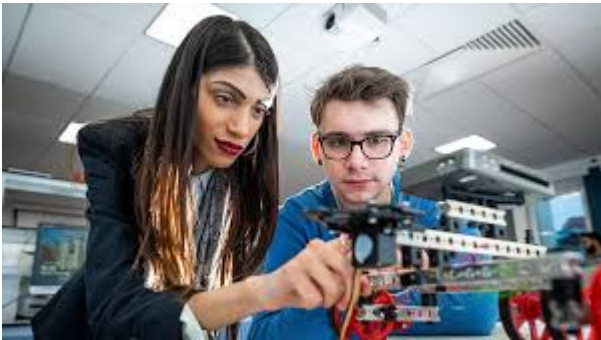


Levelling-up opportunity for future generations (addressing four decades of institutional discrimination)



Posted by David Fellows

ABSTRACT This paper updates an earlier paper ‘Levelling-up through economic growth (a business strategy for the regions)’ published in April this year that examined the nature of the Prime Minister’s levelling-up commitment. This paper suggests that for the past four decades most UK regions have experienced deliberate and destructive economic neglect of the regions at the hands of successive Governments. This has provided the fiscal and organisational space for colossal public sector investment in London, the South East and East of England, the physical and spiritual home of the political, media, financial and academic elite.

The paper argues that this reprehensible situation should be addressed through a process of regionally-based business-centred development grounded in a clearly defined UK growth model derived from innovation and growth theory. The paper

exemplifies a series of policies that could be deployed to redress the current situation arguing that Government vision and leadership are essential to success. It notes that arguments are already being mounted in favour of maintaining the status quo.

1. Introduction

In his speech to the Conservative Party conference last year the PM affirmed his intention 'to spread opportunity more widely and fairly' and this was reiterated in the Conservative manifesto that referred to 'levelling-up every part of the UK, investing in our great towns and cities, as well as rural and coastal areas'.

Since the general election the PM has repeatedly acknowledged his commitment to levelling-up the regions with particular reference to Brexit and Covid-19. Under the heading 'Levelling up' the March 2020 Budget asserts the need to 'raise productivity and growth in all nations and regions for everyone, addressing disparities in economic and social outcomes'. The Integrated Review prioritises 'levelling up opportunity and doing more to share the benefits of economic growth across the UK', so too the white paper 'Build Back Better: our plan for growth'. The freeport bidding process also references levelling-up although it is not specifically targeted at areas outside London and the South East.

This is a hugely challenging time politically and economically, importantly, it is also a time of cultural change when values are being challenged. It is a time when an inclusive vision for the regions could be seriously addressed.

If levelling-up is to become a reality it has to be more than a tag applied to any initiative applicable to the regions. A properly articulated strategy is urgently required for consultation or the moment will have past.

This short paper examines the traditional bias against public sector investment in the regions, rehearses the case for levelling-up and suggests some of the key features required in any serious programme of reform.

2. The challenge of levelling-up

Revisiting an established settlement will always pose severe difficulties in the face of opposition from those who may regard themselves as being on the losing side and it would be delusional to assume that some will not always see themselves in this light whatever the circumstances. It is important therefore to be clear about the purpose, viability and the fairness of any new settlement. A process of consultation would inform public views on these issues, help refine Government vision and improve the means of delivery.

It is worth considering the concept of levelling-up in terms of current socio-economic challenges facing the country and the regions: the narrowing of employment opportunities in the regions that often fail to fit the skill sets, interests and monetary ambitions of regional communities compared to London and the South East; the consequent exodus of talent from the regions leaving behind increasingly vulnerable communities; and the resulting cycle of regional economic decline making public and private investment an increasingly improbable option.

As UK manufacturing halved in the late twentieth and early twenty first centuries (GVA) the UK's strong economic performance relative to other European countries lay with the financial services industry located mainly in London and the South East (Gudgin & Coutts 2015[1]). In terms of the current distribution of national prosperity, a recent [House of Commons briefing paper](#)[2] presents the GDP per head for the devolved administrations and English regions. The astonishing fact emerges that London's value is £54,700; the South East £34,100; and the remainder are all below the national average, mainly in the range £30,100 to £25,900 with the exception of the North East £23,600 & Wales £23,900. It is a crude but interesting comparison.

Apart from the extremely wealthy, London too presents immense problems for many of its inhabitants. The housing crisis is borne of a concentration of employment driving intense demand for accommodation compounded by the shortage of viable sites, planning system failings and political inertia. It is also worth considering the cost and risks of continuing to develop the already congested and expensive London infrastructure.

The City, media presence, plethora of major cultural venues, senior law courts, a host of vastly resourced academic institutions, Whitehall and Parliament together constitute a vast centralised and powerful lobby for the status quo. Demands for improvements in quality of life for ordinary people find their way into the margins of political agendas but the real answer requires a full scale rebalancing of economic and social realities within the country.

In his thought-provoking paper '[Brexit and the British growth model](#)' [3] Christopher Bickerton traces the breakdown of the British socio-economic compact and asserts the need for a new

social settlement in Britain. The current Government could be seen to adopt a similar view.

The March 2021 budget makes reference to levelling-up when it itemises infrastructure spending of £650bn up to 2024-5 for roads, railways, communications, schools, hospitals and power networks across the UK. Other recent announcements suggest further use of existing grant funding mechanisms. A close-ended capital expenditure commitment could suit Treasury spending controls but a clear diagnosis and well-articulated recovery path is surely needed before scarce resources are deployed in a rush to limit the analysis and identify the feasible.

Levelling-up may be an urgent project but this does not mean that the manner of its creation is unimportant, quite the opposite.

3. The aggressive discrimination of previous Governments

In this section the charge of regional neglect is explored in greater detail by reference to a set of papers produced by the Onward group composed of Conservative MPs and centre-right thinkers who are seeking to inform the development of the Prime Minister's levelling-up agenda.

The Onward papers form a hugely creditable piece of work that illuminates the way in which governments of all stripes have deliberately deployed vast national resources to energise the

economy and academic life of London and surrounding areas entailing the negation of the life chances for a majority of the population in outlying regions. The papers clearly identify institutional discrimination within Governments, the civil service and amongst the great and good who have occupied the bodies responsible for franking the decisions that have guided the country's progress. Extracts from this work are set out below.

The London preference[\[4\]](#) London is the only English region to consistently receive higher per capita spending across all of the growth-enhancing categories of: transport (nearly three times the average for the rest of England); research and development (nearly twice the national average); affordable housing (five times the national average); culture (five times the national average).

In 2013 the National Audit Office reported a tendency to prioritise London even at the expense of projects with better returns elsewhere in the UK.

The Treasury Green Book that determines the criteria for spending approvals gives higher weighting to areas that are already highly productive, reinforcing their advantage. The discretion allowed in recent times for less productive regions is vague and has not had a significant impact on the distribution of funding approvals. It is also unclear how the dramatic improvement on well-being derived from gaining employment is taken into account by the Green Book process.

Half of UK university funding is devoted to London Universities, Oxford and Cambridge (the repeated area of preference throughout the papers).

Balancing life chances and prosperity[\[5\]](#) In the past twenty years the London economy has grown by 25%, accompanied by a significant Southern shift in population. In contrast, deindustrialisation of the North and Midlands in the late twentieth century led to a relative decline in GDP that has never been reversed. In London 45% of pupils on free school meals progressed to higher education in 2018-19 which exceeded the proportion of pupils not eligible for free schools meals that progress to higher education in eighty local authorities outside London.

In Germany only 2% of the population live in areas where incomes are at least 20% below the national average whereas in the UK 24% of the population live in such areas.

The innovation scandal[\[6\]](#) The UK has the highest interregional productivity gap of the developed world. Outside London 80% of the subregions have a GDP lower than the EU average.

The UK has fewer R&D intensive areas than the OECD average. All the higher subregions are located in London, the South East and the East of England (London, Oxford, Cambridge). The gap between the UK's most and least R&D intensive quartiles is more than twice that of Germany, Italy or Spain. The UK's lagging regions are more dependent on private sector R&D than comparable countries.

Between 2017 and 2020 £264m in grants were awarded to Artificial Intelligence and Data Economy projects of which 79% was awarded to projects in Inner London, East Anglia, Berkshire, Buckinghamshire and Oxford. No other region got more than 2%. The Satellite Application Catapult in Oxfordshire accounts for 26% of this budget alone.

London has received 60% of the funding from the Small Business Research Initiative since 2009. London received 25% of the pandemic small business funding. All this despite just 7.6% of business-funded R&D expenditure being incurred in the London area. London received approximately half the funding (£3.4bn) from the Enterprise Initiative scheme and the Seed Enterprise investment scheme, five times the entire funding for the three regions of the North of England while the South East received an additional £1.36bn.

72% of R&D intensive jobs over the past decade were in London, Oxford and Cambridge (having only 20% of the national population). The increase in employment in R&D is largely confined to this area and it received 61% of tax credits, enjoying a higher proportion of tax credits relative to private sector investment than other parts of the country.

The UK shows an advantage internationally in pure research but others are better at translating R&D into patents. UK funding is more heavily weighted to (pure) research than industrial development compared to the USA and Asia. Only 13% of funding goes to later phase development compared to 45% in the USA. 55% of R&D funding is allocated to UK universities compared to 33% in USA, 43% in Japan and 33% in Asia. The UK's share of patents worldwide is falling. The rate of patent growth in the UK is higher in the less R&D intensive regions⁴. It is interesting to note that, as Andy Haldane mentioned recently, Northumberland University is currently the UK university leader in patent development[\[4\]](#).

International studies find positive correlations between R&D spending and business productivity but this does not apply to the UK unless the treatment of London is excluded from

consideration. Coastal areas in the UK do not tend to have R&D intensive industries.

Inward investment options[\[5\]](#) The UK has traditionally been a major target for foreign investors and is regarded as a relatively easy place to do business. It offers City of London services, effective legal processes, a relatively efficient bureaucracy, a tendency toward lighter regulation, rule of law and an excellent academic infrastructure. Despite the current freeport initiative the UK does not have a formal inward investment incentive package although incentives are offered occasionally. This compares poorly to other G20 countries that provide direct grants, tax incentives (personal and corporate), regulation exemptions and investment promotion agencies.

Singapore offers tax deductions and subsidies for international investment. Japan offers funding to support reshoring. Sweden offers tax relief for international experts. USA encourages inward investment with 250 Foreign Trade Zones and 500 sub-zones offering tax credits, loans and guarantees at state level; federal SME, rural and general purpose agencies offer loans and loan guarantees; there are also federal sector-specific incentives (eg tax credits for semiconductor production). This is a field that is becoming increasingly competitive and the UK's status as a primary location for foreign investors is clearly under threat.

4. Innovation, productivity and growth

Innovation and growth theory has a history stretching back for more than 70 years although it has not yet had a particularly significant impact on UK public policy despite the revolutionary effects of technological change on all forms of business over that period. Nevertheless the levelling up agenda, coupled with the current drive for renewable energy and a reduced carbon footprint provides an opportunity for further consideration.

As major new businesses have emerged in the USA over the past two decades, particularly in the digital technology and bio-engineering sectors, Europe has seen a less revolutionary experience with Germany successfully doubling down on engineering while the UK, having produced a multitude of innovative start-ups, has seen them quickly sold off, often to companies in the USA. In effect, the USA's pro-business culture has been the stand-out innovative winner with hardly a shot being fired by its business rivals.

In her thesis[\[9\]](#) for the Adam Smith Business School of Glasgow University Nasira Bradley reviews the literature and starts to subject innovation and growth theory to rigorous statistical analysis. This raises the prospect of a more consolidated theory of business development and productivity and offers a potentially pivotal contribution to UK Government business development policy in the context of the levelling-up commitment and the UK's post-Covid economic recovery.

General drivers of innovation Bradley tests the various theoretical drivers of innovation for efficacy against business turnover using the EU Community Innovation Survey (based on the OECD Oslo Manual definitions[\[10\]](#)). This leads to some interesting distinctions between primary and secondary drivers and firms of various sizes, maturity and ownership.

Primary drivers related to firm size are identified: (i) small firms gain from skilled human capital and university contact; (ii) medium sized firms gain from the factors in (i) and contact with government research establishments (see comments on Germany below); and (iii) larger firms gain from the factors in (i), from public funding and co-development with suppliers. Skilled labour and university contact prove effective drivers throughout these various business segments. It could be said that they provide the basics of modern business development. R&D investment is identified as a secondary driver.

Technology Gudgin & Coutts [\[11\]](#) contend that R&D spending is essential to the development of science-based sectors including pharmaceuticals, aerospace and electronics and observe that the UK has the OECD's only recorded long-term decline in business R&D as a percentage of GDP.

Jones [\[12\]](#) points to the critical role that government-led innovation investment has had on the development of major technology-based industries in the UK, USA and elsewhere. Mazzacuto [\[13\]](#) reflects on the huge impact of US Government entrepreneurship, particularly the DARPA Programme, in supporting research that brings together multi-agency personnel to research and develop innovative applications that would probably prove discouraging to the more risk averse venture capital market. She notes the tepid approach evidenced by UK Government in this field and advocates a more adventurous spirit if the UK is to gain a footing in new areas offering the prospect of commercial dominance. The recent Government Bill [\[14\]](#) to 'create a high risk, high reward research agency' (ARIA) is intended to 'push boundaries in search of new discoveries' and could be seen as response to this challenge.

Christensen[15] lays emphasis on the insights that founders bring to young innovative businesses, often using existing technologies that the firm rapidly develops once the market provides good use for the innovative offering. This could explain Bradley's finding that R&D is a secondary driver of innovation, placing the entrepreneur as the instigator with R&D investment improving the potential of innovative commercial applications.

Perhaps Christensen offers the more common case whereas innovation based on advanced science should be seen as a special case that applies in some fields on some occasions. Electronics and digital technology are certainly represented in both approaches.

A recent Policy Exchange paper[16] reflects on the Government's intention to bring forward the ARIAL programme. The paper offers a contribution by David Willetts that ends: 'Britain's problem is that we need to do better at turning science into innovation ... to do that we need to be clear about what exactly is the problem we are trying to solve. And I think that is the challenge of promoting the development and application of key technologies.' This could be seen as a call to establish earlier relationships between relevant industries and scientists working in universities and Government institutions engaged in the development of key technologies. Perhaps this should also be viewed in reverse, whereby greater efforts should be made to identify early stage industrial innovations and expose them to relevant emerging technologies.

Research institutes Bradley's review of the literature on German industry suggests that government research institutes provide knowledge transfer and research benefits to medium sized firms that they could not otherwise afford and that

public funding often appears to bridge the gap between the cost of borrowing and the internal rate of return required for viable investment. Industry-wide linkages aid the diffusion of knowledge within Germany.

Agtmael and Bakker's review of innovation [\[17\]](#) in the US and EU also suggests that a great strength of the German (*Fraunhofer*) technology institute system is the way in which it brings together academics and businesses working side by side on a variety of projects. This close working offers opportunities for shared learning and interdisciplinary collaboration that does not trespass on commercial advantage, indeed it may lead to new commercial partnerships.

Independent firms Christensen is a strong advocate of independent firms that are small enough to bring an appropriate cost base and culture required for the development of new products in an emerging marketplace. Mayer [\[18\]](#) supports this claiming that 'the decline of the UK as a major economic power in the 20th century (compared to) the rise of Germany, Japan and the USA (was) associated with the persistence of family block holdings'.

Bradley's work confirms that independence is a major factor in the growth of innovative firms, the longer they remain independent the more innovative they become and the more they grow. Independent here means that the firm remains largely in the hands of its initial owners with external parties holding no more than a 25% stake. The early sale of independent innovative firms is, therefore, detrimental to their transformation into major modern enterprises. Interestingly, Bradley finds that independent innovative firms benefit from lower rates of corporation tax although the tax does not seem

to inhibit the growth of other firms.

Despite the growth benefits of independence, Bradley notes how few UK independent firms have grown into major corporations, having sold out at an early stage of development. This reflects poorly on UK practice where early sale is commonplace.

Larger firms – productivity and regulation Bradley asserts that larger firms have higher productivity than smaller firms, possibly because of the sectors they work in or possibly because of their higher revenues relative to overheads. EU SMEs account for 70% of the workforce but only 60% of production (ECB Bulletin 2013[\[19\]](#)). A recent IMF paper on rising corporate market power[\[20\]](#) offers a caution on this finding suggesting that mergers and acquisitions by dominant firms ultimately contribute to declining business dynamism and economic growth.

The IMF paper concedes that larger firms tend to be more productive initially but as they become hard to compete with, for example, because they entrench their market positions by acquiring other firms, they ‘could become less innovative over time and also discourage their (current and potential) competitors from innovating too’. The IMF, therefore, urges Governments to enforce both merger controls and prohibitions on the abuse of dominant positions. Data portability and interoperability of systems is also becoming important for similar reasons.

Venture capital Bradley finds that both innovative and non-innovative firms benefit from venture capital although this is apparently not the case with independent firms. Agtmael and

Bakker make a potentially telling point that smaller developing firms find that venture capital providers are too risk averse to support this cohort leaving the field to the vagaries of crowd funding, successful entrepreneurs turned business 'angels' or public authorities who have the vision to establish business hubs to promote emerging businesses. The recent closure of many high street banks and, even before that, the gradual elimination of locally made bank lending decisions, has greatly reduced the UK banking system's exposure to SMEs thereby creating funding problems for small independent firms. Bradley agrees with Agtmael and Bakker that venture capitalists may not be comfortable with independent firms, effectively denying them of the means to grow, although UK entrepreneurs may simply prefer to sell rather than develop.

UK Policy development There seems to be a clear and urgent need for Government to construct an evidence-based picture of business development in the UK, identifying policies that both help revitalise the business sector and secure the levelling-up agenda. Such a review would extend across the whole of government, producing a coherent plan that employs initiatives that are effective, specific and affordable rather than broad and unsustainable over the necessary time-scale. The review would include consideration of relationships between innovation and pure research; the seeming lack of fit between investment capital providers and emerging independent innovative firms; the supportive relationships existing between emerging innovative firms, the wider business community and universities; and the more general cultural characteristics of innovative businesses in the UK.

5. The need for a British growth model

Current innovation and growth theory identifies themes that can be incorporated in British business development policy as exemplified in the next section but practices elsewhere may not always be easily incorporated precisely into the UK experience.

The German Fraunhofer Institute system, for instance, may be regarded as a difficult fit with the UK's university sector. Nevertheless, the combination of the London Bioscience Innovation Centre sponsored by the London Development Agency and the Francis Crick Institute sponsored, amongst others, by the Medical Research Council offers a British example. So do the seven High Vale Manufacturing Centres (HVMC) or 'Catapults' offering various specialisms and located in the regions that bring together academic and industry specialists working with businesses to innovative products and processes. UK trade groups, also meet to explore new industrial techniques and emerging problems and such practices could no doubt be extended.

The issues are, therefore, of relevance and ease of engagement (whether, say, with an appropriate university department or HVMC), particularly for the time-poor SME. Is there clarity about what is needed, are potential beneficiaries aware of what is already available, are the right facilities available in the right place, is the system actively inclusive? A report by the ERA Foundation [\[21\]](#) suggests that a review of local industry strategies could give answers to some of these questions. The UK has clearly started at the wrong end of the spectrum, it is now necessary to accept the scale of the task

required to achieve a more satisfactory position.

The German commitment to vocational training presents another point of variance. Agtmael and Bakker reflect on the respect for vocational development in the German manufacturing tradition. They report that postgraduate entrants to industrial environments are included in vocational training programmes and that college and firm work closely together to ensure that employees receive appropriate skill training up to a very high level throughout their careers.

The white paper Skills for Jobs [\[221\]](#) represents a commitment to improve the quality and status of vocational training in the UK. It reads as though the focus is more on training and qualifications than forging a collaboration between employer, college and employee to achieve relevance to the workplace. Can practical skills be properly acquired without emersion in the workplace environment? European working culture tends to value stability of employment and the poaching of employees is discouraged. The white paper offers transferability of employment during training as a key selling point.

The research suggests significance in the readiness of UK business founders to relinquish ownership of their businesses compared to the prevalence of longer term family ownership in Germany. The mutual support between firms within business sectors, albeit not necessarily direct competitors, is another key difference between the two systems. The latter is clearly more feasible in a stable ownership system where trust can be developed over time. Should these differences be accepted or does the UK Government have a role in at least questioning cultural practices and facilitate further consideration of business community behaviour?

The funding of emerging firms presents a challenge. In part, the German institute system helps mitigate the need for development capital. The research suggests that the availability of development capital can be a significant hurdle for emerging British firms. The UK Government has recently established the British Business Bank[\[23\]](#). This is less a bank and more a portal for various private sector business advisors and venture capital providers working within Government guidelines. A bank should learn about its clients and develop its offering accordingly but Government could lack the necessary feedback given the current model. Both Government and client will be limited by how intermediaries choose to execute their roles. This is not a development bank as one might expect, it could be seen simply as a means of disengagement by Government.

The UK's annual university R&D Research and Innovation Programme and defence R&D investment amount to almost £10bn. This dwarfs the current intentions for the ARIA programme of £220m a year. How does the UK shape these larger R&D budgets so that, working in conjunction with the R&D resources of the private sector, it may make the greatest impact on business innovation, productivity and growth? Perhaps there should be a twin track approach, part Government-identified research programme developed in close collaboration with UK businesses and part a willingness to invest behind a business or business sector that is already making demonstrable progress with some form of innovation. Whatever the chosen approaches, the firm must be front and centre not the late-comer for whom the menu choices have been pre-selected.

Every country has its unique culture and institutions necessitating a unique development path. A simple switch from one culture to another is rarely possible and few systems are ideal in themselves. The UK must learn from others but

ultimately it must find its own way of using innovation drivers to achieve growth and prosperity. This must be a collaborative process involving Government, business, specialist research institutions and academia, each element being a loose collection of constituent parts with diverse objectives. The Government's recent white paper *Build Back Better: our plan for growth*[\[24\]](#) is the traditional shopping list, subsequent discussion needs to identify the effective means by which aspiration becomes reality.

The underlying assumption of what follows in this paper is that the necessary approach to levelling-up should be a process of regionally-based business development supported by a raft of Government measures. The consequent economic growth will then support self-sustaining communities that do not require disproportionate amounts of state aid to provide the trappings of physical regeneration that belie the reality of lived experience.

Some serious modifications to UK practices are long overdue and many of them rest in Government hands. Producing the right set of measures across so many fields with so many stakeholders will be no easy matter but there can be little doubt that Government must acknowledge its pivotal responsibilities. Should the Government fail to provide the necessary vision and leadership then there will still be individual successes but the economy will seriously underperform and the levelling-up project will fail.

6. Elements of reform

The proposition set out above suggests that the most effective

way for the Government to approach its commitment to level up the regions would be for it to adopt a programme of long-term public service interventions undertaken in collaboration with the business sector and designed to stimulate regional economic development. It would be formulated with a consistent focus on business innovation leading to productivity improvements and growth. By careful and well informed programme design it is possible that the solution may rest more on insight, collaboration, reallocation of existing funding priorities and long-termism than huge public investment. Some examples are outlined below.

Personal development

One of the critical lessons from Bradley's study is that skilled human capital is one of only two drivers of innovation that are effective across all businesses. The development of skilled human capital starts in many cases with the final two years of schooling followed by a university or technical college education (see below). It is imperative however that the process does not end there. In-service training is essential. Project work can be assigned to achieve both business outcomes and personal development. Formal mentoring by an experienced colleague can provide know-how and provide internal and external contacts. Enlightened managerial oversight towards career path development, progress assessment and personal encouragement can be invaluable.

This process is clearly best suited to continued employment over a lengthy period. Both employee and employer value the learning process that delivers the capacity to recognise opportunities to innovate, leading to improved productivity and growth. Such intuitive leaps are a combination of innate ability and the history of personal development for which the

individual and the firm are equally responsible.

Higher and further education

Universities are also a driver of innovation across all businesses. They provide knowledgeable graduates equipped with key skills, in-service training, joint ventures, guidance relevant to new fields of work and research to extend chosen development pathways. University start-ups, spin-offs and IP development can all facilitate business growth. Innovative businesses need a revolving door to academic expertise and R&D programmes must be structured to encourage this. There are a whole series of relationships here that should be reviewed and probably improved.

Technical colleges must reach out to shape the training experience around the needs of local employers and training input must be life-long. Learning partnerships between college and business offer a vital contribution to the development of workforce skills to a high level. If the UK is to revive its industrial base to any significant extent then this education sector must be revisited, training must be more extensive, links with firms much closer and steps must be taken to develop a more collegiate approach between firms in industries with similar training requirements.

Universities must see themselves as key facilitators of business growth and regional development. Intensive, interdisciplinary working between universities, HVMCs and other national R&D institutions is imperative and university research funding should be skewed to business relevance with priority afforded to regional business linkage. At best, the aim should be to encourage teams working on projects in

similar fields to share experiences and expertise, and to collaborate on business ventures. Where common interests apply, established firms should be encouraged to offer emerging firms partnership working, mentoring, and financial support.

If a genuinely national approach is to be adopted then some new R&D centres must be formed in areas without substantial recent business development experience. Experience in South East Asia and USA suggest that this is feasible if there is the intent.

Networking

To-date there has been a tendency to establish business parks and industrial estates to help with infrastructure planning and cost-effective roll-out. Without discounting the development of business parks it is clearly important to focus more specifically on the siting of businesses in similar industries around centres of research and expertise to facilitate technology development and transfer. Locating similar emerging businesses in dedicated business hubs could be highly relevant. Research suggests that benefits could accrue from encouraging collaboration between larger firms and their suppliers.

Benefits could also be derived from experimenting with the development of standing conferences of multidisciplinary sector-specific businesses, HVMCs, universities and other research institutions to exchange knowledge and prepare for future business ventures.

A general theme in this section is that in all respects networking between commercial interests and universities must improve significantly if the UK is to recover ground lost in the many commercial applications of science and technology on which regional recovery most clearly depends. Government clearly has a major role to play in facilitating this transformation.

Ownership and capital culture

If being an independent firm and remaining independent for as long as possible is the key driver of innovative capacity then it is important that firms should be encouraged and enabled to remain independent.

A dual share system allowing initial owners to retain a degree of control while enabling a wider pool of investors to reap financial benefits should find a champion in Government. A properly constituted regional development bank could be granted powers to offer loans, equity investment, loan guarantees or interest support depending on the nature and size of company and proposed investment. An extensive network of technology development centres could help support emerging businesses and reduce their dependence on development capital.

Improved protection from foreign and hostile acquisitions and from the more subtle abuses of dominant market positions are important. Regrettably the foreign takeover provisions contained in the National Security and Investment Bill seem to have been lobbied into retreat.

New thinking on issues in this section should be informed by a

review of the cultural and institutional factors affecting the behaviour of independent firms.

Taxation, loans, guarantees, grants, regulations and inward investment agencies

Enterprise zones should be used to target special business incentives, including (some or all): exemptions from corporation tax for a range of expenses (including extensive R&D credits); shorter capital write-off periods; NI exemptions; reduced corporation tax rates; extended tax payment regimes; loans; loan guarantees and grants. Freeports should be eligible for these benefits as well as customs exemptions although there is a strong case for assigning specific purposes to freeports to enable satisfactory oversight of their activities. The effects of such measures would be monitored and shaped according to effectiveness.

In return for special tax benefits or capital support (as referred to above) the Government may wish to take a shareholding or a golden share preventing sale and relocation without permission. There is a view that such protection dissuades investment nevertheless it would seem a justifiable option in return for state support and commercial advantages.

Regulation of the business sector must be kept under serious review, be responsive to industry advice. Statutory approvals must be avoided where possible, make minimum demands, apply reasonable fee scales, be readily accessible and operate on an efficient basis.

A national foreign direct investment incentive scheme should

be developed with special provisions for enterprise zone and freeports. This should take account of the need to reshore a measure of production to improve national resilience and reduce the carbon footprint, including the agricultural sector. This should be supported by regional foreign investment agencies with strong local connections including board membership. They would seek inward investment interest, prepare incentive packages, facilitate land assembly (with others as necessary) and provide introductions to relevant regional institutions and key personnel.

A programme of reshoring must take account of the need for innovative production processes to accommodate the UK's relatively high cost economy and the possible capital provision required.

Infrastructure

Infrastructure is often discussed in terms of gigantic road, rail, power supply and infrastructure programmes but if the task is to increase business activity in the regions then the specific needs of attracting and retaining business may well involve a mix of infrastructure components facilitating linkages both within and between regions. The design and prioritisation of infrastructure development may look very different depending on the businesses involved.

The impact of Covid-19 on long-term work habits is not yet clear but changes could be quite radical. The infrastructure demands of existing regional businesses and households and the consequences of changes much further afield must be assessed: changed traffic flows could ease road and rail congestion; greater homeworking could change the locations and timing of

power supply requirements and internet bandwidth demands could be affected in many different ways. The impact of changed conditions and possible additional demands of new businesses require consideration across the utilities. More joined up and agile operational responses must be developed to accommodate the possibility of changing requirements.

A similarly responsive approach is also required from public and private sector providers of the social infrastructure consequent on regional economic development.

Government as client

It is essential that UK Government bases its own technology and manufacturing needs on UK businesses wherever possible to support the growth of a vibrant UK business culture, particularly in the regions, through a dependable nucleus of demand for innovative products.

The Government should ensure that all departments appreciate the responsibility they bear for developing and managing its British-first policy as a facet of UK business development. Government departments must be required to ensure familiarity with British suppliers, provide them with a good understanding of relevant operational circumstances and review current offerings with them identifying problematic and beneficial aspects.

All suppliers who offer evidence of good competence should have a reasonable expectation of winning bids at some level that will enable them to gain a better understanding of the Government client and provide the client with the opportunity

of making an operational assessment of the supplier's potential. Tendering processes should not contain expectations of supplier-side drafting that could only reasonably be expected from a seasoned supplier. In part, Government contracting should be seen as contributing to business development where the contractor appears capable of reaching the necessary standard.

The Government procurement policy must embrace start-ups and small companies including those in technical fields. Special effort must be made to reach out to new companies that show real intent, imagination and the capacity to develop. Additionally, Government contracts are not always seen as the most attractive proposition and failure to connect may constitute a lost opportunity for both parties [\[25\]](#).

Independent supplier studies should be undertaken to explore tendering and contracting experiences and thorough reviews should be undertaken of the way departments handle suppliers both in the tendering and contracting elements of the relationship. Results of such studies should be made public.

If it is intended to make Government a more approachable client then it is important to ensure that the rules governing the involvement of civil servants, ministers and advisors are transparent and prevent personal gain. This will not safeguard the system from poor performance by some new entrants to the Government market place. It is unacceptable, however, to minimise that risk simply by shielding client-side actors behind an exclusive club of major names.

Government as entrepreneur

The Government's role as client and facilitator is aligned to numerous innovative fields, such as: healthcare; renewable energy; digital technology and military aircraft [26]. Other fields are moving into new phases of innovation of relevance to the UK including agriculture.

US-style multi-agency, business-linked research and development programmes such as DARPA offer major commercial opportunities and are gaining prominence in the UK. The Government has established a number of business focused research programmes, most recently the ARIA initiative. It must be accepted that there will be failures but American experience has also demonstrated success. The key shortcomings of such programmes can include being too focused on academic interests and limited in the choice of institutional partners.

Innovation is not, however, wholly or mainly prompted by research programmes. Recognition should be afforded to the many innovative developments that were based on proven technology used in new ways, then subjected to repeated cycles of product development. In normal circumstances the Government's role as entrepreneur should be alert to the R&D support needs of product development once initial products or services have gained traction rather than attempt to dictate the course of business innovation. Special care should be taken to support the needs of emerging businesses.

Where Government as client is about to embark on a major spending programme that offers product development opportunities or cannot be accommodated by existing UK suppliers then Government must be forward thinking, signal its intentions and lay the groundwork for an appropriate UK business response using the various levers discussed.

A recent review by Kundu, James and Rigley[27] suggests a consensus over the importance of public procurement in promoting innovation and technological development. It cautions, however, that public procurement as an innovation policy tool has only been applied in a few countries and a few contexts. Furthermore, the academic literature on the subject rarely addresses questions of impact. This emphasises the need for Government to evaluate impact and undertake continuous development of the methods used.

Government as employer

Government should devolve whole departments and major divisions of departments to the regions. This is not just a matter of exiling low skill jobs to the regions but of relocating senior management and ministers to improve Government perceptions of regional circumstances and signify the arrival of national rather than London government. In the new digitally-connected world most central decision-taking could be undertaken from regional locations. Some steps are in progress, much more is required.

7. Conclusion & Summary of Recommendations

It seems inexcusable that so much funding has been channeled into the economic and social development of a relatively small proportion of the population living in London, the South East and East of England. This has even led to perceptions by some in these highly prosperous areas that they alone are unreasonably shouldering the burden of the feckless in other

less productive and undeserving regions.

In practice the regions suffer from a high proportion of more limited, less well remunerated job opportunities resulting in unfulfilled lives and communities that are increasingly less vibrant and self-supporting given the continuous loss of talent to London and the South East.

This paper points to recent studies of innovation, productivity and growth that offer direction for the levelling-up agenda. They help identify structural and cultural challenges that must be addressed if successful outcomes are to be achieved.

Universities and technical colleges must be encouraged to forge ever stronger working relationships with local business communities. There must be effective support for emerging, rapidly developing and independent companies. Anti-competitive behaviour of all kinds must be discouraged.

The central message of this paper is that levelling-up must be business-focused to equip regional communities with the skills and resources to lead a more fulfilled lives in increasingly stimulating environments which they individually and collectively develop. To generate the necessary business response that speaks to local potential, support packages must be tailored to local circumstances. As such, they must be created in collaboration local institutions that own the local vision and are held accountable for its execution.

The primary purpose of Government funded R&D in science and technology over the next decade should be UK industrial

development devised and undertaken in a process of collaboration between Government, universities, HMVCs and, where appropriate, new specialist technology institutes. The traditional bias against regionally-based Government funded R&D must be emphatically reversed. This agenda must not be subverted into a campaign for increased funding for pure research or for the benefit of the traditionally preferred institutions.

Beyond R&D, regional location should become a prime requirement for special business incentive schemes, including those targeted at inward investment. Infrastructure improvements both between and within regions are an adjunct to this, not the primary objective.

As client, Government should engage with UK businesses at an early stage when developing its requirements for new products and services. Procurement processes should not be unreasonably exclusive by virtue of their cost and general demands. Government should make particular efforts to include emerging UK businesses and those new to the Government marketplace in its routine procurement activities.

The regional commitment should be emphasised by relocating most of Whitehall to the regions, using digital technology to make Government a modern networked operation.

Government must remain at the heart of this agenda, it cannot simply announce a string of isolated initiatives and walk away. The coherent packaging of measures, the use and development of governance arrangements and the contributions to be made by Government departments will all require the oversight and supportive power of Government at the highest

level if this immense enterprise is to succeed.

8. End Word

Levelling-up the regions is a long overdue vision. It recognises a national obligation to communities that have been left behind. The forthcoming White Paper must contain a long-term, wide-ranging and imaginative plan for levelling-up the regions based on business development. A response of this nature .

The vision requires tremendous energy and commitment in the face of vested interests that will inevitably resist. If it is to be accomplished then the PM must play a key role in ensuring that his commitment remains intact, his vision is fully developed, the Government's framework for action is fit for purpose and that implementation is relentless. It is time to move from slogan to delivery.

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