

Creating better opportunities

With the number of PhD students in the UK growing at an ever increasing pace, **Luke Sibbett** warns that a lack of funding for science could leave them with much poorer job prospects

Between 2000 and 2009 the number of PhD graduates at UK universities rose by an incredible 60%, according to figures from the Organisation for Economic Co-operation and Development. While you may think this would result in a boom for our “research economy”, unfortunately this has not been the case. From 1999 to 2009 the UK’s expenditure on R&D as a percentage of gross domestic product (GDP) remained flat overall, with the Office for National Statistics showing that investment in science in 2012 – the latest available figure – dropped by a further 7% in real terms on 2011 levels.

Clearly then we have a problem. On the one hand we are churning out increasing numbers of highly trained researchers, yet at the same time research funding is dropping. This can only mean it is, and will be, even harder for those PhD students who wish to stay in academia to do so. The rapid rise in postgraduate numbers means that the raw human resources are there to sustain the university research sector, but if research funding is in decline then the resources invested in training are being wasted as overqualified postgraduates are forced to look elsewhere for work.

One reason why researchers find it relatively easy to secure funding for PhD studentships is that they are effectively cheap labour and represent good value for money in terms of producing papers for their supervisors. Indeed, more postgraduates leads to healthy competition for postdoc positions, meaning that they can be filled with the best possible candidates. While this may be good for the overall health of research, it is to the detriment of all the young researchers the system depends on.

The problem is that, in the pressure to achieve results to secure more funding, research groups have come to rely on students to secure their existence. What’s more, except for a lucky few who get an early breakthrough paper in a big journal, most PhD students who remain in academia are faced with several years of short-term postdoctoral posts before they even have a chance of securing a permanent position.



Boom time? PhD numbers are up, funding is down.

More stable postdoc jobs should lead to better science

While academics are not deliberately exploiting their students, it seems to be a consequence of the entire system of short-term research grants aimed at specific goals. Of course, a lab would not be sustainable if all its members were highly paid professors, but having an overabundance of early-career researchers means that there is no need for research councils to change their system. Any job that comes up is gratefully filled by one of the many PhD holders looking for work, so the research is carried out regardless.

Keeping talent

The passion for science that I and other prospective PhD students and researchers have works against us. While I enjoy research, a career in academia is a scary thing – so much uncertainty, so much hard work and no guarantee of rewards. If I did a postdoc and my research project went down a dead-end, there would be nothing to show for it despite several years’ work and no publications with which to hook a new job.

Low pay is one thing, but the uncertainty of an academic career where positions are temporary and the competition is high means I am already worrying about the future. I am preparing to change tacks after a PhD if the opportunities in academia are not there. If we really are producing more researchers than we need, many will simply turn away from science and pursue other

careers. These will not necessarily be the least talented people, just those who know that an academic career is a risk and there are many more stable and better paid jobs out there.

I believe one way to make scientific careers more sustainable is to cut down on the number of PhD positions and increase the funding for postdocs. This would make the career of a postdoc much more stable, and remove many of the uncertainties that drive people out of research. It would also help to address the imbalance between researchers and jobs in academia. If postdoc positions were more stable and secure, career progression within academia would become more attractive, resulting in less lost talent. While postdocs are more expensive to hire, their extra experience should mean that they are more efficient workers than PhD students, and do not require the same level of supervision.

Some might say that cutting competition for research positions might make researchers too cosy and so less productive. However, the current situation may be producing bad science for the opposite reasons. In the *Guardian’s Anonymous Academics* blog, one postdoc last year wrote of data being “massaged” or “published in haste, only for it to be proven wrong”, in an attempt to justify past funding or attract more. Directing funding away from PhDs to longer-term, more stable postdoc positions should hopefully lead to better science, carried out by more talented and experienced individuals than now.

Rather than waste resources in training more researchers, universities could instead make PhDs more selective. By redirecting the funds into more, longer-term, postdoctoral positions, an academic career can seem more stable, preventing a loss of talent due to poor career prospects. It would lessen the divide between the insiders at the top of the ladder and the outsiders carrying out the research, so an academic career becomes a sustainable means of making a living without having to break into a privileged inner circle.

I only hope that the passion for science that drives young researchers into academia does not allow the system to continue to take advantage of them.



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