You're not speaking my language: policy discontinuity and coordination gaps between the UK's national economic strategies and its place-based policies

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Abstract

Lack of consistency and coordination has long been noted as a failing of UK government policies but it has previously been difficult to assess the extent of the policy discontinuity. We present evidence from text analysis of a startling lack of coordination in Government policy with a special focus on the Levelling Up White Paper, the Conservative Government's flagship policy statement to address spatial inequalities, and its other recent national economic policy documents. We confirm this linguistic discontinuity by analysing the context of statements about innovation policies from the Plan for Growth and Innovation Strategy with those in the Levelling Up White Paper. 'Joined-up government' is as far away as ever in the UK, in the context of the systemic challenges of spatial economic inequality.

INTRODUCTION

National economic strategies are common fixtures in modern economic policymaking. There are plenty of examples of such strategies from countries all over the world: Japan has a string of initiatives related to the Society 5.0 agenda, China has a long history of enacting of Five Year Plans, the European Union has crafted the European Green Deal and EU Industrial Strategy, and the US has recently passed the 2021 US Innovation and Competition Act with bipartisan support (Balawejder & Monahan, 2020; Coyle & Muhtar, 2021). The UK, on its part, has also embarked on a number of high-profile economic strategies in recent years, the most notable of which are the Industrial Strategy (launched under Theresa May's administration in November 2017, before being scrapped in March 2021), and the Plan for Growth and Innovation Strategy (launched under Boris Johnson's administration in March and July 2021 respectively). These national economic strategies provide the overarching policy architecture and framework for governments to achieve various identified economic and developmental objectives for the country and its various constituent regions.

One such objective shared by many of these national economic strategies is to tackle spatial inequalities that have grown to untenable levels continuously since the 1980s, undoing much of the post-war progress in reducing the gap between the richest and poorest regions in many developed nations (IMF, 2019). One consequence may have been the populist backlash seen in events such as the Brexit referendum, the election of Donald Trump, and the rise of far-right figures such as Marine Le Pen, whose electoral patterns exhibited a striking degree of spatial clustering and revealed deeply divided societies with poor economic prospects for those living in less prosperous regions (Foa & Wilmot, 2019; Rodríguez-Pose, 2020). However, the problem of geographical inequality is not the only pressing issue faced by governments today. Many nations have experienced sluggish economic and productivity growth since the Great Recession of 2008. What's more, shocks such as the COVID-19 pandemic and extreme climate change-related events as well as trends such as technological change, automation, and ageing, point to serious policy challenges.

Given the host of pressing issues, the scope of policies announced under national economic strategies are often wide-ranging in nature and not confined strictly within the domain of any single government department. In particular, resolving regional imbalances is likely to require a package of measures that cuts across policy domains such as investments into new transport and communication networks, improving human capital outcomes, expanding job promotion policies, enacting business support schemes, introducing low-carbon energy transition programmes and more. The UK's 2017 Industrial Strategy, for example, included measures that implicitly contained place-based elements—such as investments in transport, housing, and digital infrastructure, as well supporting targeted technology and industries with a regional focus (e.g. offshore wind energy and automotive sectors)—alongside subsequent explicit place-based policies, in Local Industrial Strategies. The UK's 2021 Plan for Growth, although reduced in ambition compared to the 2017 Industrial Strategy, also features place-based elements on infrastructure, skills, and innovation.

Recognising the importance of these linkages, policymakers need to understand how sustained coordination of policies in different domains can contribute to their effectiveness. The practice of policymaking requires a systemic view of economic strategy as a whole and how its constituent parts work in tandem with each other. An important element in an economic strategy's success (or otherwise) is the ability to mobilise and coordinate the various parts of the government machinery effectively in a sustained fashion (Industrial Strategy Council, 2020). Indeed, some of the most transformative strategies are often those that have been able achieve a significant degree of policy coordination across the various government departments and agencies over medium- to long-term horizons (For examples, see Nezu, 2007; Fuchs, 2019; Balawejder & Monahan, 2020).

The UK, however, suffers from some well-documented shortcomings in its policymaking structure. Local policymaking structures (e.g. local industrial strategies or Local Enterprise Partnerships) face inherent difficulties in designing coherent policies due to the considerable heterogeneity in industrial strengths and growth opportunities stemming from their geographical groupings and boundaries (Mealy & Coyle, 2021). Additionally, the UK's policymaking process is largely generated via a 'top-down' approach—i.e. directives from senior ministers and officials in Whitehall. Institutional structures for collaboration and coordination is inherently absent, and at best dependent on support from other senior politicians (Richardson, 2018; Coyle & Muhtar, 2021). Lack of cross-government coordination is frequently cited as an impediment to effective policy implementation. The coordination failures were explicitly addressed by the New Labour Governments in the UK under the rubric of 'joined up government' (Pollitt, 2003). However, despite the political momentum at periods in the past, joining up across policy domains in the UK remained challenging; studies have found a lack of joining up in areas ranging from health policy (Lorne et al., 2019) to food policy (Barling et al., 2003), and between local and national policies (Barling et al., 2003), and indeed across the board (Ling, 2002; Trein et al., 2019).

Thus, in the UK, the challenge of coordination has many dimensions, including issues such as contested turf and power, specialised know-how, political buy-ins, and accountability mechanisms (see Peters (2018) for an overview of policy coordination challenges). Policy design and delivery fragmentation along traditionally defined ministerial functions and jurisdictions causes departmental siloes to form within the Government. This is significant bottleneck, as many aspects of effective economic strategy (such as export support, infrastructure financing, R&D initiatives, government procurement, etc.) and many significant challenges (such as tackling climate change or growing new industries such as AI) require policy measures cutting across ministerial jurisdictions. Enquiry by the House of Commons Business, Energy and Industrial Strategy Committee (BEIS Committee) received evidence of many examples of a lack of cross-government buy-in for the 2017 Industrial Strategy (BEIS Committee, 2021):

- Heriot-Watt University's assessment of the Industrial Strategy was that the there was "limited evidence of impact" whenever "engagement from other Government Departments" was required.
- The Confederation of British Industry (CBI) noted that the Life Sciences Sector Deal could be improved as the "Life Sciences Council is well attended by the DHSC and BEIS but not the Treasury or Department for Education."
- The Productivity Insight Network argued that the Treasury had not taken the Industrial Strategy seriously, while other ministerial departments such as Department for Work and Pensions, Department for International Trade, Department for Education, and the Ministry for Housing, Communities, and Local Government were unsure how the strategy would exactly fit in within their remit.
- Former Secretary of State for Business, Energy and Industrial Strategy, Rt Hon Greg Clark MP, remarked that it was difficult getting the Department for Education on board in a "full-hearted way with the agenda that the industrial strategy set out, rather than preserving its autonomy".

While assertions of lack of consistency and poor coordination such as these are widespread, it remains difficult to assess systematically the scope of coordination failures across government (Pollitt, 2003). In this paper we propose a method to assess the extent of policy coordination and consistency of the policies rolled out under the UK Government's national economic strategies with the policies rolled out further 'downstream' in the policymaking structure, i.e. policies enacted by the various UK ministerial departments and government agencies, with special attention is given to the

current Conservative Government's Levelling Up policies. We also give special attention to measures aimed at supporting research and innovation, as many of these policies feature the promotion of technology development or research and development (R&D) financing that are simultaneously intertwined with place-based objectives.

Information about policies enacted by various government departments and agencies—and thus, whether these economic strategies are incorporated into their implementation processes downstream—are often recorded in text within the large corpus of policy documents and reports produced by the UK's ministerial departments and agencies. To trace policy implementation across various government departments and agencies, we use a text mining and frequency analysis approach to shed light on whether the policies announced as part of the government's key economic strategy permeates throughout the wider government apparatus responsible for implementing policy.

The paper is structured as follows. The next section describes text analysis methodology used to in this study to extract and account for the various policy instruments that were announced in the economic strategies and used in the other policy documents of the Government. We then present the results of these terms' frequency in the form of heatmaps, highlighting the vast number of policies instruments that remain uncited in subsequent downstream policy documents, including the 2022 Levelling Up White Paper, the current Conservative Government's main policy platform to address regional imbalances. We check the findings of the text analysis by a close inspection of the context of the discussion of innovation policies in the suite of policy documents, and confirm the lack of consistency in this important domain. The paper finally concludes by emphasising that the coordination gaps and inconsistencies found in our analysis brings about serious impediments to the whole-of-government style of policymaking and policy delivery process.

DATA AND METHODS

To track the implementation of various policies nested under the overarching economic strategies announced by the UK Government, we carry out a text mining analysis on the corpus of departmental policy documents and government agencies' reports published in recent years. This involves extracting texts from the publications and converting them into plain text, before parsing them through a word frequency counter that tallies the frequency of trigger phrases matching with those in our pre-selected dictionary of search terms to capture the content of interest.[1] This dictionary technique measures the intensity of word use within the corpus' content. Since our dictionary of search terms contains the name of key policy instruments (for example, Clean Growth and Sector Deals), the frequency count of these search terms provides information as to the frequency with which these policies are cited within a given document and, of more interest to test the hypothesis of extensive silos, which headline policies are or are not subsequently mentioned. The term frequency count represents a proxy measurement to track which policies from the national economic strategy documents are referenced in subsequent documents, and which ones are not. While this method is unable to differentiate the context of the search terms' use within the policy document itself,[2] it provides a proxy measurement on the extent of policy continuity in linguistic terms, and thus

[1] The Python scripts and publications used for this study can be accessed at the following URL: https://github.com/adammuhtar/uk-economic-strategy-text-mining.

[2] Since all of the policy documents in this study are published in PDF formats, we use the PyMuPDF package (v1.19.5) to perform the text extraction function required in this study. This extraction operation is unable to differentiate the context of the terms' use—e.g. whether the term 'Industrial Strategy' is located on the chapter title, main body of text, footnotes,

is indicative of (lack of) uptake within the wider policy apparatus. A benefit of using policy instrument names as the search terms in our dictionary is that the interpretation of those terms remains the same across different policy settings, ensuring comparability across various policy documents.[3]

Our focus is on the implementation of the 2017 Industrial Policy—from its inception to its abolition—and on the subsequent Plan for Growth and Innovation Strategy announced in March and July of 2021 respectively. We consider a range of policy documents and reports published from November 2017 onwards. The implementing departments and agencies whose publications are included in this study are the Cabinet Office, Department for International Trade (DIT), Department for Digital, Culture, Media and Sport (DCMS), Department for Transport (DfT), Department for Education (DfE), Department of Health and Social Care (DHSC), Department for Environment, Food and Rural Affairs (Defra), Ministry of Defence (MoD), UK Export Finance (UKEF), British Business Bank (BBB), British Patient Capital (BPC), and UK Government Investments (UKGI).[4] We used a sample of 85 publications for the text analysis (the reports and policy documents are listed in Appendix A). We then focus specifically on the 2022 Levelling Up White Paper (LUWP) to assess the degree of continuity between that document, setting out the approach one of the Johnson Government's principal policy objectives, and the national economic strategy documents published in 2021. The timing and nature of the LUWP presents an interesting case for this study: published by the reorganised Department for Levelling Up, Housing and Communities (DLUHC) on 2 February 2022,[5] this white paper is the first major policy platform announced by the Government following the publication of the Plan for Growth and Innovation Strategy in March and July 2021 respectively, and as such, allows us to observe the utilisation of policy instruments (or lack thereof) announced under the Government's recent national economic strategies. Senior politicians' positioning of the LUWP as a key policy deliverable of the current Conservative Government, as well as the LUWP's explicit objectives of tackling geographical disparities in the UK—the entire first chapter of the white paper discusses at length about state and various dimensions of the UK's geographical disparities—lends further weight to its importance in the UK's wider policymaking landscape (DLUHC, 2022; HM Government, 2022).

The search terms were selected based on key terminologies found within the primary founding policy documents published by the ministerial department responsible for spearheading the overarching national strategies. For the 2017 Industrial Strategy, the primary founding policy documents are the 'Industrial Strategy: Building a Britain fit for the future', 'Industrial Strategy: the 5 foundations', 'The Grand Challenges', and 'Industrial Strategy: Sector Deals' white papers published that year by the

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citations, or figures. In other words, all text within the PDF is converted into strings. Additionally, policy documents do not follow a standard structure (unlike a more predictable and stylised document structures such as academic papers or Acts of Parliament). As such, we are unable to establish a generalisable conditional statements in our script to filter out peripheral texts—such as figures, labels, quotes bubbles, footnotes, and citations—from the main body of text in the document.

[3] Similar approaches have been used in studies such as Currie, Kleven & Zwiers (2020), where the frequency of terms of various research concepts and methodologies used in top economics journals are obtained to provide a high-level overview of economic research trends over the past few decades. See Bholat et al. (2015) for an overview of recent developments in text mining analysis, as well as Gentzkow, Kelly & Taddy (2019) for a discussion on the opportunities from using text as data.

[4] BEIS and HM Treasury, by virtue of being the originator of these economic strategies, are excluded from this study our search terms are sourced from their publications. Running this analysis on their publications would return our dictionary of search terms. Publications from UKGI are included in this study due to the centrality of UKGI in managing many of the UK's key state-owned enterprises (Coyle & Muhtar, 2021).

[5] DLUHC has been renamed several times in recent years. Prior to Boris Johnson's administration, the department was named the Ministry of Housing, Communities and Local Government (MHCLG) as part of Theresa May's Cabinet reshuffle in January 2018. Prior to this, the department was named Department for Communities and Local Government (DCLG).

Department for Business, Energy and Industrial Strategy (BEIS, 2017a; 2017b; 2017c; 2017d). From these papers, we use terms naming the policy instruments, giving us high-level search terms such as 'Industrial Strategy', 'Grand Challenges', and 'Sector Deals', and more specific phrases such as 'Industrial Strategy Challenge Fund' and 'Life Sciences Sector Deal' (the full list of terms used in Appendix A). For the 2021 Plan for Growth and Innovation Strategy, the primary founding policy documents are the 'Build Back Better: our plan for growth' white paper (published by HM Treasury in March) and the 'UK Innovation Strategy: leading the future by creating it' white paper (published by BEIS in July) respectively (HM Treasury, 2021a; BEIS, 2021). Again, we use high-level search terms such 'Plan for Growth' and 'Innovation Missions', as well as more specific phrases such as 'Levelling Up Fund' and 'Future Fund: Breakthrough' (full list of terms used in Appendix B).

For most of the search terms, we use a dictionary approach in which we search and count for any instances of the trigger phrase, taking into consideration case sensitivity and abbreviations to ensure all permutations of the words' spelling are captured. For instance, abbreviations, upper-, and lower-cases of the word 'Artificial Intelligence' are accounted for (while not counting the letters 'ai' that occur in other words such as 'rail'). We search for specific phrases while conditioning on certain other words; that is, our search focuses only on terms that mentions the specific trigger terms while removing instances where combinations with other phrases would induce changes to the meaning of the search term itself.[6] An example would be the term 'Industrial Strategy', where we are interested in capturing the use of the phrase in reference to the policy itself rather than its use within the ministerial department name (Department for Business, Energy and Industrial Strategy), the minister responsible for the department (Secretary of State for Business, Energy and Industrial Strategy), or the oversight body (Industrial Strategy Council). In general, our algorithm has been iterated with the intention of minimising the prevalence of Type I and Type II errors.

RESULTS

We document the results by counting the frequency of a given search term cited in each subsequent document published by the departments and bodies covered in this study. Figures 1 to 4 present these analyses in the form of heatmaps, with higher frequency counts depicted by increasing brightness. The heat maps show search terms vertically and departments/agencies horizontally. Figure 1 shows the results for the 2017 Industrial Strategy, and Figures 2 and 3 for the Plan for Growth and Innovation Strategy respectively.

What is striking is that the heatmaps are largely dark: there is scant linguistic continuity from the principal national strategy documents and subsequent economic policy documents published by the departments and bodies responsible for implementation. This is indicative of the absence of cross-government delivery mechanisms for these policies. For instance, the 2017 Industrial Strategy's focus on Grand Challenges was touted as route "to put the UK at the forefront of the industries of the future, ensuring that the UK takes advantage of major global changes, improving people's lives and the country's productivity," (BEIS, 2017b). Missions embedded as part of the Grand Challenges were highly ambitious in nature and cut across many of traditionally defined ministerial functions. However, as Figure 1 shows, the phrase 'Grand Challenges' is only detected in publications by DCMS and DfT, and to a lesser degree, BBB, Defra, DIT, DfE, and the Cabinet Office. There were no recorded instances of 'Grand Challenges' from DHSC, MoD, DLUHC, BPC, UKEF, and UKGI.

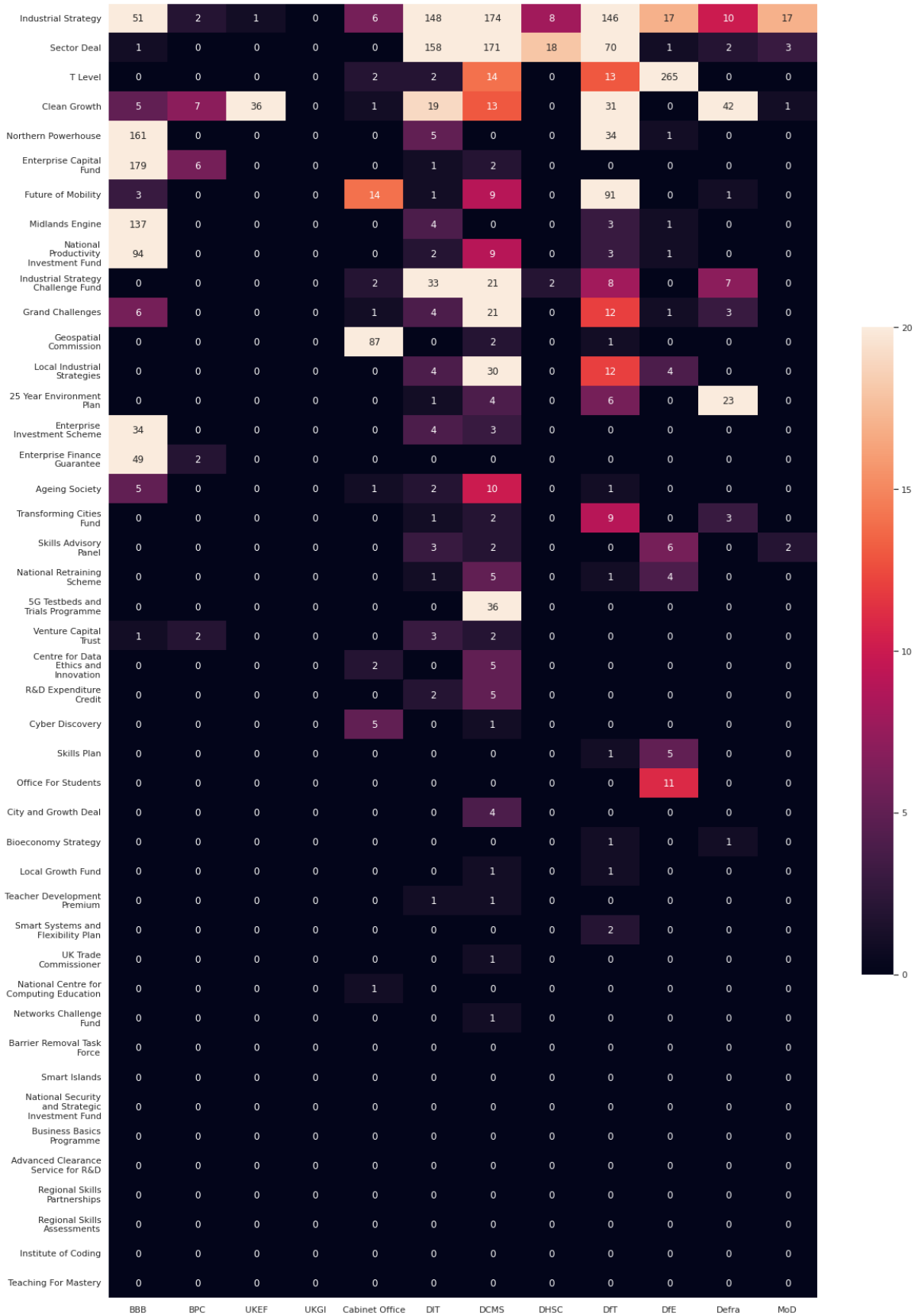
[6] We do not, however, include the use of various generic terms in our dictionary—terms such as 'missions', 'action plan' or 'net zero'—as they are frequently used in a general context and not in reference to any specific policies in a consistent manner.

Main missions of the Grand Challenges, such as Ageing Society, are only mentioned in two (BBB and DCMS) publications. The trigger phrases for the Industrial Strategy Challenge Fund—a key policy instrument in delivering the Grand Challenge—were not detected in any of the publications from the BBB, BPC, UKEF, UKGI, DfE, MoD, and DLUHC.

The 2017 Industrial Strategy also introduced a number policies aimed explicitly at rebalancing the UK's regions. Yet, major policy platforms such as the 'Northern Powerhouse' and 'Midlands Engine' are not detected even once among publications from the Cabinet Office, DCMS, DHSC, Defra, MoD, BPC, UKEF, and UKGI. Local Industrial Strategies, an integral component of the 2017 Industrial Strategy, was not mentioned at all in reports and policy documents from the Cabinet Office, DHSC, Defra, MoD, BBB, BPC, UKEF, and UKGI. Specific policy instruments such as the Local Growth Fund is only mentioned once (DCMS and DfT).

Similar observations can be made about Figures 2 and 3. One possible explanation for the low frequencies observed for Plan for Growth and Innovation Strategy search terms may be due to the fact that these strategies are relatively new and would require time to take root in the wider state apparatus. That said, the great majority of policy terms used in the Plan for Growth and Innovation Strategy remain uncited by many government institutions even in recent publications from the government—as we discuss further below with regard to the Levelling Up White Paper. Prominent high-level terms such as 'Plan for Jobs' are sparsely cited in small numbers by a few ministries (DCMS, DHSC, DfE, MoD, and DLUHC). Key instruments in the Plan for Jobs—such as Flexible Support Fund, Strength in Places Fund, and Restart programme—are cited by only one or two other ministries.

Figure 1. Frequency of 2017 Industrial Strategy terms used in subsequent policy publications of UK ministerial departments and agencies.



Note: The search terms are sorted from the highest to lowest weighted average citation across all publications in this study, with weights being the proportion of institutions citing the term over the total number of institutions assessed in this study. The same weighting and sorting rules are also applied to Figures 2 to 4.

Figure 2. Frequency of Plan for Growth terms used in subsequent policy publications of UK ministerial departments and agencies.

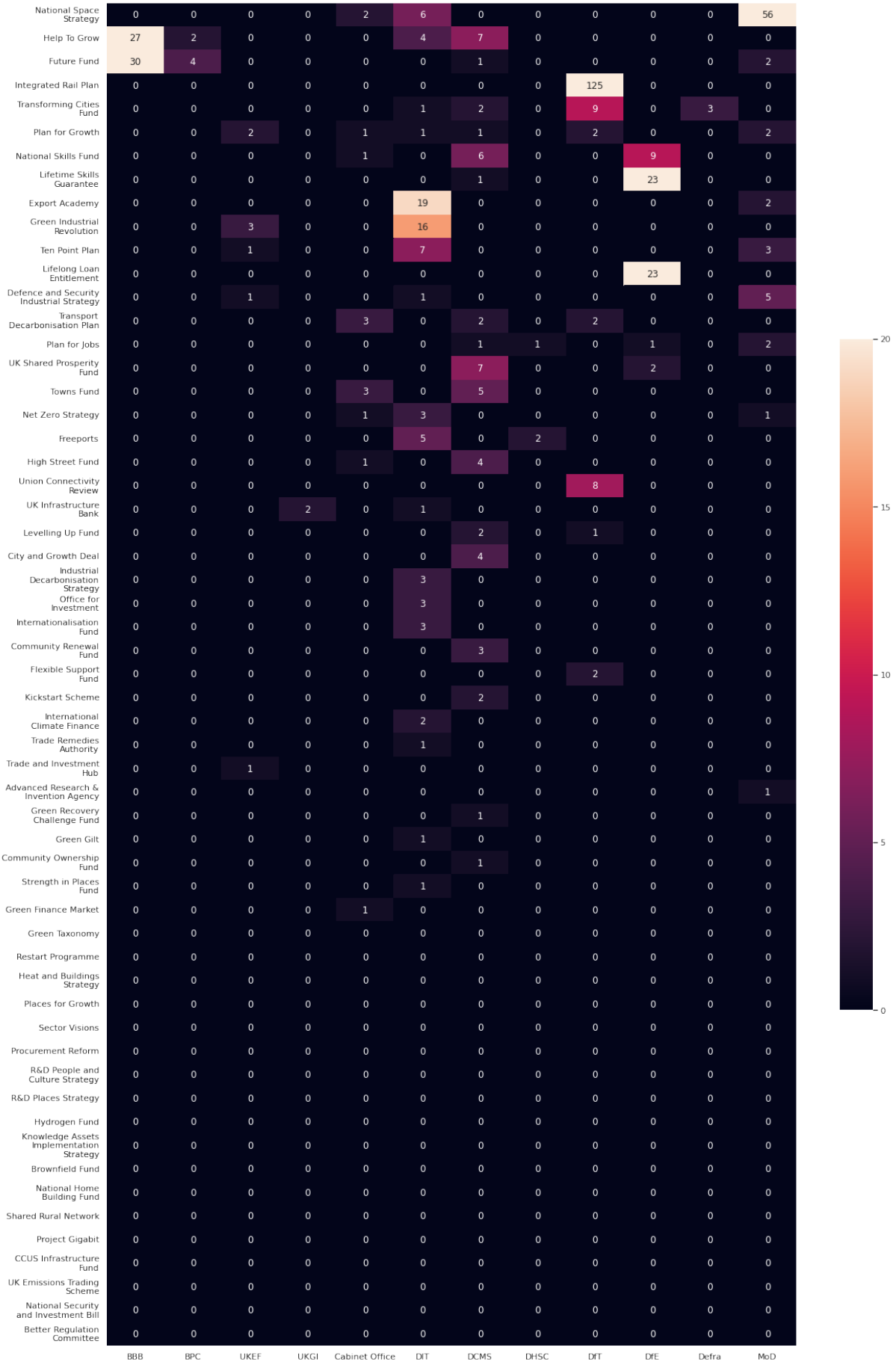


Figure 3. Frequency of Innovation Strategy terms used in subsequent policy publications of UK ministerial departments and agencies.

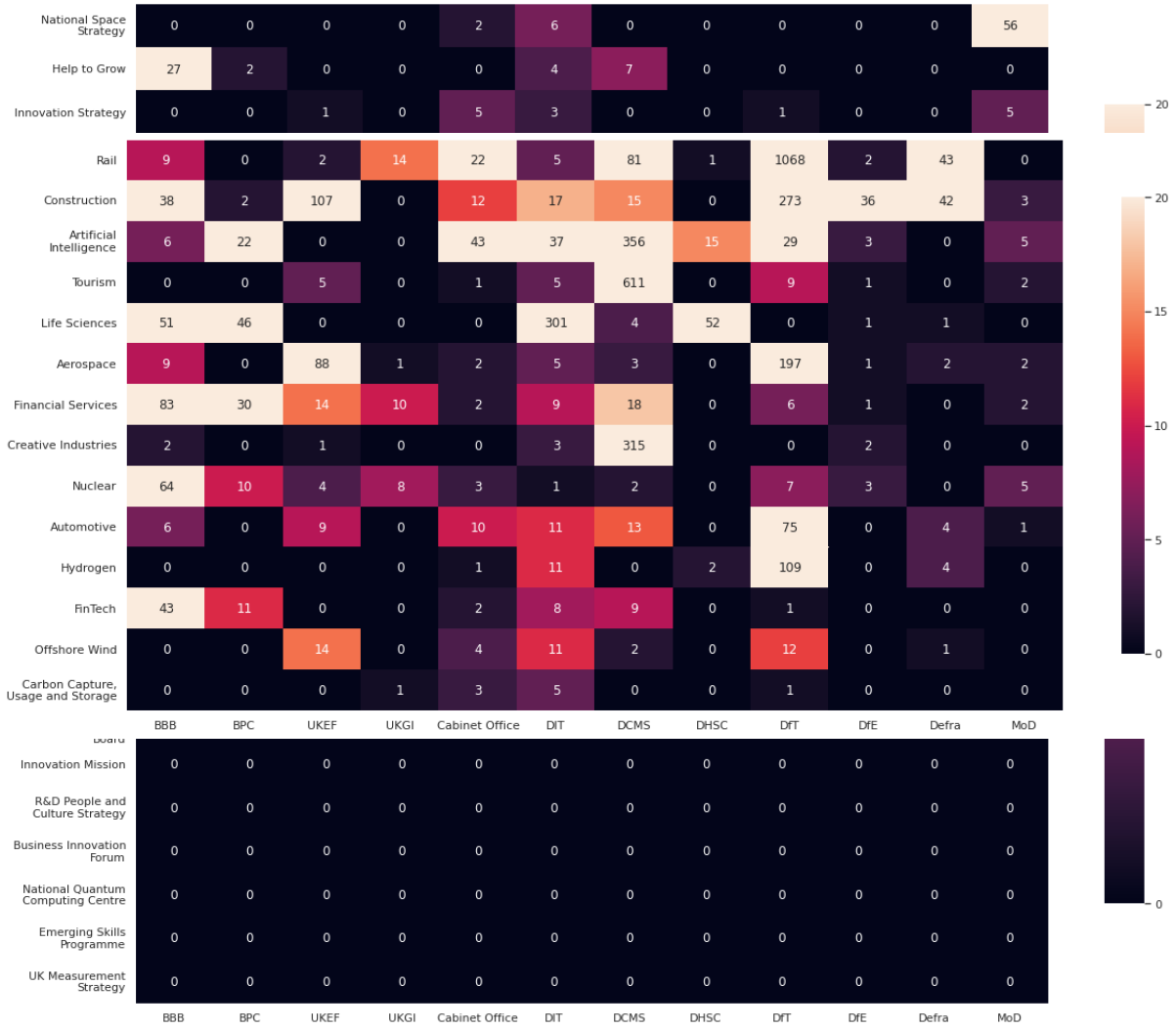


Figure 4. Frequency of economic sectors and technologies named in the 2021 Plan for Growth and the 2017 Industrial Strategy used in subsequent policy publications from UK ministerial departments and agencies.

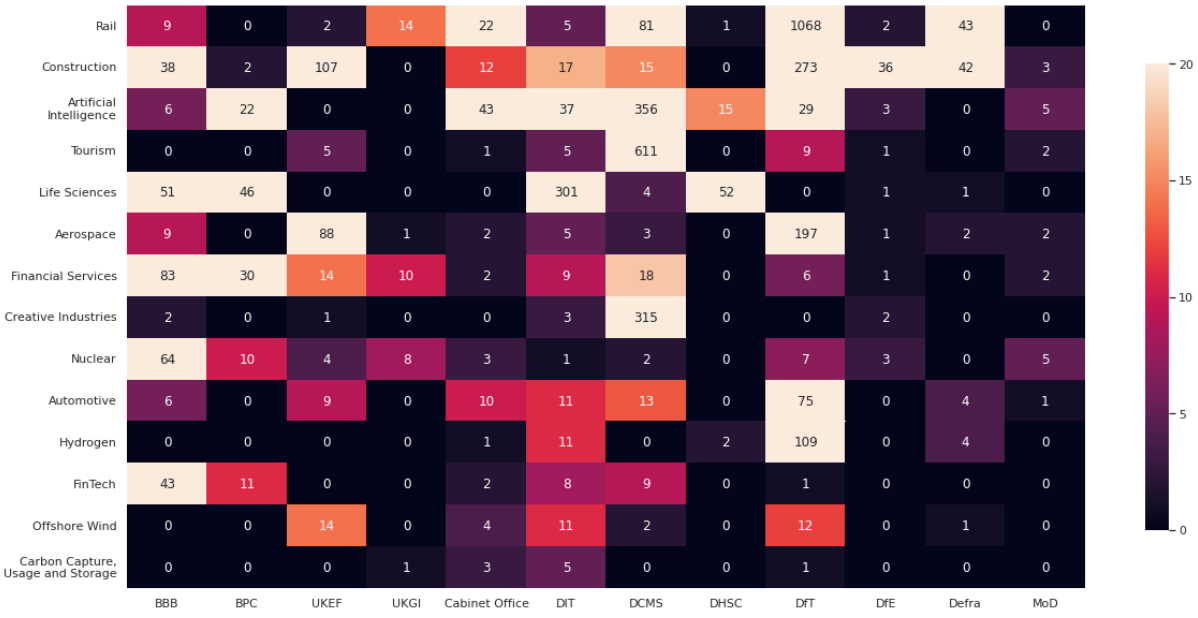


Figure 4 shows a brighter picture with respect to the economic sectors and technologies mentioned in the 2017 Industrial Strategy and 2021 Plan for Growth. While there are a few sectors that are specific to one ministry (e.g. Creative Industries and Tourism are overwhelmingly cited by DCMS), trigger phrases for other broad sectors such as 'Automotive', 'Construction' and 'Rail' are more evenly spread across departments. It would be hard not to maintain some continuity of language regarding important sectors of the economy.

We then specifically run the text mining and term frequency analysis on the Levelling Up White Paper, with results shown in Figures 5 to 8, to assess continuity between this key policy statement regarding the distribution of growth around the UK, and the same administration's major national economic strategies published within the prior 12 months. By virtue of being the most recent major policy document of the government, we would expect the greater uptake of Plan for Growth and Innovation Strategy policies in the LUWP.

Figure 5 compares the LUWP with the Plan for Growth; at first glance, the white paper makes use of only half the terms in our dictionary of search terms associated with the Plan for Growth. Where the white paper makes most frequent reference to Plan for Growth are terms relating to the place-based funds available, i.e. the Levelling Up Fund, Towns Fund, Community Renewal Fund, Community Ownership Fund, High Street Fund, UK Shared Prosperity Fund, Strength in Places Fund, and Transforming Cities Fund. A number of terms referring to policies relating to jobs support, transportation, internet connectivity, and international trade that were set out in the Plan for Growth also appear more than a small number of times in the white paper: these are terms such as the 'Kickstart scheme', 'Project Gigabit', 'Freeports', 'Shared Rural Network', and 'Integrated Rail Plan', among others. However, this is roughly where most of the policy continuity from the Plan for Growth stops. Many of the specific policies in the Plan for Growth do not recur—the term 'Plan for Growth' is itself not mentioned at all in throughout the white paper. Even if the LUWP is strictly focused solely on place-based policies, Plan for Growth measures such as the National Home Building Fund (place-based housing development centred around the UK's Mayoral Combined Authorities), R&D Places Strategy (related to place-based innovation support), and Flexible Support Fund (unemployment assistance at the local level), were not utilised in the white paper.

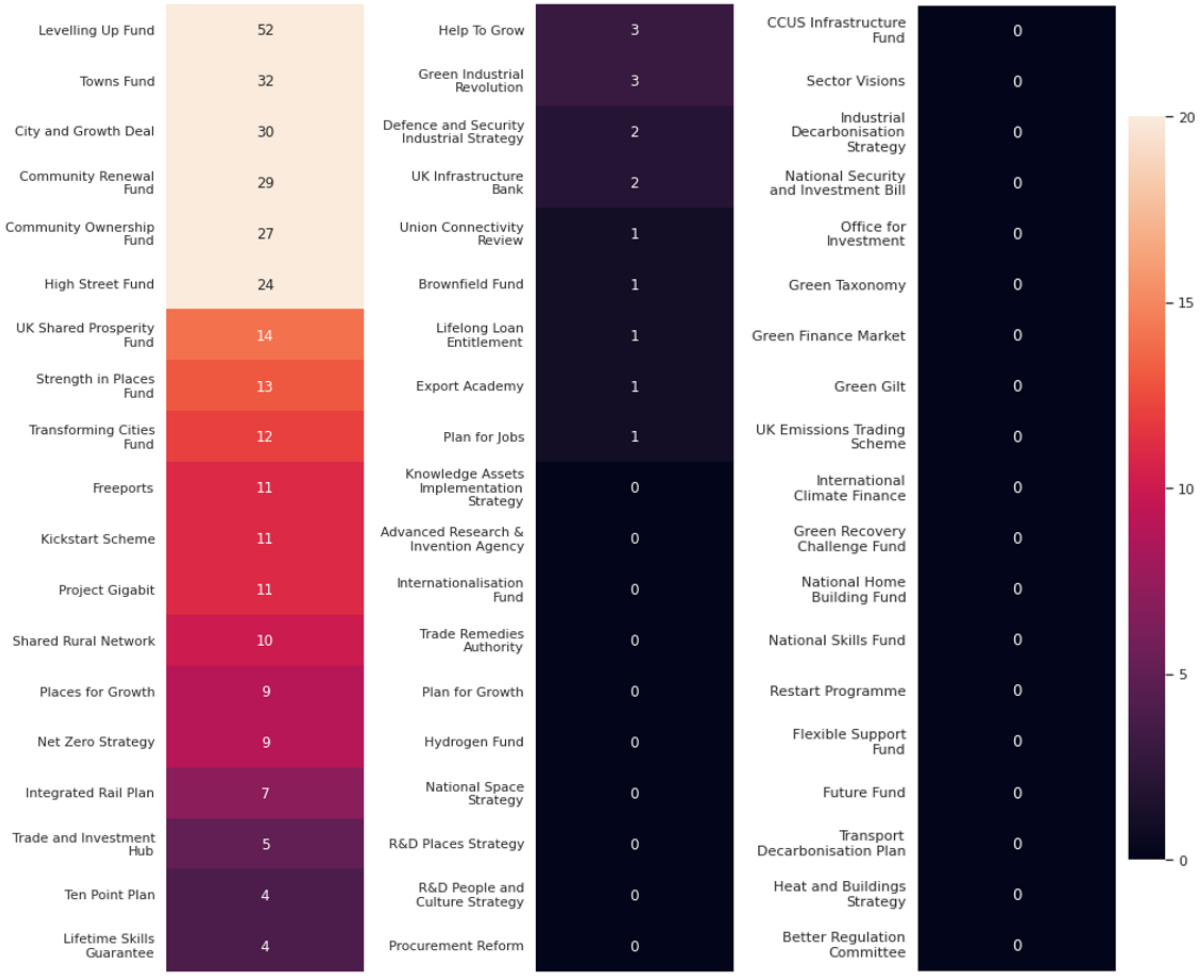
A closer inspection of the LUWP gives us instances where Plan for Growth policies of the same function and objectives (at least at face-value) appear relabelled under the LUWP. The Carbon Capture, Usage and Storage (CCUS) Infrastructure Fund, for instance, was not mentioned in the white paper. Instead, the white paper makes reference to the CCUS-enabled clusters and the recipient regions that would receive CCUS-related investments. Another example is the Internationalisation Fund, where an initiative to support UK small and medium enterprises to expand internationally did not appear in the white paper. Instead, the white paper mentions the Global Britain Investment Fund, which has arguably the same functions and objectives. The Global Britain Investment Fund itself was announced as part of a new host of measures introduced under the 2021 Autumn Budget and Spending Review of October that year (HM Treasury, 2021b), highlighting inconsistency in utilising existing policy instruments even before the LUWP was published. The Plan for Growth's National Home Building Fund is another such instance, where the LUWP instead makes mention of a Levelling Up Home Building Fund once—making it difficult to assess whether these two are the same policies, nested within one another, or altogether separate. Incoherence in how policy instruments are made reference to within policy documents makes it difficult to comprehensively assess whether the consistent and coordinated policymaking takes place in the Government.

With the even more recent Innovation Strategy (Figure 6), apart from that term itself, only 'Strength in Places Fund', 'Help to Grow', and 'Made Smarter Adoption' appeared more than zero times.

Similar to the case in the Plan for Growth, we observe the new policy instruments such as 'Innovation Accelerators' in lieu of Innovation Strategy terms such as 'Innovation Missions' and 'Prosperity Partnerships'. While the term 'innovation' is mentioned 170 times in 322 pages and that the LUWP explicitly states that the white paper "[builds] on the commitments in the Innovation Strategy" (DLUHC, 2022, p. 166), terms central to the Innovation Strategy document such as 'R&D People and Culture Strategy', 'National AI Strategy', and 'Business Innovation Forum' do not get a mention. Innovation Strategy's commitments to bolster the Connecting Capability Fund—which supports a number of regional commercialisation initiatives, including the Midlands Innovation Commercialisation of Research Accelerator (MICRA), the Northern Accelerator, and Northern Gritstone—is absent in the LUWP.

Less surprisingly, there is largely little overlap in terminology between the 2017 Industrial Strategy White Papers and the 2022 Levelling Up White Paper, save for a few exceptions such as 'City and Growth Deals', 'Local Growth Fund', 'Transforming Cities Fund', 'Northern Powerhouse', and 'West Midlands Engine', which was carried over to the Government's current economic strategy (Figure 7). A subset of these represent relatively rare cases of long-term continuity in UK government policies over years: for instance, City and Growth Deals and Local Growth Fund themselves predate the 2017 Industrial Strategy, with the first wave of city deals and local growth funding being made in July of 2012 and 2014, respectively (Ward, 2020a; 2020b). Unfortunately, other key elements of regional development policies under the 2017 Industrial Strategy, such as the National Productivity Investment Fund, Regional Skills Partnerships, and National Retraining Scheme no longer form part of the Levelling Up agenda. The scrapping of the 2017 Industrial Strategy its replacement with the Plan for Growth in 2021 took place against the backdrop of a change in Prime Ministership in the UK, and Figure 7 is indicative of the politically-driven nature of policymaking, indicating an ever-present risk that policies could be scrapped when administrations change—projects that are not firmly institutionalised or are perceived as flagship projects of former administrations generally do not survive the transition (Coyle & Muhtar, 2021). Nonetheless, the focus on economic sectors and technology development has remained relatively stable, with a shift in focus away from a one or two specific sector or technology. For example, artificial intelligence was prominent in the 2017 Industrial Strategy but far less so in the LUWP (Figure 8).

Figure 5. Frequency of Plan for Growth terms in Levelling Up White Paper.



Figures 6 to 8.

Figure 6. Frequency of Innovation Strategy terms in Levelling Up White Paper.

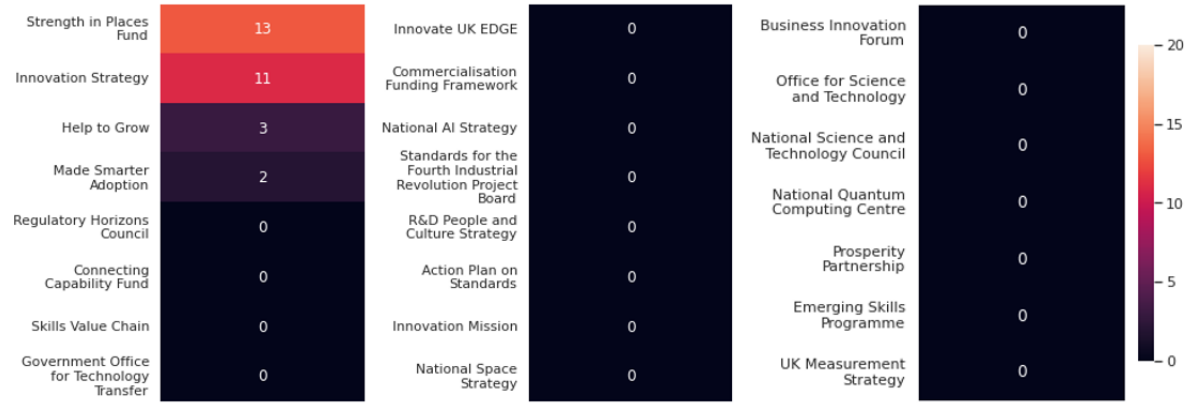


Figure 7. Frequency of 2017 Industrial Strategy terms in Levelling Up White Paper.

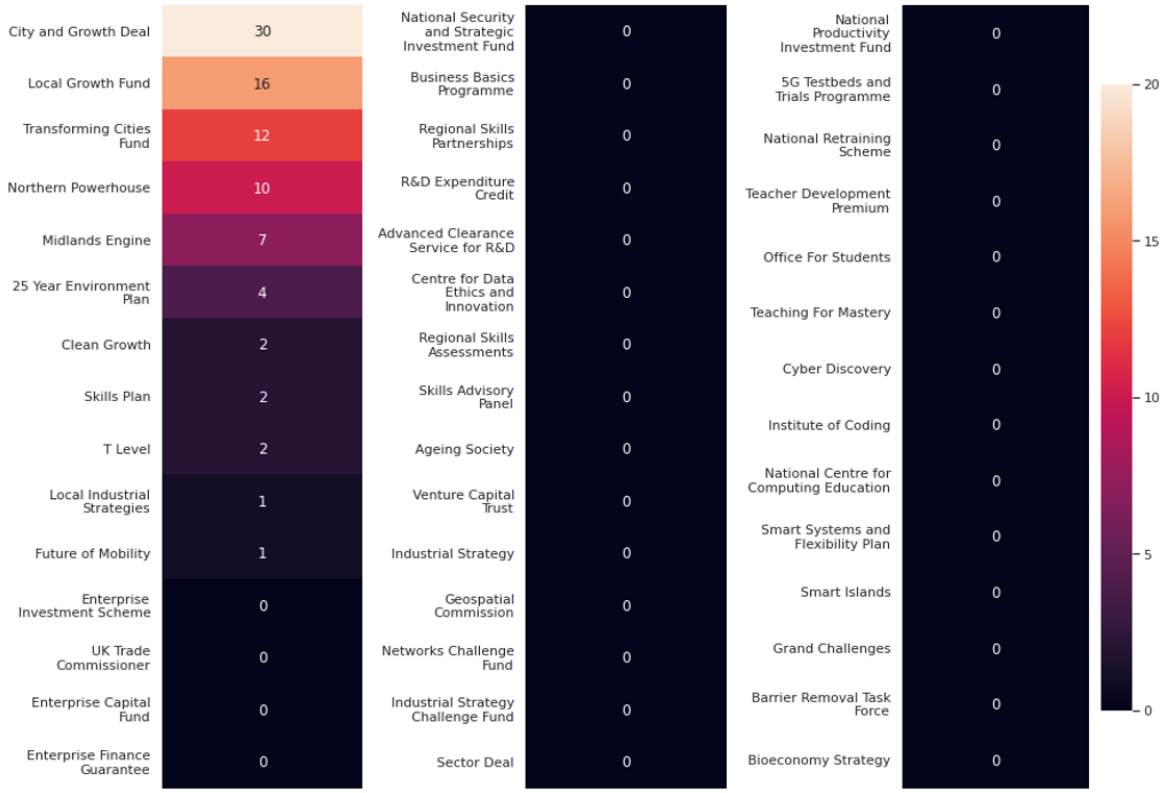
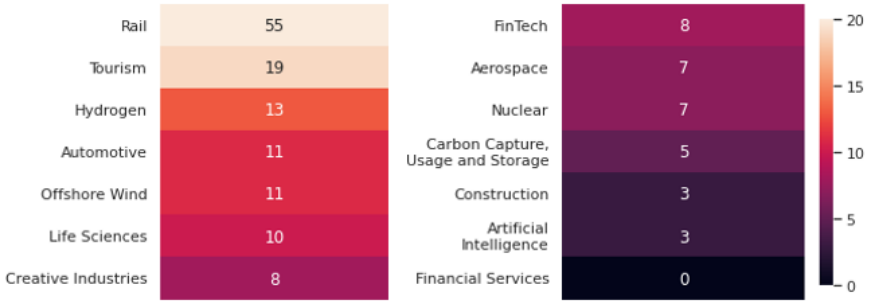


Figure 8. Frequency of economic sectors and technologies from the Plan for Growth and 2017 Industrial Strategy used in the Levelling Up White Paper.

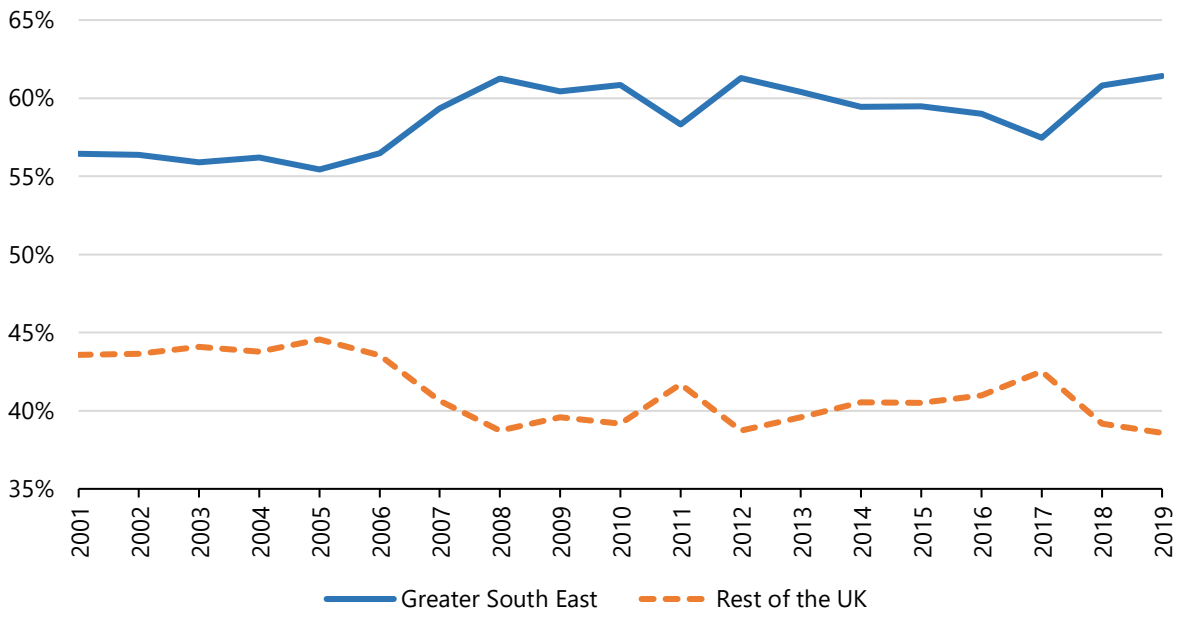


INNOVATION AND PLACE

The evidence presented so far concerns linguistic overlap and as noted does not take account of the possibility that different terminologies being used for consistent policies—perhaps for reasons of political salience or a desire to claim novelty in the announcements. To check this, we focus in greater detail on the subset of Levelling Up policies relating to place-based research and innovation to check for contextual similarity (or not) between the suite of documents.

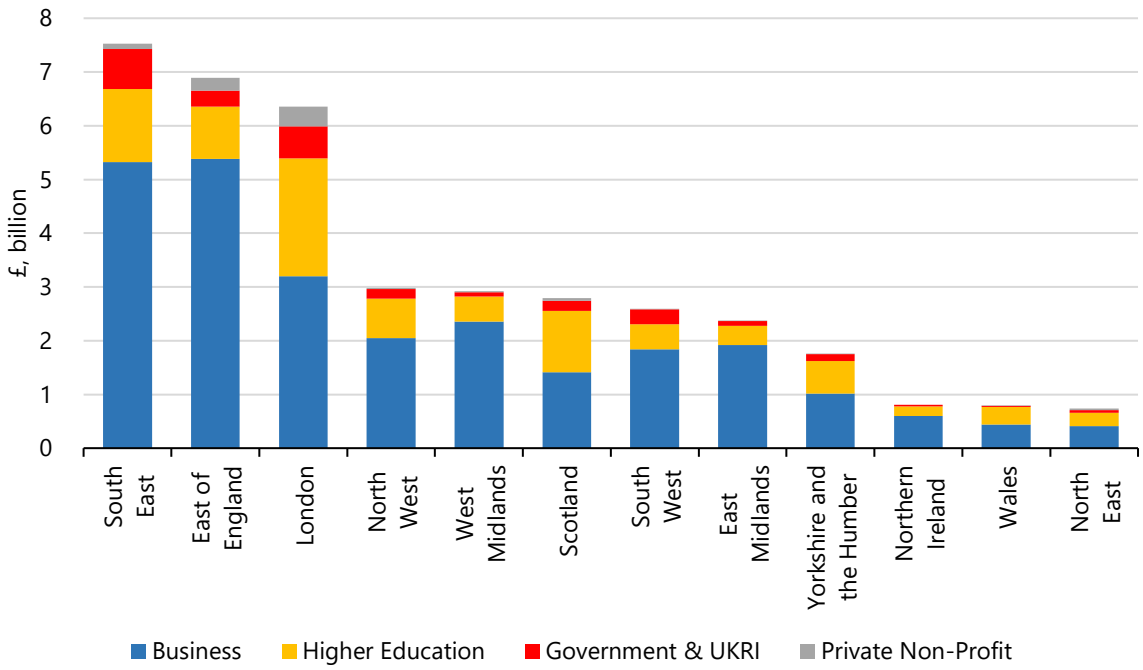
Research and innovation support make up a key commitment in the Levelling Up White Paper, which aims to achieve a more even spread of R&D spending and innovation around the UK. Indeed, one of the 12 'missions'—or the main priorities of the Levelling Up agenda—is to increase "domestic public investment in R&D outside the Greater South East will by at least 40%" by 2030 (DLUHC, 2022, p. 170). As shown in Figure 9, the share of public R&D spending in regions outside of the Greater South East (GSE, or the combined regions of London, South East, and East of England) generally hovered around the 40% level for the past decade. The more striking trend that shown in Figure 9 is that regions outside of the GSE had never fully recovered their share of UK public R&D expenditures following the Great Recession of 2008. The majority of total R&D expenditure already takes place within GSE regions (Figure 10). The National Audit Office's report on the disbursement of the Industrial Strategy Challenge Fund, an important innovation funding programme under the 2017 Industrial Strategy, found that the GSE accounted for over half of all awards made by the fund (NAO, 2021, pp. 28–32).

Figure 9. Share of government gross expenditure on R&D—UK Research and Innovation (UKRI) inclusive—in the Greater South East and the rest of the UK, 2001–2019.



Source: ONS (2021)

Figure 10. Regional breakdown of UK R&D expenditure by sector of performance, 2019.



Source: ONS (2021)

If the share of government R&D spending outside of the GSE is to maintain and improve from its current levels, the Levelling Up agenda should aim to achieve a significant degree of policy coordination between national and local levels of decision-making and across agencies. Magro & Wilson (2019) note that, "It is particularly relevant for complex challenges such as sustainable industrial transitions that require joined-up interventions from different policy domains. Yet finding the right policy mix for a given challenge is strongly conditioned by the governance context in which individual policies emerge and evolve over time." The track record for coordinated place-based innovation support policies is poor; Perry (2007) reports a lack of consistency in science policy across English localities: "In the context of hesitant and ambiguous government attitudes towards the regional science paradigm, English regions—and more recently cities—have been largely left to their own devices to develop strategies for science-based growth. Mixed messages emanate from government departments leading to variations in scale, scope and approach between regions." Similarly, Charles & Benneworth (2001) argued that science and technology policy need to be joined up for English regions to realise their potential for innovation and economic growth.

Looking for signs of policy coordination, we look beyond spending targets (which are subject to change due to shifting demands and government priorities) and at the institutions and policy design process itself. A notable way in which the LUWP goes beyond both the Plan for Growth and Innovation Strategy is its initiative to institute a, "New requirement for public bodies to have an objective of reducing geographical variations in the outcomes relevant to their business area," as part of a new Public Bodies Strategy under development by HM Treasury and the Cabinet Office-led Public Bodies Reform Programme. Although the final form of such measures remains to be seen, embedding regional perspectives directly into the policy design process would address a key weakness in the UK's regional innovation policy—the National Audit Office remarked that prior to the Levelling Up agenda, "UKRI was not given an explicit objective on how to consider the regional balance in its awards," (NAO, 2021, p. 28). With the reformed policy design process, agencies such as UKRI could play a more active role in regional R&D efforts, leading to higher degree of coordination between these national-level agencies and the local research establishments—the

commitment to change UKRI's organisational objectives to include, "Developing research and innovation strengths across the UK in support of levelling up" is a step this direction (DLUHC, 2022, p. 173). However, no such measure of incorporating of regional outcomes into public sector bodies' objectives was found in either the Plan for Growth or the Innovation Strategy, making the LUWP stand out in this specific regard. Although it remains to be seen whether such policy design processes would also be applied to the Government's new flagship research establishment, the Advanced Research & Invention Agency (ARIA), or into the UKRI's new Commercialisation Funding Framework, (both of which were not mentioned in the LUWP), this marks a policy departure from the prior strategy documents including the Innovation Strategy.

Core initiatives relating to place-based research and innovation under the LUWP revolve around spending commitments. These spending commitments follow some of the key initiatives announced under the Plan for Growth and Innovation Strategy, such as the Defence and Security Industrial Strategy for MoD, or Net Zero Strategy for Defra, and R&D Places Advisory Group for BEIS (an expert support group created under the R&D Places Strategy). However, many other aspects of innovation initiatives from the Plan for Growth and Innovation Strategy do not feature in the LUWP:

- The Plan for Growth mentions procurement reforms and the rollout of ARIA into the UK research landscape as policy levers to support the innovation expenditures across the UK (HM Treasury, 2021a, p. 53), but these were absent from the LUWP.
- While other sections of the LUWP make mention of regulatory streamlining and reforms to support business growth and housing development, the Levelling Up 'mission' for innovation does not feature reforms from the Plan for Growth and Innovation Strategy such as the Better Regulation Committee, Regulatory Horizons Council, and the Fourth Industrial Revolution Project Board.
- The creation of new Innovation Accelerators under the LUWP—which aims to support the creation of innovation clusters in the UK—does not explain how this initiative would either complement or work cohesively with other national economic strategy policies such as the Connecting Capability Fund and Prosperity Partnerships from the Innovation Strategy; there are likely overlaps in the remit of the three aforementioned policies and hence, gains to be achieved from a more cohesive policy rollout.[7]
- Important economic development agencies such as the BBB and BPC are mentioned as playing key roles in supporting innovation in the Plan for Growth and Innovation Strategy, but not in the LUWP.
- The LUWP refers to the Government Statistical Service's Subnational Data Strategy, published in December 2021, to improve understanding of local economic geographies, with the formation of a new Spatial Data Unit within the DLUHC to support this initiative (DLUHC, 2022, pp. 149–152). However, the LUWP did not tie this initiative to other similar measures such as the Innovation Strategy's UK Measurement Strategy, which would have greatly enhanced evidence-based policymaking capabilities in regional R&D policies.
- The absence of utilisation of platforms such as the Business Innovation Forum, Skills Value Chain, and R&D People and Culture Strategy leaves important components of innovation growth such as private sector engagement, human capital, and idea cross-pollination out of the wider regional R&D policymaking practice that is spearheaded by the Levelling Up agenda.

[7] The only other programme mentioned as complementary in the LUWP's Innovation Accelerators is the Strength in Places Fund programme (DLUHC, 2022, p. 174).

Gaps such as these, point to a degree of disconnectedness between the Levelling Up agenda and the national economic strategies.

CONCLUSION

Others have previously noted the lack of policy continuity or joined-upness in the UK, and we have previously documented significant churn and inconsistency in the context of industrial policy (Coyle & Muhtar, 2021). Our textual analysis has not taken account of context in the documents concerned so it could be argued that it overstates the lack of continuity, to the extent that the same policy is restated using different headlines and terminologies; but a close reading of the sections in all the documents on innovation confirmed the lack of policy continuity in economic strategy documents published a few months apart. The three older documents are all national policy statements, so the emphasis could perhaps naturally be different from the context of each individual ministry and agency. Nevertheless the fact that the majority of key policy platforms—whose functions cut across many policy domains—are missing from a large majority of policy publications is indicative of the disjointedness in the wider UK government machinery and the way it operates. The case of the Levelling Up agenda further shows a striking degree of policy inconsistency and coordination gaps from the Innovation Strategy and Plan for Growth policy frameworks over a very short time period of eight months. This is particularly worrisome as the efforts to tackle widening spatial inequalities in the UK could be improved through better cohesion and utilisation of existing policies. This contextual study confirmed the results of the text analysis: joined-up government in the UK remains as elusive as ever.

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APPENDIX A: LIST OF PUBLICATIONS ANALYSED

Table 1. Publications from Departments and Agencies covered in this study.

Department/Agency	Publications
British Business Bank (BBB)	Annual Report 2017
	Annual Report 2018
	Annual Report 2019
	Annual Report 2020
	Annual Report 2021
	Analysis of UK VC Financial Returns
	Small Business Equity Tracker 2019
	Small Business Equity Tracker 2020
	Small Business Finance Markets 2018
	Small Business Finance Markets 2019
	Small Business Finance Markets 2020
	Spotlight: Midlands Engine Investment Fund
	Spotlight: Northern Powerhouse Investment Fund
	UK SME Exporting Trends
	UK VC and Female Founders
British Patient Capital (BPC)	Annual Report 2019
	Annual Report 2020
	Annual Report 2021
UK Export Finance (UKEF)	Annual Report 2018
	Annual Report 2019
	Annual Report 2020
	Annual Report 2021
UK Government Investments (UKGI)	Annual Report 2018
	Annual Report 2019
	Annual Report 2020
	Annual Report 2021
Cabinet Office	Government Cyber Security Strategy 2022-2030
	Interim Cyber Security Science and Technology Strategy
	National Cyber Security Strategy 2016 to 2021 Progress Report

	National Cyber Strategy 2022
	National Underground Asset Register
	Positioning the UK in the fast lane: Location data opportunities for better UK transport
	UK's Geospatial Strategy 2020 to 2025
Department for Digital, Culture, Media and Sport (DCMS)	Artificial Intelligence Sector Deal
	Boundless Creativity Report
	Carers Action Plan 2018-2020
	Civil Society Strategy
	Connected Growth
	Creative Industries Sector Deal
	Culture is Digital: June 2019 Progress Report
	Future Telecoms Infrastructure Review
	Government Response to Advisory Group Report on 'Growing a Culture of Social Impact Investing in the UK'
	Interim Cyber Security Science & Technology Strategy: Future-proofing Cyber Security
	Next Generation Mobile Technologies: A 5G strategy for the UK
	Next Generation Mobile Technologies: An Update to the 5G strategy for the UK
	The Tourism Recovery Plan
	Tourism Sector Deal
Department of Health and Social Care (DHSC)	Health Infrastructure Plan
	Genome UK: the Future of Healthcare
	The UK Strategy for Rare Diseases
	The UK Strategy for Rare Diseases: 2020 update
	Build Back Better: Our Plan for Health and Social Care
Department for International Trade (DIT)	Board of Trade Report: Global Britain, Local Jobs
	Board of Trade Report: Green Trade
	DIT SME Action Plan
	Export Strategy
	Life Sciences Sector Deal 1
	Life Sciences Sector Deal 2
	Space Sector COVID-19 Support Plan
	Trade White Paper
	Careers Strategy

Department for Education (DfE)	International Education Strategy: Global Potential, Global Growth
	International Education Strategy: 2021 Update
	Realising the Potential of Technology in Education
	Skills for Jobs: Lifelong Learning for Opportunity and Growth
	DfE SME Action Plan
	Social Mobility Commission Report
	T Levels Industry Placements
	West Midlands Skills Agreement 2018
Department for Environment, Food and Rural Affairs (DEFRA)	Clean Air Strategy 2019
	Resources and waste strategy for England
Ministry of Defence (MoD)	MoD Science and Technology Strategy 2017
	MoD Science and Technology Strategy 2020
	National Space Strategy
	Refreshing Defence Industrial Policy
Department for Levelling Up, Housing and Communities (DLUHC)	Levelling Up White Paper

APPENDIX B: DICTIONARY OF SEARCH TERMS

Table 2. Dictionary of search terms.

Economic Strategy	Search Terms
2017 Industrial Strategy	25 Year Environment Plan; 5G Testbeds and Trials Programme; Advanced Clearance Service for R&D; Ageing Society; Barrier Removal Task Force; Bioeconomy Strategy; Business Basics Programme; Centre for Data Ethics and Innovation; City and Growth Deal; Clean Growth; Cyber Discovery; Enterprise Capital Fund; Enterprise Finance Guarantee; Enterprise Investment Scheme; Future of Mobility; Geospatial Commission; Grand Challenges; Industrial Strategy; Industrial Strategy Challenge Fund; Institute of Coding; Local Growth Fund; Local Industrial Strategies; Midlands Engine; National Centre for Computing Education; National Productivity Investment Fund; National Retraining Scheme; National Security and Strategic Investment Fund; Networks Challenge Fund; Northern Powerhouse; Office for Students; R&D Expenditure Credit; Regional Skills Assessments; Regional Skills Partnerships; Sector Deal; Skills Advisory Panel; Skills Plan; Smart Islands; Smart Systems And Flexibility Plan; T Level; Teacher Development Premium; Teaching for Mastery; Transforming Cities Fund; UK Trade Commissioner; Venture Capital Trust
Plan for Growth	Advanced Research & Invention Agency; Better Regulation Committee, Brownfield Fund; CCUS Infrastructure Fund; City and Growth Deals; Community Ownership Fund; Community Renewal Fund; Defence and Security Industrial Strategy; Export Academy; Flexible Support Fund; Freeports; Future Fund: Breakthrough; Green Finance Market; Green Gilt; Green Industrial Revolution; Green Recovery Challenge Fund; Green Taxonomy; Heat and Buildings Strategy; Help to Grow; High Street Fund; Hydrogen Fund; Industrial Decarbonisation Strategy; Integrated Rail Plan; International Climate Finance; Internationalisation Fund; Kickstart scheme; Knowledge Assets Implementation Strategy; Levelling Up Fund; Lifelong Loan Entitlement; Lifetime Skills Guarantee; National Home Building Fund; National Security and Investment Bill; National Skills Fund; National Space Strategy; Net Zero Strategy; Office for Investment; Places for Growth; Plan for Growth; Plan for Jobs; Procurement Reform; Project Gigabit; R&D People and Culture Strategy; R&D Places Strategy; Restart programme; Sector Visions; Shared Rural Network; Strength In Places Fund; Ten Point Plan; Towns Fund; Trade and Investment Hub; Trade Remedies Authority; Transforming Cities Fund; Transport Decarbonisation Plan; UK Emissions Trading Scheme; UK Infrastructure Bank; UK Shared Prosperity Fund; Union Connectivity Review

Economic Strategy	Search Terms
Innovation Strategy	Action Plan on Standards; Business Innovation Forum; Commercialisation Funding Framework; Connecting Capability Fund; Emerging Skills Programme; Government Office for Technology Transfer; Help to Grow; Innovate UK Edge; Innovation Mission; Innovation Strategy; Made Smarter Adoption; National AI Strategy; National Quantum Computing Centre; National Science and Technology Council; National Space Strategy; Office for Science and Technology; Prosperity Partnership; R&D People and Culture Strategy; Regulatory Horizons Council; Skills Value Chain; Standards for the Fourth Industrial Revolution Project Board; Strength in Places Fund; UK Measurement Strategy
Economic sectors and technologies cited in 2017 Industrial Strategy and Plan for Growth	Aerospace; Artificial Intelligence; Automotive; Construction; Carbon Capture, Usage and Storage; Creative Industries; Financial Services; FinTech; Hydrogen; Life Sciences; Nuclear; Offshore Wind; Rail; Tourism