora. Other states have worked with local school districts to establish schools, such as Thomas Jefferson High School in Alexandria Virginia and the Eleanor Roosevelt High School in Greenbelt, Maryland. These schools are a powerful tool for producing high school graduates with a deep knowledge and strong passion for science and math that translates into much higher rates of college attendance and graduation in scientific fields.<sup>178</sup> Moreover, there is evidence that they are able to engage women and minorities in STEM fields more effectively than traditional high schools. As a result, states should provide incentives for local school boards to establish and expand specialized math and science high schools.

### ***Increase the Skills of Incumbent Workers***

The shift to more knowledge and innovation-intensive activities does not mean that it is sufficient to educate more college graduates. States also need to ensure that all workers

have the higher skills they and their employers need. There are several things they can do:

**Co-invest in industry-led regional skills alliances.** The workforce development system, largely supported by the federal government, has historically done a poor job of working closely with employers. To the extent that states work directly with firms, they tend to use training dollars as part of recruiting or "retention" deal-making, and simply end up subsidizing a company for the training it would have undertaken anyhow, and it rarely leads to significant improvements in worker skills and productivity. Regional skills alliances (RSAs) address both limitations by creating industry-led partnerships that address workforce needs in a specific region and industry sector.<sup>179</sup> Several states have aggressively moved in this direction. Michigan has provided competitively awarded startup grants and technical assistance to 25 industry-led regional skills alliances. Pennsylvania's \$15 million Industry Partnerships program brings together multiple employers in the same industry cluster, and workers or worker representatives when appropriate, to address overlapping human capital needs. To date, the state has helped support 86 industry training partnerships in different sectors. Washington State established its system of skills panels that engage businesses to devise strategies to close skill gaps by creating public-private partnerships among business and labor representatives from a specific industry and educators serving that industry.<sup>180</sup> One example there is Yakima County's Lean Manufacturing training initiative, which has worked with more than 50 companies and more than 330 employees to help companies understand and implement lean manufacturing practices. In many of these cases, community colleges play a key role in not only providing industrially-relevant training, but also serving as hubs for these skills alliances.

**Create incumbent worker training programs funded through a supplemental unemployment insurance tax.** A number of states, including California, Delaware, Indiana, Minnesota, Massachusetts, New Jersey, Rhode Island, and Tennessee, assess a small surcharge on the unemployment insurance (UI) tax to pay for employer-based training. For example, Rhode Island assesses an additional 0.2 percentage point surcharge on employer UI taxes to fund an employer-based training grant program. Much of the training funds go to joint company projects targeted to upgrading the skills of workers in key industrial sectors. These programs not only improve company productivity and reduce the risks of layoffs; they provide skills to workers so that if they are laid off they can get back to work more quickly.