

Fingleton Insights

Economic Regulation and Productivity

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Introduction

A decade ago when I left the Office of Fair Trading (OFT), I was asked by the Cabinet Secretary, Jeremy Heywood, to work on a package of supply side reforms for Prime Minister David Cameron. Several of the proposals I worked on related to regulatory reform. In particular, I suggested radical restructuring of our system of economic sector regulation and floated the idea of an N+1 regulator that could give licences to disruptive entrants across the entire economy. Both were part of a package designed to challenge the forces of incumbency and to stimulate growth and investment in the UK economy.

A decade later, apart from the sandbox at the Financial Conduct Authority (FCA) which partly fell out of the N+1 thinking, there has been little progress at implementing any of these reforms. At the same time, the evidence that we have

problems in these areas continues to mount. The ideas for these reforms have been percolating in my mind for some time, and have been the subject of many conversations with people who are interested. I very much welcome the opportunity to speak about them today, and to write these ideas up to stimulate wider debate.¹

While the UK has many economic problems, stagnating productivity growth continues to be a central issue. Without productivity growth, we will lack the means to tackle most of the other problems in areas such as infrastructure investment, social services, healthcare and education.

Economic regulation can play a key role in both

¹ All views are personal. I would like to thank my colleagues Eleanor Mack, David Stallibrass, Simon Oates and Ben Hooper for their help. The paper has benefited from discussions with, and comments from, a large number of other people to whom I am very grateful.

enabling and hindering productivity growth. Well-designed economic regulation that addresses market failures like market power and negative externalities can contribute hugely to economic efficiency. But economic regulation can also be a drag on productivity growth. I do not believe we have got the balance right.

We know that regulation can be institutionally prone to incumbency capture and that it can incentivise rent-seeking behaviour (i.e., activity designed to re-allocate resources at the expense of productivity growth)². Richard Posner pointed out that a monopolist will spend up to the total of the monopoly profit in lobbying and other rent-seeking effort to maintain its monopoly.³ And monopolies are prone to X-inefficiency,⁴ whereby the lack of competitive pressure allows their costs to rise. John Hicks's quote that "the best of all monopoly profits is a quiet life" nicely illustrates how X-inefficiency might be a drag on productivity growth.⁵

It is ironic that the regulatory system designed to address market power often encourages these ills rather than eliminates them. I will argue that our approach to regulatory structures and institutions should be based on productivity growth by design, and that we should anticipate and seek to correct for the prevailing winds of lobbying, rent-seeking and capture by incumbent vested interests.

² "You can become wealthy by creating wealth or by appropriating wealth created by other people. When the appropriation of the wealth of others is illegal it is called theft or fraud. When it is legal, economists call it rent-seeking", [John Kay](#), November 2009.

³ "The Social Costs of Monopoly and Regulation", *Journal of Political Economy*, Richard Posner, 1975.

⁴ "Allocative Efficiency vs. X-Efficiency", *The American Economic Review*, Harvey Leibstien, 1966.

⁵ "Annual survey of economic theory: The theory of monopoly", J.R Hicks, *Econometrica*, 1935.

This argument applies to many areas of regulation including the planning system for land use and much of intellectual property protection. In this paper, I focus on two specific areas:

- The regulation of network monopolies and other infrastructure
- The regulation of new technologies and innovation.

Network monopolies and infrastructure

Almost 40 years ago, the UK introduced a new approach towards infrastructure regulation, summarised simply by the RPI-X formula where X is a measure of expected efficiency improvement during the time of the price control. Every five years, each regulator chooses a value of X that it believes is right for the next cycle so that X varies across sectors and over time.

The background for the introduction of the RPI-X approach was the privatisation of national network monopolies. Price regulation was necessary to prevent the newly private monopolies from exercising market power, but was also a lever to drive cost efficiency. In most cycles and sectors, X was usually a positive number so that real prices to consumers fell over time. The UK's approach was seen as successful and was copied in other countries, particularly with the waves of privatisation that occurred internationally in the 1990s.

The expectation was that over time, the need for this regulation would reduce. "This [RPI-X] applied to BT in 1984; it was expected to wither away after seven years".⁶

⁶ "[Some notes about Regulation](#)", Dieter Helm.

40 years on, we have serious infrastructure problems in all of rail, electricity, water, airports, and mobile and fixed-line telephony. This is well summarised in a 2019 paper by Dieter Helm.⁷ Arguably the situation has worsened in the intervening period.

The underperformance of these affects productivity because of the essential role infrastructure plays in the functioning of the economy. The quality of infrastructure affects many of the basic costs of production, movement of people and goods, communication, and innovation. Poor water and energy infrastructure can raise the costs of planning. Energy infrastructure is currently a threat to the roll-out of new technologies like electric cars and our ability to switch from traditional sources of energy to new sources. And the wrong level of infrastructure may mean that we are operating with sub-optimal combinations of labour and capital, which raises costs. Put another way, getting more out of bad infrastructure may require very inefficient operating approaches.

I believe that the current regulatory system has seven serious problems

1. Capex vs Opex. The nature of RPI-X over a five year cycle can result in a short term focus on consumer prices at the expense of long term infrastructure investment - with five year cycles being used as the frame for considering investments that have life cycles of up to 50 years. RPI-X may do a better job for operational efficiency than it does for longer term infrastructure investment. In addition, the skills and expertise required to regulate Opex may be very different from those required to regulate Capex. Not many

regulators want to be the one to have to put in place price rises, even if the impact on consumer prices is spread over a very long period. Where the five-year regulatory cycles closely align to election cycles, this may make regulatory decisions more political and may intensify the focus on customer prices at the expense of investment. All this is a particular issue when it comes to tackling climate change because of the significant investment in energy infrastructure that is required over the next few decades.

2. Regulatory creep. The sector-specific nature of the regulators makes them more prone to regulatory creep. At privatisation, the goal was that competition would be fostered and eventually regulators disbanded or their remits minimised. Yet once a sector regulator exists, any issues that arise tend to get added to the regulator's remit - leading to that remit expanding over time. And this has happened with most of the regulators. Although the issue is not limited to energy, the effect can most easily be seen by comparing the response to rising international energy prices in the petrol and domestic energy sectors. In the latter, Ofgem has generally been seen as a long term solution, and extra functions have been given to it. But with petrol prices, where there is no regulator, apart from some periodic inquiries by the Competition and Markets Authority (CMA) - one in 2013 and one currently, there is no regulatory creep. Adding more objectives to the regulators means that they increasingly take decisions that involve distributional trade-offs. This can lead to even more politicisation. It also means that the lines between government departments and regulators become ever more blurred.

⁷ ["The Systems Regulation Model"](#), Dieter Helm, February 2019.

3. Regulatory Capture. The sector specificity also makes regulators more susceptible to capture by the industries they regulate. This happens gradually and almost imperceptibly over time and there are several factors at play. One is that the regulator relies heavily on the regulated industry for information and data. Getting this relies on some element of compromise. A second factor is that no regulator can support constant disputes with the industry. They must pick their battles, and so have to operate to some extent with the consent of the regulated industry. A third factor is the simple political economy that producers are better organised and represented than consumers. This is true notwithstanding rebalancing efforts like industry consumer panels. In addition, several sectors have had merits-based appeals to the Competition Appeal Tribunal (CAT)/CMA, and this likely also limits how “brave” a regulator will be. The appeals system is a mess.

4. Concurrency. Both creep and capture could be ameliorated by independent competition and consumer policy. However, almost uniquely internationally, the UK lacks this. Because the sector regulators were mostly established before the 1998 Competition Act, they were granted competition and consumer enforcement powers for their own sectors. This system is referred to as “concurrency” because the CMA, and the OFT before it, shared these powers. However, one of the “norms” in the UK system has been that the competition agency leaves the sector regulator to act. This in effect removed an independent check whereby the competition regulator could pursue competition cases in these sectors.

- In the case of competition policy, the sector regulators have only a very small number of enforcement actions, preferring either not to open them or not to pursue them to conclusion. This contrasts with airports where concurrency did not exist and the OFT in 2006 started a process that led to the Competition Commission (CC) breaking up two monopolies. The aviation regulator was not enthusiastic about that 2006 intervention.⁸ It also contrasted sharply with other European countries where competition cases in energy, telecom and other sectors were far more common.
- In the case of consumer enforcement, several regulators preferred to write consumer protection into the licences of the market participants. While this may arguably have increased consumer protection standards, it also meant that consumer law was underenforced. Again, where there was no concurrency, as in financial services, the OFT took on unauthorised overdrafts, PPI and other consumer protection issues. The lack of a consistent standard for consumer protection across markets leads to consumers being confused by what their rights are (consider refund rights on rail tickets with financial services). This leads to more political intervention, and a negative cycle of greater confusion among (and ultimately less

⁸ In addition to the impact of potential under-enforcement of competition law in these sectors, there has been a wider issue in that the absence of competition cases and their precedent effect, particularly on abuse of dominance, potentially weakened the competition regime. The 2019 “[Competition Appeals Tribunal Judgment in Royal Mail PLC v. Office of Communications](#)” shows the value of competition cases in regulated sectors for the system as a whole.

empowerment of) consumers.

- In 2012, there was an attempt to remove concurrency. Despite high-level political support, this was fiercely resisted by the regulators and their sponsoring departments and the 2013 ERR Act merely included a provision enabling concurrency to be removed by secondary legislation.⁹ In fact, the opposite happened and concurrency was extended to both airports and financial services.

5. Inconsistency. There is a lack of consistency across the sectors. One example is the review system (see table)

where - without any apparent rationale - some sectors provide a right of appeal, while others provide a (distinct) right of redetermination. This type of complexity adds to the overall cost of doing business, and makes it more difficult for those not immersed in the minutiae of that particular sector's processes to scrutinise and challenge the regulator's decisions. In some cases, the review system enhances capture. Equally startling is the difference in the approach taken to the cost of capital in each sector where there have been substantial variations.

Another area of inconsistency relates to regulatory talent. Some regulators (e.g., CMA, Ofgem, Ofwat) are within the Civil Service and covered by its salary constraints and other civil service wide constraints

⁹ It can be done by a statutory instrument with a vote and approval in both houses of Parliament, as set out in Section 52 of the "[Enterprise and Regulatory Reform Act, 2013](#)".

Form of Merits-Based Review		
	Appeal	Redetermination
Sectors covered	Energy, Airports, Payment Systems, Postal Services.	Water and Sewerage, Rail, Air Traffic Control.
Scope of review	<p>Was the regulator wrong for the reasons alleged?</p> <ul style="list-style-type: none"> • CMA only reviews the evidence it is provided by the parties. • CMA decision is limited to resolving and remedying the questions set out on the Notice of Appeal. 	<p>What would the CMA have done in the regulator's place?</p> <ul style="list-style-type: none"> • No limitation on scope of CMA's review. • The CMA can seek its own evidence.
Who can trigger	Affected bodies can appeal (such as regulated companies, customers or their representatives, or competitors).	Only regulated companies can appeal.

such as caps on staff numbers. Others (e.g., Ofcom, Civil Aviation Authority (CAA)) are public bodies outside the Civil Service but with salary constraints. Others (e.g., the FCA) sits outside of many of these constraints. This inconsistency distorts the allocation of talent across regulators, and makes it more difficult for regulators to retain good people when the existence of regulation creates so many opportunities in the private sector.

6. Inefficiency. The system creates inefficiency within regulated companies, as it incentivises them to focus their best efforts on influencing the regulator's decisions because those often affect their revenue and profit far more than anything they can do directly to improve the lot of their customers. While some of this activity (e.g., providing data that the regulator can rely on) is socially useful, a great deal of it is almost certainly wasteful rent-seeking. It likely distracts the leadership of regulated entities from productive activity and being focused on customers. More generally, one of the biggest hidden costs of this rent-seeking is the long term mis-allocation of first rate talent from productive economic activities into more socially wasteful ones.

7. Innovation. The system has failed to deal well with innovation. The experience with smart meters is a good example. The focus was on maximising competition between suppliers in their roll out (which was badly done, delayed, and expensive). Less attention was paid to the more mundane back-office system changes that were needed to make time-of-use tariffs feasible. A decade on, the project remains a work in progress. As a further example, the UK has made significant investment in offshore

wind, but is now hitting constraints due to the failure to invest in the grid to transport this energy and to balance the system.¹⁰ Despite this, Ofgem recently published the latest price controls for distribution networks and chose not to prioritise investment, instead holding prices constant.

The harm that rent seeking imposes on productivity growth is well described in the economics literature:

“...rent-seeking activities exhibit very natural increasing returns. That is, an increase in rent-seeking activity may make rent-seeking more (rather than less) attractive relative to productive activity. This can lead to...very high levels of rent-seeking and low levels of output.”¹¹

These markets are too important both for economic growth and essential services for us to accept such a flawed system of regulation. Some fundamental reform is necessary. That reform needs careful consideration and all I propose to do here is to set out some initial high-level thoughts. Central to these thoughts is the idea that the system should be designed to put productivity growth and consumer welfare at its core, and to minimise the scope for rent-seeking and capture.

1. We move to a new approach for deciding on long-term infrastructure investment, public and private. We need better long-term planning, and better coordination across sectors. This could start by strengthening the role of the National Infrastructure

¹⁰ “Power Grids”, Twitter thread, Ed Conway (@EdConwaySky), December 2022, summarises the issue well.

¹¹ “Why is Rent-Seeking so Costly to Growth”, *American Economic Review Papers and Proceedings*, Kevin Murphy, Andrea Schleifer and Robert Vishny, 1993.

Commission (NIC) and finding a way to overcome short-termism in the political cycle. One possible mechanism would be for the government to set a long-term national infrastructure budget and request the NIC to develop the most productive plan for it, with the government committing to implementing the NIC's plan. Ideally this would be accompanied by some reform to the planning system for national infrastructure which might bring down the cost and speed up delivery. We could perhaps learn from the building of the Olympic Stadium in London when a single planning authority was created.

2. Much infrastructure is by its nature a monopoly, but the cost of construction could rely on a competitive process. This ideally should be done by the NIC or another body operating across all sectors and independently of the government. Access charges should be set long term, possibly as long as the life of the asset rather than five years, and based on the cost of capital. This function could, in principle, also be undertaken by an expanded NIC.
3. Many of the companies that operate services over this infrastructure would require regulation of their Opex because they would continue to have monopoly features. We could continue to use RPI-X regulation at this level. We should avoid at all costs it being done sector by sector as this is prone to creep and capture. One option to consider is whether this provides an opportunity for more local or regional cross-sector approaches.
4. Other dimensions of regulation, such as health and safety, environmental protection, competition, consumer protection, data

privacy and innovation (more below) would then be the responsibility of the existing economy-wide specialist regulators. These might need to have specific divisions (e.g., water and sewage) but it seems preferable to have consistency in these standards across the economy, rather than having bespoke and increasingly complex schemes for each sector.

5. Regulatory price-setting would need an appeals system, ideally a form of enhanced judicial review.

All this would foster better investment in infrastructure both by better national planning and by separating out the capital costs and how those should be regulated from the ongoing running costs.

Such a reallocation of regulatory responsibilities (a strengthened NIC, doing away with much if not all of the sector regulators, and increasing the role of other economy-wide regulators) would reset the regulatory creep and capture. There is a risk that these may increase over time in any system but the absence of sector-specific regulators may reduce that trend. Instead we might need to worry about capture in other forms, e.g., from infrastructure funders seeking a higher return on capital.

A weakness with any such radical reform programme is that it would hugely increase uncertainty for investors in the short-term, and that this could damage investment. This could be ameliorated by two things: first, greater cross-party support for reform to build better infrastructure and, second, getting the NIC component in place quickly so that infrastructure investors have clarity on how the regulatory return from investment will be determined at the

earliest possible stage in any reform process.

Innovation and Disruption

Innovation was mentioned earlier as one of the tasks that should be done on an economy-wide basis, and as something that may be most negatively affected by the current system of regulation. It is this to which I now turn.

Economic Context

The UK has a superb academic research base that is, properly speaking, world-class. Public sector investment in R&D has been consistently strong, and this is an area that is seen as critical for productivity growth. Innovation accounted for about half of the UK's productivity increases in the past 50 years, even if this has slowed in the past decade. For at least a decade, the UK government has stated that it encourages disruptive technologies into the UK market. There is strong cross party agreement on the importance of research and innovation for economic growth. The Government's recently published Innovation Strategy sets out strong ambitions in this area:

"This UK-wide Innovation Strategy sets out our long-term plan for delivering innovation-led growth. Its primary objective is to boost private sector investment across the whole of the UK, creating the right conditions for all businesses to innovate and giving them the confidence to do so. We will also show direct leadership and action – such as through new missions and backing technologies of the future – clearly signalling where the Government will focus in the future."¹²

¹² "UK Innovation Strategy", Department for Business, Energy & Industrial Strategy, July 2021.

Prime Minister Rishi Sunak's recent speech at the Confederation of British Industry¹³ was focused on the importance of innovation for UK productivity growth.

This optimism is also summarised in the Report of the Taskforce on Innovation, Growth and Regulatory Reform (TIGRR)¹⁴ commissioned by Prime Minister Boris Johnson and published in June 2021:

"The pace of global technological innovation is creating huge new opportunities and challenges for regulation: from AI to space, genetics to autonomous vehicles. We have an opportunity to set out a new regulatory framework which plays to the strengths of the UK's business environment, proud history of research and development, underpinned by eminent universities, and dynamic new business sectors."

However, the excellence in research is not always matched when it comes to commercialisation and bringing innovation to market, despite a favourable environment and incentives for entrepreneurship. For example, despite the UK's excellence in medical research, and the strong desire to make that knowledge useful, the number of industry clinical trials initiated in the UK per year fell by 41% between 2017 and 2021.¹⁵

Regulation and Innovation

Much new technology that can improve productivity comes with risks, often difficult to quantify. How regulation is used to address those risks is central to productivity growth. For example, the first cars required people with flags

¹³ "PM speech to the CBI conference: 21 November 2022", Rishi Sunak, November 2022.

¹⁴ "Taskforce on Innovation, Growth and Regulatory Reform independent report", Rt Hon Sir Iain Duncan Smith MP, Rt Hon Theresa Villiers MP, George Freeman MP, June 2021.

¹⁵ "Rescuing patient access to industry clinical trials in the UK", Association of the British Pharmaceutical Industry, October 2022.

walking in front of them. Genetically modified food did not take off in Europe 20 years ago owing to public lack of trust that the risks were being addressed.

Technologies that grow productivity frequently adversely affect the technologies that have preceded them, creating incumbency resistance. Much has been written about this historically, from the printing press to the steam engine and Matt Ridley¹⁶ gives a good account of this historical context.

This combination of risk of the unknown and incumbency advantage can limit innovation.

From the standpoint of innovation, regulation generally falls into one of three broad categories

1. Existing regulation, or the existing practice of the regulator, prevents an innovative product or idea coming to the market.
2. Existing regulation may permit disruptive new entry but this is liable to be reversed at the request of incumbents.
3. Regulation enables new innovation to thrive.

Suppose an innovative disruptive business falls into the first category. It has three choices

- It can seek permission and argue for regulatory change which may delay entry for years.
- It can seek forgiveness and operate outside the existing regulatory framework, perhaps hoping that getting its product to market may help its case.
- It can redesign its product so as to comply with the existing regulation.

As a result, new technologies come to the market later than they might otherwise do, and often then in a compromised format or with higher costs for the innovator.

Even if the innovator is successful in getting its product to market, the more successful it is at disrupting the status quo, the greater will be the incumbency lobbying for regulation to block it (the second category above). A potential example of this is the current concern among regulators with “Big Tech” companies entering markets like healthcare and banking, notwithstanding that competition authorities have been concerned about weak competition in both for decades.

A positive and ongoing example of encouraging innovation (the third category above) is in financial services. Here the FCA created a regulatory sandbox in 2013 to enable new financial providers to come to the market within the current regulatory framework.

The introduction of Open Banking as a result of an investigation into competition in the banking sector by the CMA is a further example of regulation designed to open a market to innovation. While the Open Banking regime has enabled the growth of a vibrant fintech sector in the UK, it is arguable that financial innovation has not yet revolutionised the consumer banking market or, for that matter, the cards based payments approach. It may be that it will take longer for these mechanisms to work.¹⁷

¹⁷ I spoke about, “[The birth of Open Banking](#)”, at the London launch of the Open Finance Association, in November 2022. At the talk I pointed out that it took over a decade from the liberalisation of the airline market until new entry delivered benefits for consumers. These benefits came not just from the lower cost airlines, but also the incentives they created for the traditional “flag carriers” to become more efficient.

¹⁶ *How Innovation Works*, Fourth Estate, Matt Ridley, 2020.

Transport has been more challenging. The international growth of ride-sharing models, demonstrated by Uber in the UK, challenged the traditional taxi market. Locally regulated, these markets were with a few exceptions regulated as much, if not more, to protect the interests of producers as to protect the interests of consumers. Uber's approach seemed to be to build scale quickly so as to have a popular base on which to fight regulatory battles. Uber (and others) improved productivity by increasing supply and enabling better matching of demand and supply (both enabled by improved satellite navigation technology and the ubiquity of smartphones), and by challenging existing market power. Over time, the regulation of both taxis and workers' rights has dulled some of the advantages, but this new entry has had benefits.

Another regulatory challenge in the transport area relates to electric scooters. These first existed in a grey area; then they were clearly banned; and more recently they have been allowed but only if they are rented rather than privately owned. As a result, local authorities have licensed operators to rent electric scooters in many parts of the UK. Putting aside the merits of this mode of transport, the current approach appears to allocate rights to the companies renting the scooters, and results in scooters being stored on the street rather than in people's homes.

Robots are another example. Regulation (until recently) prevented the use of certain robots out of line of sight. Some of the most useful applications of robots are in extreme environments where they are used to inspect nuclear plants, large liquid storage containers, and offshore wind turbines. Robots can do this at a fraction of the cost of people, and with far

lower safety risk and other costs. But they had to be out of sight to achieve these benefits. Many UK developers were, until recently, testing their robots in other countries where regulation allowed this.

A further example is regulation of estate agents. In 2008, the OFT (as regulator of estate agents) required Tesco to cease offering an estate agency service because its disruptive approach did not comply with relevant legislation. This unsatisfactory event promoted a market study on home buying and selling. The report published in February 2010 found that existing regulation was in the way (category (1) from before) and recommended regulatory change to support competition and innovation:

"The definitions of estate agent which trigger a raft of regulation are over 30 years old and do not easily accommodate new business models which may not, in fact, pose risks for consumers. Regulation for these new models could safely be lighter and the current legislation may be preventing, or discouraging, innovation."

Both before and after this, there has been a continual attempt by estate agents (notably not by consumers) to regulate estate agents.¹⁸ The 2017 Conservative Manifesto made a commitment to do so. A working group established to advise on how a new regulator for estate agents with a licensing regime would work reported in 2019.¹⁹ Nowhere in any of this process

¹⁸ In July 2007, the RICS together with the National Association of Estate Agents (NAEA) and the Association of Residential Letting Agents (ARLA) announced an inquiry into the regulation of those providing residential property services, chaired by Sir Bryan Carsberg. Lorraine Conway summarises this in "[Regulation of estate agents](#)", House of Commons Library, September 2022.

¹⁹ "[Regulation of Property working group](#)", July 2019.

does there appear to be consideration given to how to ensure that regulation does not prevent future innovation in the market.

Policy Responses

In recent years, the government has adopted several other measures to address the problem of regulation getting in the way of innovation.

One set of initiatives focuses on making existing sector regulators support innovation, building on ideas like the FCA Sandbox mentioned earlier.

One systems-level approach is the Regulators' Pioneer Fund, announced by the Chancellor in the Autumn Budget of 2017.²⁰ This is an initiative run by the Better Regulation Executive whereby regulators and local authorities can apply for grants of up to £200,000 for projects that:

“help create a regulatory environment that gives innovative businesses the confidence to invest, innovate and deploy emerging technologies for the benefit of consumers and the wider economy.”

This has now given three rounds of funding and in 2022 the cap on the level of grants increased to £1m.²¹ Projects funded have related to sandboxing, AI-based analysis of data, better data gathering, forums for cooperation, and engagement with new stakeholder groups. Sector regulators have additional schemes. Ofwat has established a £200m Innovation Fund to grow the water sector's capacity to innovate.²² In 2018, Ofgem introduced a regulatory

sandbox²³ and has a has a £450m Strategic Innovation Fund which “aims to find and fund ambitious, innovative projects with the potential to accelerate the transition to net zero”. Some argue for sector regulators to be given additional duties to support innovation. Proposal 1.7 of The TIGRR Report is to “give regulators statutory objectives to promote competition and innovation in the markets they regulate”. The Report suggests the Payments Systems Regulator as the model for this approach.

A second important initiative is the establishment in 2019 of Regulatory Horizons Council²⁴ (RHC) which is “an independent expert committee that identifies the implications of technological innovation, and provides government with impartial, expert advice on the regulatory reform required to support its rapid and safe introduction”. The RHC has issued reports on

- Fusion Energy (June 2021)
- Medical Devices Regulation (August 2021)
- Genetic Technologies (September 2021)
- Drones (November 2021)
- Neurotechnology (November 2022)
- Artificial Intelligence as a Medical Device (November 2022)

It also produced a report entitled Closing the Gap: Getting from Principles to Practice for Innovation Friendly Regulation²⁵ in June 2022. It states:

“There is no shortage of principles to which regulators and policymakers are told ‘good regulation’ should conform. We have looked at

²⁰ “Autumn Budget 2017: Philip Hammond's speech”, Philip Hammond, November 2012.

²¹ Described in “Regulators' Pioneer Fund: round 3”, July 2022, is the most recent call for applications, and gives detail on the previous projects.

²² See the [Ofwat Innovation Challenges](#).

²³ See the [Ofgem Regulatory Sandbox](#) and [Strategic Innovation Fund](#).

²⁴ [Regulatory Horizons Council](#).

²⁵ “Closing the Gap: Getting from Principles to Practices for Innovation Friendly Regulation”, Regulatory Horizons Council, June 2022.

many and have found they contain themes that are supportive of innovation, including the importance of collaboration, being proportionate and adaptable, being outcomes-focused and future-facing. Yet, we continue to see evidence of regulatory barriers to innovation, either in terms of regulatory design or its implementation.”

A third measure was the TIGRR Report itself (mentioned earlier). Prime Minister Johnson asked three MPs, Sir Iain Duncan Smith, Theresa Villiers, and George Freeman to form the Taskforce and identify and develop proposals across a range of areas that would drive innovation, growth and competitiveness through regulatory reform. The Report says that a regulatory system to boost productivity, encourage competition and stimulate innovation should be proportionate, forward-looking, outcome-focused; collaborative, experimental, and responsive.

The TIGRR Report focuses on a number of key sectors and technologies such as fintech, data, clinical trials, digital health, energy, transport, space and satellites, agri-environment, and nutraceuticals, demonstrating a strong alignment with sectors in which the UK has a strong research and innovation base and with the almost concurrently published Innovation Strategy.²⁶

The most recent initiative was announced in the Autumn Statement by the Chancellor, Jeremy Hunt:

“I have asked the Chief Scientific Adviser Sir Patrick Vallance.... to lead new work on how we should change regulation to better support safe and fast

introduction of new emerging technologies.”²⁷

It is expected that the Chief Scientific Adviser’s work will focus on six areas: (1) Digital, AI and Quantum, (2) Life Sciences, (3) Clean and Green Technologies, (4) Advanced Manufacturing, (5) Creative Industries and (6) Fintech, with the first three scheduled to be complete by the end of Sir Patrick’s term in April and the remainder picked up by his successor.²⁸

A Radical Proposal

All of these initiatives and proposals display great enthusiasm for using better approaches to regulation as a lever to stimulate innovation. Not only would this reduce the costs of commercialisation of R&D, but it would also bring the benefits to consumers and the economy more quickly, and give the UK an advantage in international competition and exports.

The problem is that the government’s positive action on funding R&D and its bold aspirations are not matched by sufficient action on the ground. The RHC report, like the TIGRR Report, sets out some useful principles around proportionality, engagement, commercial realities and growth. And usefully it provides a list of regulatory measures in the UK and abroad that illustrate these principles.

But neither report gives enough attention to the role of incumbency, regulatory capture, and rent-seeking. These are fundamental features of our political economy and, unless we design

²⁷ [“Autumn Statement 2022”](#), HM Treasury, November 2022.

²⁸ Many other government publications aspire to better regulation of innovation, for example the white paper [“Regulation for the Fourth Industrial Revolution”](#), Department for Business, Energy and Industrial Strategy, June 2019.

²⁶ [“UK Innovation Strategy: leading the future by creating it”](#), Department for Business, Energy & Industrial Strategy, July 2021.

institutions purposefully to take account of them, incumbency will win out or at best, delay and hamper innovation. Tackling each innovation one by one requires huge effort and plays to all of the rent-seeking problems outlined above.

Nor am I convinced that giving sector regulators additional innovation objectives will help. Whether a sector regulator already has multiple objectives or just one, adding another will require the regulator to make trade-offs. And any such decisions will need to take account of the incumbent's interests. As most of their insight on the market comes from the incumbents, even well-intentioned sector regulators will struggle to get the data and evidence needed to push back with sufficient confidence on the forces of stasis.

More important is the question of risk and how it is managed. Suppose a regulator decides to allow a new technology that has enormous benefits but may also result in an increased safety risk and does so in a proportionate and balanced way from an ex ante perspective. If or when something does go wrong, the regulator will be criticised. It will be portrayed negatively in the media and very possibly criticised by select committees and others. Our ability to incentivise regulators to take the right decision ex ante is compromised by our inability not to punish them ex post if something goes wrong. This is compounded if innovation is a second or third objective of the regulator, as it will be seen as the regulator failing in its "primary" duty.

A solution to this is to ensure that innovation is addressed cross-sector, rather than on a sector-by-sector basis. There are several benefits to this.

First, it would avoid many of the risks associated with incumbency capture which is strongest at

a sector level. Just as competition authorities are used to incumbents who say "our industry is special", a sector-wide body could be wiser and more resistant to such claims.

Second, a sector-wide body that is responsible for innovation would be seen as such and therefore better able to balance the "ex ante good, ex post bad" issue. This is essentially about risk pooling. A portfolio of potentially interesting and growth-promoting but risky innovative technologies will achieve big successes with some and failures with others. Such a broad portfolio of innovations could enable a body better to withstand criticism when things go wrong.

Third, such a body would benefit from learning effects from one sector to another, and could build expertise in the practice of regulating innovation.

Fourth, many of the most interesting innovations, including general purpose technologies, will cross multiple sectors. Under a sector regulator model, this results in a need to persuade multiple regulators, who each come under pressure from the incumbents in their sectors, to relax their rules in a coordinated fashion. For example, Space Forge, a Welsh satellite maker, requires eleven different regulatory approvals for getting a satellite launched in the UK.²⁹

Fifth, there could also be international benefits in terms of exporting regulatory standards and encouraging inward investment by companies that see the UK as a sensible laboratory for innovation.

²⁹ The [Space Forge](#) satellite is due to be launched at the SpacePort in Cornwall later this month. SpacePort itself has received [approval from the Civil Aviation Authority](#).

We already have many of the ingredients for this approach. But the current institutional arrangements are deficient, and the current proposals for reform are too timid. We need to be much bolder if we wish to match our investment in R&D and our high rhetoric with action.

How might something like this work in practice? What I propose is a straw man to stimulate discussion. It is undoubtedly challenging to implement, but it puts the design of regulation to grow productivity at its centre.

The proposal would be a single new statutory body with the following features

1. It would be an economy-wide sandbox with the statutory authority to licence a new business model or technology in the areas covered by existing sector regulators, building on the sandboxes in the FCA and other regulators (which could still exist). It could thus award a licence or permission that overrides rules set by existing regulators. In many instances, the sandbox might operate via pilots where it tests new technologies and new ideas. Such an approach is alien to the public sector but is increasingly seen in “fail fast” and similar methods used by innovative companies to test which ideas to bring to market.
2. It would own and manage the resulting risk, and would have responsibility for understanding and building public trust in new innovation.
3. Where it is of the view that a new technology or approach is too risky, it could advise the applicant on changes to its business model that might make it possible to get a licence. In making these decisions, it would

be required not to have regard to the impact on incumbents so that it can focus clearly on future benefits and productivity.

4. The new body would incorporate the activities of the Regulatory Horizons Council and be an economy-wide agent and advocate for regulatory reform to support innovation. To that end, it could have the power

a) to require other regulators to give guidance on how their respective regimes apply to specific innovations, having regard to the importance of fostering innovation.

b) to recommend to Ministers any changes to secondary legislation thought necessary to facilitate innovative entry, with a linked duty on Ministers to consider making these changes within a specified timescale (and there could be equivalent powers for other sources of regulation short of primary legislation such as codes).

c) to recommend any changes to primary legislation thought necessary to facilitate innovative entry, with a linked duty on Ministers to offer a government response within a specified timescale (the Minister could not be required to pass the legislation - that would be for Parliament).

d) to bind other regulators not to enforce certain rules in their toolkit as long as the innovator keeps to specified conditions, or at least to put an upper bound on, for instance, any financial penalties for non-compliance

e) to set standards for new technologies. For example, many areas such next generation batteries and packaging will require clear

standards, especially if supply chains are to work well. This is likely to be particularly important for sustainability standards covering innovation towards net zero.

There are countervailing issues to be considered, including appropriately maintaining Parliament's role in the making of law, and considering how existing law operates in each market or sector (for instance, whether private parties have rights in addition to any enforcement powers of the relevant regulator, such as is the case in employment and privacy law). The selective disapplication of the law at the hands of an independent regulator (not elected official) would be quite a strange thing in a democracy where law and law's legitimacy derives from Parliament, and it would be for Parliament to set the appropriate boundary and determine any necessary safeguards.

Conclusion

Our current system of sector regulation has ballooned and is no longer fit for purpose. It has resulted in inadequate essential infrastructure and considerable consumer dissatisfaction.

At the same time, our regulatory approach has failed to bring innovation and disruptive technologies to the market at the pace that our strong science base enables and deserves, and that productivity growth requires.

Our approach to these issues has been a combination of worthy language, small incremental change and welcome, but very fragmented, initiatives.

If we really want our regulatory system to promote productivity growth, we need much more radical reform. And that new approach

must put productivity growth, not rent-seeking, as the central objective.

I have set forth some radical proposals in this paper. I do not pretend that they represent a fully implementable solution to this problem, but I hope that they contribute to a debate that gets closer to a bold but workable solution.

Profile



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John is Chair of leading strategic regulatory advisory firm, Fingleton. He is on the Board of UK Research and Innovation, the Senior Independent Member on the Council of Innovate UK and a Trustee of the Centre for Economic Policy Research. In 2022, John received a CBE for his services to the economy and innovation.