

Powering regional economic growth

How universities can enhance
regional economic growth
through knowledge exchange

LEONARD KELLEHER
TOMAS COATES ULRICHSEN

UCI POLICY BRIEFING

February 2025

Funded by

This report was developed as part of the Research England-UCI joint work programme to develop better data and metrics for knowledge exchange.

Authors

The authors of this technical report are Leonard Kelleher and Tomas Coates Ulrichsen.

The views and arguments expressed in this report are of the authors and do not represent the positions of organisations or groups which the authors are currently, or were previously, members.

Suggested citation

Please cite this work as: Kelleher, L. and Ulrichsen, T.C. 2024. Powering regional engines of growth: How universities can enhance regional economic growth through knowledge exchange. UCI Policy Briefing. Policy Evidence Unit for University Commercialisation and Innovation (UCI), University of Cambridge.

Contact us

For more information, contact Leonard Kelleher (lk491@cam.ac.uk) and Tomas Coates Ulrichsen (tc267@cam.ac.uk)

ABOUT UCI

The Policy Evidence Unit for University Commercialisation and Innovation (UCI) is based at the University of Cambridge and aims to support governments and university leaders in delivering a step change in the contributions universities make to innovation and economic prosperity – nationally and locally – through their commercialisation and other innovation-focused knowledge exchange activities and partnerships.

UCI seeks to improve the evidence base and tools available to key decision makers in public policy and university practice as they develop new approaches for strengthening university research-to-innovation pathways, with a particular focus on commercialisation. To do so it draws on the latest advances and insights from both academic research and policy practice, as well as lessons learned from experiences in the UK and internationally.

The Policy Evidence Unit is funded through a generous grant from Research England to work in close partnership with them to develop next generation data and metrics able to better capture the nature, health and performance of university knowledge exchange.

Find more about our work: [UCI Policy Evidence Unit](#)

The copyright of all materials in this publication belongs to the authors.

Published by the Policy Evidence Unit for University Commercialisation and Innovation, Institute for Manufacturing, University of Cambridge.

© 2025 Policy Evidence Unit for University Commercialisation and Innovation (UCI, University of Cambridge)

Contents

Overview	4
Background and context	4
What types of regional growth can universities contribute to?	5
What types of policy approaches encourage regional growth?	5
What drives regional growth?.....	6
How can universities contribute to regional growth?.....	7
Implications	12
References	14

Overview

This UCI policy briefing presents a conceptual model of how universities can contribute to regional economic growth through knowledge exchange (KE). It forms part of our joint work programme with Research England and aims to inform and support Research England's ambitions to improve the data and metrics available on regional growth focused KE to enable more effective KE policy and funding programme development and implementation, strengthen monitoring and evaluation, and drive system-wider learning and improvement.

Our conceptual model distinguishes contributions by universities through KE:

- To supporting specific partners in places as well as helping to strengthen and transform regional systems.
- To developing not just the assets required for innovation and growth, but also the capabilities and capacities necessary to dynamically combine assets to produce long-lived streams of capital, at either level.

It identifies five key types of regional KE roles that focus on (1) generating new opportunities, (2) supporting partners, (3) connecting individuals and organisations, (4) strengthening regional conditions and capabilities, and (5) transforming regions.

In developing the conceptual framework, the brief also reveals key considerations for developing regionally-focused KE funding programmes in the future, including:

- Clarity regarding types of growth targeted and their complementarities and contradictions.
- Translation of overarching growth objectives into tangible strategic goals where universities can make significant contributions through KE.
- Enable synergies and managing conflicts within multi-level governance structures.
- Deal with the significant complexity of regional economies and the many ways through which universities and their KE activities, often working with partners, can contribute.
- Ensure regional growth-focused KE funding programmes align with and enable other policy domains and government priorities.

Background and context

Faced with persistent interregional inequalities in economic growth and productivity, UK policymakers and funders are increasingly focussing on policies and approaches to drive regional growth and reduce interregional inequalities. Recent policy developments, such as the industrial strategy green paper¹, highlight UK Government efforts to pursue a mission-oriented, place-sensitive approach to achieve economic, inclusive, sustainable and resilient growth which engages and benefits all parts of the UK.

Within this context, there are growing pressures on universities to play a more strategic and active role in delivering ambitions to raise local economic growth, including through KE.

Developing new approaches to KE funding and enabling universities to deliver these roles is currently impeded by a lack of fit for purpose data and metrics on regional economic growth opportunities and challenges, and on the potential of university KE to play a role in addressing them. In particular, this constrains the ability of Research England and other university-based research and KE funders to:

- Effectively allocate public funding to enable and incentivise universities to contribute more actively and strategically to regional economic growth through KE
- Track and evaluate the performance of such policy interventions
- Enable and incentivise effective strategic learning by universities within the system.

What types of regional growth can universities contribute to?

The recent industrial strategy green paper calls for economic, inclusive and sustainable growth (Box 1).¹ These are interrelated as policy objectives at a regional level, and the identification of complementarities and contradictions between them is increasingly emphasised.

Box 1: Growth definitions

Economic growth refers to continued increases in the size of an economy or sustained increases in outputs, typically measured as variation in gross domestic product (GDP).

Inclusive growth involves the participation of a majority of citizens in the decision-making and benefits sharing of the growth process.

Sustainable growth meets the needs of present generations without compromising the ability of future generations to meet their own needs.

What types of policy approaches encourage regional growth?

Economic and inclusive growth have long been seen as two ‘sides of the same coin’. Unlike the space-blind policy approach that has historically dominated research and KE funding, place-based and place-sensitive approaches in both the EU and US position these as twin overarching objectives (Box 2).²

Sustainable growth is often seen as complimentary to economic and inclusive growth within innovation policy, e.g. Bidenomics socially inclusive green-and-secure growth agenda.³ However, sustainable growth has recently been prioritised over the others in the EU, and a mission-oriented, place-based approach has been developed to drive ‘competitive sustainability’ as the basis of future regional growth.^{4,5}

Box 2: Policy approaches to regional development and innovation

Space-blind approaches are intended to maximise agglomeration to boost overall output, but offer little to address the problems of declining and lagging-behind areas.

Place-based approaches offer centrally-provided public funding to tackle local/regional underdevelopment traps, facilitate coordinated and collaborative actions that maximise the economic potential of a place, and aim to achieve inter-territorial equity.

Place-sensitive approaches aim to encourage agglomeration in as many places as possible, as a means to maximise productivity over the long run, hedge bets against the inherent uncertainty of future innovation, and master second-mover processes that diffuse innovation.

Mission-oriented innovation is intended to mobilise science and innovation to address well-defined societal objectives and drive equitable and sustainable development, from which economic growth is assumed to follow.

What drives regional growth?

Sustained productivity growth is a key driver of regional economic growth over the long term.⁶ The interplay between economic development and innovation policy has seen different drivers of regional productivity and growth being emphasised over time. These have included investments in infrastructure, human capital, and innovation (neo-classical economics and endogenous growth theories), agglomeration and scale effects (new economic geography), clusters of interrelated and internationally-competitive industries (cluster theory), the capacity of regional institutions to attract economic activity (institutional economics), and addressing environmental and public welfare concerns (transformative innovation approaches).

We have incorporated these different perspectives into a conceptual model based on a dynamic comparative advantage perspective of regional competitiveness.⁷ Within this model, a key driver of regional growth is sustained productivity growth, which is shaped by:

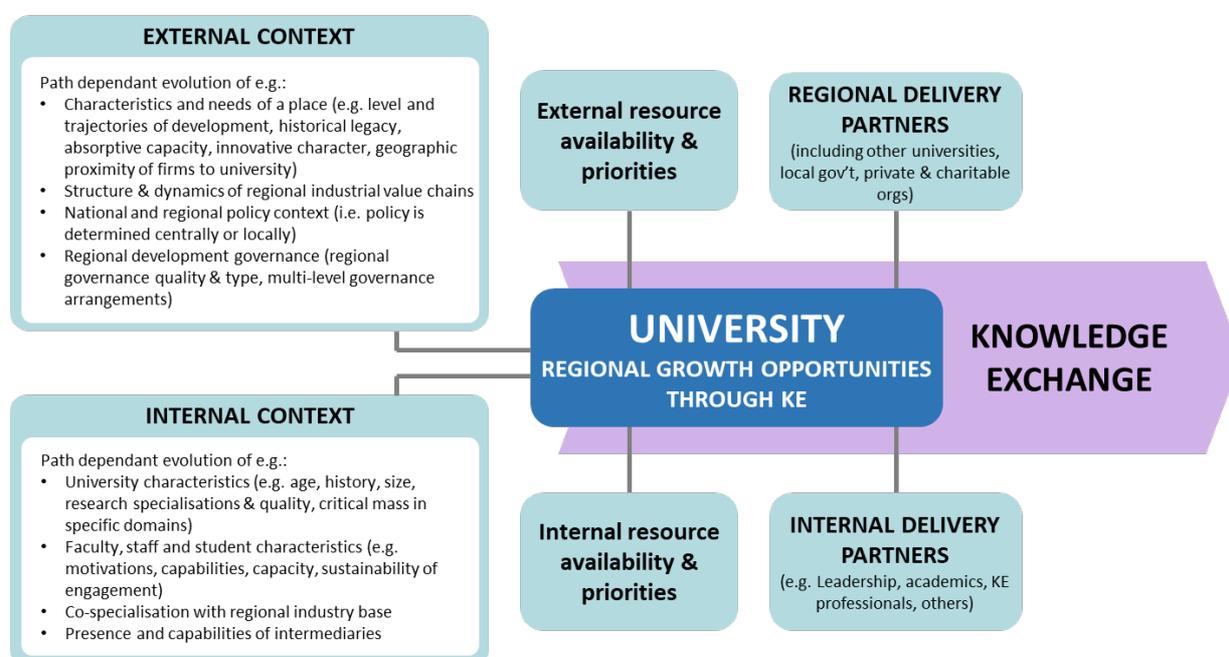
- Regional endowments of assets, and the comparative advantage these offer that attract firms and key enabling resources (e.g. talent, finance) to a region
- Industrial structure and dynamics in the region, including specialisation and diversity
- The abilities of regional firms to avail of locational advantages (e.g. shared facilities, knowledge spillovers) and dynamically combine internal and external assets to produce long-lived streams of ‘capitals’ enabling them to adapt to changing market, competitive and technological conditions and more productively produce the goods and services that enable them to compete successfully within their specific sectors and industries.
- The abilities of the region to adapt and transform its economic structure over time (e.g. developing and retaining new productive industries, sectors, and ecosystems, and disseminating productive economic opportunities throughout all segments of the labour force), ensuring patterns of specialisation and diversity are always present that facilitate the localised increasing returns which enhance comparative advantage and sustain productivity growth, and ultimately drive long-term economic growth.

How can universities contribute to regional growth?

Universities, shaped by their internal and external contexts, and the available resources and delivery partners...

Within our model, universities are situated within a regional ecosystem of resources, actors and institutional architecture (which create formal and informal ‘rules of the game’ that shape behaviours and choices). The internal and external contexts and conditions (including the sectoral mix and industry dynamics), coupled with the priorities of the university and its region and the wider nation, and the available resources and regional delivery partners, shape the types of KE and wider roles universities can play in driving regional economic growth (Figure 1).

Figure 1 Areas where knowledge exchange can work to develop and strengthen organisation-specific assets and capabilities to innovate and compete



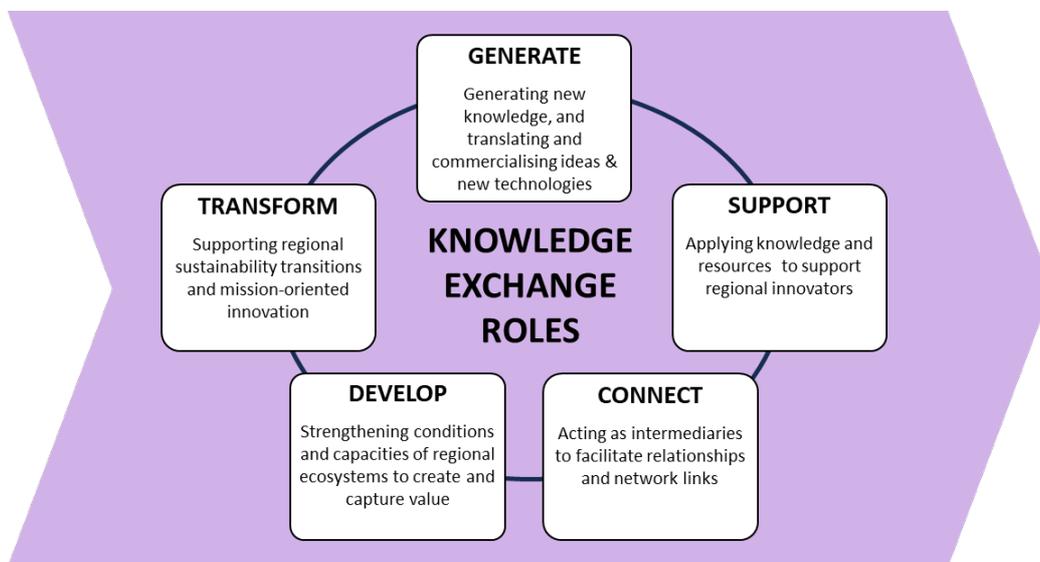
... deliver different types of KE aimed at supporting economic growth in their regions...

Universities have developed many KE pathways to work with partners to realise impacts from their knowledge bases. Insights from academic research and practice suggest five key roles for university KE in supporting and enabling regional economic growth (Figure 2). Through KE, universities have the potential to:

- **GENERATE** new ideas, technologies, expertise, and approaches that unlock new opportunities for wealth creation and translating and commercialising these through new venture creation or working with local partners.

- **SUPPORT** organisations in the region by applying the existing knowledge, expertise and resources of the university to support their innovation and other business activities (e.g. helping companies develop and test prototypes, training the workforce, solving technical problems, and supporting access to new markets).
- **CONNECT** actors within the region (and to external actors) by acting as boundary spanners or intermediaries to catalyse relationships and interactions to better connect the system, act as an honest broker, and help to build capabilities to collaborate.
- **DEVELOP** the region by strengthening the conditions, capacity, and capabilities of regional ecosystems to create value and retain more of it locally. This includes for example by helping to build regional innovation infrastructure, strengthening the regional skills base, facilitating access to finance, working to attract inwards investment and talent, building entrepreneurial capabilities and culture within the region, and strengthening local governance capabilities.
- **TRANSFORM** the region helping it to build the capabilities and capacities to develop and implement mission-oriented and transformative innovation policies that drive transitions to more sustainable futures.

Figure 2 *Regional KE roles of universities*



While most of these are well established, the increasing prominence of transformative and mission-oriented innovation is currently seeing efforts to rethink the KE role of the university within a region to help it transform and transition towards sustainable growth and tackle complex societal and innovation challenges.⁸

We must also recognise that universities can impact on their regions through wider, non-KE-related roles, e.g. through acting as a source of employment and procurement.

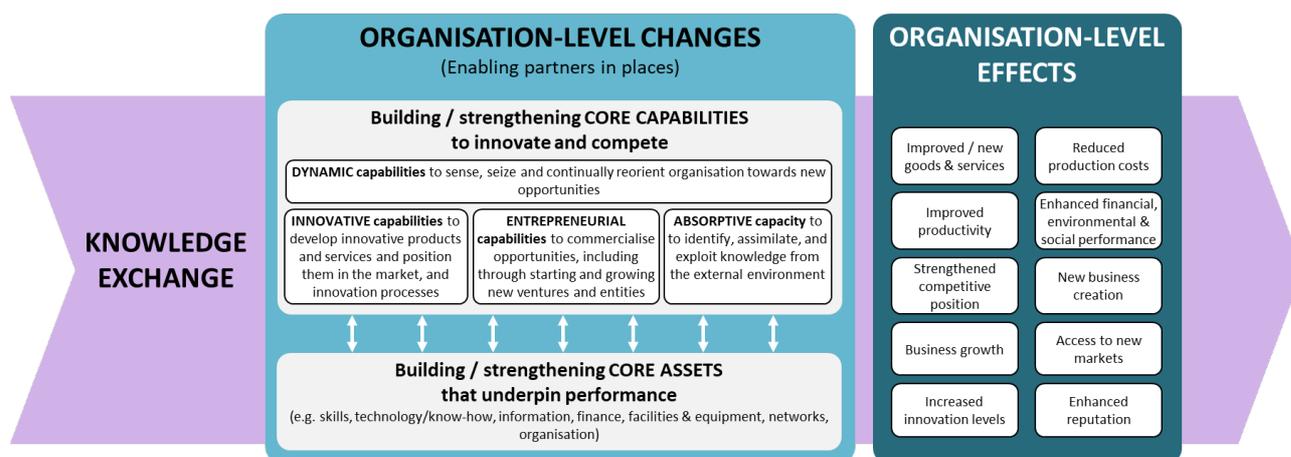
... and through these KE roles, contribute to regional economic growth in different ways, both by helping specific organisations and the regional system to create and retain more value

Through these types of KE, they can contribute to regional economic growth through different routes, not least by:

1. Working with companies and others located within the region to innovate and compete, and by creating new ventures that open up new opportunities for value creation (**‘enabling partners in places’**), and
2. Working to transform the region within which these organisations operate, increasing the potential for greater value to be created and retained within the region, and driving regional competitiveness and growth (**‘transforming places’**).

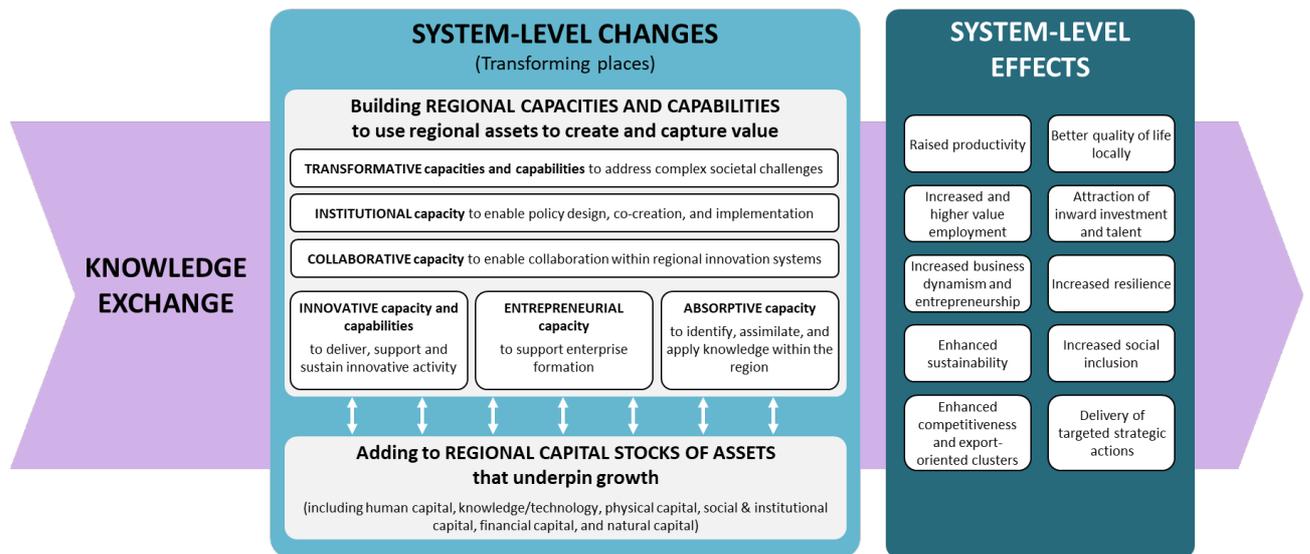
At the organisation-level, the KE activities of universities can help to develop and strengthen the core assets required to innovate and compete (e.g. skills, technology/know-how, data and information systems, financial assets, facilities and equipment, networks and relationships, and organisation / business model). In addition, and perhaps more importantly, they can help organisations build the capabilities and capacities to combine these assets to create long-lived streams of value (e.g. through products and services). Key organisation-level capabilities and capacities that are believed to drive firm innovation and competitiveness are shown in Figure 3.

Figure 3 Areas where knowledge exchange can work to develop and strengthen organisation-specific assets and capabilities to innovate and compete



At the regional system-level, the KE activities of universities can help the region to build up and strengthen its core capital stocks (Figure 4) – for example human capital, knowledge capital (including codified knowledge, know-how, formal IP etc.), physical capital, (access to) financial capital, social capital, institutional capital (including norms and culture, leadership and regional governance), and natural capital (including environmental stocks and systems).

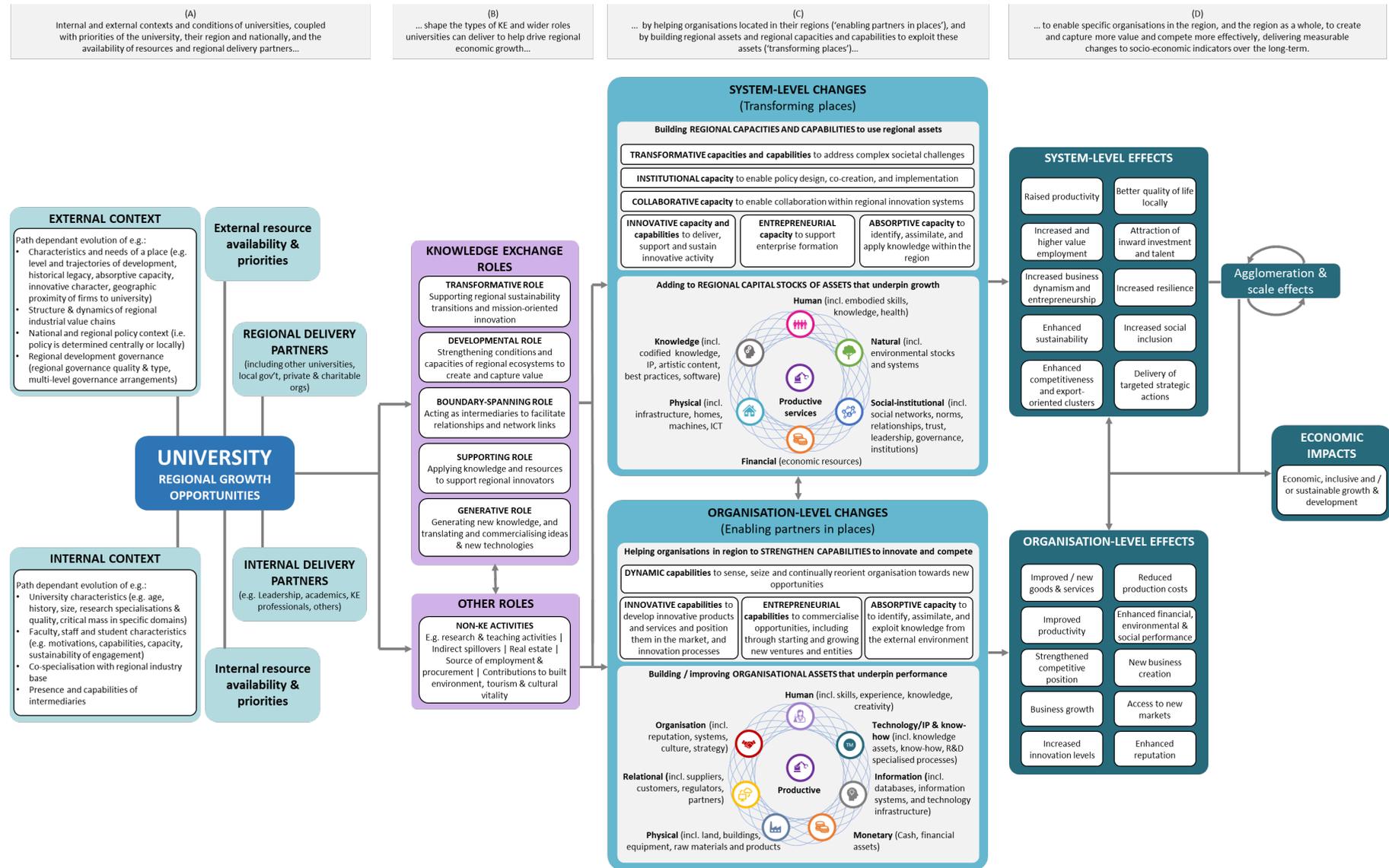
Figure 4 Areas where knowledge exchange can work to develop and strengthen system-wide assets and capabilities to drive regional competitiveness and growth



As with efforts to enable and support individual organisations to innovate and compete, perhaps more important are the efforts through KE to strengthen the capabilities and capacities of the regional system to combine these capital stocks to enable long-lived streams of value to be created and retained within the region (Figure 4). At this level, the KE activities can contribute to the innovative capacity of the region to deliver, support and sustain innovative activity; to the entrepreneurial capacity of the region to create and nurture new ventures creating opportunities to drive new sources of economic and societal wealth; to build up the ability of the region to absorb and exploit knowledge to drive innovation and growth; to strengthen and facilitate individuals and organisations to interact and collaborate; and to strengthen the institutional capabilities within the region to develop and implement regional growth-focused policies, strategies, and actions. Furthermore, in recent years there has been growing attention to the role of universities, through their KE activities, in enabling regions to build their capabilities and capacities to transform regions to address complex societal challenges.

Bringing these insights together results in our full conceptual model for capturing how universities can contribute to regional economic growth through KE (Figure 5).

Figure 5 Full conceptual model of how universities can contribute to regional growth through knowledge exchange



Implications

This UCI policy briefing note presents an emerging conceptual model for thinking about the different pathways through which universities can contribute to regional economic growth through their KE efforts. Underpinned by a dynamic comparative advantage perspective of regional competitiveness, our model in effect provides the backbone for a ‘theory of change’ to guide Research England’s ambitions and efforts to develop better data and metrics in this area of policy, and ultimately to deliver more targeted and effective approaches and funding programmes aimed at enabling universities to grow their contributions to regional growth.

At the heart of our model is the recognition that universities can contribute to their regions through KE both by *working to support companies and others* who are located within the region, as well as by *working to strengthen and transform the places* within which these organisations operate with the aim of increasing the potential for greater value to be created and retained within the region for the benefit of its population over time. We further distinguish between contributions universities can make through KE to not just helping organisations and regions to build specific assets and capital stocks but also to the capabilities and capacities of these organisations and system to leverage their assets to create and capture value within the region.

Towards better data and metrics for regional growth-focused KE

We are not aware of any datasets, except perhaps ad hoc data collections assembled as part of specific research studies, that are able to capture these different types of contributions of universities to regional growth through KE in a systematic and comprehensive way across all universities. The primary national KE data collection, the Higher Education Business and Community Interaction (HEBCI) survey historically collected the amount of income secured by universities from different types of KE from partners within their region, however there were questions regarding the quality and completeness of the data. It also (still) collects information on the amount of income secured by HEPs for regeneration and development programmes (once dominated by funding from the European Regional Development Fund and other European funds). The Knowledge Exchange Framework (covering England only) also seeks a narrative statement from universities capturing how they contribute to local growth and regeneration. These are rich with detail but are hard to compare across universities. Significant effort is therefore required to identify where more systematic data would be beneficial and for what purposes, and how such data could be collected. This is the focus of a major joint work programme between UCI and Research England.

Towards more effective KE funding programmes for strengthening regional growth

The insights and evidence that underpinned the development of the model also pointed to several key issues that national funders of university KE should consider as they look to develop new funding programmes aimed at supporting and enabling regional economic growth. This includes being clear about the types of growth being targeted (for example economic, inclusive and sustainable growth) and the complementarities and contradictions between different objectives. Significant effort is also required to translate the overarching objective of increasing

regional growth into more concrete building blocks where more tangible targets can be developed. There are also significant challenges – particularly in the UK given its very complex and fragmented sub-national geographies – in enabling synergies, as well as managing conflicts, between different levels of national-to-local governance structures.

Considerations also need to be given to:

- Whether funding programmes and allocation approaches should be ‘neutral’– i.e. incentivising innovation in general without prioritisation of technologies, fields, sectors or populations of firms where it is regarded as insufficient – or non-neutral (as in the case of Smart specialisation).
- The relative benefits and disadvantages of adopting place-based, place-sensitive approaches, or other approaches.
- Ensuring that approaches mitigate against policy lock-in and local policy capture by groups with misaligned interests.
- How a regional growth-focused KE funding programme is dependent on, aligns with, and enables, other policy domains and government priorities.
- How to deal with the significant complexity of regional economies and the many ways through which universities, often working with partners, can contribute.
- How to monitor and evaluate the effects and impacts of KE funding programmes in this space, given the significant complexity and interdependencies that exist.
- How strategic learning by universities and within the system can be enabled and enhanced through data sets and metrics to drive improvement in how regional economic growth contributions are delivered.

In conclusion, universities have the potential to play a significant and transformative role in their local economies, working with partners to increase regional economic performance. Given the many challenges we face as a nation, it is imperative that we provide the support and resources needed to unleash this potential. In doing so, we need to ensure we have the data and evidence need to create well targeted and effective funding programmes and incentives, to drive learning with the system, and to ensure progress towards strengthened regional economic performance is being delivered.

References

1. HM Government. *Invest 2035: The UK's Modern Industrial Strategy*. (Department for Business and Trade green paper, 2024).
2. Barca, F., McCann, P. & Rodríguez-Pose, A. The case for regional development intervention: Place-based versus place-neutral approaches. *J Reg Sci* **52**, 134–152 (2012).
3. Gansauer, G. & Westwood, A. Transatlantic lessons from Bidenomics place-based policies: opportunities and limits for addressing regional inequality. *Contemp Soc Sci* (2024) doi:10.1080/21582041.2024.2436977.
4. Serger, S. S., Soete, L. & Stierna, J. *The Square – Putting Place-Based Innovation Policy for Sustainability at the Centre of Policymaking*. (JRC131244, Publications Office of the European Union, Luxembourg, 2023). doi:10.2760/575800.
5. McCann, P. & Soete, L. *Place-Based Innovation for Sustainability*. (Publications Office of the European Union, Luxembourg, 2020). doi:10.2760/250023.
6. Krugman, P. *The Age of Diminished Expectations: US Economic Policy in the 1990s*. (MIT Press, Boston, 1997).
7. Kelleher, L. & Ulrichsen, T. C. *Powering Regional Engines of Growth: How Universities Can Enhance Regional Economic Growth through Knowledge Exchange*. (UCI Expert Insights Paper 03. Policy Evidence Unit for University Commercialisation and Innovation (UCI), University of Cambridge, 2024).
8. Tripl, M., Serger, S. S. & Erdős, K. *Rethinking the Role of Universities in Place-Based Innovation Policies for Sustainability Transitions*. (European Commission Joint Research Centre, JRC134249, Seville, 2023).



UNIVERSITY OF
CAMBRIDGE



uci

Policy Evidence Unit for University Commercialisation and Innovation

Institute for Manufacturing, University of Cambridge, 17 Charles Babbage Road, CB3 0FS