



Science, Innovation and Technology Committee inquiry: innovation, growth and the regions

Universities Wales response

January 2025

[Call for Evidence - Committees - UK Parliament](#)

About Universities Wales

Universities Wales represents the interests of universities in Wales. Our membership encompasses the Vice Chancellors of all the universities in Wales and the Open University in Wales. Our mission is to support a university education system which transforms lives through the work Welsh universities do with the people and places of Wales and the wider world.

Universities Wales welcomes the opportunity to provide evidence to the Committee.

Overview

- **Economic growth is crucial to the wellbeing of society.** While much of that growth will continue to come from London and the South East, there is a pressing need to **address regional economic wellbeing** to avoid political and societal instability and sustain good quality jobs across the nations and regions of the UK.
- Policy should be developed carefully such that **long-term regional traction** is derived from investments, securing long-standing benefits from a new approach to regional investment.
- **Welsh universities are critical research and innovation assets**, [making up 37% of Welsh research and development expenditure](#), and leading the UK for research that is considered world-leading or internationally excellent for [impact](#).
- Welsh research and innovation activity delivers **tangible benefits to people and places in Wales**, [acting as regional anchors and drivers of growth](#),

incubators for start-up and spin-out companies, and partners in R&D for businesses of all sizes.

- In their own right, Welsh universities make a **substantial economic contribution** [generating £10.97bn of economic impact](#) through teaching, research, exports and institutional expenditure.
- Welsh universities have jointly created the [Wales Innovation Network](#) to improve collaboration, build upon our strengths and increase our share of UK research and innovation activity. This Network provides a clear engagement point for UK Government and partner agencies, and a forum for identifying and developing research and innovation opportunities in Wales.

Barriers to growth

- The cliff-edge of funding caused by the **loss of EU Structural Funds**, and the inadequacy of replacement funding, has had a highly detrimental impact on universities' research, innovation and skills activity in Wales.
- **Complexity of regional investment landscape** – local authorities, Welsh Government, growth deals, investment zones and free ports – need to be complementary and ensure value.
- Standards in **local and regional public infrastructure**, both physical and digital, can be restrictive - including transport infrastructure, investment in electricity distribution and access to 5G networks.
- **Uncertainty over four-nation approaches** and join up in the research and innovation environment pose barriers to competitiveness.
- **Skills and talent:** the workforce in Wales is, on the whole, older and less well qualified than elsewhere in the UK. This position will likely be compounded by the [higher education participation gap](#) between Wales and the rest of the UK. The cross-border flow of students and graduates reduces the available talent pool within Wales, and the need for greater join-up between skills and R&I policy agendas.
- **Policy uncertainty:** Past uncertainty surrounding the graduate route and migration policy more broadly has presented barriers to attracting global talent.

Recommendations

- **Devolve regional investment funding** to Welsh Government, ensuring that innovation funding is restored to Wales via an effective and appropriate replacement to EU Structural Funds.
- Develop new, easily accessible vehicles for supporting innovation whilst **securing investment and benefit in the places that need it most.**
- Ensure that all actors involved in the innovation ecosystem **engage extensively across the breadth of the UK**, taking into account the distinct demographic, business and innovation contexts of the nations and regions,

and ensuring that funding opportunities reflect the different business and research environments across the UK

- **Exercise caution in utilising England-specific structures and mechanisms,** such as Research England, for delivering UK-wide aims
- **Provide certainty internationally** by maintaining relevant immigration routes while reviewing how **immigration policy can better serve the economies of the UK's nations and regions.**

1. How does the Government drive research and innovation in our regions?

- **How effective are the government's policies in supporting the innovation ecosystem across the UK's nations and regions, particularly through commercialisation initiatives?**

Our response to this question relates to how UK Government policy impacts upon the environment in which universities in Wales are operating under the dual funding system. Universities are fundamental players in the innovation ecosystem across Wales, however recent policy churn at a UK level, and the financial instability facing the sector as a whole, undermine Welsh universities' capacity to deliver economic growth to their full potential.

The wider financial challenges facing the university sector in Wales, and the UK more broadly, present a key risk and limitation in the ability of the research, development and innovation infrastructure to develop. For example, fees and grant funding no longer cover the cost of teaching UK undergraduates or delivering research and innovation activity. With the volatility in international recruitment placing additional financial pressure on institutions, universities are having to make difficult decisions to secure their long-term sustainability. These decisions could limit or inhibit the ability of the sector to capitalise on opportunities for research, development and innovation. Given the relative importance of universities in the Welsh research and innovation ecosystem – higher education research and development accounts for 37% of Wales' research and development expenditure – this presents even greater risks to Wales than other parts of the UK. The skills and talent pipeline is essential to support growth, but is a key challenge from a Wales-perspective given the demographics of our workforce, which is on the whole older and less well qualified, and the education participation challenge we face.

Working across the UK

Engagement between the devolved administrations and relevant parts of UK Government and UKRI can be highly variable depending on individual relationships or historic engagement. This can lead to the development of UK-level priorities or funding competitions that do not reflect the breadth of the UK. Ensuring a joined-up approach will help address barriers to securing growth.

When developing support for commercialisation, UK Government should consider the most appropriate vehicles for that support, including how that support can drive commercialisation across the UK. For example, what may seem like an arbitrary decision on whether commercialisation support is considered innovation funding (via Innovate UK) or university knowledge exchange support (via Research England) has considerable implications for the operation of research and innovation within the devolved nations.

We note that the Devolution White Paper proposes that established mayoralities will get an annual meeting with the science minister, more regular engagement with senior staff at UKRI, and the chance to be consulted on the development of

relevant DSIT and UKRI strategies. The selective England-focused nature of these opportunities risks disenfranchising devolved nations and may unintentionally establish an England-first approach. It is essential that devolved administrations are included in the same way as MCAs in this sort of engagement.

Replacement ESIF funding

A central enabler for research and innovation in Wales are the opportunities presented by collaboration, including our ability to leverage the diverse strengths of universities. This collaborative environment was well-demonstrated through the benefits Welsh universities delivered through European Structural and Investment Funds. National schemes such as [KESS2](#) enabled Welsh universities to link companies and organisations with academic expertise to undertake collaborative research projects, working towards a PhD or Research Masters qualification. However, the loss of ESIF, and their subsequent inadequate replacement through the UK Shared Prosperity Fund, has had a damaging impact on the capacity of Welsh research and innovation. In March 2023, Universities Wales identified 60 projects and 1,000 staff roles at risk as a result of the loss of EU Structural Funds. The vast majority of these projects were in the research, innovation or skills environment. The UK Government's commitment to review the arrangements for providing structural funds replacements should consider how best to ensure that this capacity within Wales can be strengthened. Replacement funds should support long-term planning and large scale regional and national collaboration within Wales.

Thus far, replacement funds such as the Regional Innovation Fund, have been short-term, limiting the ambitions of recipients and undermining partnerships. Short-termist funds also affected the confidence of private co-investors. Funding initiatives need long-term stability in order for impact and crowding-in to be measured. Return is typically 3 times greater 10-15 years after public investment than when measured 1 year after investment, and the previous government's policy churn negatively affected how this was measured and promoted to private investors.

The loss of European Structural Funds led to a cliff-edge for university innovation, skills and business support projects across the UK, with many people with industry-facing roles in universities being made redundant. Innovation ecosystems are fundamentally driven by relationships. Therefore, when short-termist policies lead to funding cliff-edges and redundancies, this has a negative effect on commercialisation activity. Relationships take time to build but can easily be lost.

Looking forward, there are lessons to be learned about the efficacy of policies that encourage short-termist outlooks, churn and cliff-edges. There is scope to maximise regional innovation by allocating funding across the UK via the same means by which ESIF were deployed.

- **How should devolution be harnessed to support innovation across the regions and nations, and what role should local government play in supporting research and development?**

Devolution of policy to Welsh Government level supports Wales' potential to lean into its strengths in R&D and map its skills needs appropriately. Wales has its own Innovation Strategy, and Welsh Government has developed its Regional Investment Framework in line with regional and local priorities.

There is an interdependency between a region's economic growth and the development of its skills base, so it is of fundamental importance that policy is devolved appropriately to cater to local opportunities and needs.

Regional Skills Partnerships (RSPs) in Wales are designed to work with partners to identify skills gaps and work with policymakers and skills providers to meet those needs, and City and Growth Deals bring innovation policy closer to universities and regional stakeholders to harness investment and accelerate economic growth. Thus there is a role to be played by regional consortia in economic development policy. However, with 22 local authorities in Wales, devolution to a local government level risks creating too piecemeal a picture, and cutting universities, which largely operate at a regional and national level, out of the equation, as was experienced as the UKSPF was distributed via local authorities.

A productive model of devolution of innovation and growth policies is for Welsh Government to continue to implement its Regional Investment Framework, in partnership with regional consortia and partners such as RSPs and City and Growth Deals. Welsh Government should continue to run Regional Investment board which could provide wider oversight and include all stakeholders ([RRIIOs](#)).

ASTUTE 2020+

The [ASTUTE programme](#) brings together several Welsh universities and partners spanning a large region, working across numerous local authority areas.

Funded by the European Regional Development Fund (ERDF) through the Welsh Government and participating industrial partners and Higher Education Institutions, ASTUTE 2020+ provided support to over 540 Welsh enterprises, and created and safeguarded over 1020 jobs across Wales since its inception in 2010.

Demand-led by industry, ASTUTE 2020+ collaborated with companies, providing unique access to world-class academic experts, highly qualified researchers, technology, and research facilities, encouraging the stimulation of ideas and facilitating the adoption of change through research, development, and innovation (RD&I). It stimulated growth in the Welsh Manufacturing Industry by applying advanced engineering technologies to manufacturing challenges in three key specialist areas:

- Advanced Materials Technology,

- Computational Engineering Modelling,
- Manufacturing Systems Engineering.

Led by Swansea University in partnership with Cardiff University, Aberystwyth University, the University of Wales Trinity Saint David, and the University of South Wales, the collaborative research undertaken by ASTUTE 2020+ and their industry partners has improved over 640 new-to-market and new-to-firm products, processes, and services. Welsh enterprises reported increases in revenue and follow-on investment as a result of their engagement with ASTUTE 2020+, with one company predicting revenue increases of up to £12 million. Over £28 million worth of internal follow-on RD&I investment and £18 million additional external funding was secured by ASTUTE industrial collaborators.

The [Wales Innovation Network](#) works collaboratively across universities, brokering partnerships, providing seed funding and supporting collaborative bids for competitive funding, capitalising on Wales' unique strengths. WIN works productively with Welsh Government in identifying ways the sector can meet innovation priorities, and how funding can be deployed most effectively. WIN also provides a clear engagement point for UK Government and partner agencies, and a forum for identifying and developing research and innovation opportunities in Wales.

For all these reasons, the UK Government would see a better return by channelling regional investment funding through the Welsh Government.

- **How do factors such as the tax system, regulatory frameworks and standards influence the success of start-ups, spin-outs, and other innovation-driven businesses?**
- **What challenges do innovation-focused researchers and businesses face in spinning-out or scaling-up, such as accessing venture capital, infrastructure and intellectual property rights.**

Innovation-focused university researchers face various challenges when spinning-out and scaling-up. Many of these relate to infrastructure, regulatory frameworks or accessing private investment, including venture capital.

Universities Wales is supportive of the role of the next REF exercise undertaking a carefully managed assessment of research culture.

As mentioned above, standards in local and regional public infrastructure, both physical and digital, can be restrictive - including transport infrastructure, investment in electricity distribution and access to 5G networks. Regulatory frameworks, such as planning restrictions, can also prove challenging.

The short-termism of many existing publicly funded interventions to encourage innovation discourages crowding-in and match investment. The churn of funding initiatives makes it difficult to measure impact, and therefore promote return on investment to prospective investors. Policy instability also affects investor confidence in high-risk innovative sectors and technologies.

The UK Government's announced £40 million proof of concept fund in the Autumn Budget is a welcome intervention to address cooling investor interest, however it is likely that demand for this funding will be high. **The government should ensure proof of concept funding is rolled out and evaluated (especially against demand), ahead of a larger fund being established.**

There are also opportunities to encourage the development of venture capital funds across the UK's regions, directed at university spinouts. The [British Business Bank](#), which has been supporting the spinouts system, has the potential to scale up funding and further mobilise capital for spinouts, particularly outside the South East of England, through a dedicated spinout venture capital fund.

More investment, including through UK sources, in the [Wales Development Bank](#) could have a transformational impact– to include a specific extended role in relation to university commercialisation.

A greater role for R&D tax credits linked to dual investments between businesses and universities, or a more comprehensive system of innovation vouchers, could drive more economic growth.

2. How does research and innovation in our regions drive growth and prosperity in those regions?

Universities, as key anchors of research, innovation and skills development in our regions, contribute significantly to the Welsh economy. According to the [latest data from London Economics](#), the total **economic impact of Welsh universities' research and knowledge exchange activities is £1.98bn** every year. The majority of that is **productivity spillover** into the private sector: research conducted by Welsh universities in 2021-22 resulted in total market sector productivity spillovers of **£1.33 billion**.

The total combined impact of teaching, research and innovation is approximately £10.9bn For every £1 of public money invested in universities across Wales, £13 of economic impact is generated.

- **How effective are regional innovation hubs and clusters in supporting regional growth and prosperity for local communities?**

Clusters are an integral part of regional growth and prosperity, including through supply chain, and provide a focus for investment. Scale can only be realised by strong innovation ecosystems which depend upon a strong higher education sector. Universities play a crucial role in developing, supporting and growing

clusters. The agglomeration of talented people, research and innovation produces a gravitational pull, attracting high-growth companies to co-locate with universities. This produces a symbiotic relationship in which academics draw upon industry insights and challenges, and process and apply these in their research. Meanwhile, companies draw on talent and collaborate with research teams in deep partnerships.

Building cybersecurity skills and growth in South Wales

Cybersecurity is one of the six priority sectors that has been identified by Cardiff Capital Region (CCR). A £6.6m South Wales [Cluster Development and Growth Programme](#) sees universities, further education and private skills providers collaborate to help people develop the skills needed for a career in the sector, creating a talent pipeline for local organisations. Industry-academia partnerships help move knowledge from university-based experts into the sector, while business growth support helps local cyber businesses to scale. CCR's venture skills and talent programmes match the right people, roles and employers in the cluster. The Cyber Innovation Hub (CIH) is a £20m co-investment between CCR and the Welsh Government with the aim of transforming South Wales into a leading cyber security cluster by 2030. CIH is led by Cardiff University and supported by the University of South Wales, the Alacrity Foundation and TramShed Tech, and aims to create a world-class pipeline of new cyber-security products, high-growth businesses, and technically-skilled talent.

Clusters do not grow in isolation, they need supportive ecosystems that can grow, sustain and enable them to thrive. Universities are one part of this continued support.

At present there is a crowded field of funding mechanisms which include freeports, investment zones, growth deals and prosperity funding. Greater clarity on the role of these funds and the appropriate regional approach will be required to deliver growth outcomes. It is our view that the **Welsh Government**, which has legislative responsibilities in relation to the Welsh economy, **is the appropriate body to provide planning and oversight of these mechanisms in Wales.**

- **How regional Cluster growth can best be measured, mapped, and monitored to help inform local leadership and evidence-based policymaking in Whitehall.**

The development of clusters is long term and lumpy, meaning that mapping can be particularly challenging in the initial stages.

The [economic analysis of the Compound Semiconductor Cluster](#) in South Wales demonstrates how clusters can be measured. When measuring impact it's important to be mindful of perverse incentives such as exclusively measuring spinouts, as licensing may be a more effective vehicle for commercialisation of new technology, or specifically measuring local impact when the benefit may be more widespread throughout a national or global supply chain.

- **Would unlocking investment at scale for innovative science and technology companies support regional growth, and how could this be done?**

Unlocking investment at scale for innovative science and technology companies to support regional growth **could be effective, provided universities are embedded as partners in investment opportunities**. This will ensure that investments made in companies are anchored in the regions in which that investment is being made. Furthermore, research from the [Royal Academy of Engineering](#) shows that university spin-outs have longer lifespans than other start-ups. Only half of all startups survive for longer than five years, but [the average lifespan of an academic spin-out is 8.8 years](#).

Investment in innovation hubs alongside universities can have significant benefits. Such investment needs to be long-term, with funding to support ongoing operation as well as capital funding to develop infrastructure.

UK Government could choose to establish further [Innovation Accelerators](#), to pump-prime growth in areas demonstrating potential for economic growth. The Welsh innovation sector would be well-suited to this investment to attract further private R&D investment and develop future technologies by harnessing existing strengths. These could be an important part of Investment Zone strategy.

Also critical is a balance of investment between basic research and support for development of new products and services further along the technology readiness scale.

- **Should there be region-specific innovation and growth policies, and what should local government's role be in this?**

In Wales, the Welsh Government, via its Regional Investment Framework and Innovation Strategy, is the appropriate overarching body.

As mentioned above, the direct involvement of Wales' 22 Local Authorities in the distribution of the UK Shared Prosperity Fund demonstrated how hard it can be to deploy funding strategically at regional or national level via local authorities. We would argue that RSPs continue to serve a purpose in identifying skills needs, and innovation and growth policy should continue to be led by Welsh Government via its Regional Investment Framework and Innovation Strategy. This should be

delivered in partnership with Wales' universities as significant assets underpinning the R&D landscape of Wales.

3. How is research and innovation diffused or supported to drive productivity and growth in the regions, wherever it may come from?

- **What more can be done to ensure that innovation investments deliver tangible outcomes for both local and national economies, in terms of productivity and growth, and how should this be assessed?**

The key to ensuring that innovation investments deliver tangible outcomes for both local and national economies is to support universities to be integrated within the innovation ecosystem. To this end, there needs to be certainty around investments and continued public investment into universities, to ensure benefits to local and national economies. This includes sustained long-term investment in university research through QR and ensuring appropriate replacement funds for European Structural Funds.

As mentioned previously, there is a crowded field of funding vehicles which include freeports, investment zones, growth deals and prosperity funding. Greater clarity on the role of these funds and the appropriate regional approach will be required to deliver growth and assess impact.

- **To what extent do Catapults support technology diffusion, and drive both national and regional growth?**

Catapults can serve as a positive part of the innovation ecosystem, encouraging universities to work collaboratively, and helping to build relationships across the sector, however it is vital that universities are embedded within regional clusters and catapults local to them, to encourage collaboration rather than fostering competition. As part of this, there is scope for Innovate UK to develop its understanding of university strengths and priorities within its remit.

This collaboration extends to greater partnership working between universities and industry, improving the supply of academics into businesses and business leaders into academia. This porosity deepens relationships and supports technology diffusion in an organic way.

In addition, Catapults align with the university ambition of connecting skills to innovation. Catapults focus on the translation of research to innovation and early adoption of new technologies, taking into account the skills that will be needed to facilitate this.

Compound semiconductors catapult

[CSconnected](#) (compound semiconductor cluster) brings together the growing number of advanced semiconductor related activities in Wales – including universities, academic institutions, prototyping facilities and global, high-volume manufacturing capabilities that collaborate across a range of research and

innovation programs. CSconnected is a strong example of the impact of clusters on Wales and the UK - increasing trade in key sectors such as 5G communications, autonomous/ electric vehicles, advanced medical devices, and consumer electronics of the future.

CSconnected received government funding provided through UKRI's Strength in Places Fund (SIPF), building on Wales's regional strengths through research excellence and a unique regional supply chain in compound semiconductor manufacturing. Global CSC companies located in South East Wales include Vishay and KLA: [£51 million Newport investment latest chapter in Wales' compound semiconductor success story | GOV.WALES](#)

In 2023, CSconnected cluster members [directly supported around £265.2m of Welsh GVA and 1,773 employees](#). Each £1m of GVA directly generated in the CS cluster supports an additional £0.44m of GVA elsewhere in the Welsh economy. Overall, this results in the cluster supporting directly and indirectly an estimated £381.3m of Welsh GVA.

- **How well are universities and businesses coordinating efforts to develop and commercialise research, including the role of spin-outs and collaborative R&D projects?**

There are various ways in which Welsh universities support start-ups and spin-outs, and the commercialisation of research and innovation more generally.

[Wales has the highest rate of graduate start-ups per capita of the UK nations, and a higher proportion of start-ups still active after 3 years.](#)

The Wales Innovation Network supports Welsh universities' knowledge exchange activity to enhance their ability to commercialise research and innovation. All Welsh universities offer business support and a variety of services to incubate start-up and spinout companies.

University of South Wales spinout support

The University of South Wales (USW) is committed to broadening its external engagement to ensure the widest impact in terms of knowledge exchange, commercialisation and entrepreneurship. Through linking business/graduate incubation support with knowledge exchange and civic/community engagement, it has developed a holistic approach to business support. An example of this is the USW spinout Llusern Scientific, which was supported from early stage research and commercialisation, through to business support and incubation space. Llusern has since gone on to secure significant external investment. [Llusern Scientific secures Seed Investment from The Development Bank of Wales – UK Tech Investment News by Deal Lite](#)

USW has invested in this collaborative way of working, with the development of its new Newport Engagement Hub, which provides a space for community, business (including graduates and alumni) and academic collaboration to

innovate and grow. [Newport Campus refurbishment improves facilities for users - University of South Wales](#)

Key to impactful industry-academic collaboration is a single front door to academic expertise, and at USW this is facilitated through USW Exchange. [USW Exchange - University of South Wales](#) Exchange fosters early stage collaborative scoping and engagement, as well as supporting strategic partnership activity and opportunities for challenge based learning in the curriculum.

In addition, the Committee welcomes submissions on the following points:

- **What is the relationship between investment in innovation and economic growth, both regionally and nationally?**

As set out above in response to question 2, there is a significant return on investment delivered by universities' teaching, research and innovation activity. [For every £1 invested in Welsh universities, £13 of economic growth is produced.](#)

According to the [latest data from London Economics](#), the total **economic impact of Welsh universities' research and knowledge exchange activities is £1.98bn** every year. The majority of that is **productivity spillover** into the private sector: research conducted by Welsh universities in 2021-22 resulted in total market sector productivity spillovers of **£1.33 billion**.

- **Is the £20.4 billion research and development budget delivering value for money and economic growth, and what metrics should be used to evaluate its effectiveness?**

This is a critical budget for driving change in public services, social wellbeing and economic growth. There are numerous game-changing examples and investment return remains high in multiplier terms.

- **How are funding bodies such as UKRI and ARIA contributing to the UK's innovation ecosystem and delivering the government's growth missions?**

UKRI is a key driver of the innovation ecosystem but its regional approach is weak at present. A productive working relationship with key stakeholders is key to ensuring Wales and other regions have the opportunity to prosper.

As set out in response to question 1, the UK Government should give careful consideration to the most appropriate vehicles for commercialisation support and the implications of its decisions for devolved nations. What may seem like an arbitrary decision on whether commercialisation support is considered innovation funding (via Innovate UK) or university knowledge exchange support (via Research

England) has considerable implications for the operation of research and innovation within the devolved nations.

- **How does the UK's innovation ecosystem compare to those of other countries, and what lessons can the UK learn from international models in terms of commercialising research and innovation to benefit both regional and national economies?**

The Wales Innovation Network (WIN) is currently reviewing the commercialisation activities of Welsh universities in order to make recommendations on future strategy. This includes how universities become more effective at attracting investment.