

The Future of Research and Innovation in Wales

Unattributed summary of roundtable organised by CaSE, the Learned Society of Wales and Swansea University on Wednesday 17th June 2020

This roundtable discussion – with participants from across Wales’ diverse research and innovation (R&I) community, including industry, academia and both the Welsh and UK Governments – was convened to explore the distinctive role R&I can play in Wales can to supporting prosperous communities. The strengths of Wales in R&I and the barriers to increasing research intensity were discussed.

Our purpose was to begin the broad-based discussion Wales needs on its R&I future. We aimed to identify key issues facing the nation’s role in the UK’s ambitious plans for increased investment in research and development.

Wales is high on talent, but short on capacity and lacks adequate representation on key UK bodies. Wales should be engaged at national and local levels in the UK-wide ‘levelling up’ agenda, and needs to develop appropriate strategies to transform its R&D performance.

This summary of the discussion is not CaSE policy but will form part of its ongoing programme of work on the place agenda. CaSE are leading discussions across the UK to collect an evidence base on place-based R&I interventions and how different sectors collaborate to facilitate local economic growth. This follows on from the publication of CaSE’s report ‘The Power of Place’.

Summary of enablers of and barriers to enhancing research and innovation in Wales

STRENGTHS	CHALLENGES
<ul style="list-style-type: none"> • High research quality throughout the country 	<ul style="list-style-type: none"> • Underrepresentation of Welsh actors within UK funding bodies
<ul style="list-style-type: none"> • Agility of the research base 	<ul style="list-style-type: none"> • Until now, low levels of unhypothecated research funding
<ul style="list-style-type: none"> • Strong history of piloting innovative research funding 	<ul style="list-style-type: none"> • Low volume of research funding from UKRI
	<ul style="list-style-type: none"> • Potential loss of pivotal ERDF investment



Opening remarks

We were delighted that Professor Graeme Reid and Professor Paul Boyle gave introductory remarks.

Professor Reid began by reflecting on his work, commissioned by the Welsh Government and published in 2018, to undertake a review of government funded research and innovation in Wales. The review was brought forward in a rapidly changing environment with the desire to restructure post-16 education, the creation of UKRI and what this might mean for Wales, and the effects of the UK leaving the European Union. Many of the review's recommendations have already been acted upon by the Welsh Government and the Higher Education Funding Council for Wales (HEFCW), such as establishing a research office in London, increasing the number of Welsh representatives in UK research funding agencies, and reestablishing Knowledge Exchange (KE) funding to Welsh universities.

It was said that Wales is struggling to keep pace with increases to UK research budgets, whereby it has not managed to capture the amount it could have expected to. This is occurring at the same time as the UK will lose access to European Union Structural and Investment Funds (on which Wales has been particularly reliant) and the future of the UK's involvement in EU research programmes faces great uncertainty. This presents the research sector in Wales with a great challenge, attempting to solve these issues in the wake of the Covid-19 pandemic.

Professor Boyle talked about the challenges that Wales faces. It was noted that the public funding of research in the UK has been much lower than many international competitors for a long time and that Wales was receiving less money than the quality of research warranted. Wales has also been more reliant on collaborations with the EU, both in terms of funding and in research partnerships.

A report for the Scottish Government, which had a section comparing the four UK nations, showed that Wales has a higher number of patents and publications from research than the UK average, more publications per £m of research investment and a larger share of the top 1% of publications. It is clear that the quality of research in Wales is high, but resourcing remains a problem. While other countries, particularly England, have greatly increased levels of unhypothecated quality-based funding such as the Higher Education Innovation Fund (HEIF), Wales has not matched this level of spending. It is felt that Wales has lost a lot of additional value that could have been created from such funds, which are crucial to retaining links between businesses and universities. However, it was positive that HEFCW had recently reintroduced the Research Wales Innovation Fund.

The Covid-19 pandemic has caused great uncertainty for universities in their intake of international students for the coming academic year. Income from international students has already provided a cross-subsidy for research in universities and the UK Government has already established a taskforce to address the issue.

It was said that Wales is well placed to grapple with the UK Government's 'place' agenda. It is important for Wales to build on the quality of research it already undertakes to create a more research-intensive country. In order to capitalise on this, it is crucial that organisations are more competitive in bidding for UK funds for research and innovation.

Challenges and opportunities for Wales

There is an important challenge for the public sector in Wales to help with driving innovation. It was noted that businesses in Wales had been successful in bidding for GovTech Catalyst and Small Business Research Initiative (SBRI) funding. Y Lab, a partnership between Cardiff University and



Nesta, has been working as part of the Cardiff Capital Region City Deal on how the public sector can work with the private sector to stimulate sectors of the economy affected by the Covid-19 pandemic.

The public sector plays a key role in how research and innovation can bring benefits for the entire country. Research and innovation are about the creation of knowledge and using that knowledge to grow productivity. The desire to grow research intensity is not only for 'elite' sectors but for the benefit of everyone in Wales by creating new opportunities and building wealth.

There are many building blocks in place in Wales, including a good geographical spread of research and innovation across the country. The main issue remains volume of research, not the quality of research. It was said that more encouragement is needed to afford more time to individuals who bid for research funding; indeed, the Reid Review recommended financial incentives should be made available to those bidding for research funding. Only by breaking the cycle of low volumes of research investment can Wales expand its research portfolio.

Wales is nimble enough to be able to position itself to make the most of challenge funds and has a good history of being innovative with new types of funding. Several attendees highlighted the Sêr Cymru programme, which has been very successful in promoting excellent Welsh research and creating new partnerships with organisations across the UK. However, some innovative aspects of Sêr Cymru, such as the National Research Networks, no longer form part of the programme; this could make it more difficult for Wales to reap the benefits of some of the most exciting research.

It was said that in the wake of the Covid-19 pandemic, now was the time to try to think of how research partnerships are formed. Some challenges are ever-present in research and innovation, but many appear with little warning such as the current pandemic. To respond to these challenges, research organisations need agility, which it was felt Wales could capitalise on due to its size. This can also allow Wales to make the most of challenge funds that are coming from the UK Government. The Research Wales Innovation Fund would be important in this endeavour, and it was noted that universities with a strong past performance would receive larger amounts of such funding.

Representatives from some of Wales' smaller universities noted that it can be particularly difficult to engage in large value research grants because of the matched funding element. Smaller institutions also have lower numbers of international students so have to rely more heavily on teaching surpluses to support research. It is extremely difficult for teaching-led universities to increase their research capacity with low levels of QR funding and little access to Innovation Funds. Even small increases to budgets could be transformational for smaller institutions.

Within the Welsh Government, one challenge is that five government departments have some responsibility for R&I. The Chief Scientific Adviser for Wales is seeking to coordinate activities and use this coordination to act as a conduit to speak to UK-wide organisations such as UKRI. Engaging with the UK Government is seen as the next challenge; it is said that BEIS works with Wales in a constructive way, but Welsh Government is seeking more opportunities to work together as equal partners.

It was felt that CaSE's recommendation in the 'Power of Place' report, about supporting research excellence regardless of its size, was important for Wales. A principled discussion will be required to enable Wales to do more to support nascent pockets of research.



It was also felt that in order to increase Welsh research intensity, more needs to be done to increase the number of people in Welsh research, including early career researchers. The role of early career researchers in fostering new links should not be underestimated.

Reflections on the discussion

The UK Government's endeavours to 'level up' the nations and regions of the UK will rely on the devolution of responsibility, which already exists within Wales' governance structures. The agenda to support local and regional economic growth will be acted on most effectively by local and devolved leadership that understands the issues on a local level and can support local communities. The Higher Education sector is very important in growing research intensity in Wales and must reflect on how universities can step up to support the wider research landscape.

The full economic cost of research grants remains an issue and will need to be addressed. If current funding models continue to operate as they are now, increases to public funding only increase the amount of money organisations have to find to make the research projects viable. Smaller grants that are accessible in a shorter period of time should also be a priority to support all types of research.

Next steps

Aligning with, and driving, the central challenges in the UK Government's "Research and Development Roadmap" will be crucial next steps, and both CaSE and the Learned Society of Wales have an important role to play.

The Society plans to organise further events in Wales on this theme in the coming months, addressing in more detail questions such as:

- How should universities, industry and the public sector collaborate more effectively in the aftermath of Covid-19?
- How can Wales increase its own investment in R&I, as well as becoming more competitive in bidding for UK funds?
- How can all our universities increase their research capacity, including their ability to respond positively to the place agenda?
- How do we ensure that Wales's voice is heard within the UK R&I landscape and the UK Government's 'levelling up' agenda?