University of South Wales

Inquiry into research and innovation in Wales

1. To what extent do you agree with this view and how can Welsh Government ensure that an increase in one type of research activity doesn't mean the other type loses out?

The above statement suggest that although university research pushes the boundaries of knowledge it may not necessarily help solve immediate challenges facing Wales and indeed beyond. We believe this understanding is incorrect, for a number of reasons, including:

   (a) The significant increase in the assessment of university research impact through the Research Excellence Framework (REF) exercise is already changing the culture of academic research to align it more closely with real world challenges.
   (b) All projects that seek funding, such as those from Research Councils UK require a clear pathway of impact and a route to solve specific challenges whether that be economic, societal or cultural.
   (c) As a university that was founded on the needs of industry, applied research is a key part of our mission and our research activity is already significantly directed at challenge-led research through the various funding programmes within Wales (e.g. aligned to strategic/grand challenge areas) and indeed now more so through UK wide programmes such as the Industry Strategy Challenge Fund.

The PCET consultation highlighted the need for activities (research and innovation) to be developed and funded in a complimentary fashion and not at the expense of each other. The proposed methodology of allocating funds on both a hypothecated (challenge led) and un-hypothecated (e.g. Quality Research Funding as a result of the Research Excellence Framework outcomes) can enable this.

Welsh Government has said it wants to bring all research funding together and that this funding should then be available to small and medium-sized enterprises (SMEs), large private businesses, and other organisations as well as universities and colleges.

2. To what extent should businesses and other organisations be able to receive Government research funding that might have otherwise gone to universities and colleges? How could this be done without under-funding some organisations – might there be unintended consequences?

We agree that all research (and innovation) funding for all organisations should be brought together within an overarching organisation such as Research and Innovation Wales. Indeed, we would suggest greater alignment than the proposal as some funders e.g. Health and Care Research Wales, WEFO, SMART, sector deals etc remained outside the scope. It is suggested that all funders, covering all stakeholders and all aspects of RD&I activity, at all Technology Readiness Levels (TRLs) be aligned.

There is an assumption in the question that other organisations would attract funding that universities would have otherwise got. Why would this be the case? There are already significant avenues for funding for business from Welsh and UK programmes. Have there been analyses of these as to whether available funds accessible by businesses and other organisations, such as SMART, Innovate etc are exhausted or oversubscribed? The proposal is also subject to the Reid review implications which include an uplift on funds available to universities of £30M per annum.

Research activity within university's and business may be at different stages of development or translation and it is important not to prioritise one over the other. Priority should be given to bringing the two together, enhancing collaboration and knowledge exchange.

Businesses do not necessarily have the capacity or the equipment to carry out research. Funding them instead of universities would be counterproductive as it would mean that results arising from the funding will be less widely disseminated across the region. There are already significant funding programmes for industry including the ISCF so any further redirection of WG funding to businesses will make little difference in the wider business funding landscape.

In a recent review into research funding, it was argued that there was a strong risk of university research and innovation interests overshadowing the research and innovation interests of private businesses. But it didn't then go on to suggest a way of stopping this happening.

3. What needs to be done to ensure businesses and their interests are not over-shadowed by universities when it comes to research and innovation funding and activity?

The significantly increased importance of impact has already made a marked difference to the research activity within university's and business which may be at different stages of development or translation and it is important not to prioritise one over the other. Priority should be given to aligning the needs of both sectors by increasing funding for collaborative research, knowledge exchange and enterprise activities.
The removal of Innovation & Engagement funding from universities in Wales has hindered this university-business-government interaction and put Wales at a competitive disadvantage to other regions within the UK. Reintroduction of funding for knowledge exchange and enterprise activities where both business and universities mutually benefit is needed.

In the academic year 2016/17 there were 241 graduate start-ups reported by Welsh universities with an estimated turnover of £56 million, this was almost double the turnover of university staff start-ups in the same year.

4.   What is currently in place from universities and Welsh Government to help and support student and graduate entrepreneurs turn their ideas into successful ventures?

At the University of South Wales (USW), there are a number of developments that have been initiated to support greater entrepreneurial activity amongst students and graduates.

USW has created the post of Assistant Pro-Vice Chancellor in Enterprise - currently held by Professor Dylan Jones-Evans - to develop and drive forward a new enterprise strategy for the institution that will further embed enterprise education and entrepreneurship across all faculties in the institution.

USW Student Enterprise is the main facility that helps students and graduates start their own business or social enterprise, become self-employed or work on a freelance basis. It also promotes and support the development of enterprise and entrepreneurship skills within the curriculum. For those students and graduates who want to explore a business idea, one to one mentoring appointments, networking opportunities, workshops, funding (through BID and the Alumni Awards Emerging Entrepreneur category) and the USW Freelancers Academy (a Start-up boot camp).

During 2017-18, USW Student Enterprise had the following KPIs:

- o   2785 Students engaged with student enterprise
- o   90 student and graduate business ideas were supported
- o   55 Enterprise, inspiration and skills sessions delivered
- o   £8,270 seed funding awarded to new start-ups
- o   Two new entrepreneurship categories were launched at the Alumni awards
- o   25 student/ graduate start-ups (final figure tbc)

USW is supporting overseas students to start their own business via Tier 1 Graduate Entrepreneurship Visa programme. For example, Pranavindra Lal (2017 Music Technology graduate) was awarded a visa to develop his business idea PhaseBox.io - an open marketplace for musicians and music professionals.

With support from HEFCW, USW is currently developing its own graduate incubator at its campus in Cardiff. This will have desk space for up to 36 new businesses and will deliver pre-commercial incubation facilities to a minimum of 150 graduate-led SMEs over five years and support to a minimum of 100 students to develop new ideas over the period 2019-2023.
In partnership with BeThe Spark, USW organised the first ever Welsh HE-FE Entrepreneurship Forum in January 2018 which showcased and shared best practice linked to HE Business Links, Enterprise Development and Spin Out programmes.

USW works closely with the Entrepreneurial eco-system in Wales, particularly Big Ideas Wales and Business Wales, referring students to the additional support when relevant so they can benefit from mentoring, workshops and signposting.

5. **Is this support systematic and consistent across Wales and is there more Welsh Government and others could do?**

If Welsh Government is to support graduate entrepreneurship within academic institutions in Wales, then it must understand how this is being supported by universities (which is currently not the situation). This could include the following:
- Evidence that entrepreneurship is a strategic objective of the university and there is top-down support for its development
- Long-term financing of staff costs and overheads for enterprise education and entrepreneurship support is an agreed part of the university's budget.
- Recruitment of academic staff takes into account not only academic experience and expertise but also entrepreneurial attitudes, behaviour and experience
- Incentives and rewards for entrepreneurship educators, professors and researchers who actively support graduate entrepreneurship
- Clear evidence that entrepreneurship education is being integrated into curricula and the use of entrepreneurial pedagogies is advocated across all faculties.
- Dedicated facilities for business incubation on campus or support to gain access to external facilities such as Welsh ICE or E-Spark.

Whilst it is important that each academic institution develops its own strategic approach to supporting entrepreneurship internally, there is also additional support that Welsh Government and other bodies can provide to universities to support greater levels of entrepreneurial activity from the student and graduate population. This would enable entrepreneurship support in universities to be closely integrated into external business support partnerships and networks in Wales and could include:

- Greater financial support from Welsh Government - linked to key performance indicators – to deliver enterprise education and entrepreneurship support across higher education in Wales
- More dedicated business support for graduate businesses via the Business Wales programme (including a specific portal for graduate entrepreneurs)
- A proportion of HEFCW's Innovation and Engagement Fund to be focused on incentivising universities to support higher levels of graduate entrepreneurship, especially in key sectors
- Having a dedicated graduate enterprise manager within the Development Bank of Wales to support access to funding for graduate entrepreneurs.

The recent review of research made recommendations to help incentivise businesses and universities to work closely together on research and innovation to take their collaborations to "greater heights".

6. What are businesses and universities able to offer each other when they work in collaboration on research and innovation projects?

Universities are able to offer new and novel ways of thinking to deal with a pressing challenge within a business where businesses are offering an

opportunity to deploy this thinking in a real world environment possibly resulting in impact and a range of benefits for all.

University benefit - Curriculum improvements to align with industry skills requirements, demonstrating impact of research and developing new research opportunities. Academic staff are able to maintain knowledge of industrial challenges.

Business benefits – opportunity to accelerate growth and raise investment by absorbing know-how and research results from university.

7. Should Welsh Government and others be doing anything differently to bring smaller businesses together with universities to collaborate on research and innovation projects? What is working well and what isn't?

We know from our work with regional businesses that they struggle to know what universities can offer and how to find out. There is often confusion as to who to contact within the education system and this is a significant barrier to businesses engaging with universities. At the University of South Wales, we have developed a physical and virtual "front door" to business called Exchange. The role of Exchange is to highlight opportunities for engagement which are mutually beneficial to both the university and the external organisation. Exchange is a single point of contact for organisations to engage with the university, with staff in Exchange "triaging" enquiries and directing them appropriately. Since opening its doors in September 2017, Exchange has welcomed 350 businesses onto the university campus at Treforest. We plan to extend the initiative across all campuses in the coming months.

Smaller businesses often have a lower absorptive capacity for R&D and they are also more susceptible to changes external environment. This can make longer term research projects less appropriate to meeting their needs. Therefore shorter tactic interventions are more appropriate. For example, KTP is a very good scheme which has proven success for transferring knowledge and building capacity within businesses which leads to bottom line improvements. Projects lasting between 1 and 2 years are optimal.

8. What should Welsh Government and others be doing to help businesses use the knowledge gained from research activity and turn it into marketable products or improved services?

Reinstate the funding for innovation and engagement. The lack of qualified technology transfer professionals to facilitate the commercialisation of university IP by businesses is a major barrier to business growth and raising investment in wales.

Provide more consistent service for business innovation growth in partnership with universities and business. Existing programmes appear to be fragmented and provide little visible impact on developing a culture of collaborative working between businesses and universities. The WG should champion a change in this environment by funding universities and businesses to work together in a shared environment that will see the strengths of both cultures being shared for mutual benefit. Considerable progress was made with the open innovation

programme initiated by WG and this needs to be capitalised on by allowing universities and businesses to co-create innovation projects.