

# UK Research and Innovation: A Place-Based Shift?

A PAPER FOR UK RESEARCH AND INNOVATION

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## 1 Introduction

In the last five years we have witnessed a steadily-growing *place-based* policy narrative in UK policy circles. To some extent these narratives reflect international shifts which are evident especially across Europe but also increasingly even in the US. In different countries these place-based ideas have been gradually spreading to different areas of policy-making and to different levels of government, although the specific patterns differ between countries depending on their institutional set-up and also the internal political economy. Similarly, to differing degrees the place-based approach is now informing a variety of UK policy arenas including industrial policy, devolution and even health and social care. However, the experience of the UK is that as a country, we are very late to arrive at these lines of thinking, and to a large extent we are playing 'catch-up' with other countries. This is particularly ironic because on many dimensions the UK is a country which needs more place-based types of thinking than almost any other industrialised country. In the UK this place-based thinking is now engaging with debates regarding to education, research and innovation policy, as is the case also in many other countries, and this opens up new lines of enquiry, policy challenges and policy opportunities.

We know from worldwide evidence that that R&D, innovation, knowledge generation and knowledge diffusion are all essential features for regions to grow. Yet, for some reason, even with the widening participation in UK higher education and also the high quality of the UK research environment and infrastructure, the expected impacts on many UK regions have simply failed to materialise. Knowledge diffusion and dissemination processes within the UK appear to be very limited, and in particular the diffusion mechanisms between London and its hinterland regions and the rest of the UK appear to be generally very limited, and in some cases, almost non-existent. This lack of internal knowledge diffusion, and the UK's growing interregional productivity inequalities, provides the context in which place-based thinking is now increasing in UK policy circles and policy reforms.

In order to assess the extent to which the UKRI research and innovation agenda could, should, and how it might engage with these shifts, and how it might embody more place-based dimensions in its set-up, it is necessary first to consider the whole UK context, and the underlying reasons why place-based thinking has emerged in the UK in the first place. On this point, as we will see the reasons are both internal and external; in particular external thinking, evidence and experience from other countries has combined with a greater domestic political awareness of the internal challenges facing the UK and the growing imperative to address what are now understood to be largely internally-driven institutional and economic problems. These changes in thinking have also coincided with a worldwide shift in our understanding of the role that research and innovation play in driving the economy and the different ways in which the generation of new knowledge and ideas shape economic processes. In turn, these changes in understanding about the developmental role of research and innovation have also had profound implications for modern place-based thinking. Indeed, the interplay between our understanding of place-based principles and our understanding of how research and innovation interface with economic development processes, is now increasingly centre-stage in modern concepts of innovation policy.

Therefore, in order to assess whether or how the UK research and innovation agenda might embody place-based dimensions in its set-up, the rest of the paper is structured as follows. The next section will discuss the UK economic and institutional context, highlighting the extent to which the UK productivity problem is also heavily a place-based problem, and we will also outline the nature of the ongoing UK governance changes relating to local economic development. Section 3 will then discuss

the origins and logic of modern place-based thinking and will also discuss key elements of outcome-oriented place-based policies. The insights derived from sections 2 and 3 will then be integrated in order to examine the possibilities for UKRI investments in the evolving place-based landscape for research, innovation and economic development.

## 2 The UK Context: Productivity and Place

In 1994 Paul Krugman famously remarked “*Productivity isn't everything, but, in the long run, it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker*” (Krugman 1994). This is one of the most famous, and perceptive, quotes in economics, and underlines the critical importance of productivity not just in purely economic terms, but in determining wider societal prosperity and wellbeing. In these terms, the UK today faces an enormous productivity challenge. For much of the last decade since the 2008 Global Financial Crisis UK productivity growth has been approximately zero and UK productivity levels have remained almost entirely flat. The result is that in economic terms the UK has witnessed something of a lost decade and a profound loss of economic dynamism. Yet, unlike countries such as Spain, Italy, or even France and Belgium in the post-crisis era the UK has not faced rising unemployment or contractions in employment participation. As such, some commentators argue on the basis of comparisons with France or Belgium that the approximately zero UK productivity growth is due to the high employment levels. However, other countries which have maintained similarly high levels of employment as the UK such as Germany, The Netherlands, Austria, Canada, Australia, USA, Sweden, Finland, Denmark and Ireland, have not faced the productivity growth collapse that the UK has experienced. Although the post-crisis productivity growth of most of these other countries has not consistently matched their pre-crisis levels, many of these countries are now recording consistently healthy productivity growth alongside close to full employment levels. As such, in economic terms the UK today is something of an outlier, at least in terms of the group of countries that we tend to compare ourselves with, and on some key measures we appear to be more akin to a Mediterranean economies than to northern European economies. Indeed, without the productivity premium of London, the rest of the UK only exhibits overall productivity levels which are lower than Italy and roughly equivalent to that of Spain (McCann 2016).

All advanced economies have faced falling productivity growth relative to the post-war era. Productivity growth rates had started to slow down by the 1980s such that productivity growth rates in western economies at the turn of the new Millennium were typically only half of what they were in the 1960s (Maddison 2006). Productivity growth rates have fallen significantly since then. Many explanations have been put forward for the productivity slowdown with the main ones being higher marginal costs for new knowledge-generation, a waning of the IT revolution, plateauing educational attainment levels combined with greater levels of student debt, and an ageing population (Gordon 2016). We can also add to this list the severe demand contractions associated with the 2008 Global Financial Crisis (MGI 2018a). Meanwhile, the boost to productivity growth due to information and communications technologies (ICTs) has not been nearly as important as many expected it to be (Acemoglu et al. 2014) or as important as some argue it still can be (MGI 2018) in the future. As Robert Solow (1987) famously remarked “*You can see the computer age everywhere but in the productivity statistics*”, and his dictum still appears to largely hold (Acemoglu et al. 2014), even allowing for mis-measurement issues (Coyle 2014). That is not to say that these new technologies have had no impact at all. Indeed, there is some evidence of transatlantic differences between the adoption and adaptation

of new ICTs leading to relatively quicker US productivity growth in comparison to Europe in the years straddling the new Millennium (Ortega-Argilés 2012), but even within the US the evidence on the productivity-enhancing role played by ICTs is still very limited. Part of the problem may be that the advantages and opportunities afforded by new information and communications technologies have not been taken up sufficiently by businesses (MGI 2018a) and there is some evidence that this may be a particularly acute problem in the UK (MGI 2018b). However, our current understanding of the nature of, extent of, or reasons for, this lack of ICT take-up is still very limited. There are many ‘techno-optimists’ who anticipate great leaps forward in the coming years in Artificial Intelligence, the ‘internet of things’, autonomous machines and vehicles etc., and who expect that these developments have the potential to drive significant productivity increases, as well as possible job displacement effects. In contrast, there are also many pessimistic views which imply that we have entered a period of ‘secular stagnation’ characterised by sluggish long-run productivity growth (Gordon 2016). Within this broader international context of a worldwide productivity slowdown amongst advanced economies the UK exhibits very particular features.

Firstly, in the two decades between the advent of modern globalisation in the late 1980s and the 2008 Global Financial Crisis. UK productivity growth was healthy, whereas in the immediate aftermath of the crisis UK productivity growth collapsed and for most of the subsequent years it has continued to remain stubbornly weak or even non-existent since then. Indeed, the productivity slowdown in the UK has been both more severe and persistent than in most other advanced countries.

Secondly, the productivity shocks faced by the UK are very geographical in nature. Large parts of the UK economy, and in particular London and its hinterland regions of the South East and the parts of the East and the South West economies closest to London, recovered very quickly from the 2008 Global Financial Crisis and have continued to display strong productivity growth for much of the last decade, and also along with Scotland to a lesser extent. In marked contrast, many parts of the Midlands and the Northern regions of England, along with Wales and Northern Ireland have struggled greatly since the 2008 crisis with little or no productivity growth, and today these places exhibit productivity levels which are no better than during the pre-crisis years (McCann 2016). These markedly differing trends were already evident in the two decades prior to the 2008 crisis with the more prosperous parts of the UK steadily pulling away in productivity terms from the less prosperous regions. However, since the 2008 crisis these differences have been greatly magnified. It is the starkly differing experiences in productivity and prosperity growth between the two parts of the UK which marks the UK out. To put the figures into perspective, almost half of the UK population today live in places whose productivity is no better than the weaker parts of the former East Germany, lower than parts of Slovakia, Poland, Slovenia and the Czech Republic, and poorer than the US states of Mississippi or West Virginia (McCann 2016). At the same time, London is one of the highest productivity places in the industrialised world, and half the UK population today live in places which in terms of productivity perform reasonably well by OECD and European standards. Today, the productivity variations within the UK when measured at the OECD TL3 level, areas which on average are just under half a million people, are as large as the whole of the Eurozone! Moreover, these enormous variations occur in a country the size of the US state of Wyoming. No other large industrialised country faces such productivity inequalities over such a tiny space. The enormous productivity differences within the UK are, not surprisingly also reflected in large interregional differences in other measures of wellbeing including quality of life, civic engagement, town-centre viability, health and life expectancy, and even sports performance (McCann 2016).

Furthermore, these interregional productivity differences between the core of the economy (London and its hinterland plus Scotland) and the non-core (The Midlands and North of England plus Wales and Northern Ireland) also act as a huge break, a drag, on the performance of the UK economy as a whole. Over the last two decades the extent to which the more prosperous regions of the UK have outperformed OECD-wide averages is almost identical to the extent to which the less prosperous regions have underperformed these same averages. Indeed, the majority of the UK's collapsing productivity growth has been primarily evident in the non-core regions of the UK, and especially in the large cities outside of the core areas of the economy (Centre for Cities 2018: McCann 2018). Given that both the more prosperous parts and also the under-performing parts of the UK are almost identical in size, the result of these markedly differing experiences is that in real productivity terms the overall UK economy has not improved its international position in comparison to our OECD competitor countries in the last forty years. Indeed, during the last half a century the UK has only overtaken one country in productivity terms, namely New Zealand, and today New Zealand has almost completely closed the productivity gap with the UK. The UK is currently only the 14<sup>th</sup> richest country in Europe and only the 22<sup>nd</sup> richest in the OECD. In other words, by international standards, the UK economy as a whole is only a modest performer even though London and its hinterland area are high performers.

To many in political and media circles these realities are either largely unknown or rather confusing. But the reason is that to many national policy makers from the 1980s onwards, London and its hinterland was supposed to be the driver, the motor of economy, and the growth impacts of London were expected to spread out, diffuse and disseminate across the country. This has simply not happened, on almost any level, even though these types of narratives still have a powerful hold on national narratives. Indeed, in most areas of life the exact opposite has occurred. The UK economy appears to be disconnecting, dislocating and *decoupling* on many levels, with the interactions between the more and less prosperous parts of the country - via trade, migration, knowledge diffusion, research and investment – being either stagnant or even falling over time. These stagnant or falling interactions are also evident in public policy interventions. Many areas of economically-productive public investment in arenas such as transport, research and development, education, arts and heritage, have become ever more centralised and skewed towards the more prosperous parts of the economy. In particular, the large UK cities in the less prosperous parts of the UK significantly underperform in comparison to their European and OECD competitor or comparator cities (McCann 2016). Some people have tried to argue that that this is because these cities are too small, but careful comparisons show that this argument simply does not hold (McCann 2016). Rather, the severe lack of physical and institutional connectivity of these cities is a far more serious problem.

These growing interregional inequalities have also coincided with the balance between central and local government becoming progressively more unequal and centralized that at any moment in our peacetime history. The UK, on many indicators, is now the large country with the most centralized and top-down governance system of any in the industrialised world. Only very small countries such as Ireland, New Zealand and Slovakia have similar governance systems. On many levels our governance system is totally inappropriate for the type of country that we are. Highly-centralised, top-down and space-blind governance systems may be appropriate in very small countries, but in large countries which are internally extremely heterogeneous, such systems are wholly inappropriate. In the case of the UK, except for the devolved administrations, the lack of any well-established meso-level governance institutions operating at the regional scale between local and central government, as is the case on most of our competitor countries, means that there are no countervailing institutional

systems which can support the resurgence of these weaker cities and regions of the economy by designing policies which are specifically tailored to the local context.

In recent years there has emerged a slowly-growing awareness of the progressive internal decoupling of the UK economy and the extent to which the weaker non-core parts of the UK are falling behind the more prosperous core parts of the UK. This awareness has developed also in parallel with a recently-growing awareness in many policy circles that the UK's highly-centralised and top-down governance systems are not only inappropriate for responding to this internal decoupling phenomenon, but actually may be in part to blame for it. Two independent reports republished in 2012 investigated these issues in real detail (Heseltine 2012; IPPR 2012) and the impacts of their research, alongside the insights and lobbying of Lord Jim O'Neill, former Chief Economist of Goldman Sachs, for the first time started to change national narratives. It became increasingly clear that improvements in the UK national productivity performance crucially depended on increasing the productivity performance of the UK's cities outside of the London hinterland, and that the UK's prevailing institutional set-up was wholly ill-designed and ill-prepared to respond to these challenges. This was the original impetus for the City-Region agenda, a programme of sub-national governance reform which began in 2014-15. The City-Region agenda encouraged local government areas to coordinate and collaborate, to pool resources and in some cases by surrendering powers, in order to develop larger scale and more integrated local governance systems. The formation of Combined Authorities at a city-region scale proceeds via groups of neighbouring councils developing policy plans and programmes and then negotiating with central government in order to take devolved powers away from Whitehall in a particular format and portfolio which is specific to that locality. The various City-Region deals emerging are all slightly different to each other and this means that there is now something of a patchwork of such arrangements which are emerging across the UK.

In the field of economic development, since the UK's 2010 regional policy reforms, the mainstay of local development policy was intended to be the new Local Enterprise Partnerships (LEPs), but concerns about their efficacy and capabilities were already widespread before the formation of the Combined Authorities. Many LEPs have little, if any, real analytical, organisational or policy-design and policy-delivery capacity, and their (largely country-based) spatial structures often have little, if any, obvious economic rationale. The new Combined Authorities are therefore in the process of working out how their own remits can best align with the activities of the local LEPs, and these processes are ongoing. When it comes to economic development, the newness of the Combined Authorities, many of whom are currently trying to find and define their missions and roles, is therefore somewhat further complicated by the need to identify and dovetail the roles and remits of these different institutional structures and bodies. In addition, for both LEPs and Combined Authorities, the policy landscape has become even more complex due to the launching of the UK Industrial Strategy in 2017 and its embedded Local Industrial Strategies. All localities in England are required to develop Local Industrial Strategies (LISs), while negotiations with the Devolved Administrations regarding their suitability for these areas are ongoing. In Combined Authority areas the LISs are to be led by the directly elected Mayor with LEPs in support, while in other areas the LISs will be led by the LEPs. The first LISs are expected to be agreed by March 2019. Funds are also being made available for intra-city investments in transport connectivity and for helping upgrade the technical capacity of the Mayoral teams in the Combined Authorities.

The present UK landscape for economic development and productivity enhancement, at least as it relates to issues such as innovation, entrepreneurship, employment, skills, and connectivity, is to say the least fluid, and one that is currently evolving, although the direction of travel towards more of place-based logic is very clear. The lack of a fully articulated template as to how economic development is to take place in UK regions obviously presents a challenge to localities to define and articulate their workable options. At the same time, the fluid nature of the policy context also provides opportunities for localities to experiment, to innovate in terms of policy actions, and to try to do some genuinely new things. The question this raises is whether these localities will take the opportunity to be innovative. On the one hand, the uncertainty regarding the present institutional context, which is almost certainly exacerbated by Brexit, may militate against local governance and policy innovation in many localities. On the other hand, the lack of clarity may provide just the opportunities that some localities have been seeking to be innovative in policy. However, these issues must not be overstated, in that the sums of money available for devolution are tiny in comparison to the economic size of the city-regions and the productivity challenges that many regions face.

It is clear that the whole logic of UK development and industrial policy is slowly shifting towards more of place-based logic than has previously been the case, although the scale and success of this shift is as yet unknown. Therefore, in order to get sense of how these things may play out in coming years it is necessary to consider the wider international context of developments in place-based thinking alongside shifts in thinking about the relationships between research, innovation and economic development

### **3 The Emergence of Modern Place-Based Thinking**

The fields of regional and urban economic development have always to some extent exhibited place-based ways of thinking. Traditionally, place-based ways of thinking tended to focus on those characteristics and features of a locality which help to foster local economic development, and such approaches are central to the study of economic geography. However, for the first five decades of the post-war era most areas of economic growth research have largely ignored place-based arguments, preferring instead to focus on the aggregate macroeconomic conditions and frameworks which are conducive to growth. Yet, the lack of interest in the role of place in growth issues started to change rapidly at the beginning of the 1990s with the publication of five highly influential pieces of work by Krugman (1991), Porter (1990), Glaeser et al. (1992) Scott (1988) and Jaffe et al. (1989). Krugman's (1991) research, which laid the foundations of what became known as 'new economic geography', explained how the role of cities and regions was crucial in linking trade to economic growth, and Michael Porter (1990) demonstrated that local clusters of economic activities were a crucial driving force for the national economy. The work of Glaeser et al. (1992) laid the foundations for a large literature examining how the characteristics of cities influence economic growth and Scott (1988) demonstrated that different types of places can underpin growth via their influence on the development of technologies. Although each of these lines of research was rather different to each other, what they all had in common was the importance of local knowledge spillovers, knowledge exchanges and knowledge diffusion processes within key geographical arenas as being a crucial ingredient of the economic growth process (Jaffe et al. 1989). The interactions between knowledge and place were seen to be a critical determinant of national prosperity, and national success depends on these types of places being successful, because the knowledge generated in these places drives the innovation (Porter 1990) we need to spur economic growth.



These various publications and the vast literatures they subsequently spawned reached worldwide audiences and also started to connect many different disciplines including economics, geography, business and management studies in building a broadly-based consensus regarding the role of place in economic growth development. At this point, however, the global economy started to undergo the enormous shocks of modern globalisation, between 1988 and 1994, and these shocks set in train a series of enormous transformations impacting differently on all countries and places. The Fall of the Berlin Wall and the Collapse of the Soviet system expanded the European economy by one third and the rapid opening up of the BRICS countries of Brazil, Russia, India and China, along with Indonesia and South Africa expanded the global labour market by one third almost overnight. The establishment of the EU Single Market in 1991, NAFTA and the WTO in 1994, and the invention of the world wide web by Tim Berners-Lee, all facilitated enormous waves of out-sourcing and off-shoring from industrialised countries to newly-industrialising economies. In particular, activities which were largely routine and repetitive in nature, both in manufacturing and services sectors, were found to be relatively easily off-shored using the new internet-based technologies while still being controlled from the parent countries. These types of off-shored activities are those for which it is possible to write templates or blueprints of the work roles and routines and once these are initiated can be largely repeated without difficulty. In contrast the jobs which are non-routine in nature were found to be very difficult to out-source and off-shore. On the one hand, these jobs include both those requiring advanced cognitive skills and also higher levels of education to undertake, while on the other hand they also include low wage and low skill service type jobs such as cleaning, security, gardening, café and restaurant workers etc. The outcome of these transformations is that whole swathes of what were previously middle-income, middle-skills, middle-management and middle-class occupations have nowadays disappeared from advanced economies, while both high income and low income jobs have proliferated. Those workers who previously would have occupied the previously middle income roles are today forced to compete with lower skills workers for jobs, thereby depressing wages for large sections of society. At the same time high-skills workers are able to gain jobs in high wage roles taking advantage of the opportunities afforded by the global marketplace. The result is greater 'job polarisation', (Goos et al.2008) whereby countries are increasingly characterised by increasing number of both high-skill and high-wage workers, alongside low-skill and low-wage workers. However, while job polarisation occurs nationally, it is also increasingly evident in terms of places. If the spatial patterns of the globalisation shocks are evenly distributed across a country then these job polarisation effects will also be evenly distributed across places, and they will not lead to increasing interregional productivity differences. If, however, within an individual country these effects are different between different places, with some regions being more exposed to out-sourcing and off-shoring, then this will lead to growing interregional productivity differences. Here the emerging work on the economics of places starts to provide some key insights.

Although the work of Krugman, Porter, Jaffe, Scott and Glaeser, and the enormous literatures that they initiated were not specifically designed to address the shocks of modern globalization, they each contained within them crucial insights into the mechanisms and implications of modern globalization. In particular, modern globalization has increased the differences between places which are the 'winners; and 'losers' from globalization, and this is true both between countries and also within countries. In particular, regions and cities which are dominated by multinational firms, internationally-renowned universities, high quality and large scale research centres, high quality transportation and communications infrastructures, and highly qualified workforces, tend to be the places which are

prospering in the modern economy. The kinds of goods and services they produce locally tend to be characterised by a high level of knowledge inputs, high R&D components, high human capital inputs, and these *tradeable* outputs are generally marketed globally. These are typically high productivity places. In contrast, places with few of these assets or characteristics tend to be struggling and being left behind in the modern economy in many ways. The goods and services they produce are generally *non-tradeable* outputs, aimed at local markets, requiring relatively low levels of knowledge inputs, low R&D components and low human capital inputs. These are generally low productivity places. We know that all places contain both high and low-skills workers and occupations, but in terms of productivity what distinguishes the UK so much from other countries is the degree to which places differ in terms of productivity. The internal decoupling of the UK economy is increasingly being reflected in a division between high productivity places producing international tradeables and low productivity places producing non-tradeables for local markets (OECD 2018). Many other countries face similar patterns to the UK, although the scale of the inequalities over such small distances within the UK is much larger than in almost any other industrialised country (*The Economist* 2017).

These patterns of growing interregional inequality in the face of modern globalisation were already becoming evident in many countries during the late 1990s and early 2000s but internationally, policy-thinking as to how to best respond was very slow to catch up with the new realities, and here the UK was no exception. Part of the reason for the slowness of the development of appropriate policy responses was simply due to the unprecedented nature of the changes, both in terms of their speed and scale. Policy-makers had no real prior experience or examples to work from. As such, the scale of the new challenges also led to fierce debates as to how to best respond, but curiously the UK played almost no part whatsoever in these debates, even though the differential impacts on the UK were so significant. These debates came to a head in 2009 when a series of highly influential international reports were published which examined the modern place based nature of economic growth and examined the potential policy responses.

The first of these reports was the 2009 World Development Report published by the World Bank (2009). This report recalled and re-popularised a largely forgotten dichotomy first proposed by Winnick (1966) that claimed that the underlying logic of development policy could be either 'people-based' or 'place-based' and that given that our aim is to enhance the livelihoods of people, then policy should be 'people-based' and thereby 'space-blind'. This dichotomous framing of the underlying logic of development choices automatically led to the argument that national growth was best served by public policy which prioritised the dominant and growing cities, rather than aiming to help weaker regions. The argument here was that a *space-blind* approach would maximize local agglomeration spillovers and externalities, and the spatial diffusion effects that these local agglomeration processes would subsequently engender would serve to maximise national growth. Importantly, the report explicitly argued that *place-based* policies aimed at fostering development in weaker regions would retard national growth both by failing to capitalise on agglomeration effects and by inefficiently mis-allocating resources. Instead the policy focus needs to be solely on the efficiency of places rather than on any place-related distributional questions.

In complete contrast to the World Bank (2009) arguments were two reports produced by the OECD (2009a,b) on the basis of a huge amount of empirical data from many different countries, and also one report for the European Commission examining analytical issues which was produced by a large team of independent experts and convened by Fabrizio Barca, a Director-General of the Italian Treasury.

These three reports rejected the Winnick-type of 'people-based versus place-based' framing as being an entirely false dichotomy and instead advocated a 'people in places' way of thinking. To substantiate this approach these three reports argued that the existing empirical data and also the latest thinking in both institutional economics and economic geography all suggested a very different interpretation, namely that if correctly undertaken, *place-based* support for weaker regions would contribute significantly for national growth and development in a manner which is more sustainable than space-blind approaches (OECD 2009 a,b).

The two OECD (2009) reports demonstrated that the patterns of economic growth are very different in different countries and that there is no automatic template as to the role played by core and non-core regions in national economic growth, as had been assumed by the World Bank (2009). Instead, the empirical evidence pointed clearly to the fact that weaker and lagging regions can play a major role in national economic growth. As such, their empirical evidence initially put forward by the OECD in (2009 a.b), and which has subsequently been greatly enhanced over time in many other reports (OECD 2011), suggested that the World Bank (2009) approach had relied too much on simple textbook assumptions about the nature of growth and development mechanisms which did not reflect either the complexity or the variety of different development processes in different places.

Meanwhile, the Barca (2009) report took as its lead the work of institutional economists such as Rodrik (2007) and Ostrom (1990), and also the major inroads that these types of institutional arguments were beginning to make in economic geography. Pulling all of these lines of enquiry together, the Barca (2009) report argued that tackling institutionally-generated local development traps was a critical priority and role for nationally-led regional policy. In particular, well-designed and locally-tailored regional policies which fostered the local engagement of many different types of (private, public and civil society) stakeholders could help to unblock local development traps and to thereby help unlock local development potential. Instead of implementing centrally-designed top-down schema at the local level, as had traditionally been the case in countries such as the UK, effective regional development policies needed to focus on the alignment of incentives and the creation of policy frameworks in which multiple local actors would be willing to engage in the policy process and to offer workable policy actions, ideas and initiatives. However, to do this it is essential that the requisite governance capabilities are in place to allow investors in knowledge-related activities to maximize their investments locally. Yet, these capabilities are not exogenous, but rather in the right settings they are largely endogenous, in the sense that they are built or constructed by experience, practice and learning-by-doing. A core logic of modern place-based policies is therefore to provide the framework within which local actors can develop the experience and expertise of good bottom-up policy design and delivery. Indeed *modern place-based* approaches are fundamentally about building the local institutional capacity necessary to ensure that genuinely locally-tailored policies are designed with the explicit involvement of local communities.

As a group, these three reports argued that the World Bank (2009) types of space-blind principles, which focused only on the efficiency of investments almost irrespective of places, and ignored the distributional impacts of such policies in or between places, would ultimately lead to unworkable and incoherent outcomes precisely because they failed to address these local governance failures and the only outcomes of space-blind approaches would be the increased spatial polarisation of society (Barca 2009). Instead, the OECD-Barca approach argued that place-based policies which are aimed at galvanising the appropriate local and national institutional reforms required to help unblock local

development bottlenecks, should be the cornerstone of modern regional policy thinking. In particular, institutional and governance reforms which foster the widespread local engagement of different types of local stakeholders in all stages of the policy process –from the ex ante priority-setting to policy-design and delivery, through to ex post monitoring and evaluation - were argued to be essential, in order to ensure local capacity-building. Such engagement activities should be supported throughout by widespread evidence gathering and analysis so that the basis of decisions regarding the choice of policy priorities and the policy actions designed to achieve (or make progress) towards the intended goals, would always be clearly articulated. Indeed, modern place-based policies are fundamentally about catalysing local institutional capacity-building in places where the current local institutional set-up is incapable of responding to the local development challenges (McCann and Ortega-Argilés 2013). These types of place-based policy approaches require prior evidence-gathering and the establishment of baselines on all relevant socio-economic dimensions, priority-setting which is based in part explicitly on the prior evidence-gathering as well as other political economy criteria, and the involvement of many different stakeholders in the policy process in order to ensure widespread local ownership of the priority-setting activities and also to avoid entrenching any local monopoly or monopsony positions.

In the early years after the publication of these reports the space-blind approach of the World Bank (2009) gained significant international traction, including in the UK, but slowly the credibility of these arguments has been increasingly called into question (Barca et al. 2012) and the worldwide thinking about regional development policies is shifting rapidly towards a place-based approach. Indeed, even the World Bank (2018) and previously high-profile advocates of space-blind thinking (Glaeser et al. 2018) are now openly advocating place-based ways of thinking. This shift from space-blind to place-based ways of thinking has primarily taken place in the last five years and is a response not only to the spatially-explicit distributional shocks associated with the 2008 Global Financial Crisis, but also to the rise of populist politics, which tends to be especially strong in those regions facing severe economic decline or stagnation. Increasingly, what were originally doubts in certain quarters about the efficacy of space-blind thinking has now turned into a widespread concern regarding the potentially misguided nature of these lines of thinking in many different contexts. In particular, addressing distributional issues is critical for ensuring a cohesive society and development programmes which effectively ignore these can be inadvertently undermined by broader political economy considerations. Indeed, the over-centralised, top-down and largely space-blind logic of the UK's governance of economic policy has to a large extent caused the enormous productivity inequalities evident today in the UK, inequalities which are nowadays posing profound challenges to the whole UK economic and governance model (McCann 2016).

#### **4 Research, Innovation and Economic Development**

In terms of UKRI research funding, to engage with the increasing shift towards more place-based lines of policy-thinking, as sketched out above, would involve rather different types of approaches and different emphases to a standard model of research funding which is fundamentally space-blind and based purely on 'research excellence'. The shift would require an explicit focus on the role played by knowledge inputs, knowledge outputs and also knowledge outcomes on specific localities, rather than the academy in general. However, this explicitly provides for various potential points of connection between UKRI activities and the wider UK economic development landscape.

To develop and design effective place-based policies which are both evidence-based and evidence-generating in nature requires research inputs, research thinking, and research assessment and

evaluation activities to be embodied in the logic, framing and implementation of the policy. Indeed almost all aspects of place-based policies can be linked to research activities and this provides potential roles for UKRI investments in the UK's regional development agenda. In the regional development sphere, the projects should be primarily applied research in nature rather than fundamental or 'blue skies' research, and the investments should explicitly work in tandem or in parallel with funds such as the Transforming Cities Fund, the soon-to-be-launched Shared Prosperity Fund, or the funding streams associated with Combined Authorities in the sphere of Local Industrial Strategies. The key here would be to build integrated policies where UKRI-funded activities play key roles in a wider place-based policy programme which involves different local stakeholders, including 'anchor' institutions such as universities or hospitals also working alongside local government bodies and private sector and civil society actors. The objectives of these policies should be squarely on local and regional economic development and the research activities embodied in these projects can be of various forms, relating to: the 'theory of change'; the policy design; choice of indicators; the monitoring and evaluation activities; or the dissemination and diffusion activities.

#### **4.1 Theory of Change**

In each place-based policy action, the key which brings each of these elements together is the *theory of change* which underpins the policy design. Each place-based policy action should have a specific and tailored theory of change underpinning it which sets out in detail, and in the specific local context in which the policy actions are intended to take place, the expected and likely mechanisms, sequencing and interactions between the policy inputs, outputs and outcomes. Importantly, this theory of change will need to include a discussion of the likely *diffusion processes* and *dissemination mechanisms* which will translate how any innovative breakthroughs or advances are to be enhancing for the wider local economy and the broader socio-economic environment. This requires clarity regarding the distinction between what are outputs and outcomes, and an explicit use of the established baselines in order to inform the theory of change.

It is necessary to clearly distinguish between policy inputs, policy outputs, and policy outcomes (Barca and McCann 2011) and the tracking of each of these three classes of information is essential in order to understand both the policy efficiency (inputs→outputs) and the policy effectiveness (outputs→outcomes) or impact.

The development of a theory of change therefore immediately offers opportunities for academic research to complement the policy design and development activities. This is because the theory of change will need to explicitly take into account the local socio-economic characteristics, the governance context and the local stakeholders and institutions who may participate or engage with the programmes, and the diffusions and dissemination processes. This requires the establishment of *baselines* of many different socio-economic aspects of the context, in order to develop a comprehensive picture of the place-based context in which the policy will operate. These baselines will also help to inform the choice of policy priorities and the possible options regarding how to respond to these priorities.

The appropriate theory of change may well also need to be developed in the context of detailed research regarding the local and social and economic context of comparator examples from other regions or countries, ideas which can then be adapted to the local context. This involves academic research. In other cases, a radically new innovative policy may have few comparator examples, but

academic research can also be involved in the *a priori* foresight analysis and modeling of the potential outcomes and mechanisms, where this may be possible.

The establishment of baselines, the development of a theory of change (based also on comparator examples), the identification of potential diffusion processes, and finally any foresight analysis and modeling, are all activities requiring significant academic inputs to complement, bolster, and enhance the place-based policy process.

## **4.2 Indicator Approaches**

A key element of these types of place-based development policy approaches is the outcome-oriented nature of this type of policy-thinking and this requires the development of outcome indicators of both a quantitative and qualitative nature which can be tracked and monitored as evidence of the direction and progress of the policy (Barca and McCann 2011). The role of outcome-indicators in place-based projects is threefold.

First, the need to think *ex ante* about appropriate outcome indicators instills an outcome-oriented logic to the whole place-based policy process right from the outset, and also allows for ongoing policy monitoring and *ex post* evaluation. Outcome indicators can be quantifiable variables, but they can also be complemented by qualitative indicators. Importantly, however, the outcome indicator approach does not mean that policy-making and evaluation effectively becomes an econometric exercise, as it has sometime been interpreted. Econometric techniques including counter-factual models are part of a broad suite of policy evaluation techniques, which also includes qualitative frameworks such as logic models and story-based approaches. The outcome indicator approach is required in order to ensure an outcome oriented logic to the whole policy design and delivery process which, and this is essential for tailoring any place-based policy to the local context.

Second, outcome indicators are needed precisely because we do not know in advance the outcomes of the project (Rodrik 2004), and this is especially important in the case of projects with innovative elements or projects explicitly aimed at driving innovation. Innovation only works by also finding out what does not work so a portfolio of place-based development projects also need to allow for the fact that some projects will not succeed, and this information about non-success is almost as important as the knowledge gained from the successful projects.

Third, outcome indicators are required in order to bring realism into the project design. Realism in terms of aims and ambitions is essential in order to build the engagement and trust of different stakeholders, and the process of thinking about the choice of outcome indicators helps to ensure that impact expectations are within meaningful and achievable limits. Project ambitions must not be so high that they attract skepticism as they will then be unattractive to potential stakeholders, and nor must they be too low as to mean that even if they work there is likely to be no potential meaningful impact.

Academic work can help significantly in terms of defining, choosing, and then monitoring the progress of the outcome indicators.

The outcome indicators chosen should most closely reflect the intended final objectives of the policy and best capture the particular aspect of societal wellbeing which is intended to be influenced by the policy. The outcome indicators should be few in number, and explicitly distinguished from the output

indicators. They should be close enough to the policy to closely reflect the realistic and meaningful intentions of the policy, but not so close as to be an output indicator. In terms of the evaluation of the policy, the 'impact' should be most succinctly captured by the change in the outcome indicator that can realistically be attributed to the policy action itself.

The choice of appropriate outcome indicators again requires academic research in order to determine what are (both conceptually and on the basis of comparator examples) the most appropriate and meaningful outcome indicators. In addition, the *monitoring* of the progress of the output and outcome indicators is also an area where academic research can play a significant role, as universities and research institutes can provide independent and rigorous policy-evaluation activities using both quantitative and qualitative techniques.

As a whole, the outcome-indicator approach ensures that the aims and objectives of the policy are made explicit from the outset and the intended outcomes of the policy action or intervention shape the whole logic, design and sequencing of the policy (Rodrik 2004, 2007). Indeed, correctly applied, these approaches are not only fundamentally *evidence-based* policy approaches, but they are also *evidence-generating* policy approaches. This is essential for policy-learning and capacity-building. Indeed, all place-based policy actions and interventions should themselves be data-generating initiatives which can provide further evidence for future policy-making regarding what works or what doesn't work where, when and why. Indeed, academic research is ideally placed to play a key role in the dissemination of learning and best-practice. As innovative policy approaches are found to offer new insights into development processes, academic research is best-placed to communicate these advances in a manner which is rigorous, based on the state-of-the-art thinking in the field, and reflective of the local context. This is also the case where policy outcomes turn out to be not what was anticipated, either being weaker or different from the a priori expectations. All types of innovative activities including policy-making need to allow for failure in order to understand success, and academic research can help to correctly interpret and learn from these experiences where policy outcomes were not as anticipated, just as is the case from those which were as anticipated.

In order to promote this type of innovative and place-based policy environment this also requires a different mindset on the part of both policy-makers and research funding bodies such as UKRI, in that policy interventions must be allowed to fail, without the policy proposers or advocates being in any way penalised in subsequent rounds of policy and research proposals. This type of thinking (CST 2007) has been previously described as "choosing races and placing bets" (Hughes 2012) and the role of academic research is to help underpin the ex ante logic and rationale of the choices made regarding both the races and the individual bets, and also of the ongoing and ex post policy-evaluation and re-evaluation activities which facilitate institutional learning and governance capacity-building.

In general, these types of economic development policies which are not only both evidence-based, but also evidence-generating in nature, are essential in order to help build the trust between stakeholders from the public, private and civil society arenas and also to improve local policy-making capacity in the future. Research needs to both inform policy-making and also to benefit from the implemented policies as data-generating actions in their own right.

To recap, UKRI-funded research activities could therefore potentially connect with these types of place-based policy activities in various ways, namely: the establishment of baselines; the

development of an appropriate theory of change including diffusion and dissemination processes; foresight analysis and modeling; help with the choice of appropriate output and outcome indicators; the monitoring of the progress of the policy outcomes; the interpretation of different types of outcomes; and the dissemination of learning and best-practice. These awarding of the important research-based activities would not be based on the orthodox principles of research excellence as it is normally applied, because this research needs to complement and enhance crucial UK-wide institutional capacity-building activities, which are potentially as critical for UK prosperity as research excellence.

## 5 Discussion

Given the issues discussed above, we can now consider how UKRI investments may best interact and complement place-based development policy interventions. In order to do this, we can take as an example one particular research funding programme, namely the *Strength in Places Fund*, and consider how the stated aims and objectives of this fund relate to the place-based development policy principles.

The *Strength in Places Fund*, which was announced in Industrial Strategy White Paper of November 2017, is stated to have key *high-level* aims, which are, namely:

- (a) - To support innovation-led relative regional growth by identifying and supporting areas of R&D strengths that are driving clusters of businesses across a range of sizes that have the potential to innovate, or to adapt to new technologies in order that those clusters will become nationally and internationally competitive
- (b) - To enhance local collaborations involving R&I, knowledge institutions, and engaging businesses at the forefront of delivering economic growth through innovation within the identified economic geography

In order to achieve this these interventions will focus on the *context of specific economic geographies* with regard to supply chains/clusters, rather than on the national grand challenges which are the remit of the Industrial Strategy Challenge Fund, and the *Strength in Places Fund* investments will seek potential alignments with Local Industrial Strategies, Smart Specialisation, City Deals, and Strategic Economic Plans(s) for the locality, Science and Innovation Audits.

Each of the high-level aims (a) and (b) and also the contextual framing of the *Strength in Places Fund* investments are broadly consistent with the arguments outlined above regarding both the logic and rationale of place-based policies and also the particular place-based challenges that the UK currently faces.

However, the *Strength in Places* fund also has *specific objectives*:

- (i) The funding of activities which contribute towards significant relative regional economic growth i.e. having a significant impact locally that closes the gap between that region and the best nationally.
- (ii) These activities must be in line with UKRI's mission, where the focus is on supporting those businesses and research organisations at, or near to, the *frontier* of the economy, and they



must also involve excellent research and high-quality innovation being completed or underway as a result of funded proposals.

These two *specific objectives* are *not consistent* either with the logic of place-based policies nor with the specific place-based challenges facing the UK which the devolutionary reforms are designed to address.

Firstly, the objective that a particular project must influence regional growth and help to close the interregional gaps (convergence) is wholly unrealistic given the tiny size of the research project-related interventions relative to the region. Such an objective is meaningless both as a criterion for project selection and as a criterion for project evaluation, because the drivers of convergence are related to global mechanisms. Instead, the specific objectives should be related to the quality of the proposal as determined by the theory of change, the identified dissemination processes, the relevant baselines and the changes in the chosen outcome indicator(s), as all of these meaningfully reflect the realistic ambitions and possibilities of the individual project.

The focus on supporting and prioritising research centres and business activities at or close to the technological frontier is also problematic. The UK productivity challenges are almost entirely unrelated to the star performers of UK industry. A focus on research excellence misses most of the UK's challenges problems and indeed the very rationale for the place-based approach. The major socio-economic challenges of the UK relate primarily to the weaker parts of the economy, as the Bank of England's Chief Economist Andrew Haldane (2017, 2018) has made clear, both in terms of the long tail of weaker firms, and also in terms of the stronger firms located in the weaker regions of the UK (Centre for Cities 2018). A focus on research excellence and proximity to the technological frontier will all-too-easily lead to investments continuing to be concentrated in London and its hinterland regions, and these are precisely those areas where there is no real productivity puzzle or paradox. Instead, the focus ought to be shifted towards potential for improvement and the upgrading of the existing economic and institutional set-up. Indeed, this is why the monitoring of changes in the outcome indicators relative to the baselines is so important.

Moreover, these shifts in thinking towards potential for improvement also helps to avoid powerful incumbents always dominating the capture of research funds and the dictating the direction of strategy, irrespective of whether these incumbents are world-class firms or powerful institutions or lobby groupings.

From all that we have learned from regional economics and economic geography during the last two decades, in order to ensure that the UKRI-funded research activities and inputs into the *Strength in Places Fund* are effective the specific objectives of the SiPF, or UKRI funds aimed at interacting with the place-based agenda, should be redefined so as to prioritise projects that:

- combine scientific rigour with local industry and community demands
- are built on strong region-wide stakeholder engagement, actions and activities
- emphasise diffusion and dissemination through the local industrial fabric as an explicit aim
- are making advances in varieties of fields closely *related* to the region's *existing* capabilities so that any innovations have the maximum chances of local diffusion
- emphasise local institutional capacity-building as a key outcome in its own right
- involve a mix of different types of actors, so funding is not always to the 'usual suspects'

- emphasise entrepreneurial risk-taking as a central element of the research proposal – with the aim either to try something new or to adapt an existing innovation in a new context
- involve the adopting, adapting and embodying of new technologies, techniques and systems

While 'impact' is nowadays a major theme in UK research assessments, in order for UKRI-funded investments to dovetail with the emerging place-based agenda the impact element would need to be significantly upgraded and situated at the very core of any research proposal, involving all of the elements discussed above. This is a much more fundamental notion of impact than is often understood in academic research. These principles will also challenge universities in terms of their incentives, hiring and promotion strategies, to diversify more into staff with the capabilities to undertake these kinds of applied and context-specific research which can be the cornerstone of place-based policies.

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