A matter of choice

The United Kingdom's tough budget for science may force researchers to pick winners and losers. But can it work?

Most newly elected governments like to spend, but when the United Kingdom's coalition government came to power on 12 May, they looked to cut back. The new coalition, comprised of the left-leaning Liberal Democrat and right-wing Conservative parties, saw itself with little choice. The United Kingdom, like many western nations, has spent more than it has received in recent years, and its deficit has ballooned.

To bring things under control, George Osborne, the newly elected chancellor of the exchequer, unveiled what he described as an "unavoidable budget" on 22 June. The plan promised to slash most government departments — including those overseeing research — by at least a quarter over the next four years. "I am not going to hide hard choices from the British people", Osborne pledged. "This budget is needed to deal with our country's debts."

As the cuts are finalized over the summer, the UK's physical sciences community will have to make some hard choices of their own. Under the previous Labour governments of Tony Blair and Gordon Brown, the budget roughly doubled to £3.4 billion in 2007–2008. The money, allocated through independent research councils, was 'ring-fenced', meaning that it couldn't be raided to meet other government needs. In addition to healthy levels of grant funding, the Labour government provided universities with extra money to rebuild aging laboratories and start new research centres in popular fields such as nanotechnology. It also funded large facilities such as the Diamond Light Source at the Rutherford Appleton Laboratory in Oxfordshire. Although some management missteps have created anxiety, few could argue that the physical sciences are not stronger now than they were twenty years ago.

Those days of growth are over. Most research councils are now preparing to absorb heavy cuts in their budgets. Some large items, including subscriptions to organizations like CERN and the UK Centre for Medical Research and Innovation, a £600 million institute in central London, will probably be protected for the time being. But that will mean fewer research grants for scientists, and more down-time at

The UK's tough austerity budget delivered by George Osborne has led some to call for funding to go to the best researchers first.

large facilities built during the boom years. When the government's next multiyear budget, known as the comprehensive spending review, is laid out in late October, researchers can expect to be faced with some tough choices.

The trick will be to maintain that strength even as budgets decline, and already a mantra is emerging among the scientific elite: more for the best, less for the rest. The idea is often mooted by Paul Nurse, the incoming president of the UK's Royal Society who has called for a special programme to support the best and brightest young researchers in the UK. Others are taking similar action — the Wellcome Trust, the UK's largest medical charity, has begun to use grants to target individuals it considers leaders in their fields.

This elitism is not confined to biomedical sciences. Earlier this spring, the Engineering and Physical Sciences Research Council rolled out a plan to penalize researchers who had three or more unsuccessful applications over the course of a year. The move is designed to raise success rates in a time of difficult budgets by lowering the number of mediocre applications the council receives (*Nature Materials* **8,** 535; 2009).

There are some serious risks associated with this strategy, and particularly as budgets narrow, the elitist attitude has the potential to do great harm. On university campuses, vice-chancellors will be looking for under-performing science departments to cut, or close. The research councils themselves may be drawn into internecine warfare over which subjects, and fields, the UK should try to excel in. The previous Labour government was eager to push the UK's leadership in biomedical research, and some researchers believe that they did so at the expense of more abstract fields like particle physics. The elitist attitude among scientists could now lead them to make similar choices — with divisive and disastrous consequences for the scientific establishment as a whole.

Despite these risks, putting the best a little before the rest may be the only way to preserve science in the UK in a time of austerity. Protecting the best individuals will help ensure that scientific enterprise can grow again when a recovery begins. And bringing a tighter focus to the research strategies of universities might actually help institutions increase their global impact in certain fields.

The key will be to ensure that elitism does not become an arbitrary exercise. As well as finding the best people or departments, chancellors and administrators should work to ensure that the research base continues to be home to a diversity of ideas. Sometimes this will mean looking beyond the trendiest field or most productive lab, to find individuals with risky ideas. Similarly, the community as a whole must ensure that a diversity of sub-fields continue to be supported throughout the UK, so that they are not left out of the next serendipitous discovery.

Researchers outside the UK may want to take a special interest in how it manages, or fails to manage, this crunch time. Many other European nations, along with Japan and the United States, are facing record deficits, and cuts are likely in the years to come. ❐