

Investing in Britain's future

Financing and funding infrastructure
after the Coronavirus crisis

Richard Hyde
James Kirkup

SMF

**Social Market
Foundation**

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ABOUT THE AUTHORS

Richard Hyde

Richard joined the SMF in August 2019 as Senior Researcher. Before that he was a Senior Policy Advisor at FSB (Federation of Small Businesses) with responsibility for a diverse range of small business policy issues including the small business regulatory environment, data protection and cyber security, crime and civil justice. Prior to FSB, Richard was a Policy Officer at the Law Society of England and Wales. He has also held policy and research roles at Which? and the Small Business Research Centre (SBRC) at Kingston University.

Richard holds an LLM in law from the University of London and an MA in Global Political Economy from the University of Hull.

James Kirkup

James Kirkup is the Director of the Social Market Foundation, responsible for the overall management and work of the think-tank. He joined the SMF in 2017 after a 20-year career in journalism, most of it spent at Westminster covering government and politics. He was Political Editor and Executive Editor at the Daily Telegraph and a correspondent for The Scotsman and Bloomberg News. He is a regular columnist for publications including the Spectator, the Times and Unherd, writing about politics and public policy.

EXECUTIVE SUMMARY

1. Government needs to reduce the uncertainty and risk associated with infrastructure policy and projects in the UK in order to attract more private capital into such projects. Doing so will require a significant shake-up in how infrastructure policy is organised and how projects are delivered.
2. A cross-party commission with an independent chair should be created to establish a “strategic vision” of the UK’s infrastructure needs over at least the next decade. Parties taking part in the commission should give public commitments to ensure financial and regulatory support for the projects identified in the vision.
3. Politicians seeking to attract more private investment in infrastructure need to do more to shape public opinion, on two points in particular: planning and profit. Stronger arguments for the local benefit of infrastructure – and a public willingness to take on local doubts – would help allay investors’ concerns about risk. Ministers should also explain why private profit from public infrastructure is not a flaw of policy but a necessary condition of investment – and, indeed, a benefit to pension scheme members.
4. The Infrastructure and Projects Authority should be reviewed with a commitment to re-establishing the Major Projects Authority if the current arrangements are found to be inferior to previous structures.
5. An urgent review of planning regulations should be undertaken with the aim of reducing planning risk for investors. This could include narrowing the scope for Judicial Review of projects identified as top priorities by the new cross-party commission.
6. Any attempt to use infrastructure projects as an instrument of short-term economic stimulus should focus on those areas of infrastructure that projects that can be “brought on-stream” relatively quickly and that are labour intensive. This means i) traditional transportation infrastructure, which could boost employment directly but also utilise domestic supply chains to boost employment in-directly through the “multiplier effect”; ii) “green initiatives” which could soak-up labour relatively quickly, such as home insulation programmes; and iii) clean energy projects that support domestic supply chains.
7. New funding models are needed to allow private investors to take on the task of operating infrastructure projects. PPP and PFI were controversial and flawed, but they have not been adequately replaced with coherent funding models that offer investors adequate confidence of future returns.
8. Government should be ready to use public money to provide “development capital” for innovative infrastructure projects which look to utilise new technologies. This public spending should be administered by a new UK institution to replace the European Investment Bank, as recommended by the House of Lords European Union Committee. Support for domestic supply chains should be a significant factor in deciding which projects to back.
9. Urgent pension reforms should be undertaken to give Britain fewer and larger pension funds with the scale required to make major infrastructure investments. Learning from Australia and Canada, the UK should pursue a strategy of creating large “superfunds” able to invest in large illiquid assets. Pension scheme charging rules should be reformed to allow funds of sufficient size to pay management fees for infrastructure investments.
10. Drawing on the Canadian example, the UK should seek to establish a robust “project bond” market where firms undertaking infrastructure investment would sell bonds. This approach, previously recommended by the OECD, would also require Government work to develop an insurance market for project bonds, in order to encourage their issuance.

INTRODUCTION

Before the COVID-19 crisis exploded, the UK Government was keen to argue that they planned to implement “an ambitious” infrastructure programme, in order to upgrade and expand the UK’s stock of infrastructure.¹ The National Infrastructure and Construction Pipeline speaks of £600 billion of “projected” investment, including around £400 billion of public and private money committed to “planned” projects.

Critics suggested the stated ambitions concealed much less progress than it might at first appear. In February 2019, the National Infrastructure Forum said that of the £413 billion of road, rail and energy projects “planned”, barely £30 billion is likely to receive investment.

These plans were laid before the arrival of COVID-19 disrupted the economy and society in unprecedented ways. The impact of the virus has raised questions about the future of the Government’s infrastructure ambitions and, in particular, the potential consequences for private infrastructure financing, which has played and continues to play an important role in supporting both the current stock and the future flow of infrastructure. Therefore, on May 28, 2020, the Social Market Foundation hosted a virtual roundtable with policymakers and experts in infrastructure policy and financing to discuss these matters in depth.

The roundtable was held under the Chatham House Rule and attendees will not be identified by name in this report. Participants included Members of Parliament, former Government officials involved in infrastructure policy and delivery, institutional investors, and academics with significant experience of infrastructure policy development in the UK and elsewhere.

The roundtable had three specific aims:

1. To understand the extent to which infrastructure spending in general and private finance in particular could help support the UK economy in the difficult months and years ahead as the challenge of dealing with the fall-out from COVID-19 continues.
2. Identify some of the likely implications for longer-term infrastructure policy of the current COVID-19 induced economic problems. Specifically, exploring the barriers to more private sources of infrastructure financing (e.g. institutional finance such as pensions funds) investing in infrastructure in both the short and the longer-term.
3. Explore the obstacles to investing in UK infrastructure faced by private capital (such as pensions funds) and how these can be reduced and more investment from such sources incentivised.

This report summarises the key points made at the SMF roundtable and is split into five sections. Each section is briefly summarised below:

- The first provides a “snapshot” of the UK’s recent infrastructure history, some international comparative context, highlighting how the UK’s infrastructure ranks internationally, and a brief overview of the role that private financing of infrastructure has played in recent years.
- The second outlines the key points made in the roundtable discussion about how the COVID-19 crisis might impact existing and future infrastructure policy ambitions.
- The third highlights the kinds of policy obstacles that, in the views of discussants, hinder the effective implementation of infrastructure policy in the UK and the flows of private capital into funding UK infrastructure.

- The fourth part lays out the attendees opinions on what kinds of, if any, infrastructure projects the Government should focus its attention on, in light of both the current disruption to the economy and longer-term Government policy objectives (e.g. modernising infrastructure, increasing productivity growth, “levelling-up” the regions and a “net zero” carbon economy, amongst others). Particular attention is given to whether some types of infrastructure projects could have a dual purpose i.e. contribute to both a short-term economic stimulus and deliver long-term benefits to the economy, society and investors.
- The fifth section explores the position of the investor community, in particular the institutional investor community.
- Finally, the conclusion draws together the different threads of the roundtable discussion and teases out some potential policy implications for policymakers to consider.

SNAPSHOT OF UK INFRASTRUCTURE POLICY

Decades of underinvestment

There is no comprehensive and objective measure of the stock and quality of infrastructure by which to establish how well or poorly the UK's infrastructure policy has been performing over the preceding decades. Nevertheless, it is possible to collate a body of evidence which together helps paint a picture of how well the UK has fared. This section brings together evidence from several sources which in aggregate suggest that the UK's infrastructure is world leading and therefore is not as good as it could be. The implications of this "infrastructure deficit" are that, as the extract below from an OECD report on UK infrastructure policy highlights, the UK has missed out on economic growth opportunities and exacerbated its regional inequities.

The OECD described how infrastructure:

"...contributes to productivity, economic activity...is essential in attracting foreign direct investment...is important for regional development. The economic structure of the UK exhibits a wide dispersion in regional productivity and activation levels...[and]...infrastructure provision would be instrumental in lowering regional disparities...[yet]...According to different measures, public spending in the UK infrastructure has been lower than in other OECD countries. Since the 1980s, public investment has been lower than in the United States, France, Canada and Switzerland....".²

Experimental comparative analysis by the Office for National Statistics (ONS) into infrastructure spending across European countries echoes the relative underinvestment picture painted by the OECD. For example, the ONS highlight that in 2016 the stock of UK infrastructure as a proportion of GDP is lower than that in comparable European countries such as France, Italy and the Netherlands and Norway.³ Such a gap would be indicative of a legacy of underinvestment.⁴ However, it should be noted that, the trend in expenditure on infrastructure as a proportion of GDP, between the years 1997 and 2015, showed the UK doing comparatively better than France and Germany. Although, overall, the UK's performance was decidedly "...average compared with its EU G7 counterparts and other major European countries" across that period, suggesting the UK remains behind the leading European countries.⁵

Public opinion

Despite the potential benefits to an economy and society of better infrastructure, the deficiencies in the legacy of the UK's relative underinvestment in infrastructure are reflected in survey evidence and comparative international data on the quality of infrastructure.

Table 1, for example, highlights findings from Ipsos-Mori's 2019 Global Infrastructure Index about the British public's view on the quality of the country's infrastructure.⁶ The survey found that just over a third of respondents said they were satisfied with the overall state of the infrastructure in Great Britain. While large majorities of the public were "satisfied" with the water and sewerage infrastructure in Britain and to a lesser extent the airports, motorways and digital infrastructure, the proportion of respondents reporting satisfaction with most other aspects of the domestic infrastructure are minorities of the population.

Table 1: Public satisfaction with infrastructure in Great Britain

Category of infrastructure	Satisfied with infrastructure
Overall	36%
Airports	74%
Water supply and sewerage	73%
Motorways	60%
Digital	58%
Pedestrian	50%
Wind energy	49%
Local roads	47%
Cycling	38%
Rail	38%
Housing supply	37%
Nuclear	34%
Flood defences	32%
Solar energy	28%
Electric vehicle charging	19%

Source: Ipsos-Mori, Global Infrastructure Index 2019

In the same survey, attitudinal responses were sought from participants about both a country’s infrastructure policy record and the future of infrastructure policy. Table 2 outlines some key findings from British respondents to the survey. The data suggest that sentiment among the public in Britain about infrastructure policy aligns with the judgments of the OECD i.e. infrastructure is essential for prosperity yet investment in infrastructure has been not been high enough in the past.

Table 2: Attitudes towards infrastructure policy in Great Britain

Aspect of infrastructure policy	Agreeing
Not doing enough to meet infrastructure needs	66%
Infrastructure investment is vital to future economic growth	80%
Poor record on ‘getting national infrastructure projects right’	53%
Fine with foreign investment in new infrastructure if it delivers better quality infrastructure	48%
Fine with private sector investment in infrastructure if it means getting the infrastructure the country needs	58%
Happy to have infrastructure built in ‘my local area’	62%

Source: Ipsos-Mori, Global Infrastructure Index 2019

Table 1 betrays relatively low levels of satisfaction with many aspects of the physical infrastructure in Great Britain. At the same time, the survey evidence in Table 2 suggest that significant proportions of the public believe that infrastructure policy has been not been

sufficiently effective. Public perceptions are aligned with the opinion of the National Infrastructure Commission (NIC), which stated in a flagship document, that:

*“...investment has long been squeezed and policy has been erratic. Much of the country’s infrastructure is under strain, not keeping pace with population growth and modern requirements. The failure of our digital infrastructure to provide reliable phone and internet service is especially serious”.*⁷

A more positive perspective on the findings in Table 2 in particular, might be that there are indications of an appetite among the public for more attention to be paid to infrastructure by policymakers. For a Government with a focus on infrastructure, this should be positive news.

Comparative infrastructure quality

The generally low-level of satisfaction among the public in Britain about the quality of infrastructure are also in broad alignment with the opinions of the World Economic Forum (WEF) about the quality of the UK’s infrastructure. Using a system of global rankings, the WEF has found that the UK only ranks in the Top 10 in three aspects of infrastructure: airport connectivity, shipping connectivity and access to electricity services. The scores read particularly poorly on the quality of the UK’s electricity supply, the quality of roads and the efficiency of its trains and air transport services.

Table 3: WEF ranking of UK infrastructure

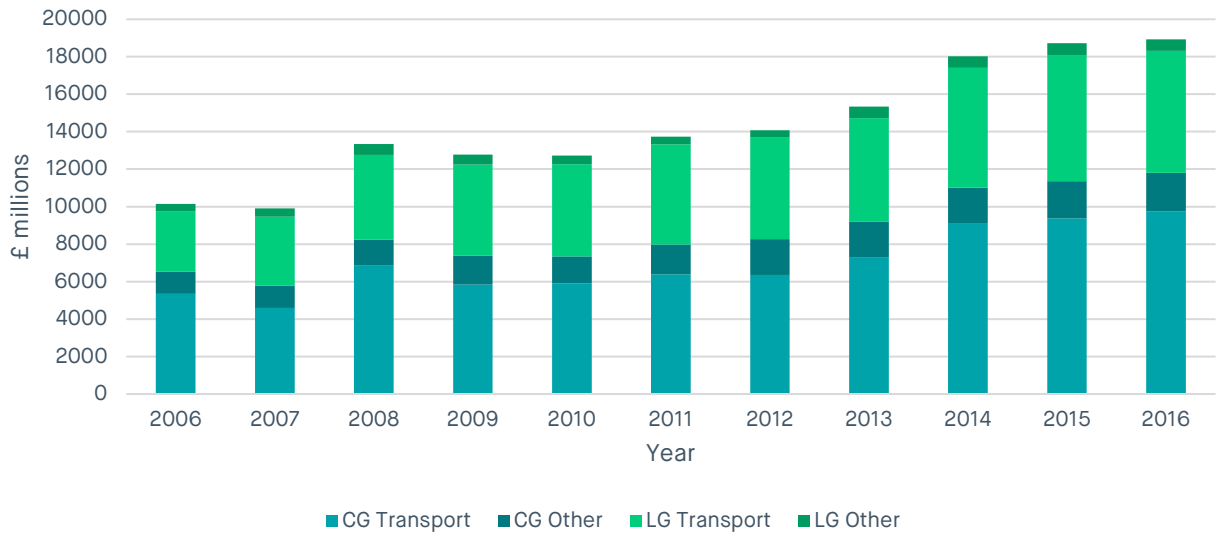
Aspect of infrastructure	Global ranking (out of 141 countries)
Electricity access	2
Airport connectivity	6
Shipping connectivity	9
Railway density	12
Exposure to unsafe drinking water	16
Road connectivity	20
Seaport services efficiency	21
Water supply reliability	21
Efficiency of air transport	31
Efficiency of train services	31
Quality of roads	36
Electric supply quality	46

Source: World Economic Forum, *The Global Competitiveness Report 2019*

INVESTMENT IN UK INFRASTRUCTURE IN RECENT YEARS (AND BUDGET 2020)

Data from the ONS, and presented in Figure 1, illustrates the trend in UK central and local government expenditure on infrastructure over the period 2006 to 2016. In 2006, total infrastructure expenditure by central and local government was in the region of £10 billion. By 2016 this had increased to approximately £18.9 billion. In that year, central government accounted for about 62% of public sector infrastructure investment. Local government around 38%.⁸

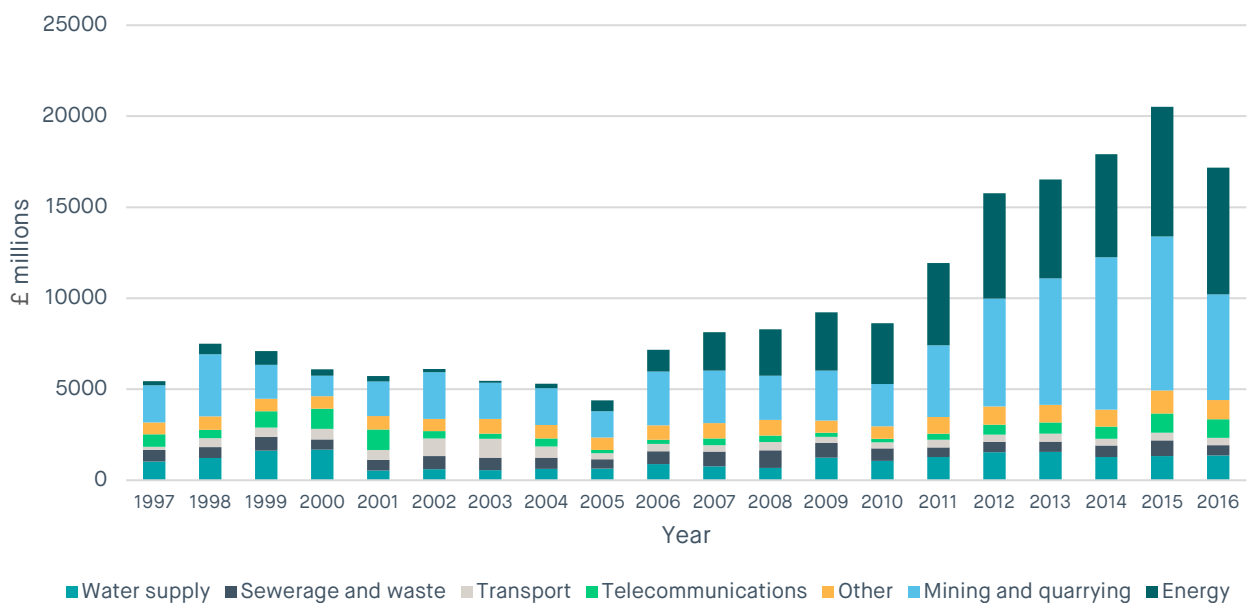
Figure 1: Government infrastructure investment estimates, 2006 to 2016 (current prices)



Source: ONS, 2018

In 2018 the ONS published some experimental data on private infrastructure spending, for the period 1997 to 2016. That is illustrated in Figure 2.

Figure 2: Estimates of market sector investment in infrastructure, 1997 to 2016 (current prices)



Source: ONS, 2018

The overall trend, as portrayed in the figure, is one of growth, with private expenditure increasing from just over £5 billion in 1997 to more than £15 billion in 2016. Although the trend is relatively flat until 2010, after which a step-change seems to take place. It is worth noting that, much of the growth appears to have come from increases in the amount invested in two sectors: mining and quarrying and energy. A closer look at private sector infrastructure investment is presented in Table 4, which shows how the £11.4 billion invested by the private sector in infrastructure (excluding “Mining and quarrying”) in 2016, divides up between sectors.ⁱ

Table 4: Destination of private sector infrastructure investment (exc. mining and quarrying), 2016

Sector	Amount invested £ billion	Proportion of total private investment
Energy	7	61%
Water supply	1.4	12%
Other	1	9%
Telecommunications	1	9%
Sewage/ waste	0.6	5%
Transport	0.4	3%

Source: Rhodes, C. *Infrastructure policies and investment: Briefing Paper Number 6594*, 2018

ⁱ Note this Figure excludes “Mining and quarrying”. In contrast to Figure 2, which includes the “Mining and quarrying” sector it in its data.

FUTURE PUBLIC AND PRIVATE INFRASTRUCTURE INVESTMENT

Analysis of the Treasury’s Infrastructure and Construction Pipeline (shown in Table 5) provides a clearer view of the division between public and private sources of funding for forthcoming infrastructure projects, which are estimated to be worth around £600 billion.

Table 5: Sources of infrastructure funding for projects in HMT’s Infrastructure and Construction Pipeline, 2018

Source of proposed infrastructure funding	Proportion of total planned expenditure
Public funding	46%
Private funding	49%
Hybrid/ mixed (central & local government or public & private)	5%

Source: Rhodes, C. *Infrastructure polices and investment: Briefing Paper Number 6594, 2018*

The proportional split between public funding and private funding for infrastructure reflected in Table 5, is broadly consistent with the data in Figures 1 and 2, which shows that the total amount spent by private capital investment consistently lags behind the public sectors expenditure by several £billion.ⁱⁱ

Overall, while a considerable (albeit minority) proportion of the total infrastructure investment in the UK is private, the trends in private investment broadly appear to track those of public sector investment, the total quantum invested by the private sector seems to be consistently below that of the public sector and is focussed towards certain types of infrastructure and not others. Energy, water supply and telecommunications account for the overwhelming bulk of private sector infrastructure investment. While transport accounts for most of the public sector investment.

To date, the data on public and private investment suggests that:

- Private investment will at best match, but often tend to follow, overall trends in public sector investment.
- In aggregate public sector investment is not yet leveraging-in private money above and beyond what the public sector is spending.
- The private sector has been more reluctant to invest in some kinds of infrastructure, compared to others. Most private sector investment seems to be focussed in the privatised network industries, which are governed by bespoke regulatory frameworks and arrangements which try to ensure the on-going supply of the relevant utility, not least through making sure that the investments are made to maintain that.

Context: have things really changed?

Uncertainty over existing plans

Among roundtable attendees there was consensus that the impact of COVID-19 did not change the fundamental arguments and need for more infrastructure investment in the UK. Indeed, it was suggested that the economic challenges presented by COVID-19 and the measures taken by the Government to manage its impact, strengthened the arguments for infrastructure spending as

ⁱⁱ In each year for which there is data for both public and private spending available.

not only an important underpinning for long-term prosperity, “levelling-up”, etc, but as potentially able to play a significant role in any economic stimulus being considered, to help the economy through the current crisis.

However, there was divergence among participants over whether it was realistic to expect the current “pipeline” of investment plans to now be implemented. Those sceptical of whether planned infrastructure projects will now go ahead (at least on the scale originally envisaged) highlighted how the political and financial context was now very different to that at the beginning of the year and that the funds earmarked for infrastructure investment would now likely have to be used for other purposes, whether that be job retention support or other current spending. As one contributor described it:

“...the big thing that has changed is that the money that was allocated has been reallocated....and that creates obvious challenges for Government. Which might be that we just raise more money and that raises more issues, or deferral, delay, reprioritise...what’s not changed is the fundamental discussion...[which is]...everyone gets the benefits of infrastructure, the difficulty is how you pay for it”.

Others argued that an infrastructure focussed fiscal stimulus based upon increased deficit financing was not a problem. It was suggested that:

“...the Government made a mistake in the 2008 crisis cutting back spending [on infrastructure]...and I think we have learnt to an extent from that in understanding the need for public sector spending in this instance”.

Another argued:

“...I wouldn’t see that {the monies committed by the government in recent months} as money that was set aside for infrastructure that has been moved over to do the temporary propping up...that’s extra money that they decided to pump onto the economy...the longer-term question of how much money does the Government have to spend on infrastructure depends on how...the economy recover[s] from here...we don’t necessarily need to worry about the short-term borrowing being done now, we can do that...if the economy recovers to something like we had before we can still continue with the tax and spending plans we thought we were going to have”.

Consequently, for some people at the roundtable there was no need for any significant structural shifts in the government’s public spending ambitions towards infrastructure. If anything, it was suggested, additional infrastructure spending could bring a “double benefit”. Not only the long-term benefits that infrastructure can bestow on an economy and society but also play its part in a shorter-term fiscal expansion to help the economy through the COVID-19 epidemic.

A role for private investment

If there was fiscal retrenchment with a reduction in public infrastructure spending, or fiscal expansion which included sustaining or even increasing expenditure on infrastructure, it was agreed by those at the roundtable that private financing could play a role in either replacing some public expenditure in the former case or adding to the quantum of total expenditure on infrastructure, thereby ‘multiplying’ the initial public investment. It was noted by one expert from the finance sector that the willingness to invest is there, at least in principle:

‘...one thing that hasn’t changed is investors’ desire to invest in infrastructure. In a crisis infrastructure as an asset class can demonstrate resilience – long-term stable cash flows...and is looked at as a form of security....what has changed is that the focus on that resilience has increased...and the desire to be seen to contribute to social and

environmental outcomes...in...[my]...view the capital is there, and investors want to invest in infrastructure and I don't believe that has changed as a result of this crisis".

A change of priorities?

The longer-term implications of some of the fall-out from the COVID-19 crisis, it was proposed, might result in a change in the country's infrastructure priorities. For example, transport infrastructure may be less of a priority compared to communications infrastructure now there is a chance that working patterns might alter permanently. One participant believed that:

"...it does seem to me that...the whole experience of working from home, we probably are facing a different set of priorities...[for example]...broadband and 5G".

Another added to that by suggesting:

"...aviation and higher education are going through structural change as we speak...the infrastructure requirements to support those are different today than they were in February".

Meanwhile other areas, such as green infrastructure policy, would likely remain the same:

"Things that won't change are...energy and water...[these are]...things that will always be here, no matter what the social model or the working model...".

GOVERNMENT: ITS ROLE, PROCESSES AND STRUCTURES

Government is key

Irrespective of the merits or otherwise of using infrastructure as part of a short-term stimulus and the likely impact of COVID-19 on the direction of longer-term infrastructure policy, there was general agreement that for the private sector to play a more significant role in infrastructure policy than it currently does, then the current policy landscape would need substantial reform. And, that reform would entail a central and more proactive role for the state.

Ultimately, for private investors to take the risk of making an investment, especially in illiquid assets such as infrastructure, investors need minimal uncertainty and a clear understanding of the risks they may be taking on, as a result of any investment decision.

Government, according to those participating in the roundtable, had an important role to play in helping clarify and lessen risk and reduce uncertainty. Despite support for a role for Government in theory, there was also much criticism of current infrastructure policy and practice.

Leadership

It was argued by a number of those taking part in the roundtable that government needed to better “prepare the ground”, among the public and the investment community, for infrastructure investment by trumpeting the importance of infrastructure to the economy and the benefits of private investment in helping meet the UK’s infrastructure needs. In other words, leaders need to make the “strategic case for infrastructure” and the strategic role of private investment in the “infrastructure landscape”. The kind of clarity and increased certainty that a “vision” provides, would, it was argued, be likely to open up more private capital for infrastructure development.

This call for more visible and coherent leadership concurs with the sentiments of those including David Barwell of AECOM who has suggested that Government should speak more loudly to the electorate about the benefits of infrastructure.⁹ It was further felt that bold political leadership would not only increase support for infrastructure construction in general but might have an impact at the “project level” by deterring some of the opposition to some planning applications.

The bold political leadership that was needed, it was argued, should go beyond rhetoric and include a “strategic vision” for infrastructure that private investors could “get behind”. One expert at the event noted, “*we think we have a strategic plan at the moment...we don’t...what we have is a pipeline of projects...*”.¹⁰ Another argued that, it was important that there was:

“...an expression of the long-term vision...and how individual projects fit within a broader longer-term energy mix, for example...[both are]...really relevant to investors. Because while we look at individual projects we’ve got a 30 year investment horizon and we look at how they will fit in our portfolio as a whole...so an understanding of what sector will be supported, how they will be supported, what the revenue streams are, what the risks are and assessing that on a long-term portfolio basis...investors would find some security in that vision, particularly with big, big capital intensive projects...”

The content of the “strategic vision”

Further, it was emphasised by several contributors that any vision should highlight the positive role that private investment can play. A “strategic vision” for infrastructure would help build public support for private investment. The public view of private sector involvement in such areas as infrastructure had been – it was felt by several attendees – damaged over the last couple of decades as a result of policies such as the Private Finance Initiative (PFI). The “strategic vision” would need several other elements if it was to be effective in both increasing the popularity

among the public for a role for private investment and in coaxing more private capital into infrastructure projects. For example, it was contended that it would need to deal honestly with the issue of risk and return (and ultimately profit). The public and policy-makers would need to accept that if the private sector is to take some - if not all - of the risk associated with a particular infrastructure project or a pipeline of projects, then it is reasonable for those investors risking their capital to receive a reasonable rate of return commensurate with that risk. It was stated that this “fact of life” had been forgotten sometimes when infrastructure projects were being debated.

Policy to achieve the “vision”

“Conducive” public opinion and a clear “strategic vision” are necessary but not sufficient conditions for “opening up” access to greater flows of private capital into UK infrastructure. According to those at the roundtable, several other improvements across a range of areas are needed.

Delivery models

The “strategic vision” and the detailed policy (aimed at fulfilling the “vision”) that followed it would need to deal with several practical problems that “plague” private investment in infrastructure, and the government want the latter to play a key part in infrastructure development. One expert in the discussion raised his concern about:

“...running out of delivery models...[for leveraging in and encouraging private finance]...yet investors need clarity and understanding of the delivery models Government is supporting...and in many sectors I’m not sure I could tell you what those delivery models are and that makes it really, really hard for investors..”

Funding and risk

In a similar vein, any “strategic vision” and subsequent policy, it was suggested, should be honest about the need for “seed funding” from the taxpayer. Such “development financing” was seen as particularly important where innovative infrastructure projects were concerned, in order to help leverage in private investment. There were some areas that cautious private capital (such as pensions fund money) would not go without more certainty:

“...Government needs to be using its capital to shore-up those gaps in the market that do exist...to make sure the billions, and there are billion available [can be accessed]...development capital is a huge gap in the market, and as we move onto the new technologies, Government has to play a role because the private sector will not play that role...so the sequence is: what are Government’s priorities, where are the gaps in the market [and] how does the Government shore up those gaps to make projects financeable...?”

The importance of the state in “making markets” especially where new technologies were involved, was emphasised repeatedly by several attendees. As one participant succinctly put it “private money follows public money”. And as another stated:

‘...Governments make and shape markets by seeding investment...having some form of state development bank has a track record in other countries...what you see is that London has the biggest amount of public investment and private money follows public money and so you...need to give those incentives in different places...’

Ultimately, it should be emphasised, that initial investment by the state (taxpayer) would benefit everyone, not just through the additional infrastructure that was built and maintained and the economic activity it supported, but the returns that pension funds (and other institutional

investors) could achieve from infrastructure investment, which in-turn would mean better retirement income for pensioners.

Beyond the “seed” or “development” finance problem there were other risks which also made infrastructure investment financially unattractive. One contributor raised the problem of government expecting private investors to take on too much of the “construction risk”. There was some disagreement over how much this specific risk tended to be an obstacle. Another roundtable participant working on the finance side suggested rather than “construction risk” being too much of an impediment (because the focus of investors was “...long-term revenue stability”) the significant risks that acted as barriers to investment were:

“...revenue volatility and ‘back-end’ risks associated with specific projects, including uninsurable risks such as flooding...decommissioning risk and...{regulatory} risk”.

Effective government

It was pointed out that new and effective delivery models would only be developed, and “seed finance” effective if there was a “better relationship” between the government and the private sector, and the numerous cultural and capability problems previously evident in government were “ironed out”.

One critic at the roundtable was clear what the fundamental structural issue was, “...government is not set up to support big infrastructure projects”. For example, “...government itself is not in favour of innovative delivery models”.¹¹ Further, it was felt that there was often considerable “institutional scepticism” in the economic departments of government about many infrastructure ideas:

“...there is a sense with HMT that they simply think that big projects are politicians vanity projects and their job is to stop them in the first place, then they say they cannot be run properly by government...[to improve]...there must be an end to this dogmatic approach...there needs to be a bit of a reset in all of this...”.

It was also suggested that departments with significant infrastructure responsibilities often lacked the internal capability to manage projects or manage the relationship with the private sector actors involved in delivering projects. The perceived problems were put starkly by one contributor:

‘...government...still haven’t yet learnt how to manage it [projects]...in partnership with the private sector...and that’s a big issue. And that needs to change...we have to create a better relationship between ‘gov uk’ and the private sector...’.

Infrastructure and Projects Authority

Proof of the lack of priority given to managing infrastructure projects by Whitehall, it was suggested, could be found in the “neutering”, and “merging” of the Major Projects Agency (MPA) with Infrastructure UK.¹² The “merged” organisation is called the Infrastructure and Projects Authority (IPA).¹³ The MPA was merged despite the fact that MPA, in the words of the same contributor “...made a stunning difference inside government in understanding projects...”. Another participant elaborated on why the MPA had gained a good reputation:

“...the Major Projects Authority was when there was a focus on trying to understand what Government was trying to do, put people in charge who actually knew how to run projects...and to put people through training to run these projects as well...it is doable, there was a big success rate...the problem with the MPA is that now it’s been merged, emasculated, it no longer serves the purpose it was trying to achieve...”

The ability to manage a major project effectively, such as the delivery of a large capital project with a long lifespan, is indispensable if it is to be delivered to standard and on-time. As Professor Bent Flyvbjerg of Oxford University's Said Business School noted in evidence to the Public Administration Committee of the House of Commons on capital project governance:

"...[you need]...to hire a team that has tried to deliver the type of project that you want to do before. Get a team that know what they are doing and have a track record where they have proved that they can do this. No matter how good your business case is, if you don't have a good enough team, it will not be implemented...[equally importantly, the team]...needs to have an accountability structure...whereby they are being held accountable, whereby they are incentivised, whereby they are rewarded if they do what the Minister wants them to do and punished if they do not do what the Minister wants them to do".¹⁴

Innovation in infrastructure and government failure

At the operational level, participants pointed out that investors needed more certainty over specific infrastructure priorities, a clear sense of a pipeline of projects based upon those priorities and transparency (especially around delivery models) about the individual projects that private capital providers would be getting themselves involved with. These factors were considered particularly important if the infrastructure needing finance was utilising innovative technologies or delivery methods. Reducing uncertainty for private investors, in such circumstances is important pre-condition to investment, as was noted by one roundtable participant:

"...without that pipeline of work we are not going to invest billions of pounds, setting up new ways of doing things that are, for example, low carbon, that deliver better outcomes...without that pipeline you're not gonna get innovation in infrastructure...early adopters of new industry lose loads of money, usually on the first project and they make it on projects three, four, five and six because they're innovating. We need pipelines of work that are based upon 'the science not the politics'...more objective than at the moment. Once you set the requirements...whatever they are...and hold yourself account to them...otherwise you won't get any innovation..."

The Government's frequent failure to acknowledge the reality of trade-offs, between different factors, was also considered a stumbling block to investment in infrastructure, and innovative infrastructure in particular. For example, if the Government is to help turn the UK into a leader in developing and adopting "green technology" based infrastructure, it is inevitable that investment will be more costly. One contributor pointed out that:

"...government wants to be there, at the front of the innovation. It wants to be an early adopter. But also wants to have the cheapest option. And you can't have both...if you're an early adopter, by definition you haven't got the economies of scale, you haven't got the technology breakthroughs that will come in due course, and you're going to be paying more in order to be at the front. We could have done it with on-shore wind, but we conceded that to the Germans who took on the costs and then cleared-up on the manufacturing..."

If the Government wants the lowest costs, then it should wait until technologies have matured. If government wants to be world leading, then they will have to absorb the inevitably higher costs that are involved in being an "early adopter" or "first mover".

Similar points can be made about large scale infrastructure projects that might use established technology but their size and safety issues, regulatory requirements and other factors magnify the risks. The private sector especially the cautious institutional investor community, will

inevitably take their “cues” from the Government and will need to see rewards for taking risks on large and “frontier technology” infrastructure. Too often in the past, it was suggested, that government had tried to get the private sector to take on much of the risk associated with an infrastructure project, but then constrain the returns that can be made by the same private actors.

Appropriate regulation

It was pointed out by more than one discussant at the session that an amenable and stable regulatory framework is an essential component for attracting private investment into sectors where infrastructure investment is needed.¹⁵ Projects often involve many policy areas, several layers of legislation (primary and secondary) and different levels of government and agencies. There is an inherent legal complexity in infrastructure development. This inherent complexity is made considerably worse by an unclear or inappropriate regulatory environment. As the OECD has noted:

*“Uncertainty concerning the “rules of the game”, or the low quality of those rules, will impact the willingness to invest in, maintain, upgrade and decommission infrastructure and ultimately affects the quality of service delivery”.*¹⁶

In order to encourage long-term investments spanning multiple decades, investors such as pension funds need clarity about the rules under which their investments are. In order to calculate risk and returns, there needs to be an expectation that the rules will not change to their detriment in the future. The risk, and thus costs, created by an inappropriate regulatory environment can be significant. An important source of regulatory risk is the planning process and Judicial Review. A clear link was drawn by a participant between the former and project delays which can lead to cost overruns and other problems including a reduction in the returns on investments:

“...ways...to...speed things up...we take far longer than other countries to get big projects started...[we need to find]...an appetite to cut through the morass of judicial review that holds up many big projects...[and]...to speed up planning processes...”.

One expert taking part in the roundtable noted how the regulatory environments in some “big infrastructure” sectors, such as the electricity and water and sewerage, had made private investment much more difficult and had probably deterred a substantial amount of private capital from investing in those industries. It was acknowledged that the regulatory environments governing those sectors had, in-part, evolved the way they had in order to “tackle” perceived “excessive” profits and returns on capital (RoC). Highlighting how there can be a genuine tension, but one which needs to be resolved if the private sector is to invest more in infrastructure.

In addition to rules motivated by “consumer” and “fairness” consideration, another problem with regulatory frameworks governing some sectors was that it was wrongly calibrated for the emerging technologies that are changing industries. For example, it was suggested that the current regulatory framework in the electricity sector was becoming quickly outdated as a result of technological change and the desire to move to a “net zero” carbon economy.

Therefore, to attract capital into “green electricity generation technologies” and meet the Government’s “net zero” ambitions the regulatory environment needed an overhaul. What was needed were new and stable set of rules for the industry, along the following lines:

“...energy and electricity...[needs to be allowed to be]...provided as a service...with a lot more importance on the grid rather than the electricity generation aspect...[in]...the compensation mechanisms being implemented in Ireland, you can see a new way of

pricing the services, that support the transition of the grid...its partly factors of a frequently changing framework of subsidy...there is very little security over...feed-in tariffs...if you develop a large scale infrastructure that will be running for 20 or 30 years you need to have some...certainty as to...[how]...the framework and pricing mechanism...[will be]...operating...[in the]...long-term in order to make those...large capital investments as the private sector”.

Value-for-money assessments

Another area where roundtable attendees considered the current arrangements fall short of what is needed is in the evaluation by government of the costs and benefits of projects i.e. value-for-money assessments. High quality business cases are essential for successful projects.¹⁷ However, analysis of the benefits and costs of projects, it was claimed, was frequently found wanting, not least by failing to be comprehensive enough.

It was noted that “...*value-for-money evaluations are looked at in a very narrow way...a lot of other factors [are not considered]...*”. For example, it was argued that little attention is paid to the wider longer-term benefits of a project. Analyses by government, of the returns generated by a project, are not necessarily for the lifetime of a piece of infrastructure but only calculated over a predetermined period of time. A reformed value-for-money assessment framework:

“...must be capable of looking at ultra-long-life projects and hybrid projects, for example, flood defences might also be a tourist attraction, in some cases...[a project]...might bring other benefits to parts of the country that might be in severe economic need...”.

Views on the importance of the Treasury “Green Book” varied between those taking part in the roundtable. The “Green Book” guidance about the criteria for evaluating which infrastructure projects deliver acceptable value-for-money and which do not, is currently being reviewed with the aim of identifying ways that it might be changed to encouraging more infrastructure development outside London and the South East. However, as one expert at the event commented “...*the Green Book is only guidance. While it influences decisions...it seldom determines them*”.

Case study: Swansea Tidal Lagoon ⁱⁱⁱ

The Swansea Tidal Lagoon is a “breakwater” in the Swansea Bay area, that captures the energy generated by the tide moving in and out of the bay to generate electricity. According to Tidal Lagoon Power, the construction:

*“...comprise[s] 16 hydro turbines, a 9.5km breakwater wall, generating electricity for 155,000 homes for the next 120 years...”.*¹⁸

The project is estimated to cost around £1.3 billion. It is claimed that the project will create 2,232 construction and manufacturing jobs, as well more in the wider economy, bringing an estimated £316 million Gross Value Added (GVA) to Wales during the construction phase and £76 million a year for its operational life.¹⁹

No matter the individual merits or de-merits of the tidal lagoon project, several participants at the roundtable noted that the history of the project highlighted - in practice - a number of the problems which, they argued, were manifest in the UK’s

ⁱⁱⁱ Since Tidal Power Ltd has a self-evident commercial interest in the promotion of the Swansea project and has funded this project. The SMF takes no position on this project, either for or against. Here we present a summary of discussants’ observations about the project, without further comment.

approach to infrastructure policy. The problems that were experienced by the lagoon project included process failures and failures to understand that innovative projects might need “extra support” in their early years e.g. to lessen the risks to private investors, as participants in the roundtable described and are reported elsewhere in this report.

First, it was noted that: ‘...*the project was turned off at the end, not at the start*’, resulting in considerable “sunk costs” and reducing confidence in the propriety of project assessment and decision-making processes for the future, potentially deterring the willingness of private investors to “take the chance” in the future with similar projects.

Second, it was suggested that the reason why it was rejected was unclear to parties.²⁰

²¹ As one roundtable contributor stated: ‘...[the] *Government kept saying it was too expensive, without ever saying why it was too expensive...*’. Failing to provide a clear rationale for decisions will not encourage private infrastructure investment, as it also undermines confidence in the decision-making process.

Third, it was believed by a number roundtable participants that there were significant failures in the cost – benefit analysis of the tidal lagoon project.²² One attendee contended that the value-for-money evaluation was done on “...*a 30-year life and not on the 60 year or 100 year life of the lagoon. It underestimated its benefits*”.

It was proposed by another that the present regulatory approach to renewable electricity and how that influences the rules (i.e. the Treasury “Green Book”) for assessing the worth of a project, combined to hinder its progress. The:

“...current approach [of] financing renewable electricity projects (Contracts for Difference) work well for limited life infrastructure such as on and off-shore wind but less so for very long-life infrastructure such as nuclear and tidal lagoon power. It wasn’t going to work in the Government’s mind for a project that had a 120-year life.

Essentially, with a tidal lagoon you’ve got all of your costs paid back in a few decades and the second half of the project, 60 years plus, is free electricity virtually...a little bit of upkeep and maintenance are going to be required but overwhelmingly the costs are incurred earlier on. And the Government system, as required by the Green Book, didn’t allow it to think about that”.

Others argued that the assessments failed to take into account a number of wider benefits such as its “...*catalytic impact on construction productivity...its importance as an adaptive technology and the fact that it is a “green generation” technology*”.

Finally, the same contributor added how the Government failed to see that the Swansea project was “...*a pathfinder*”. He noted that “...[the] *Government spent money on Hinkley in part with the aim of learning how to do Sizewell better...that is what tidal lagoon Swansea was set-up with*”. For this participant, it illustrated how “the system” often failed to understand the process of innovation and the downstream benefits that some projects generated through the “lessons” they generated for future projects. In the Swansea project’s case, it was suggested these would include efficiencies and cost reductions in future tidal projects due to the lessons that would be learnt in constructing the first one and the growth of a new industry along with a supply chain for that industry.²³

“SHOVEL READY” PROJECTS: A GREEN RECOVERY, OR LEVELLING UP?

To stimulate or not to stimulate?

There is on-going debate among economists and others about the extent to which infrastructure spending can help stimulate an economy in the short run, in addition to its long-term prosperity enhancing role. One participant argued very strongly for a stimulus:

“...the time to invest is now, the counter cyclical moment is here...when you have interest rates as low as this you can afford the debt and think of long-term solutions to the debt you accrue”.

However, another stressed the difficulty in judging the right balance of factors when deciding whether infrastructure is a useful stimulus tool and what infrastructure measures to take. This individual pointed out that, while:

“...infrastructure spending is a potentially good way of doing...[short-term fiscal stimulus]...because the fiscal multiplier is very large...it's only a good way of doing it if you can get that money out the door quickly...which means projects need to be ready to go. Ideally, they'd be projects you wanted to do for long-term productivity reasons...but if you want to do fiscal stimulus you might pick projects that aren't necessarily top of your list for those other reasons just so you can get the money out the door quickly”.

The sentiment, that if infrastructure was to play a role it would need to be through projects that could be brought forward relatively quickly, was widely supported. What kinds of projects these might be was more contested.

The focus of an infrastructure-based stimulus

A number of those at the roundtable supported a stimulus based in-part at least on “big and green” infrastructure, with a focus on new “green technologies”. This was in-line with recent work by the Smith School, which argued that:

“...green stimulus policies often have advantages over traditional fiscal stimulus. For instance, renewable energy investment is attractive in both the short and the long run. Renewable energy generates more jobs in the short run (higher jobs multiplier), when jobs are scarce in the middle of a recession, which boosts spending and increases short-run GDP multipliers (which are derived from expanding demand). In the long run, renewable energy conveniently requires less labour for operation and maintenance. This frees up labour as the economy returns to capacity.”^{24 25}

Others argued that less ambitious but more easily implemented “green measures” might be more useful for generating employment, for example a programme of “retro-fitting” housing with energy efficiency measures such as better insulation. However, it was pointed out that in order to have an effective programme, reforms would be needed to “deal with” the private rented sector, where the incentives for making such improvements are less pronounced than among private owners.

In contrast, some in the discussion suggested a more traditional approach was likely to prove superior, arguing that, in their view, “roads and rail” type infrastructure would have the biggest impact in the short-to-medium-term,²⁶ a line of argument similar to that of Professor Dieter Helm, who recently questioned the suitability of green infrastructure for stimulus purposes.²⁷ Communications networks were also mentioned as a category of infrastructure that should be prioritised with potential “quick returns”.

Another contributor questioned the efficacy of too much focus on an infrastructure-based stimulus, noting that it is service industries such as retail and hospitality, as well as some manufacturing, impacted most by the current economic problems associated with COVID-19.²⁸ She added that “...construction, is perhaps one of the best placed sectors to cope with social distancing measures and still able to continue at something like normal output”. Certainly, any infrastructure-based stimulus would need to pay close attention to “...labour-intensive projects...” in one contributor’s words, to “soak up” unemployment from the labour-intensive sectors where many of the job losses are expected.

Cautionary notes were raised by several discussants. There was concern about focussing on projects that could be financed quickly and started swiftly for stimulus purposes rather than taking a more considered and longer-term view. The latter would involve focussing on making sure any infrastructure projects proposed were also projects the Government wanted to do, because they met policy-goals by adding value in the long-term and could, in turn, attract private capital:

“...the question is what are the Governments priorities and the right framework for achieving those projects and then making those projects investable and financeable. I don’t think the finance market should drive priorities, it should be the other way around”.

Another added:

“...building lots of poorly constructed houses...[for example]...might bring a lot of people back to work and house a lot of people, but that would be a poor choice, not doing them with modern ways of building”.

Most attendees supported finding the “sweet spot” which balanced short-term stimulus priorities (i.e. measures that could be “brought on-stream” relatively quickly, were likely to be labour-intensive and could stimulate domestic supply-chains) with long-term infrastructural benefits. Suggesting the Government should look for projects that could straddle both. One participant concluded:

“I don’t think it’s an either or...it’s about choosing and focussing on all those ones that add all those bits together and putting more stimulus into those deliberately and making them attractive to the supply chain and private sector finance”.

Those arguing for a more ambitious green infrastructure approach argued that the “sweet spot” could be found through stimulating the economy with infrastructure that helped steer the UK towards finding a “better balance” between “modernity and nature” and leading the world, ahead of the forthcoming COP 26, in building green infrastructure. It was argued by one discussant that there are “probably” two green infrastructure technologies where the UK could take that lead:

“...to my mind there are two areas in the energy sector, one is carbon capture utilisation and storage and the other which is tidal, which are unexploited where the UK has a reasonable aspiration to be able to show global leadership”. Further, “...the transition to a low carbon economy could happen more quickly because the companies that would otherwise invested in the...new oil and gas projects, are going to be less able to do so...and forced on both the demand and supply sides to move towards low carbon options”.

According to another attendee, a properly considered stimulus was also a chance to start to plan and build infrastructure that met the needs of an economy and society where working patterns were significantly different (perhaps driven, in-part, by the experience of COVID-19):

“...I just think...we’re not going to be in our offices for the next two years in anything more than 30 per cent occupancy...what our...major cities look like and therefore what our infrastructure looks like is...going to be different...”.

It was suggested that, as a result of likely long-term changes in commuting patterns, question marks hang over projects like Crossrail 2 and others aimed at building commuter capacity. Consequently, it was proposed, communications infrastructure might be a more sensible priority, to enable smoother, faster and more “digital working”.

A successful infrastructure programme with long-term benefits

As the outline of the discussion at the roundtable (above) has indicated, there are a range of possible directions the government could go in with its infrastructure policy in both the short and longer-term. However, regardless of the specific plans made and the projects chosen, as the roundtable identified, there are generic, often long-standing, problems with government’s approach to infrastructure at both the policy and operational levels, which create significant obstacles for attracting private financial investment in UK infrastructure.

One contributor suggested electric vehicle charging points (EVCs) might be a “green technology” that fits, in principle, the criteria of being able to play a role in a short-term stimulus but which would simultaneously come with longer-term social and economic benefits. However, the generic problems described by those taking part in the roundtable would make it difficult for private finance to play a prominent role in supporting it, unless some of the numerous obstacles are tackled:

“...we don’t have funding structure in-place yet that would allow private sector investment to take the huge gamble that would be needed to establish the types of infrastructure that are needed with 10 or 15 years to allow wholesale conversion to electric vehicles...I’m not sure that dialogue is there...at a small scale there’s probably lots of private sector appetite for taking a big upfront risk...but without some sort of guarantee from Government around the future direction, you’re just not gonna get that in the first place...therefore, the Government needs to be clear what areas it needs to work with the private sector on...electric vehicle charging is one...fibre optic broadband...energy storage...a whole array of new tech that doesn’t have ‘off-the-shelf’ funding models...”.

At least two participants noted the relative success of the development of UK offshore wind, and how “intervention” was essential to that success. To many, the off-shore wind industry is an example of how governments can create suitably conducive environments for private capital to enter with confidence and invest in otherwise risky infrastructure programmes. In other words, governments can help “create markets” in the words of one roundtable participant. Therefore, it was proposed that the offshore wind experience should provide an example of how to incentivise private investment in infrastructure, and which met with the criteria of stimulating employment and delivering long-term benefits. The former including more manufacturing employment, supply chain development, construction work as well as maintenance jobs in the early years. The latter including some on-going employment and social and environmental benefits due to reduced CO2 emissions.

It was suggested that complementary measures to the core infrastructure project decisions and funding might be needed for a successful stimulus. These included:

- A labour re-deployment scheme to help move people from unemployment and the declining service sectors (which have been the worst affected by COVID-19) to the sectors that were the primary beneficiaries of the stimulus. In the case of an

infrastructure-led stimulus this would include the construction, repair and maintenance and manufacturing sectors.

- The programme would need to ensure it used domestic supply chains as much as possible, which would stimulate employment and capital investment by the businesses in those supply chains.

INVESTORS

Investment industry impediments to infrastructure investment

As illustrated earlier, private capital already contributes substantially to UK infrastructure, albeit that contribution is concentrated in certain sectors e.g. the privatised utilities. Further, as contributors to the roundtable outlined, there is appetite among institutional investors such as pension funds, for infrastructure investment. Benefits potentially accruing from such investment and which make them, in principle, attractive include the prospect of stable long-term returns.

Yet, despite such benefits and in-turn those to the wider economy and society, the UK investor community is not investing in infrastructure to the extent that it might under more conducive circumstances. The government's approach and the policy environment are not the only inhibitors on institutional investors.

A number of other factors act as obstacles to more private investment flowing into infrastructure. These range of problems of scale and capability, culture, regulation and competition.

The UK's pension fund industry in particular, has faced and continues to struggle with structural, cultural and regulatory impediments to greater involvement in "alternative assets" such as infrastructure financing:

- The industry is structured in a way that makes such investment more difficult. It is too fragmented, meaning very few individual pensions funds have sufficient scale and are consequently unable to bring to bear the quantum of funds needed to seriously invest in infrastructure and handle any risk that accrues from holding long-term illiquid assets and the potential consequences of the failure of large infrastructure project.²⁹ In addition, in-house expertise in the industry is limited and consequently there is inadequate capacity for risk-assessing infrastructure investments, further hindering the ability of funds to pursue infrastructure opportunities.³⁰
- As a report by the All-Party Parliamentary Group on Alternative Investment Management into alternative pension scheme investment noted about the culture in the UK pensions industry:

"...DC (Direct Contribution) funds generally hold assets that they can trade out of on any given trading day...This means that such funds generally do not invest in 'illiquid' assets that require long-term capital commitment...the daily liquidity norm seems to be the product of cultural and operational forces (including an expectation on the part of regulators that pension schemes carry transactions out promptly)".³¹

- Finally, the same report also highlighted aspects of the regulatory environment, which deter "alternative investment" by Defined Contribution pension funds in illiquid assets:

"Occupational Pension Schemes (Investment Regulation) 2005 4(5), the assets of an occupational pension scheme must 'consist predominantly of investments admitted to trading on regulated markets. In its code of practice for trustees of DC pensions the Pensions Regulator further stipulates that "where investment options which are not admitted to trading on regulated markets are offered, we expect trustee boards to identify those as such in the [statement of investment principles] and explain why it was appropriate to include them in that form'. In effect, DC pension trustees must ensure that the majority of their scheme's assets are held in publicly traded assets and must justify any exceptions".³²

The UK position outlined above is in contrast to countries like Australia, where issues of fragmentation have largely been overcome, PPPs are utilised more extensively to deliberately leverage in private finance, the regulatory environment for investors is friendlier to investments in assets such as infrastructure, and there has been a deliberate focus on getting private finance into infrastructure investment both by the pension industry itself and with support from policy-makers, as the brief description (in the box below) about the Australian experience highlights.

Case study: Australian Superannuation Funds and infrastructure investment

One discussant at the roundtable noted admiringly Australia's success in leveraging private pension capital for infrastructure finance. He stated:

"...[what]...Australia...has done brilliantly...is create lots of funds through their Superannuation funds, but that hasn't happened overnight".

Australian Superannuation Funds are retirement funds which pay pensions to retired workers. They have been a central feature of Australian social policy for decades and were made a compulsory nationwide system in 1993. Currently, employers are required to pay 9.5% of salary into a scheme for each employee. Employees can make voluntary additional payments and for the low-paid there are government top-ups.

There are around 500 Superannuation schemes in Australia. Estimates by ASFA (the Superannuation Fund's representative body) suggested that in December 2019, Superannuation Funds assets totalled over AUS\$3 trillion.³³ A 13% increase on 2018.

According to the OECD:

*"...Australian pension funds have been pioneers in the field...[of infrastructure investment]...since the early 1990s, and their financial industry invented the label of infrastructure as an asset class."*³⁴

ASFA data on asset holdings by Superannuation funds suggests that funds typically 8 per cent of their assets are infrastructure.³⁵ Up from around 5%, according to analysts Rice Warner in 2008. Further, it is estimated by Superannuation specialists Chant West that over 10 years, an infrastructure investment delivers returns of about 10%.³⁶ This is up on 5% (after fees) over five years between 2008 and 2012, according to the OECD.³⁷ Notably, it is larger funds with stable membership and substantial cash flow that are the most active infrastructure investors.

Numerous reasons have been offered for the willingness of Australian Superannuation Funds to invest extensively in infrastructure. An OECD analysis identified a range of factors that may have had an influence on the situation in Australia, including:³⁸

- Active interest and investment in infrastructure assets by public sector pensions funds.
- Emergence of financial intermediaries that sought opportunities in infrastructure, e.g. existing Superannuation Funds combining together/co-investing to create entities such as the Development Australia Fund in the early-1990s in order to invest specifically in assets like infrastructure, which in-turn are now run by specialist fund managers (IFM Investors), owned by multiple Superannuation Funds.
- Historical quirks such as privatisation of swathes of state-owned infrastructure coinciding with compulsory Superannuation enrolment.

- A shift in the market towards ‘open-ended’ infrastructure funds (IFM), operating at comparatively low cost.
- Embracing adoption of PPPs as a model for incentivising infrastructure investment.
- Relative ease of availability of bank funding for infrastructure projects.
- Robust growth in the number of pension fund customers and amount of money placed in them, due to favourable demographics and their compulsory nature.
- A trend for holding more “real assets”, using them as a form of long-term asset liability matching. Australian pension funds hold, in comparison to funds in other countries, a high proportion of “real assets”.
- A preference for “open-ended” funds, which are the main form of institutional vehicle for institutional infrastructure investment.
- An investment and pensions regulatory framework that allowed investment in long-term illiquid assets like infrastructure.

The Government in the UK has been making attempts to wear away some of the regulatory barriers to institutional investors investing in more long-term illiquid assets. It was a key concern of the Treasury’s work on “patient capital”.³⁹ And, for example, there was a consultation in 2019 on specific changes to the rules pertaining to the investments by DC pension schemes to help more pension fund capital to flow into assets like infrastructure. Further, it should be noted that a regulatory obstacle to institutional investment in infrastructure projects was recently removed by the Financial Conduct Authority (FCA), following a separate Law Commission recommendation in 2017.⁴⁰ However, the regulation of the investors is only part of the equation. As roundtable contributors made clear at length, there are a variety of regulatory issues.

Finally, the relatively “constrained” position of UK institutional investors such as pensions funds (as described above) has left room for “lower-cost” state-backed competition to enter into the infrastructure financing “space”, as law firms Norton Rose Fulbright have attested:

*“...the private sector finds it challenging to invest in certain infrastructure assets... This has had the effect of reducing private sector participation and encouraging overseas quasi-state entities (private companies which are backed by foreign states) to join the market. These entities can be more risk-tolerant than private investors... state-backed entities are better able to bear risk and have access to cheaper sources of debt”.*⁴¹

Losing the European Investment Bank

Outside of the roundtable, concerns have been raised about the European Investment Bank (EIB) no longer playing a role in supporting future infrastructure investment in the UK after the transition period ends in 2020.⁴² Between 2008 and 2017, the EIB provided around €53 billion worth of infrastructure funding and in 2015 its contribution accounted for around a third of total infrastructure investment.⁴³ As such, the EIB will be “missed” according to the House of Lords European Union Committee, who argued that:

*“Losing access to the EIB will have negative consequences for the financing of UK infrastructure. Not only does the EIB offer cheaper and longer-term loans than commercial lenders, but the quality of its independent expertise and due diligence also provides projects with a stamp of approval that crowds in additional private investment”.*⁴⁴

Norton Rose Fuller, in their submission to the Government's UK Infrastructure Finance Review, highlighted how, in their view:

"EIB support has also been instrumental in de-risking new technologies and sectors. They currently lend to many small innovation projects relatively cheaply and there seems to be little alternative for this type of investment in the current market".⁴⁵

In other words, the EIB has been playing something of the role that roundtable attendees had suggested was needed in order to leverage-in more private capital into infrastructure investment.

Assuming the EIB would have continued to account for nearly a third of UK infrastructure investment under other conditions, there could be a substantial "finance gap" to fill in some form or other over the coming decades, just to sustain something like current investment levels. Although it should be noted that, if the EIB was already undertaking some of the de-risking of infrastructure projects, as those participating in the roundtable suggested was central to more private investment, yet, as the roundtable also exposed, there are still significant blockages to achieving levels of investment from pension funds (and others) in the UK. Therefore, this suggests that while the EIB may have been helpful it hadn't transformed the landscape and "unlocked" institutional finance to the extent that many consider desirable and necessary. Indeed, there have been suggestions that it "crowded out" private investment, which the Infrastructure Finance Review acknowledged.⁴⁶

CONCLUSIONS

The evidence that emerged from the roundtable suggests that there needs to be a significant shake-up in infrastructure policy and how infrastructure projects are delivered in the UK. This is particularly true if the Government want to leverage-in greater private investment to support the construction of new infrastructure stock and the upgrading of existing infrastructure. Further, if the Government want to utilise private finance to help fund an infrastructure-based stimulus for the economy in the wake of COVID-19, and to ensure that longer-term ambitions for infrastructure investment can continue, then reform is more urgent than ever.

The “thread” that ran through the roundtable discussion was that the current approach to infrastructure fails to reduce the uncertainty and risk, for the private sector, associated with investing in big infrastructure projects. Indeed, it often exacerbates these factors. Until that is changed, private finance will remain more reluctant than it might otherwise be, to invest in infrastructure.

Below are several suggestions, across several dimensions of infrastructure related policy and practice, that could help improve the current position and incentivise greater amounts of private capital into supporting improvements in the stock of UK infrastructure, in both the short and longer-term.

Vision

- One of the clear lessons of the roundtable discussion was the need for private investors to be confident in what infrastructure will be built and on what timescales. Such clarity would help institutional investors looking to invest in infrastructure to plan their portfolios better and price their risks more accurately. This requires more than a “pipeline” of projects. It needs a “strategic vision” spanning at least a decade, containing clear outlines of infrastructure priorities, based upon a robust rationale, and an outline of the kinds of projects required to achieve the stated aims.
- Either the NIC could be tasked with doing the work for this, or alternatively the better option might be establishing a wholly independent “special commission”, utilising the analysis of the NIC and others. The commission would need to be cross-party, with an independent chair. Parties taking part in the commission should give public commitments to ensure financial and regulatory support for the projects identified in the vision, so that whatever the complexion of the Government of the day, the broad direction in infrastructure policy will continue and projects in the “pipeline” that straddle Parliaments can be expected to be taken forward, funded and completed..
- Once plans were in place, regular public reporting on progress against the “strategic vision” could be an option to help ensure progress is real and sustained. An independent body could verify the progress. This could be a statutorily independent NIC.
- Another clear implication of the roundtable discussion was the need for the Government to lead public opinion and “make the case” for infrastructure more often and more volubly. It also needs to argue more explicitly for a central role for private sector investment in the development of UK infrastructure.

Structures and process

- The roundtable revealed, or rather reiterated in many cases, the numerous deficiencies in the current infrastructure policy landscape. Many of which, should be amenable to public policy improvements. For example, efforts to improve the understanding and relationship

between the Government and private sector were highlighted by several participants as an important pre-requisite to increasing private sector investment in infrastructure.

- Part of improving that relationship should, it was implied by the roundtable attendees, involve ensuring that the Government has the appropriate capabilities, in-house, for project governance. An experienced team with a history of “delivery” is vital to successful project completion, alongside a high-quality business case and accountable governance.⁴⁷ Given the criticisms of recent changes to the status of the MPA and the “mission” it was asked to achieve, the Government should make sure that the merged successor unit is as singularly focussed on improving project delivery and therefore contains equally capable and well-trained staff .
- The concerns of the roundtable participants suggest that a timely independent review of the effectiveness of the Infrastructure and Projects Authority should be undertaken, with a commitment to re-establishing the MPA if the current arrangements are found to be inferior.
- Essential to encouraging private investment is transparency in decision-making about projects and a better, more holistic approach to the cost-benefit analysis of projects, which looked at the full range of costs and benefits over a project’s lifetime. Contributors were clear that the current approach lowered trust in infrastructure projects and infrastructure as an asset class for private investors. Ensuring such a change will require, not just improvements to the “Green Book” which guides decisions over projects, but routine scrutiny of all official value-for-money assessments for individual projects. The latter role might be undertaken by the NIC or the National Audit Office (NAO). Crucially, all results would need to be published in a timely manner.
- Another central theme of the discussion was innovative infrastructure, as well as projects that were risky due to their size and other factors, and how private finance can be leveraged into support such projects. The message that emerged was clear, de-risking innovative or big infrastructure projects investment will require a less risk-averse approach by Government in project choice, with more openness to different delivery models and a better regulatory environment. The latter should include steps to rationalise the “thicket” of planning rules, including the scope for Judicial Review and ensure long-term certainty in regulatory frameworks.
- A prominent message from some participants was that some regulatory frameworks in the utility sectors were not “fit for purpose”. They actively damaged private investment and are not well calibrated to emerging technologies and the sectoral changes the latter are driving. Regulatory reform was considered particularly important in the electricity and water sectors. Any regulatory reform agenda should follow-on from the “strategic vision” for infrastructure that the Government needs to produce, so that changes reflect the strategic objectives of policy. A reformed regulatory framework would need to come with a guarantee of a degree of stability. Therefore, developing reforms with cross-industry and cross-party support and learning lessons from other countries would be positive components of any approach to reform.

Stimulus

- While views among roundtable attendees were mixed about the efficacy of stimulus and the ability of the Government to fund a stimulus based in-part on infrastructure spending and maintain their longer-term infrastructural ambitions, what was clear was that any attempted stimulus should focus on those areas of infrastructure that will generate the most net employment i.e. are labour intensive.

- On balance, this suggested a focus on projects that can be “brought on-stream” relatively quickly and that are most like to be “employment rich”. This means i) traditional transportation infrastructure, which could boost employment in the construction industry directly but also utilise domestic supply chains to boost employment in-directly through the “multiplier effect”; ii) “green initiatives” which could soak-up labour relatively quickly, such as home insulation programmes; and iii) clean energy projects that support domestic supply chains.

Funding

- New funding models are essential if the government want to encourage more private investment in infrastructure. This was highlighted more than once in the roundtable. The waning of PPPs and PFI, it was argued, had reduced the appetite and opportunities for private finance to be involved in infrastructure development. New funding models could be particularly important for encouraging investment in infrastructure based upon new technologies and supporting infrastructural innovation, where risks for the private sector are, currently, often found to be prohibitive. Further, different models may be needed for short-term infrastructure projects designed to help stimulate the economy, compared to those aimed at leveraging in private finance for longer-term projects.
- A clear message from the roundtable discussion was that the provision of “development capital” was essential if private investment were to play more of a role in supporting the updating of existing and building new, infrastructure. Such capital would be vitally important, it was put by contributors, in leveraging in private capital into innovative infrastructure projects in particular. This may require a new institution as recommended by the House of Lords European Union Committee, when the EIB ceases to be able to support infrastructure funding in the UK.⁴⁸ The British Business Bank and Green Development Bank show that there is recent domestic precedent for similar institutions, albeit these precedents will differ on the detail from any new institution.
- All the challenges are not on the government policy side as this report makes clear in the penultimate section on “Investors”. There are other obstacles which hinder private investment, particularly investment from institutional sources such as pension funds. The government has been examining the problems that pension funds face for a-while. There are two outstanding government consultations that have a potential bearing on this issue. One, from early 2019, which consulted on possible changes to the regulation of defined contribution pensions that might make it easier for them to allocate more capital to infrastructure. It also raised the question of Government encouraging smaller defined contribution funds to merge and create larger funds with the scope for investing in major infrastructure projects.⁴⁹ The other, from 2018, discusses the consolidation of defined benefit schemes into so-called “superfunds”.⁵⁰
- To date, the Government has not responded to either consultation. An obvious step would seem to be to bring forward the Government responses to these consultations.
- Institutional investors in Australia have been much further ahead than those in the UK, in their investment in infrastructure. Historically, the same has been true in Canada.⁵¹ A key factor in both the Australian and Canadian experience is that investment in illiquid assets such as infrastructure, tends to be done by larger funds, as they can spread the risk wider and thus absorb losses more easily and offer lower cost capital over long time horizons. In other words, scale is important. The UK’s infrastructure and wider economy could benefit from a similar arrangement. One way that institutional investors in general and the somewhat fragmented pension fund sector⁵² in particular, in the UK, might be able to reduce risk concerns and achieve sufficient scale to make more investments in illiquid

assets (like infrastructure) is by combining into fewer funds. Another might be to co-invest with other pension funds or combine some of their funds into specialist “pools” for infrastructure investment, managed by a third party. An important element should be avoiding the high fees and leverage that hindered infrastructure funds in the past, as much as possible.⁵³ Similar sorts of measures to the latter approach were taken in Australia in the 1990s and in Canada, through the creation of entities such as the “Infrastructure Coalition Programme”.⁵⁴

- An area of the pension fund sector that might lead the way are the public sector pension funds. They pioneered infrastructure investment in Australia in the 1990s.⁵⁵ Utilising public sector pensions schemes might be an option for a UK Government. However, the demand side would need to respond to such possibilities with the development of suitable delivery models that are attractive to public sector pension funds.
- Another element that, if possible, would be helpful in encouraging more pension fund money into infrastructure would be the growth of a “project bond” market. This was one of the key ingredients in Canada’s relative success in this area.⁵⁶ Developing “project bonds” in the UK, offered by firms undertaking infrastructure investment, has been previously recommended by the OECD. The OECD suggested that the Government work to develop an insurance market for them, in order to encourage their issuance.⁵⁷

ENDNOTES

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- ¹ The Economist calls infrastructure the “*economic arteries and veins; roads, ports, railways, airports, power lines, pipes and wires that enable people, goods, commodities, water, energy and information to move about efficiently*”; the Institute of Civil Engineers defines infrastructure as “*...the physical assets underpinning the UK’s networks for transport, energy generation and distribution, electronic communications, solid waste management, water distribution and waste water treatment*”; the government also includes social infrastructure such as schools, hospitals and housing in some infrastructure policies and publications. Source: Rhodes, C. Infrastructure policies and investment: Briefing Paper Number 6594. (2018).
- ² Pisu, M., Pels, B and Bottini, N. Improving Infrastructure in the United Kingdom. (2015).
- ³ The UK had lower infrastructure stocks, as a proportion of GDP, than both Italy and France in 2016 - 47% compared with 52% and 54% respectively. Norway had the highest. An incredible 90% in 2016. Source: ONS. Experimental comparisons of infrastructure across Europe. (2019).
- ⁴ ONS. Experimental comparisons of infrastructure across Europe. (2019).
- ⁵ ONS. Experimental comparisons of infrastructure across Europe. (2019).
- ⁶ The Index is an annual opinion survey of the general public in 28 countries.
- ⁷ National Infrastructure Commission. Congestion, Capacity, Carbon: Priorities for national infrastructure: consultation ahead of National Infrastructure Assessment. (2017).
- ⁸ Rhodes, C. Infrastructure policies and investment: Briefing Paper Number 6594, 2018.
- ⁹ <https://aecom.com/without-limits/article/six-steps-closing-uk-infrastructure-gap/>
- ¹⁰ The need for certainty over investment plans has been highlighted by the UK Government itself in the past. Source: Pisu, M., Pels, B and Bottini, N. Improving Infrastructure in the United Kingdom. (2015).
- ¹¹ The relative failure of ‘public sector mutuals’ was raised as an example of this reluctance.
- ¹² <https://www.civilserviceworld.com/articles/news/major-projects-authority-merge-infrastructure-uk>
- ¹³ <https://www.gov.uk/government/news/government-creates-new-body-to-help-manage-and-deliver-major-projects-for-uk-economy>
- ¹⁴ <http://data.parliament.uk/WrittenEvidence/CommitteeEvidence.svc/EvidenceDocument/Public-Administration-and-Constitutional-Affairs-Committee-/The-Government%E2%80%99s-Management-of-Major-Projects/Oral/93008.html>
- ¹⁵ The importance of the regulatory environment is acknowledged by the OECD in their report ‘Getting Infrastructure Right’. Source: OECD. Getting Infrastructure Right: The Ten Key Governance Challenges and Policy Options. (2016).
- ¹⁶ OECD. Getting Infrastructure Right: The Ten Key Governance Challenges and Policy Options. (2016).
- ¹⁷ As Professor Bent Flyvbjerg argued in front of the Public Accounts Committee of the House of Commons “...[you should]...*only start a project if...[there is]....a high quality business case...and everything that goes with that*”. Source: <http://data.parliament.uk/WrittenEvidence/CommitteeEvidence.svc/EvidenceDocument/Public-Administration-and-Constitutional-Affairs-Committee-/The-Government%E2%80%99s-Management-of-Major-Projects/Oral/93008.html>
- ¹⁸ <http://www.tidallagoonpower.com/projects/swansea-bay/>
- ¹⁹ <http://www.tidallagoonpower.com/projects/swansea-bay/>
- ²⁰ <https://blackfishengineering.com/2018/07/27/analysis-swanea-bay-tidal-lagoon/>
- ²¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/719188/tidal-lagoon-programme-vfm-summary.pdf
- ²² <https://www.gov.uk/government/publications/swansea-bay-tidal-lagoon-value-for-money-assessment>
- ²³ Cebr. The Economic Case for a Tidal Lagoon Industry in the UK: A scenario-based assessment of the macroeconomic impacts of tidal lagoons for power generation on the UK economy. (2014).

- ²⁴ <https://www.smithschool.ox.ac.uk/publications/wpapers/workingpaper20-02.pdf>
- ²⁵ A 'green stimulus' has been proposed as responses to previous economic crises, too. Source: Bowen, A., Frankhauser, S., Stern N and Zenghelis, D. An outline for the case for a 'green stimulus'. (2009).
- ²⁶ Studies, summarised by Leduc and Wilson, suggest the evidence for any significant multiplier in the short-term from transport infrastructure spending is mixed. Of a summary of four studies, two found no significant short-term impact, while two estimated the multiplier to be between 1.47 and 2.7. In the longer-term, five studies reported on found a similarly mixed picture. Three identified significant long-term multiplier effects of 0.37, 1.97 and 6.2. A further study examined by Leduc and Wilson found that there were both notable short-term and long-term boosts to regional wages due to transportation infrastructure investments. Source: Leduc, S and Wilson, D. Infrastructure Spending as Fiscal Stimulus: Assessing the Evidence. Review of Economics and Institutions. Vol 5. No 1. (2014).
- ²⁷ <http://www.dieterhelm.co.uk/regulation/regulation/there-is-no-money/>
- ²⁸ <https://www.smf.co.uk/publications/assessing-the-economic-implications-of-coronavirus-and-brexit/>
- ²⁹ Pisu, M., Pels, B and Bottini, N. Improving Infrastructure in the United Kingdom. (2015).
- ³⁰ Pisu, M., Pels, B and Bottini, N. Improving Infrastructure in the United Kingdom. (2015).
- ³¹ APPG on Alternative Investment Management. UK Pensions Schemes and Alternative Investments. (2019).
- ³² APPG on Alternative Investment Management. UK Pensions Schemes and Alternative Investments. (2019).
- ³³ <https://www.superannuation.asn.au/ArticleDocuments/269/SuperStats-Feb2020.pdf.aspx?Embed=Y>
- ³⁴ Inderst, G and Della Croce, R. Pension Fund Investment in Infrastructure: A Comparison between Australia and Canada. (2013).
- ³⁵ <https://www.superannuation.asn.au/ArticleDocuments/269/SuperStats-Feb2020.pdf.aspx?Embed=Y>
- ³⁶ <https://www.infrastructureinvestor.com/australian-superfunds-infra-returns-fall-2018-19/>
- ³⁷ Inderst, G and Della Croce, R. Pension Fund Investment in Infrastructure: A Comparison between Australia and Canada. (2013).
- ³⁸ Inderst, G and Della Croce, R. Pension Fund Investment in Infrastructure: A Comparison between Australia and Canada. (2013).
- ³⁹ <https://www.gov.uk/government/publications/financing-growth-in-innovative-firms-one-year-on>
- ⁴⁰ <https://www.fca.org.uk/publication/policy/ps20-04.pdf>
- ⁴¹ <https://www.nortonrosefulbright.com/en/knowledge/publications/de4a00e6/uk-infrastructure-finance-review>
- ⁴² <https://www.nortonrosefulbright.com/en-gb/knowledge/publications/de4a00e6/uk-infrastructure-finance-review>
- ⁴³ <https://publications.parliament.uk/pa/ld201719/ldselect/ldcom/269/269.pdf>
- ⁴⁴ <https://publications.parliament.uk/pa/ld201719/ldselect/ldcom/269/269.pdf>
- ⁴⁵ <https://www.nortonrosefulbright.com/en-lu/knowledge/publications/de4a00e6/uk-infrastructure-finance-review#section3>
- ⁴⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785546/infrastructure_finance_review_consultation_web_version.pdf
- ⁴⁷ This was noted by Professor Bent Flyvbjerg, Professor of Major Programme Management at Oxford University's Saïd Business School, in evidence to the House of Commons Public Administration and Constitutional Affairs Committee in 2019. Source: <http://data.parliament.uk/WrittenEvidence/CommitteeEvidence.svc/EvidenceDocument/Public-Administration-and-Constitutional-Affairs-Committee-/The-Government%E2%80%99s-Management-of-Major-Projects/Oral/93008.html>
- ⁴⁸ <https://publications.parliament.uk/pa/ld201719/ldselect/ldcom/269/269.pdf>

⁴⁹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/776181/consultation-investment-innovation-and-future-consolidation.pdf

⁵⁰ <https://www.gov.uk/government/consultations/defined-benefit-pension-scheme-consolidation/consolidation-of-defined-benefit-pension-schemes>

⁵¹ Inderst, G and Della Croce, R. Pension Fund Investment in Infrastructure: A Comparison between Australia and Canada. (2013).

⁵² Inderst, G and Della Croce, R. Pension Fund Investment in Infrastructure: A Comparison between Australia and Canada. (2013).

⁵³ The relative (to expectations) underperformance of the Pensions Infrastructure Platform (PIP) introduced in 2012 – which aimed to try and replicate some of the Australian success with IFM Investors – needs to be borne in mind when contemplating how the UK might move more successfully in the future down the path of co-investment/ “pooled” investments.

⁵⁴ Inderst, G and Della Croce, R. Pension Fund Investment in Infrastructure: A Comparison between Australia and Canada. (2013).

⁵⁵ Inderst, G and Della Croce, R. Pension Fund Investment in Infrastructure: A Comparison between Australia and Canada. (2013).

⁵⁶ Inderst, G and Della Croce, R. Pension Fund Investment in Infrastructure: A Comparison between Australia and Canada. (2013).

⁵⁷ Inderst, G and Della Croce, R. Pension Fund Investment in Infrastructure: A Comparison between Australia and Canada. (2013).