Place-Based Approaches to Research Funding

This document presents summaries from two roundtables organised by the British Academy on place-based approaches to research funding, convened to help inform the development of the Place Strategy as part of the UK R&D Roadmap.
Introduction

The British Academy organised two roundtables to help inform the UK R&D Place Strategy, which is currently being drafted by the Department for Business, Energy and Industrial Strategy. The first roundtable took place on 3 September 2020, chaired by Professor Julia Black FBA and focussed on the potential future role of place in SHAPE (Social Sciences, Humanities and Arts for People and the Economy) knowledge exchange and its funding mechanisms. The second roundtable, on 9 September 2020, was chaired by Professor Simon Swain FBA and discussed considerations for governance of place-based approaches to R&D funding. Roundtable participants were drawn from academia, funding bodies, business and local government and the discussions were conducted under the Chatham House Rule. British Academy staff have drafted this summary of the main points surfaced by participants during the two events.
Participants:

Professor Julia Black CBE FBA (Chair of roundtable 1), Strategic Director of Innovation and Professor of Law, LSE

Professor Simon Swain FBA (Chair of roundtable 2), Vice President for Research and Higher Education Policy, The British Academy and Vice-President (Regional and National Engagement), University of Warwick

Stephen Bashford, Director of Business and Skills, West of England Combined Authority

Liz Flint, Chief Business and Innovation Officer, Brunel University

Professor John Goddard OBE, Professor of Universities and Cities, University of Birmingham

Professor Anne Green, Professor of Regional Economic Development, University of Birmingham

Steven Heales, Head of Innovation and Science Commercialisation, Greater Manchester Combined Authority

Ben Jarman, Service Sector R&D Lead, CBI

Professor Michael Kenny, Inaugural Director, Bennett Institute for Public Policy, University of Cambridge

Professor Philip McCann, Chair in Urban and Regional Economics, The University of Sheffield

Professor Sir John McCanny CBE FRS FREng, Emeritus Professor, Queen’s University Belfast

Hannah Richmond, Devolution Lead and Principal Policy Adviser, CBI

Professor Mary Stuart CBE, Vice Chancellor, University of Lincoln

Professor Mark Tewdwr-Jones, UCL Bartlett Professor of Cities and Regions, University College London and Chair of the Regional Studies Association 2017-2020

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Key messages

The following key messages emerged across both workshops. Further detail and background from each workshop can be found below.

**Level up local intelligence capability through a range of coordinated evidence activities:** The foundation for devolving funding decisions to localities should be based on evidence and this evidence function should be coordinated, for example through initiatives to understand local intelligence capabilities. Understanding how networks and business relationships work, how individuals learn about the systems in place, and where institutions turn to for support are important data from which effective policies can be developed. Current approaches are too ad-hoc, too contingent upon individuals, and too heavily directed by current external and internal methods of assessment and measurement. Universities – working in partnership with local governments – can take on this local intelligence capability role, building on their role as brokers and facilitators.

**Link R&D with skills policy:** Place-based research funding offers the opportunity to increase regional productivity by spatially aligning various policy fields which are inherently linked but administered separately. In R&D, research and experience of innovation adoption point to the central role of absorption, which requires a skilled workforce for high performance and high productivity business. For a place-based model to be successful, skills policy and funding requires alignment with research, development and innovation funding to allow absorption and adoption of basic and applied research within regions. Spatial alignment between innovation and skills funding would also increase the speed - a crucial factor for businesses - at which innovations can be adopted.

**Design new metrics to capture SHAPE and service sector innovation:** It is difficult for SHAPE disciplines to demonstrate the value they add in a system where the metrics more easily capture outcomes from STEM-focused research. The service sector has been seen as lagging behind in terms of innovation; we know that this isn’t the case, but it is difficult to measure and understand the sector’s innovation and productivity as most indicators are built on definitions of R&D as deployed in manufacturing. Alternative assessment criteria which consider the distinctive features of research and innovation for SHAPE disciplines, and of R&D in the service sector, should be developed.
Have an experimental approach to devolved R&D funding: There needs to be an accepted level of experimentation – and consequently of failure – with a mutual learning element built in if we are to determine what works and what doesn’t in devolved funding. An initial outcome-related single funding pot (evaluated by the outcomes achieved), potentially via an expansion of the Strength in Places Fund, could provide a flexible approach which could be embraced by local leadership and allow integration of R&D with complementary skills policy. Any replacement to existing EU structural funds will require local co-design and long-term orientation, rather than being top-down, short term, and competitive. The experience from the Science and Innovation Audits implies that future regional intelligence and priorities need to consider strengths and needs from across the region, not just within its universities.

Use SHAPE expertise to design a devolved funding model: Innovation adoption is an inherently spatial process. Successful programmes in innovation adoption which lead to improvements in productivity consist of small improvements in a large number of businesses. But the effects are regional: replicating it requires a specific understanding of businesses and their practices in a particular place. Where processes of knowledge exchange need to be designed and funded, SHAPE experts can play a brokerage and facilitation role by joining up existing networks. That is a task which will vary by institution and place. In a truly place-based approach there should not be a standard model: there are standard ‘ingredients’ but the way they come together will have to be tailored.
1. Knowledge exchange and funding mechanisms

1.1 The role of SHAPE and service sector R&D in reducing the UK’s regional productivity gap

How does research in SHAPE subjects complement STEM in the processes of innovation and adoption?

Participants discussed how research and innovation are different activities; they require different people with different personalities, knowledge, and skills. All disciplines, including the SHAPE (Social Sciences, Humanities and Arts for People and the Economy) disciplines, have a crucial role to play in ensuring that scientific and technological innovations are adopted across a broad group of businesses. Technology diffusion and adoption is often inhibited by the ‘human factor’, which can be addressed with insight from SHAPE subjects. Moreover, technical innovation alone is not sufficient in supporting business growth. Even in the most advanced and successful technology companies, technology only accounts for 10–20% of their activities. The rest are connected to business and leadership skills such as marketing, consumer insights and business acumen more generally, again relying on understanding of human and social behaviour.

SHAPE disciplines also contribute in the “the space between” STEM and SHAPE discipline research, which can be where innovation occurs. For example, an initiative to address digital exclusion on a disadvantaged housing estate where broadband existed but had poor take-up found that the barriers were not lack of technical skills, but that residents could not see the value it could bring to their lives. In a project on digital creativity at the Baltic Centre for Art in Liverpool, digital gaming was used to demonstrate what the ‘city of science’ meant to residents.

SHAPE disciplines can also support the integration of different knowledge spheres and disciplines within a university. Taking academic knowledge and translating it into real world application requires challenging conventional thinking and methods. Communication, visualisation, engagement, procurement, accountability and legal issues are all areas where SHAPE-related disciplines are very well positioned to contribute.
How does SHAPE contribute to regional service sector productivity?

Participants recognised that many major professional services firms are very successful at commercialising SHAPE research. But it is rarely in their interest to credit knowledge creation to anyone else and operating within an R&D system structured towards STEM-based activities – including IP protection and R&D tax credits – results in SHAPE research remaining less visible. Businesses in the services sector are also less likely to have dedicated departments for R&D, in contrast to companies based on manufacturing and engineering. These R&D departments often have a core role in liaising with universities, surfacing and promoting innovation, which is not always the way the model would work in SHAPE disciplines.

The discussion identified two areas in particular where SHAPE contributes to challenges around productivity in the services sector:

1) Solving the long tail of low productivity firms (e.g. retail, hospitality, administrative services). These adopt less technology and best practice than their international peers. But insights from SHAPE disciplines can help tackle this. For example, the Bloom and van Reenen Management Survey is an example of academic research whose results have been adopted by policy makers and business consultancies who diffuse these through the economy. Many of these businesses will be small and medium sized enterprises (SMEs), and universities have a role to play in building cohorts of such employers to maximise the benefits of training opportunities.

2) Product and service innovation. In contrast to the long tail of low productivity firms, the UK has world class creative and professional services sectors, whose products derive directly from the skills and knowledge of SHAPE disciplines. But we need to better understand the impact of university education and research and how that translates into innovation in services.


SHAPE has a central role in place-based knowledge exchange

Participants acknowledged that, in many cases, knowledge spill-over operates well within the economy of London and the greater southeast. But, outside this space, processes do not work as they should, despite doing so in other countries over similar distances. An issue with the highly centralised economic geography based in London and the greater southeast of England is the ‘distance decay’ of knowledge, where businesses located a greater geographic distance from universities are less likely to adopt evidence or high-performance practices.3

There was discussion about the fact that this is a not a science problem, but a social one. But we do not know if this is an issue of diffusion or absorption. Knowledge exchange and diffusion work through complex and dedicated social networks of trust which are often tied to institutions because the risks and opportunity costs are high. We need to examine how these relationships work – from access to human and financial capital, to the personal networks that drive angel investment, to establishing the intermediary functions for bridge finance – and learn how to encourage and facilitate them across the UK. And we need to be more granular in framing these issues, whether they are about diversity in disciplinary or geographical contributions, the area of a sector, or enhancing the provision of services or product innovation itself.

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1.2 The current state of place-based research funding and knowledge exchange mechanisms

The issue with current and past place-based programmes in knowledge exchange and research is that the spatial approach taken has not been granular enough. In contrast to large government or agency-run programmes, an individual institution can act with a local focus, adding value in a way that national bodies find more challenging. For example, university business schools may organise workshops to help local businesses and offer bite-sized courses in management as well as practical support in application, ideally generating a cohort effect through a regional alumni group. This approach, however, works best within a relatively small area. It is not easily replicable across a broad region, e.g. the whole of Yorkshire or London and the southeast. Different types of initiatives and forms of knowledge exchange are needed based on geography.

Participants argued that one of the most difficult tasks for organising the core civic mission of a university of supporting societal and business innovation through knowledge exchange is often the involvement of its academics. In the current environment, the value of various activities is fundamentally controlled by university business models and the frameworks to which they are bound. These frameworks that allocate funding at present, such as the REF, silo subjects and academics into disciplinary units of assessment and often do not value external engagement.

The UK has an established system for measuring knowledge exchange through the Higher Education Business Community Interaction (HE-BCI) survey, and this will soon be translated through the Knowledge Exchange Framework (KEF). But most activities recorded by these metrics are more easily and readily applied to knowledge exchange related to science and technology areas. They also privilege interaction with certain parts of the private sector, despite important knowledge exchange occurring with public sector organisations, health, and cultural sectors. Again, this has a geographical effect depending on the economic focus of a region: in some areas the public sector is by far the largest employer. Because the current metrics and assessments do not fully consider the geography of knowledge exchange, we cannot understand and account for it.

Other structures are also limited in the extent to which they are appropriate for all forms of knowledge exchange across the discipline range. For example, SHAPE disciplines are less likely to engage with KTPs which focus on patents, licensing and spinouts.

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1.3 Recommendations for a place-based research and knowledge exchange funding system

During the roundtable, participants made suggestions for the future of a place-based research and knowledge exchange funding system. The following points were raised in the discussion:

**Incentivise collaboration across disciplines:** Innovation and knowledge exchange should be regarded as a core function of the civic university, but assessment and measurement drive institutional behaviours, and these tend to reinforce disciplinary silos. Real world application of research cuts across disciplines and sectors, and we need to enable researchers to engage with such opportunities. Similarly, universities should work across existing structures, drawing connections and fostering relationships between STEM and SHAPE subjects. The role that SHAPE can play in supporting innovation productivity – particularly through the service sector – must be recognised if we are to realise government ambitions around R&D.

**Increase innovation capacity in local government and public services:** Regional variations in knowledge diffusion and absorption are not due to a lack of ideas. But innovation adoption faces many obstacles, often caused by capacity of local institutions. University knowledge exchange professionals reported city council officials saying: “we haven’t got time for innovation. For us, innovation is finding a budget for this month”. In another case, a university proposed forming a city-based testbed of innovation but were told by the local authority that the pressures on them would not allow the level of risk necessary for innovation. These obstacles to innovation are counter to government priorities for R&D – a high share of innovative projects fail and central government will need to allow this to happen, in regions as well as nationally, in order to grow the national R&D output.

**Improve collaboration between academia and industry:** Universities need to be approachable and navigable to businesses, particularly the small and local. Potential opportunities for knowledge exchange are lost where businesses and third sector organisations cannot find the ‘front door’ of a university. But businesses and local authorities are not the only institutions important in solving the diffusion problem in less productive regions. The further education sector can enhance the range of people involved with the diffusion of new ideas. As innovation is fundamentally based on capabilities for adoption in businesses and other institutions, which in turn rely on a skilled workforce, place-based R&D policy cannot be detached from skills policy.

**Reward external engagement:** Research career paths drive the behaviour of researchers. If we want engagement with external stakeholders and businesses to become larger in scale, there need to be incentives, especially for early career researchers who generally advance based on publications rather than external engagement. For researchers in STEM areas, there may be the direct financial and reputational rewards of patents or spin-offs but there is a lack of a reward structure for researchers in SHAPE disciplines where commercial success is likely to be in speed to market, rather than income protecting intellectual property rights.

**Use SHAPE expertise to design a devolved funding model:** Innovation adoption is an inherently spatial process. Successful programmes in innovation adoption consist of small improvements in a large number of businesses. But the effects are regional:

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5 The DARPA model rests on the acceptance of failure in high-risk breakthrough innovation, where the payoff from successful projects is high.
replicating it requires a specific understanding of businesses and their practices in a particular place. Where processes of knowledge exchange need to be designed and funded, SHAPE experts can play a brokering and facilitation role by joining up existing networks. That is a complex task, and one which will vary by institution and place. In a truly place-based approach there should not be a standard model; there are standard ‘ingredients’ but the way they come together will have to be tailored. The CBI’s recommendations around accelerating R&D investment across the regions in the UK, for example through new ‘Catapult Quarters’, offer a model with the caveat that it should be slowly built up, evaluated and not centrally imposed.6

**Design new metrics to capture SHAPE and service sector innovation:** It is difficult for SHAPE disciplines to demonstrate the value they add in a system where the metrics more easily capture outcomes from STEM-focused research. The service sector has been seen as lagging behind in terms of innovation; we know that this isn’t the case, but it is difficult to measure and understand the sector’s innovation and productivity as most indicators are built on R&D as deployed in manufacturing. Alternative assessment criteria which consider the distinctive features of research and innovation for SHAPE disciplines, and of R&D in the service sector, should be developed.7 When 80% of GDP is produced by the sectors most closely related to these subjects, there is great potential in harnessing both highly competitive knowledge intensive services and supporting growth in businesses in the long tail of low productivity.

**Introduce new funding structures and programmes:** Solving societal challenges requires holistic relationship-building across different disciplines. Some current challenge funds are insufficiently interdisciplinary to achieve this goal, such as the Industrial Strategy Challenge Fund (ISCF). Similarly, the InnovateUK Innovation and Commercialisation of University Research programme (ICURe), which supports early career researchers to move innovations to market, tends to be dominated by STEM disciplines because of the criteria used for selection of participants. These programmes need to become more inclusive of researchers from a range of disciplines to fully harness the innovation capacity and capability in the UK.

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6 CBI, (2019), Don’t Wait, Innovate: Stepping Up R&D, from St. Austell to St. Andrews
Mechanisms and governance for place-based funding

2.1 Strengths and weaknesses of the current research funding system in England

As the UK’s productivity is worse than any other OECD nation except for New Zealand, with regional inequality increasing, there was a view that the excellence narrative in research funding makes it challenging to address the regional differences in productivity and wealth in the UK. Participants perceived the current system of allocation of research funding as top down and space blind. While this approach has supported the world-leading reputation of the UK’s research base, some felt it has not translated into benefits for regional productivity and there is an established evidence base to support this.\(^8\)

Participants commented that the amount of funding allocated based on place is small. Additionally, there is a lack of stability in its availability, priorities and organisational structure around it, all of which are essential for long-term development. Current funding opportunities are piecemeal and allocated on a competitive basis, which makes it difficult to plan long-term strategic interventions that require combining different funding streams to address a particular local problem or opportunity. The lack of institutional continuity has limited long-term regional intelligence and organisational memory. The example was given that European Structural and Investment Funds provided a clear framework for regional long-term development, because they were not awarded on a competitive basis.

The Strength in Places Fund marks a step in the right direction, as the first central fund to take place specifically into account in decision-making, but at £236m annually some felt it is insufficiently funded relative to the scale of regional inequalities in the UK. The Higher Education Innovation Fund (HEIF) with £250m annual funding has a focus on all forms of knowledge exchange and allows for flexibility in how it is deployed at local level.

There are further issues with a heavily centralised approach. The Treasury Green Book sets out rules based on cost-benefit ratios, but there is a sense that the projects that receive funding do not always meet these criteria. Instead, existing regional disparities are

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amplified by the design of an evaluation metric that rewards already productive regions. There is a lack of incentives to encourage collaborative working within regions. Compared to EU structural funding – especially the European Regional Development Fund (ERDF) – funding structures within UKRI provide fewer incentives for collaboration. While far from perfect, local areas are at the heart of these structural funds and can ensure that these longer-term funding streams align with local strategies and opportunities.

There is a real strength, though, in the demonstrated capacity of local areas to generate useful, local data when given a clear framework to do so. The Science and Innovation Audits were based on clear evidence when compiled, though they are increasingly becoming out of date as the places and economies they cover are dynamic. Local Industrial Strategies can still be a good evidence base for an area, if backed by local intelligence capabilities in combined authorities. However, both the effects of COVID-19 and the UK’s future relationship with the EU risk working against the levelling up agenda and the ambitions for an effective place-based funding system as set out in the R&D Roadmap. Collectively, the community can come together to help to ensure that research is funded in a way which celebrates, rather than ignores, the UK’s geographical strengths.

2.2 Increase tailored solutions in R&D funding to help reduce the regional productivity gap within the UK

The discussion then reflected on what some of the opportunities might be. In the past, Regional Development Agencies (RDAs) enabled substantial funds to be committed to longer term projects in line with a local R&D strategy. This single pot could be accessed by universities who were then required to collaborate regionally – with local authorities, businesses and other universities – on both research and innovation as well as on education and skills. Participants thought that both dimensions were fundamental to establishing a strong regional knowledge intensive service sector-based economy, and to the commercialisation of technology innovation, which also draw on the skills of higher education graduates.

This would require a strong connection between higher level skills and the capability and capacity needed to enable growth in regional productivity; evidence is increasingly being generated which points to a clear connection. To create a thriving ecosystem, we must develop capacity in research and innovation within a range of institutions operating at a regional level. Interesting models exist in some areas where there are joint appointments of research, innovation and knowledge exchange professionals between universities and local/combined authorities. A regional UKRI structure could provide further support for this.

There may also need to be an increase in analytical capacity within regional institutions. Research conducted to inform the development of Local Industrial Strategies shows that data access and analysis capabilities are unequally distributed across the country. One positive example of building capacity and mobilising university input is Research England’s support in setting up the West Midlands Regional Economic Development Institute (WM REDI) at University of Birmingham. WM REDI works in partnership with the West Midlands Combined Authority to bring a practical research and intelligence function to the economic benefit of the region.

2.3 Recommendations for an devolved governance of a R&D funding system in England

During the roundtable, participants made suggestions for the future place-based governance of the R&D funding system. The following points were raised in the discussion:

**Level up local intelligence capabilities through partnerships or observatories:**
The foundation for devolving funding decisions to localities must be evidence-based, gained through building local intelligence capabilities. International experience from Singapore and Finland in urban and regional economic development shows that, according to one roundtable participant, “you can never have too much data”, but this data needs to be both quantitative and qualitative. Understanding how networks and business relationships work, how individuals learn about the systems in place, and where institutions turn to for support are all important data. In addition, local actors can create an evidence base that is more realistic than one made centrally. Universities – working in partnership with local governments – can take this on, building on their role as brokers and facilitators. However, building capacity requires the translation of ideas and of language – as different actors and sectors speak differently and work to different timelines – to ensure everyone is equipped to work in tandem. Current approaches to collaboration are too ad-hoc, too contingent upon individuals, and too heavily directed by current external and internal methods of assessment and measurement.

**Have an experimental approach to devolved R&D funding:**
There needs to be an accepted level of experimentation – and consequently of failure – with a mutual learning element built in if we are to determine what works and what does not in devolved funding. An initial outcome-assessed single funding pot, potentially via an expansion of the Strength in Places Fund, could provide a flexible approach for local leadership and allow integration of R&D with complementary skills policy. Any replacement to existing EU structural funds will require local co-design with a long-term orientation, rather than being top-down, short term, and competitive. The experience from the Science and Innovation Audits implies that future regional intelligence and priorities need to consider strengths and needs from across the region, not just within its universities.

**Link R&D with skills policy:**
A place-based model for research funding offers the opportunity to increase regional productivity by spatially aligning various policy fields which are inherently linked but administered separately. In R&D, research and experience in innovation adoption point to the central role of absorption, which requires a skilled workforce for high performance and high productivity business models. Therefore, for a place-based model to be successful, skills policy and funding requires urgent alignment with research, development and innovation funding to allow absorption and adoption of basic and applied research within regions. Spatial alignment between innovation and skills funding would also increase the speed – a crucial factor for businesses – at which innovations are adopted by business.

**Recognise and incentivise the knowledge exchange that occurs through teaching:**
Higher education students are one of the major modes of localised knowledge exchange. The current UK R&D Roadmap does not give enough attention to universities as teaching institutions, preparing both the next generation of researchers and the future workforce. Outcomes in regional productivity depend on the availability of the right people. Universities engage in many place-based activities related to education and skills, including working with further education colleges, which ultimately contribute to increasing the benefits delivered by R&D.
Align devolved R&D funding mechanisms with the White Paper on English devolution: The scale and mechanisms for a place-based approach to R&D funding will be contingent on the spatial scale and the scope of local government reorganisation set out in the forthcoming Devolution White Paper. Originally there were nine RDAs, but there are currently 38 LEPs. This system is unwieldy, at a scale that makes building local intelligence capacity difficult, and risks duplication and fragmentation. A smaller number of larger bodies would enable tailored R&D programmes based on local challenges. Aligning the R&D Place Strategy developed by BEIS with devolution policies within MCHLG will be fundamental. Once the future governance structure is clear, universities will need to engage with the new institutional and geographic configuration to ensure that their specialisms and internal processes are well-matched. Similarly, UKRI should think about its relationship with different parts of the country.