

From the President
Professor Sir John Tooke PMedSci
info@acmedsci.ac.uk
020 3176 2156

9 September 2015

Mr Iain Wright MP
Committee Chair
Business, Innovation and Skills Committee
House of Commons
London

Dear Chair

I am writing as President of the Academy of Medical Sciences, an independent body representing the diversity of medical science within the UK. Our elected Fellowship includes the UK's foremost experts drawn from a diverse range of research areas, and we welcome the opportunity to respond to the Committee's review of **Fixing the Foundations: Creating a more prosperous nation**, the Government's recently published productivity plan.

The plan sets out a long-term agenda for stimulating UK productivity, which lags significantly behind competitor nations. Throughout the document, and specifically in Chapter 8, the clear link between research and national productivity is highlighted. We welcome this recognition of the research base and its value to the UK, but would urge the Government to set out a firmer commitment to the research community, building a broad agenda for growth on the foundations of recent developments such as the 2014 Science and Innovation Strategy.¹

Long-term investment

The plan calls for investments to be made with long-term vision, an approach well-established in biomedical research (and other research areas) where the discovery pipeline can span over a decade. The Government should recognise that public investment must also occur over a stable and long-term horizon in order to yield optimal results. Funding cuts may risk removing support for research areas and expertise, which are then likely to be lost from the UK research base even if funding is later reinstated.

By setting a clear vision for the community, coupled with appropriate resource, the Government has an opportunity to lead by example and demonstrate a commitment to research as a source of growth and increased productivity. It has been demonstrated that by leading from the front, public funding creates a 'crowding in' effect – driving up commitments from private and charitable sources. This has appreciable rewards even in the short-term – the protection of the science budget in 2010 is estimated to have leveraged an additional £1.2bn of private investment that would have been lost without a ringfence.² A Government seeking to boost productivity should recognise the leveraging power of public research spending and the ripple effect generated across the entire economy.

The research community has already made significant efficiency savings, and is committed to evaluating the economic impact of health research. A series of reports commissioned within the sector have demonstrated that each £1 invested in research into cancer, cardiovascular disease and mental health returns respectively 10p, 9p

¹ Our plan for growth: science and innovation, HM Treasury and BIS, 2014

² Economic Insight, What is the relationship between public and private investment in R&D? 2015

and 7p each year in perpetuity.^{3,4} A fourth study, focussing on musculoskeletal research, is due to report in 2016. These figures are then further boosted by a wider 'spillover' return generated within the broader economy, with imminent analysis expected to show this at least doubles the direct return figures.

The plan highlights the drag on productivity created by impaired resource allocation, and the Committee may wish to consider how constrained public funding weighs on the delicately balanced ecosystem of funders. To function optimally, the commitments of the different funders – public, private and charitable – must remain balanced so that they can work together synergistically to tackle research priorities. Failure to effectively achieve this goal may risk reducing the impact of all three contributors, and the value generated by mechanisms such as the Charity Research Support Fund should be considered.

Mobility and skills

We welcome acknowledgement within the plan that investment goes beyond equipment and facilities, and encompasses the education and training of a skilled workforce. As the UK seeks to transition towards a knowledge economy able to generate growth, the value of talented individuals is greater than ever before.

The noted reduction in the 'churn rate' of employees between positions since 2008 is of particular concern. Mobility is a critical to ensuring that the skills generated within the research base circulate both within and outside the sector to best deploy talented individuals across areas of need. The importance of facilitating mobility between sectors and disciplines is further addressed in our joint statement with our sister Academies.⁵

Dissemination

The plan notes that just 13% of UK growth in recent decades came from knowledge created in the UK, reinforcing the need for continued receptivity to new ideas. The rapid recognition and adoption of new innovation requires a strong UK research base with dynamic global connections, a level of connectivity fostered by collaboration and international career pathways.

Almost half of UK scientific publications have a non-UK co-author – this international focus not only helps us attract globally-mobile talent, but also supports the dissemination and adoption of knowledge generated abroad.⁶ Coupled with the importance of Foreign Direct Investment to the UK, we would urge the Government to continue seeking ways to boost international collaboration with schemes such as the Newton International Fellowships.

Diversity

The Academy supports diversity within the research workforce, and the Government's plan recognises the contribution to productivity growth that stems from promoting equal opportunity. Geographical diversity is also of great value to the research base when productive hubs are efficiently networked together, capitalising on the UK's geography to create a 'macro-cluster' of interdisciplinary and inter-institutional collaboration. The Government has recently demonstrated its commitment to this concept, through a programme to identify local clusters of excellence, and our report on Geographical Clusters (launching September 2015) further explores this area.⁷

Productivity and research

Investment in research must form a central pillar in the Government's strategy to boost productivity – 51% of productivity growth from 2000–2008 was due to innovation, and firms which consistently invest in R&D are

³ Universities: efficiency and value for money, UUK, 2013

⁴ Medical Research: What's it worth? Estimating the economic benefits of cancer-related research in the UK, 2014

⁵ Building a Stronger Future, joint National Academies, February 2015

⁶ International Comparative Performance of the UK research base, Elsevier, 2013

13% more productive than those which do not.^{8,9} The research base is a key national asset for closing the productivity gap – its world-class performance generates high-value jobs, innovative solutions and export earnings for the nation, a level of impact reflected in the recent Research Excellence Framework assessment.

However, anchoring this excellence in the UK is increasingly relying on reputation, rather than resource. Our international comparative advantage risks not only being under-resourced at a critical moment of national need, but suffering atrophy in favour of global competitors, a process which will not be rapidly reversed.

As the UK seeks to rebalance its economy and tackle major issues such as low productivity, it is vital that Government strategy effectively supports and resources the research base to provide its contribution. We urge the Committee to push for further commitment in this area, so that the UK can fully capitalise on its advantages and the rewards they bring.

I would be delighted to discuss this further with the Committee.

Yours sincerely

A handwritten signature in black ink, appearing to read 'John Tooke', with a long horizontal flourish extending to the right.

⁸ Our plan for growth: science and innovation (evidence paper), HM Treasury and BIS, 2014

⁹ Innovation and the UK knowledge economy, Cable, V, 2014