

# Making room for dissent

Washington has reached an easy consensus on the need to train more scientists and engineers but, argues **David Goldston**, the United States needs to consider a broader approach to combat global competition.

Congress is an institution that tends to thrive on conventional wisdom. That may, in part, reflect the types of people it attracts — ‘maverick’ is not usually a term of affection on Capitol Hill — but the trait is also inherent in a body that has to reach broad consensus to get anything done. Ideas and data that don’t contribute to a gathering consensus often fail to be absorbed or even heard. And notions that don’t promote the agenda of any interest group may end up orphaned with no one to promote them.

The current congressional debate on competitiveness is a case in point. The conventional wisdom was encapsulated cogently in the National Academy of Sciences’ 2005 report *Rising Above the Gathering Storm*. One of its main themes was that the United States is producing too few scientists and engineers because of weaknesses throughout the nation’s education system.

The conclusion was familiar and sounded like common sense, and was also politically convenient. Industries that were being taken to task for sending jobs overseas or hiring immigrants could point to the study and argue that their actions reflected deficiencies in the US workforce that required long-term responses. Advocates for school systems and universities could use the report to lobby for increased funding. The recommendations in the report were fairly quickly embodied in legislation and eventually in some proposals from the Bush administration, such as the American Competitiveness Initiative. The media also picked up the theme; *Time*, for example, ran a cover story in February 2006 titled “Is America Flunking Science?”

The chorus of approval that greeted *Gathering Storm* drowned out a line of counterpoint offered by some economists who study labour markets and competitiveness. In fact, the number of US citizens and permanent residents who earn bachelor’s and master’s degrees in science and engineering has generally been on the rise for almost 20 years, according to data compiled by the National Science Foundation (NSF). Does this mean that the United States has enough science and engineering students? Not at all, but it’s a statistic that ought to at least be part of the discussion, especially when, as economists Leonard Lynn and Harold Salzman note: “Only a third of qualified four-year college graduates in science and engineering continue in those fields.” Science and engineering train-



## PARTY OF ONE

ing can be useful in other fields, of course, but that still leaves the question of how best to attract students to science and engineering careers, if that’s what the nation needs.

I’ve never heard any economist argue that the United States shouldn’t invest more in improving science education or in ensuring that the country remains a leader in innovation. But many do argue for more ‘nuance’ than the current policy debate provides. At a recent National Academy workshop on future skill demands, some economists contended that salaries for scientists and engineers are too low. Others pointed to surveys indicating that what employers want are scientists and engineers with better ‘soft’ skills, such as communication. One study found that some biotech firms are trying to push more work down to the technician level, which could affect future demand for PhD scientists.

None of these ideas has the simplicity and coherence of the *Gathering Storm* recommendations, and none contributes in any obvious way to the agenda of an interest group. As a result, Congress hasn’t spent much time discussing, say, what might be done to increase the demand for, rather than just the supply of, scientists and engineers, or what sort of training they should be getting in the liberal arts. Rather, in an era of unprecedented global competition, most of the policy ideas are simply recycled proposals from the competitiveness debate that occurred two decades ago, when the United States felt threatened by Japan.

Incomplete debates now could well lead to a backlash later. The last time a perceived shortage of scientists became a focus of discussion on Capitol Hill, when the Reagan administration was proposing to double the NSF’s budget, the

House science committee ended up investigating whether the agency had purposely manufactured a shortfall in scientists and engineers. Exaggerated promises (however sincere) about the impact of producing more scientists and engineering students may not be good for stable science funding in the long-run.

One of the few dissenting voices on science policy has been John Marburger, head of the White House Office of Science and Technology Policy. Marburger has openly questioned aspects of the prevailing consensus on increasing science funding and the output of PhD scientists and engineers — mystifying some science advocates in Washington and infuriating the rest. He has also called for the development of a ‘science of science policy’ to address fundamental questions such as: how do you determine the appropriate level of spending for science? In response, the NSF has started a programme to fund such research. But Marburger has gone further, arguing in a speech in May that the US government can’t possibly afford to support all the new PhDs being churned out by universities.

Marburger is right to call attention to this long-standing concern about whether the population of researchers is growing too fast to be fed by the federal budget. But his antagonists on this issue can legitimately argue that the size of the budget pie isn’t fixed, and another administration with different tax and foreign policies might allocate even more money to science. The matter isn’t likely to be debated seriously until the message comes from another White House.

For now, Congress is likely to move ahead with the Administration’s proposal to double the budgets of key physical science programmes over ten years, while providing more money than requested for other science agencies. And it is poised to pass legislation authorizing the approach called for in the *Gathering Storm*.

What needs to happen next is one of those rare, but essential periods when Congress is perplexed enough to scan the full horizon for new diagnoses and prescriptions — including some that are yet to be formulated. The next consensus will have to rely less on a reflexive turn to politically safe, time-honoured ideas if the United States is to keep enough high-value jobs to sustain its standard of living. ■

**David Goldston is a visiting lecturer at Princeton University’s Woodrow Wilson School of Public and International Affairs.**