

Build the infrastructure: bin the wish list

Quentin Maxwell-Jackson

The logo for CENTRE FORUM, featuring the word "CENTRE" in grey, a stylized orange and grey symbol, and the word "FORUM" in orange.

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■ Executive summary

In this report we examine the following questions:

- Is the UK spending enough on infrastructure?
- If not, is this for lack of private sector investment or other factors?
- What can be done to increase UK spending on infrastructure?

We found that the UK is currently spending significantly less on capital investment in infrastructure than the £40 billion a year the coalition government committed to in 2010.

The National Infrastructure Plan 2010 for UK economic infrastructure stated that “the government plans that over the next five years some £200 billion will be invested in UK economic infrastructure – a step change from the past.” This translates to an annual public and private sector expenditure of about £40 billion. Yet the Treasury has estimated that in 2010-2012 annual investment was about £33 billion; £7 billion a year below plan. The level of annual spending is not set to increase in coming years, and may fall.

“Additional” government funding for infrastructure was announced in June 2013, but analysis of the numbers shows that this will not raise spending to the levels pledged in 2010. Thus the UK is actually investing significantly less on infrastructure today than the government planned.

Why is this? Our research and interview programme made it clear that the culprit is not a lack of private sector financing for infrastructure, but insufficient user and taxpayer funding to sustain the planned level of annual capital investment.

In the aftermath of the credit crunch traditional bank sources

of infrastructure debt did indeed dry up for a short time. But the availability of financing has not been a constraint on infrastructure spending, not least because of the positive initiatives the government has taken to facilitate infrastructure financing, including UK Guarantees and the new approach to public private partnerships (PF2).

Private sector initiatives, such as the Pensions Infrastructure Platform, and an increasing number of infrastructure funds are beginning to tap new sources of financing beyond the banking sector. The infrastructure minister, Lord Deighton, has acknowledged that there is no shortage of private money lining up to invest in UK infrastructure.¹

We found that what is restricting annual capital expenditure on infrastructure is not financing but funding. Funding (paying for the infrastructure over time) and financing (meeting the up front costs of construction) are fundamentally different. If it is not clear to financiers that users and/or taxpayers will pay relatively stable, secure and predictable amounts of cash each year for an infrastructure project, it is impossible to attract financing, regardless of how much money institutions have available to finance sound projects.

In our research we did not come across an example of a single funded, well structured infrastructure project in the UK which failed to get off the ground through lack of financing. Indeed, institutions are literally queuing up to invest in good, funded projects. There were over 20 banks around the table when the Thameslink rolling stock deal closed in June.

The problem is one of affordability. The UK cannot afford to fund the planned £40 billion annual spending on economic infrastructure, even though this was the government's own assessment of the level of annual capital investment the UK needed.

Raising annual infrastructure capital spending to £40 billion plus, as the government planned, would have to be funded by raising taxes and/or further increasing user charges and/or introducing new charges. This is very unlikely to be deliverable politically.

1 "The capital markets are really very creative and the interest domestically and overseas is extremely strong," he told the Financial Times in July 2013.

Diverting more money from other spending areas to infrastructure is another option, but given the overall cut in government spending it is hard to see that this could realistically be of the scale needed, particularly given that significant amounts have already been shifted in this direction.

It is welcome that Infrastructure UK and the Treasury are getting a better grip on total planned spending on infrastructure (public and private) than used to be the case, but the very long list of projects in the pipeline contains a mixture of mature, planned and possible schemes, not a funded, prioritised programme. It is a wish list.

Lord Deighton has recognised that the pipeline left some people confused because it was not clear which parts were for 'imminent' delivery. As such, his challenge is to shake up the plan and 'convert the pipeline into a programme' by the Autumn Statement in December 2013.

One of the essential ingredients for this programme will be much greater clarity about how projects are being funded (or, indeed, that there is funding). The large spreadsheet which contains the current pipeline has many fields, but scant detail about how or if they have been funded. This information is crucial to developing a realistic infrastructure programme and a much better sense for financiers about infrastructure deal flow. As well as funding clarity, more detail about whether projects in the programme are already financed (and how) will be needed, as well as clear identification of financing opportunities, so that potential financiers can become involved.

We urgently need an infrastructure strategy and programme which is realistic and affordable. It needs to take a system wide view in the context of a constrained infrastructure budget. Affordability must be confronted head on. Without this clarity the public and investors will not trust projects to survive.

Inevitably some pet projects will have to be canned so others can be prioritised. The opportunity costs of grand projects such as HS2 must feature as a key component of the debate on the future plan – not just benefit-cost ratios taken in isolation. The current £50 billion plus price tag on HS2 would fund a large number of worthwhile projects if HS2 were scrapped.

Difficult choices have to be made. But that is why we elect governments.

Recommendations

1. The forthcoming revised UK infrastructure programme needs to:
 - ⋮ be clearer about what the UK can afford to fund;
 - ⋮ prioritise projects to meet UK needs;
 - ⋮ take a system-wide approach to priorities, including opportunity costs.
2. Look to use Tax Incremental Financing more so that those who benefit from infrastructure investment bear some of the costs of construction.
3. Increase user charging in sectors such as road transport where these are easily captured.
4. Continue to improve the efficiency of government procurement and infrastructure development.

■ Introduction

In October 2010 the new coalition government published the first National Infrastructure Plan. In his foreword to the plan, the then Commercial Secretary to the Treasury, Lord Sassoon, highlighted the importance of infrastructure to the UK economy:

“For the economy to flourish, people, goods and information must move freely. Businesses across all regions and industries need the right conditions to grow. Reliable infrastructure: energy, water, transport, digital communications and waste disposal networks and facilities, are essential to achieve this. Ensuring these networks are integrated and resilient is vital. Failure to make the right choices at the right time, or pausing investment, risks not only growth but also the UK’s international competitiveness.”²

But the minister went on to bemoan the recent track record of infrastructure investment:

“... for several decades the UK’s approach to infrastructure investment has in general been timid, uncoordinated, incremental, wasteful in its procurement and insufficiently targeted to supporting balanced and sustainable growth in the economy, both economically and environmentally. The result is that our infrastructure is ageing, plans are unclear and costs are too high.”³

The National Infrastructure Plan promised UK infrastructure investment of £200 billion over the five years to 2015, or about £40 billion a year.

2 ‘National Infrastructure Plan 2010’, HM Treasury, October 2010, p3.

3 Ibid

In this report we examine the following questions:

- Is the UK spending enough on infrastructure?
- If not, is this for lack of private sector investment or other factors?
- In the light of these findings, what more needs to be done?

Our findings are based on desk research and an interview programme with key stakeholders, including HM Treasury/ Infrastructure UK, National Association of Pension Funds, Association of British Insurers, Confederation of British Industry, fund managers and investment consultants. Further details on project methodology are set out in the Appendix.

Report structure

We begin by considering the characteristics of UK economic infrastructure. We then ask whether the UK is spending enough on economic infrastructure, and conclude that it is not. So we discuss whether a lack of private sector investment is holding back projects, and conclude that it is funding, not private sector financing, that is the problem. We then look at UK institutional investors as a group, and their appetite for infrastructure financing. We identify the key barriers to financing, and comment on moves made by government and industry to help remove them. We examine one of the key barriers – uncertainty – and find that lack of clarity about funding is one of the key components of project uncertainty. We then consider whether it is feasible to increase funding for infrastructure through a mix of tax increases, user charges and diverting funds from other spending heads. Finally, we set out our conclusions and recommendations.

The Appendix describes our methodology.

A Glossary of key terms is included after the Appendix.

■ Economic infrastructure - definition and benefits

The focus of the various infrastructure plans and strategies the current government and the previous administration have produced is on 'economic infrastructure'. In this section we summarise what this is and then spell out the benefits of spending on economic infrastructure.

Economic infrastructure

The coalition government's National Infrastructure Plan and its updates focuses on economic infrastructure because:

"Economic infrastructure drives competitiveness and supports economic growth by increasing private and public sector productivity, reducing business costs, diversifying means of production and creating jobs."⁴

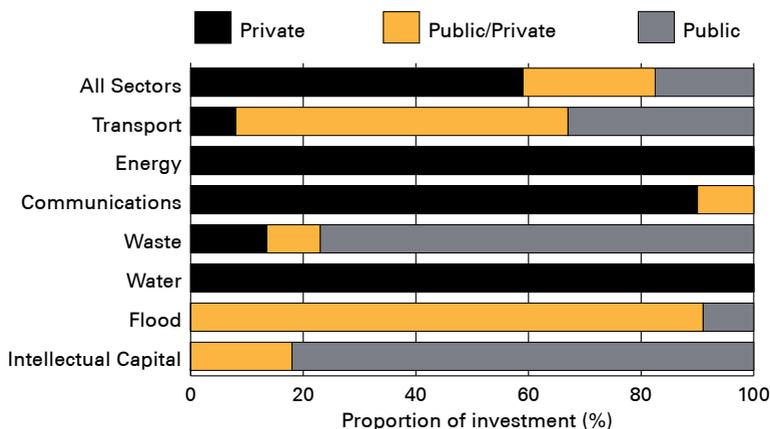
The economic infrastructure sectors are communications, intellectual capital, energy, transport, waste and water. Sectors such as education, health and housing are not included in the Treasury's definition of economic infrastructure, but this is not to say that capital investment in these areas is not important. They clearly interact with economic infrastructure to contribute to economic growth and the quality of life and the environment. However, since the government's 2010 commitments are to investment in economic infrastructure, this will be our focus in this report too.

The bulk of UK economic infrastructure is owned and operated in the private sector.

4 National Infrastructure Plan 2010, HM Treasury, October 2010 p9.

As Figure 1 shows, only about 15% of investment in UK economic infrastructure is public sector led and taxpayer funded. Over 60% of infrastructure spending is entirely led and financed in the private sector from user charges. The remainder is jointly led and funded by the public and private sectors

Figure 1 – Public/private investment in major economic infrastructure sectors



Source: HM Treasury

The role of government in delivering economic infrastructure varies from direct investment and coordination, which it exercises over about a third of economic infrastructure projects, to creating a framework to attract private investment, funded through user charges.

Of course, government still has significant direct and indirect leverage over economic infrastructure investment, even though so little of it is led by the public sector. Government exercises this leverage in a variety of ways, including via economic regulation (eg of the regulated utilities) which governs not just what returns companies can make, but also limits the level to which user charges may be raised to fund new infrastructure.

In some sectors the government also adds taxpayer funding to the mix through subsidies or pricing mechanisms (eg Contracts for Difference in the green energy sector). In sectors such as aviation, where infrastructure is mainly owned in the

private sector, decisions over major infrastructure projects (e.g. increased airport capacity in South East England) are in practice made by government.

Maximising the benefits of economic infrastructure

Well-chosen infrastructure projects give rise to both short and long-term benefits:

- **Construction Phase:** There is short term benefit during the construction phase as jobs are directly created and supplies are purchased;
- **Operating Phase:** Longer term benefits result from using the infrastructure networks during their operating life.

Of course, not all economic infrastructure projects are equally beneficial, particularly in the longer term. Any infrastructure project will have short term construction phase benefits. Digging holes in the ground and then filling them in again will have short term employment and wider economic benefits, but no longer term benefits.

Choosing the optimum mix of projects which maximise long-term operating phase benefits requires balancing several factors:

- **Focus on long term outcomes** – The reason for choosing to do an infrastructure project is its long term economic, environmental and social benefits, not the short term construction phase benefits. So the acid test for the value of any particular infrastructure project is that it is the most effective way of achieving the desired outcome. For example, if the desired outcome is to allow people to move quickly and safely around a city, then the relative merits of several potential projects need to be assessed – eg cycleway, road, metro, bus or pedestrian.
- **Understand and manage demand** – Demand can be managed, for instance, by reducing energy demand through better building insulation, or by smoothing usage through peak/off peak pricing. This is clearly a better way to achieve the outcome than simply building more electricity or gas capacity.

- ⚡ **Focus on and communicate the long term benefits**
 - Too often the public debate is dictated by short term or narrow interests which need to be balanced with clear communication of longer term and wider benefits.
- ⚡ **Recognise local impacts** – All infrastructure projects will have local benefits and/or negative impacts. It may be appropriate to structure projects so that local impacts are compensated (eg by giving discounts on energy bills to those located near wind farms), or to tax incremental local benefits (eg planning gain from better transport links).

Getting the balance of these factors right also improves trust in the wider investment community and in the supply chain companies which helps them build enduring businesses safe in the knowledge that the supply of work will be sufficiently trustworthy to warrant investment in their own businesses.

■ Is the UK spending enough on economic infrastructure?

We are not spending enough

Investing more in infrastructure is a cornerstone of the coalition government's strategy of achieving sustainable long term growth. As the Chancellor stated in his 2013 Budget speech:

"By investing in the economic arteries of this country, we will get growth flowing to every part of it."⁵

But is the UK spending enough on infrastructure? The short answer is no.

The Deputy Prime Minister, has acknowledged that in the early stages of the current government not enough was spent:

"If I'm going to be sort of self critical, there was this reduction in capital spending when we came into the coalition government. [...] But I think we've all realised that you actually need, in order to foster a recovery, to try and mobilise as much public and private capital into infrastructure as possible."⁶

The UK ranks behind major competitors

International comparisons indicate that UK lags behind major competitors. The World Economic Forum 2013-14 ranked the overall quality of the UK's infrastructure as 28th, well behind Germany (10th) and France (6th).⁷

The same report assessed the relative quality of particular

5 www.gov.uk/government/speeches/budget-2013-chancellors-statement

6 The House Magazine, 24 January 2013.

7 'The Global Competitiveness Report 2013-14', World Economic Forum, 2013.

infrastructure sectors. It showed that the UK has fallen behind other major European economies in key sectors, for example:

- **Roads** – UK 26th, Germany 10th, France 1st
- **Railroads** – UK 19th, Germany 5th, France 4th

However, in some sectors the UK ranks relatively well: for example, in electricity supply the UK ranks 9th, with Germany 11th and France 13th.

The UK has spent less on infrastructure than planned, and this is likely to continue

Comparing what the UK has actually spent on economic infrastructure with what was set out in the 2010 National Infrastructure Plan shows that the UK is currently spending significantly less on capital investment in infrastructure than the £40 billion a year the government committed to in 2010.

On the basis of the Treasury's own estimates the UK is spending about £7 billion a year less on economic infrastructure than planned.

Here are the numbers.

The National Infrastructure Plan 2010 for UK economic infrastructure stated that "the government plans that over the next five years some £200 billion will be invested in UK economic infrastructure – a step change from the past."⁸

Thus the 2010 Plan gave a commitment to an annual public and private sector expenditure of about £40 billion. Yet the Treasury has estimated⁹ that in 2010-2012 annual investment was about £33 billion – £7 billion a year below plan.

The level of annual spending on UK infrastructure looks set to be about £32-33 billion per annum through to 2020:

- Since 2010 there have been updates and revisions to the National Infrastructure Plan.
- The 2011 update listed a pipeline of about 500 planned infrastructure projects worth some £250 billion over the

8 'National Infrastructure Plan 2010', HM Treasury/Infrastructure UK, October 2010.

9 'National Infrastructure Plan: update 2012', HM Treasury/Infrastructure UK, December 2012.

following decade or so.¹⁰

- In 2012 the latest update to the plan listed a pipeline identifying over 550 projects valued at around £310 billion to 2015 and beyond, but much of that expenditure, on projects such as High Speed 2 (HS2), is more than 10 years away.
- Of the £310 billion in the plan, £257 billion is expected to be spent during the eight year period April 2012 to March 2020.¹¹ That represents about £32 billion of annual spending through to 2020, significantly less than the £40 billion commitment in 2010.

The government needs the private sector to deliver nearly two thirds of the spending in the Plan. A very high proportion of the total will be spent on energy projects – £176 billion – of which £123 billion is planned for electricity generation alone.

Additional government funding of public sector Departmental Capital Budgets (Capital Departmental Expenditure Limits or 'Capital DEL') was announced in June 2013.¹² Capital DEL is set to rise by £3 billion to £47.2 billion in 2013-14 and by a further £3.2 billion to £50.4 billion in 2014-15, funded through making savings in current expenditure. This was a positive move, showing the government's commitment to increasing capital expenditure at a time when current expenditure is being significantly reduced.

However, it is difficult to reconcile the gross Capital DEL numbers with what actually gets spent by the UK each year on economic infrastructure. Capital DEL represents the total capital component of government department budgets, only a part of which is spent on economic infrastructure. Even though there were significant increases for transport, it is likely that somewhat less than the extra £3 billion announced will in practice be spent on economic infrastructure.

It is possible that greater efficiency and improved procurement practices may reduce the cost of infrastructure projects. The Infrastructure Cost Review identified potential annual sustainable savings as in the order of £2-3 billion per annum.¹³

10 'National Infrastructure Plan 2011', HM Treasury/Infrastructure UK, November 2011.

11 'Planning for economic infrastructure', National Audit Office, January 2013.

12 'Investing in Britain's Future', HM Treasury, June 2013.

13 www.gov.uk/government/publications/infrastructure-cost-review-annual-report-2012-to-2013

But these savings have to be delivered in practice, and most of the savings will need to be made in the private sector.

As we have seen, by far the largest part of UK spending on economic infrastructure takes place in the private sector, funded by user charges. So although the announced increases in public funding for economic infrastructure, particularly in transport, are to be welcomed, they will not be enough to close the £7 billion gap between what the government committed to in 2010, and what the UK is actually going to spend.

So what can be done to increase the actual, on the ground, spending on economic infrastructure in the public and private sectors to the £40 billion a year set out in the first National Infrastructure Plan in 2010?

■ Lack of funding not financing is the problem

What about tapping private sector investment?

A frequent response to the need for more infrastructure spending is to point to the opportunity for additional private sector investment.

After all, UK institutional investors sit on £5 trillion of assets of which about £1.9 trillion is in pension funds, and £1 trillion comprises insurance funds.¹⁴ It is difficult to estimate precisely what proportion of these funds is invested in UK infrastructure assets, but it is definitely significantly less than the 10% plus typical of some large pension fund portfolios in Canada and Australia.

Why can't more of these funds be tapped to increase the level of UK institutional investment in UK infrastructure?

In our interview programme several fund managers who focus on infrastructure as an asset class claimed that the key factor preventing more private sector financing of UK infrastructure projects is a dearth of funded projects. There is no shortage of money to finance infrastructure projects, we were told; there is quite simply just a lack of funded, well structured projects.

Funding v financing

At this point it is important to be clear about the difference between funding and financing, and how the two are related.

Any infrastructure has to be paid for over time by households:

¹⁴ 'Asset Management in the UK 2011-2012: The IMA Annual Survey', Investment Management Association, 2012.

this is referred to as **funding**. Meeting the upfront costs of infrastructure requires **financing**.

Financing broadly consists of two elements: equity and debt. Equity financing involves taking an ownership stake in the infrastructure assets and carries the risks and rewards of ownership. Debt financing involves providing a loan to the project, which is paid off, with agreed levels of interest, during the course of the project life. Debt has first call on the net operating cash flow and assets of the project, so equity investors' returns are much more dependent on the success of the project.

Successfully financing an infrastructure project requires potential investors to be confident that it will generate sufficient cash over time to pay back the investment, together with an appropriate return to the investor.

Funding and financing are very often confused in the public debate. The term 'investment' can refer to either funding or financing, which does not help.

All funding (ie cash flows over time) to pay for infrastructure comes from households. We all pay for infrastructure, both indirectly through our taxes, and directly as users of services such as electricity supply.

Financing – whether equity, debt or a hybrid of the two – can come from a variety of sources (banks, pension funds, insurance companies, etc), but will only be forthcoming if there is clarity over how the infrastructure will be paid for over time. Financiers will also need to be comfortable that the risk to project cash flows is likely to be reflected adequately in the return they will receive from their investment.

Without funding there is no financing. So focusing on financing without first being clear how projects will be funded will not help to increase the level of spending on UK infrastructure.

Several institutional investors we interviewed told us that the relatively few funded deals which have been initiated in the past year or two have been able to attract both equity and debt finance where needed. For example, in a recent deal there were over 20 banks around the table when the Thameslink rolling

stock deal closed in June.¹⁵ This deal has a concession period of 22 years, raised about £1.1 billion of long term debt from a group of commercial banks, and certainly calls into question the validity of the oft-expressed concern that it is no longer possible to raise long term debt from banks.

A 'wish list' is not a deal flow

It is welcome that Infrastructure UK and the Treasury now publish listings of all forthcoming and planned economic infrastructure projects in the public and private sectors.¹⁶ However, this long list of projects contains a mixture of mature, planned and possible schemes – not a funded, prioritised programme.

Information about which infrastructure projects are likely to happen in the next two to three years, and how they are funded, is surprisingly hard to find. That is in spite of a large amount of data in the National Infrastructure Plan and regular updates.

It is difficult to tell which projects actually have funding, and will therefore go ahead in the foreseeable future. Many items on the list seem to belong to a wish lists of projects which are seeking funding, but have not yet secured it.

Infrastructure UK's Investment Pipeline takes the form of a huge spreadsheet containing 576 project entries that often offer no more information than sector and location. Figures are sometimes given for the capital expenditure required to build some projects – eg £66 billion for offshore wind, £50 billion for nuclear, £6 billion for onshore wind – but there is little or no indication as to where the money will come from.

So the National Infrastructure Plan is no such thing. It is a wish list.

Institutional finance

If we can get greater clarity about what is funded (and therefore what the UK can afford), there is clearly merit in a range of institutions, and not just banks, having an appetite for financing UK infrastructure projects. In the next section, we examine the UK institutional investor landscape, the challenges some

15 'Thameslink rolling stock project, UK', Infrastructure Journal, 25 July 2013.

16 www.gov.uk/government/publications/infrastructure-investment-pipeline

institutions face in entering the infrastructure finance market, and some of the initiatives which are seeking to make it easier for a wider range of institutions to finance UK infrastructure.

■ Institutional financing of UK infrastructure

UK based banks, pension funds, insurance companies, private equity funds and other investment vehicles finance infrastructure projects in the UK and globally.

The Chancellor announced in his 2011 Autumn Statement that £20 billion of investment (i.e. financing) in infrastructure would be raised from pension and sovereign wealth funds.¹⁷ Although there has been some progress – eg setting up the Pensions Infrastructure Platform as a vehicle to facilitate investment in UK infrastructure projects – few investments have yet been made.

Pension funds and insurers face different factors that may inhibit their ability to invest.

Pension Funds

UK pension funds spend a lower proportion of their funds on infrastructure than some other countries.¹⁸ At first glance, the potential for further investment by UK institutions in infrastructure looks promising, as we saw in the previous section.

There are several structural and cultural reasons why UK pension funds have been slow to invest in UK infrastructure projects; even funded well structured ones.

As several of our interviewees pointed out, the main problem is that the UK pension industry is highly fragmented. There are around 6,500 Defined Benefit (DB) schemes and 1,800 Defined

17 'Autumn Statement 2011', p.7.

18 'Pension Funds Investment in Infrastructure – A Survey', OECD, September 2011.

Contribution (DC) schemes.¹⁹ The DB schemes comprise £1 trillion of assets, whilst the DC schemes control around £385bn.²⁰ A £100bn portion of DB assets is split amongst 5,500 smaller schemes, many of which are closed to new entrants and are in the process of being run down.

Pension fund trustees, many of whom have limited financing experience, are naturally concerned to ensure that they are seen to be prudent with members' funds. This can lead to a short term outlook in which quarterly fund movements become more significant than longer term views. Another concern voiced by trustees is that infrastructure involves investment in illiquid assets, and although fund managers can demand a liquidity premium in return for their commitment, they often view this as too paltry a reward for exposing themselves to long term debt that is difficult to shift in the secondary markets. However, as infrastructure investments should generally only comprise 5-10% of a pension fund portfolio (which would still be an improvement on the present), their relative illiquidity should not be a real concern. Investment consultants have more to do to educate their clients on this issue.

Perhaps more importantly, most UK pension funds tend to be inherently conservative. Trustees normally favour a traditional allocation of funds to fixed income, equities and a small element to alternatives (including infrastructure). At a time when real yields from fixed income are at a historical low (and in many cases negative), there is a hunger for higher yield, but UK pension trustees are often reluctant to depart from the tried and tested asset allocation models of the past. This is an attitude that one of our interviewees described as 'reckless prudence', since a traditional asset allocation model may lead to a decline in fund assets in real terms compared with other allocation options available.

Recognising some of the challenges sketched above, in 2012 the National Association of Pension Funds and the Pension Protection Fund established the Pensions Infrastructure Platform (PIP) as a mechanism to make it easier for a broad cross section

19 'The Purple book', 2012 www.pensionprotectionfund.org.uk/DocumentLibrary/Documents/Purple_Book_2012.pdf ; www.thepensionsregulator.gov.uk/doc-library/dc-trust-a-presentation-of-scheme-return-data-2013.aspx

20 'The Purple Book', 2012.

of pension funds to invest in the UK infrastructure asset class.

The creation of the PIP is a positive development. The £1 billion already pledged (but not yet invested) by UK funds puts the platform on par with some large global infrastructure funds. Having now reached a stage at which it is ready to appoint a fund manager, the PIP should start to have a direct impact on UK infrastructure financing very soon.

Insurers

Insurance companies are involved in infrastructure financing both as investors and as fund managers (see Table 2 below). With £1 trillion of assets under management, they (like pension funds) have significant funds to invest.²¹

Figure 2 – Ten Largest unlisted infrastructure funds open for investment with a primary focus on Europe, May 2013

Fund	Manager	Target size (millions)	Manager location
Terra Firma Infrastructure Fund for Global Renewable Energy	Terra Firma Capital Partners	3,000 USD	UK
First State European Diversified Infrastructure Fund	Colonial First State Global Asset Management / First State Investments	1,500 EUR	Australia
Aviva Investors REaLM Infrastructure Fund	Aviva Investors	1,000 GBP	UK
Aviva Investors Hadrian Capital Fund I	Aviva Investors	1,000 GBP	UK
Fondi Investors Per Le Infrastrutture II	F2i SGR	1,200 EUR	Italy
CVC European Infrastructure Fund	CVC Infrastructure	1,000 EUR	UK
EISER Infrastructure Fund II	EISER Infrastructure Partners	1,000 EUR	UK
Infracapital Partners II	Infracapital	900 GBP	UK
Allianz Infrastructure Debt Fund	Allianz Global Investors	1,000 EUR	Germany
InfraMed Infrastructure	InfraMed Management	1,000 EUR	France

Source: Preqin Investor Network

A large obstacle potentially preventing insurers from exposing themselves to infrastructure is the increased capital levels they may require should the EU directive Solvency II be implemented.

21 www.preqin.com/docs/reports/2013_PIN_Global_Alternatives_Report.pdf p.62.

In a similar fashion to the Basel accords for the banking sector, Solvency II is aimed at reducing systemic risk by increasing the capital holdings of insurers.

Although the directive has been in development for more than a decade, it has yet to come into force.²² However, in July 2013 the Financial Stability Board assigned 'global systemically important financial institution' (GSfi) status to nine of the world's biggest insurance companies.²³ This may result in higher capital requirements and tighter regulatory supervision from 2019, which could affect insurers' investment capability.

Increased institutional appetite for infrastructure investment

Although most UK pension funds are small judged by global standards, the largest three UK pension funds are on a par with large global funds:

- the BT Pension Scheme controls £38.5 billion
- the Universities Superannuation Scheme (USS) sits on £33.8 billion
- the Lloyds TSB Group PLC pension plan holds £29 billion of assets.²⁴

Within this group, there is growing evidence of increasing appetite for infrastructure debt: USS, for example, increased their target allocation for alternatives from 9.5% to 21% in 2009, which resulted in the creation of a new infrastructure team of three investment managers and a supporting team of analysts.²⁵

Several of those we interviewed pointed to an increasing appetite among UK pension funds for financing UK infrastructure. Leading associations have declared themselves willing to invest more (the NAPF being the most obvious example). The Pension Insurance Corporation recently suggested that infrastructure might be placed in the much larger liability matching part of a pension fund portfolio, which would increase the investment capability of fund managers even more.²⁶

22 www.ft.com/cms/s/0/92395864-e8b9-11e2-aead-00144feabdc0.html#axzz2ZITtnsS1

23 www.ft.com/cms/s/0/0003e51a-efbf-11e2-a237-00144feabdc0.html#axzz2ZITtnsS1

24 www.pionline.com/article/20130121/PRINTSUB/301219978

25 *Ibid*

26 www.pensioncorporation.com/sites/default/files/files/PIC_UK_Infrastructure_Investment_White_Paper_July_2013.pdf, p.2.

As a percentage of assets under management (AUM), pension fund assets have also increased by 14% in the portfolios of the nine largest global infrastructure funds (see Table 3 below).

Figure 3: Top 25 direct infrastructure ranked by pension fund AUM

Management group	Main country of domicile	Pension AUM (\$m)		% change	Total 2012 AUM (\$m)	Pension AUM (as a % of total)
		2012	2011			
Macquaire Group	Australia	63,076.0	59,069.5	6.8	94,845.7	66.5
Industry Funds Management	Australia	10,768.0	10,151.8	6.1	12,532.0	85.9
Brookfield Asset Management	Canada	8,709.6	5,662.3	53.8	14,420.0	60.4
Deutsche Asset & Wealth Mgmt	UK	8,000.0	6,798.8	17.7	17,073.0	46.9
Alinda Capital Partners	US	7,307.4	6,820.4	7.1	8,383.8	87.2
Global Infrastructure Partners	US	7,179.2	3,590.5	100.0	15,707.7	45.7
Goldman Sachs	US	6,081.0	6,080.6	0.0	10,700.0	56.8
AMP Capital Investors	Australia	5,335.7	5,377.2	-0.8	6,837.8	78.0
Hastings Fund Management	Australia	5,325.3	3,749.0	42.0	8,461.5	62.9
JP Morgan Asset Management	US	4,142.0	2,896.0	43.0	5,428.0	76.3
Hermes GPE	UK	4,056.0	new	new	4,056.0	100
RARE Infrastructure	Australia	3,969.0	1,587.8	150	5,745.4	69.1

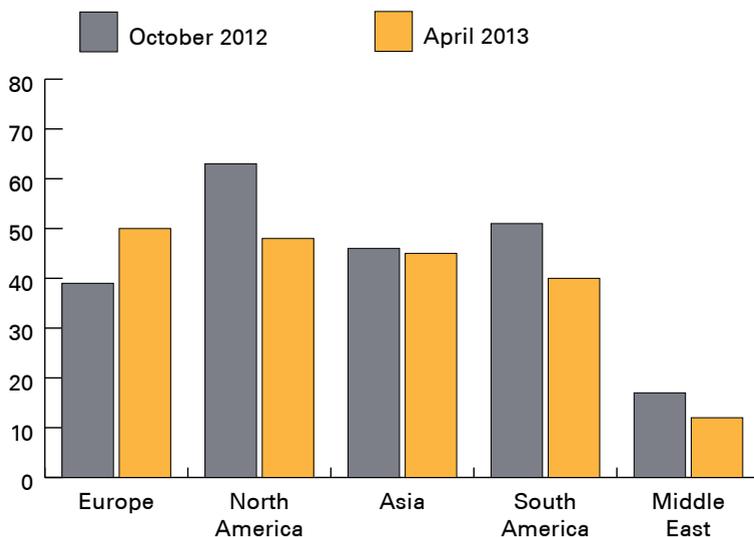
Source: Financial Times

Insurance companies find infrastructure an increasingly attractive prospect too. Allianz Global Investors, Blackrock, and the European arm of Australian group Industry Funds Management (IFM) all set up infrastructure platforms between 2012-2013.²⁷ In June this year, French insurer Axa announced a tenfold increase in its exposure to infrastructure debt, committing to lend €10 billion to infrastructure projects over the next five years.²⁸

²⁷ www.ft.com/cms/s/0/b5716410-e3c9-11e2-b35b-00144feabdc0.html#ax

²⁸ www.ft.com/cms/s/0/0a8472b0-d7dd-11e2-9495-00144feab7de.html#axzz2WSmgGF3p; there is persistent coverage of insurers' investment priorities in the broadsheets. See www.ft.com/cms/s/0/2aef5070-dcb4-11e2-9700-00144feab7de.html#axzz2blAP7qr2; www.telegraph.co.uk/finance/newsbysector/banksandfinance/insurance/10219247/Insurers-will-soon-be-funding-UK-infrastructure-says-Legal-and-General-chief-Nigel-Wilson.html

Table 4 – Regions viewed by alternatives investment consultants as presenting the best opportunities in infrastructure over the following 12 months, 2012-2013



In a Preqin survey of 447 Alternatives Investment Consultants from April 2013, 50% of respondents also stated that Europe offered the best opportunities in infrastructure.²⁹ It was the only one of five key regions (see Table 4) to have become more favourable in the eyes of respondents since the same survey last year.

The surge of interest in European infrastructure has particular relevance for the UK: over 15% of specialist infrastructure fund managers are based in London, more than any other global city.³⁰

UK institutional appetite for investment is not the problem

In spite of the barriers, institutional investors are willing to allocate more funds to infrastructure than previously.

29 www.preqin.com/docs/reports/2013_PIN_Global_Alternatives_Report.pdf p.67.

30 www.preqin.com/docs/reports/2013_PIN_Global_Alternatives_Report.pdf p.63.

Although banks have reduced their exposure to infrastructure debt significantly since 2008, they remain an important source of debt financing. As we mentioned above, there were over 20 banks around the table when the Thameslink rolling stock deal closed in June 2013, for instance.

Our desk research and interview programme has not uncovered a single example of a funded and well structured UK infrastructure project which has failed to get off the ground for lack of financing. If a project is funded, well structured and competently managed it seems that it will find the equity and debt financing that it needs.

The opacity surrounding how UK infrastructure will be paid for over time remains the biggest problem. That is not a problem for financiers, but for government.

■ Removing barriers to infrastructure finance

We have seen that lack of clarity about funding, not financing, is the major impediment to a higher level of spending on UK infrastructure. However, that is not to say that there are not some subsidiary barriers and obstacles which can slow down the attractiveness of UK infrastructure projects to potential financiers. In this section we examine them.

Government and industry have started to remove some of the subsidiary obstacles – some of which we described in the previous section – currently hampering development of UK infrastructure. Those currently being addressed divide into four groups:

1. Political/regulatory uncertainty
2. The planning process
3. Government procurement process and commercial skills in Whitehall
4. Evaluating construction phase risks in large projects

Each is discussed in more detail below, alongside an evaluation of how adequately current government initiatives are solving them.

1. Political/regulatory uncertainty

From any investor other than a host government's perspective, political and regulatory risks are those least capable of being managed and controlled by a project's owners and investors. To them, regulatory change risk is at times indistinguishable from a naked bet as there is little or nothing that the owners can do to mitigate or manage those risks.

Some commentators have argued that greater cross party consensus would reduce political/regulatory risk significantly. Some have proposed creating a 'National Infrastructure Commission' along the lines of the Office of Budget Responsibility (OBR). This putative body would be advised by impartial experts and take a long range strategic perspective on the UK's infrastructure needs. It would also hold government departments to account for implementing the agreed strategy.³¹

We are not convinced that a new quango along these lines would provide the degree of political and general consensus envisaged. It would not have the power to resolve the thorny political issues inherent in all major infrastructure projects, since these comprise controversial local impacts and government policies (such as energy strike prices, debt guarantees, capacity subsidies, etc.) So, for example, whilst it is generally agreed that London needs greater airport capacity, the question of how to achieve it is fraught with local concerns and objections.

But perhaps the most intractable problem with a putative National Infrastructure Commission is that it would provide strategic advice on infrastructure spending divorced from funding, affordability, and implementation responsibility. The commission's pronouncements would risk being lofty rather than realistic.

And if auditing the government's evaluation of projects and project delivery is the issue, why duplicate the National Audit Office and the assurance role of the Cabinet Office/Major Projects Authority?

2. The planning process

The planning process is often seen as a major barrier to getting infrastructure projects off the ground, or at least as a significant cause of delay.

The Labour government accepted widespread criticism from the private sector about the bureaucracy involved in obtaining planning consent for major infrastructure proposals, and introduced the

³¹ Sir John Armitt recently published a review for the Labour Party recommending the establishment of a National Infrastructure Commission with statutory independence to undertake an evidence-based assessment of the UK's infrastructure needs over a 25-30 year horizon – www.armittreview.org. The LSE Growth Commission made similar recommendations in 'Investing in Prosperity', London School of Economics Growth Commission, February 2013.

Planning Act 2008 in an attempt to streamline the process. This removed the need for multiple consents under different pieces of legislation, but its implementation in practice has been slow.

A full analysis and critique of the current planning process would require a paper in its own right. For our purposes it is enough to note that proposals to streamline the process further are welcome insofar as they remove unnecessary red tape.

But we are also clear that the local – and wider environmental impacts – of major infrastructure projects have to be considered thoroughly, and the different perspectives must be fairly evaluated before projects can go ahead. Consultation, scrutiny and evaluation will inevitably take time if they are to be done to a high standard and fairly, and we would not propose skimping on this.

We should also note that, in our interview programme, those we spoke to did not identify the planning process as one of the most significant barriers to getting infrastructure projects built.

3. The government procurement process and commercial skills in Whitehall

In January 2013, the government published for consultation a set of guidelines and tools to support public and private infrastructure providers' capability to improve delivery of projects.³² The 'Infrastructure Procurement Routemap: a guide to improving delivery capability' is (at the time of writing) being revised following the consultation period.

In June 2013, Infrastructure UK followed up on their January route map by publishing their annual 'Infrastructure Cost Review' and pledged to consider industry feedback to the routemap and publish its findings in Autumn 2013. They also committed to promote the adoption of the measures the route map will lay out, whether in the private or public sector.³³

Encouragingly, the Commercial Secretary to the Treasury, Lord Deighton, has been mandated by the Prime Minister and Deputy Prime Minister to "overhaul the delivery of public sector infrastructure projects and programmes".³⁴

³² www.gov.uk/government/news/government-launches-new-guide-to-infrastructure-delivery

³³ Infrastructure Cost Review: annual report 2012-13, p. 36.

³⁴ 'Investing in Britain's Future', HM Treasury, June 2013, p. 68.

Immediate reforms also include a new rail franchising directorate within the Department for Transport, containing specialist teams tasked with managing each new franchising competition³⁵ and implementation of the Electricity Market Reform (EMR) programme by specialist delivery bodies.³⁶ These initiatives, together with a presumption that the very largest projects will be delivered by specialist teams, along the lines of the Olympics Delivery Authority and HS2, are to be welcomed.

4. Evaluating construction risks in large projects

We have seen above that some investors find it difficult to assess risks during the construction phase of large and novel projects. The main government solution to the problem has been the introduction of the government guarantee.³⁷

Whilst welcome, the guarantee scheme is limited in what it can achieve: the securing of long term funding still provides the primary means of transition from planning to construction. A further point is that the guarantee scheme needs to be actively managed by government, since in practice it is taking on a role comparable with that fulfilled by the monoline insurers³⁸ before the financial crash. Accordingly, government will need to employ highly expert teams to manage the portfolio of guarantees, or else the contingent liabilities arising could very soon crystallise on the government balance sheet.

The National Audit Office (NAO) identified taxpayer exposure to losses through government guarantees as a key risk to value for money.³⁹

35 Ibid.

36 Ibid., p. 66.

37 Projects supported so far include a guarantee to the Northern Line Extension scheme at Battersea, which will allow the Greater London Authority to borrow £1bn at a preferential interest rate. In March 2013, Drax Power was awarded a guarantee worth up to £75m to support their partial conversion of a coal station into biomass.

In June 2013, Danny Alexander announced four main developments: The extension of the guarantee scheme to 2016 (the window was set to close in 2014); a debt guarantee worth £500m to enable construction on the Mersey Gateway Bridge to begin next year; the eligibility of Hinkley Point C for a debt guarantee; the 'pre-qualification' of 25 projects worth £13.5bn for the guarantee scheme.

38 See the Glossary for a definition.

39 'Planning for economic infrastructure', National Audit Office, 16 January 2013.

: Can we afford more infrastructure funding?

The UK is spending less on economic infrastructure projects than planned

We have seen that the government plan in 2010 was that the UK would spend £40 billion a year on economic infrastructure. Actual spending has been of the order of £33 billion a year, so planned expenditure is being undershot by about £7 billion each year.

Is it feasible to secure additional funding streams to enable an increase in the level of annual spending to £40 billion?

People fund infrastructure

Funding for infrastructure has to come from people. It flows from individuals in several ways:

- :** Direct or indirect taxes (eg income tax, VAT, fuel duty, road tax, etc)
- :** User charges (eg electricity charges, rail fares, bridge tolls, etc)
- :** Business rates and industry levies (eg Crossrail Business Rate Supplement, Community Infrastructure Levy, etc) where funding is eventually recovered by companies and developers through customer charges or property value enhancements.

Governments can borrow to fund infrastructure, but debt service and repayment costs have to be borne by the taxpayer in future. Borrowing is simply passing the burden of funding on to future generations – someone has to pay for infrastructure eventually. As we discuss below, in some circumstances, where

new infrastructure gives rise to a measurable economic benefit in future, it is appropriate that this should be recovered from future tax payers (eg through Tax Incremental Financing).

So are there feasible options for increasing funding through the three sources outlined above? And could additional funding be diverted to infrastructure from other spending areas?

Taxpayer Funding

In this section we look at the potential for obtaining more taxpayer funding for infrastructure.

We examine:

- whether it is feasible to raise sufficient additional funds from taxpayers using traditional taxes;
- Tax Incremental Financing (TIF);
- The Community Infrastructure Levy (CIL).

According to HMRC projections for the tax year 2014-15:⁴⁰

1p increase in basic rate income tax = £4.3 billion additional revenue

1p increase in higher rate income tax = £1 billion additional revenue

1% increase in VAT = £4.9 billion

1% increase in the main rate of corporation tax = £0.85 billion

So a 1.5p increase in basic income tax and higher rate tax might raise about £8 billion per annum.⁴¹ A similar amount would result from raising VAT by 1.5%.

However, the concern would be that increasing taxes would have a dampening effect on the revival of the economy and the return to growth, which is one of the key outcomes an increase in spending on UK economic infrastructure is designed to achieve (amongst other things). Tax rises would of course be unpopular with the electorate at a time when the long term objective is to reduce the level of basic rate tax.

⁴⁰ www.hmrc.gov.uk/statistics/expenditures/table1-6.pdf

⁴¹ This calculation is obviously rough and ready since in practice the relationship between tax rates and tax take is not linear.

However, there are two additional funding mechanisms currently available to local authorities for infrastructure projects – Tax Incremental Financing (TIF) and the Community Infrastructure Levy (CIL) – which could be extended further.

Tax Incremental Financing (TIF) allows local authorities to borrow money for infrastructure projects against the expected incremental rise in business rates as a result of the project. TIF has been pioneered in Scotland, where, for example, Glasgow City Council was able to raise £80 million of finance against future incremental projected business rates for the Buchanan Quarter regeneration.⁴²

Wider use of TIF in England and Wales is to be encouraged, but the sums involved are, in the context of the funding gap, modest. In 2013/14 the total likely investment will not exceed £150 million.⁴³ So TIF is unlikely to make more than a relatively modest contribution to increasing infrastructure funding.

The Community Infrastructure Levy (CIL) allows local authorities to raise a levy from developers undertaking new building projects in their area. The money is used to fund infrastructure needed in connection with the development. So CIL is in effect a local tax on new development, designed to make a contribution to the infrastructure the new development will require. CIL is one of the funding mechanisms used for London's Crossrail project.

CIL has the potential to raise up to £1 billion in the five years 2011-2016, according to the Department for Communities and Local Government.⁴⁴ As with TIF, this additional funding is to be welcomed, but is relatively modest.

Increased borrowing

Could the UK borrow more to finance infrastructure? This involves postponing the need to pay for infrastructure by shifting the burden from current users and taxpayers to their children.

It could be argued that borrowing to finance infrastructure, which has long term benefits, is different from borrowing to

42 www.bbc.co.uk/news/uk-scotland-glasgow-west-20080526

43 'Budget 2012', HM Treasury, March 2012, para 1.225.

44 'Community Infrastructure Levy – An overview Department for Communities and Local Government', May 2011.

fund deficits on the current account. The situation is analogous to a household resorting to a payday loan to finance weekly expenditure, contrasted with taking out a mortgage to fund the purchase of a property which the household will enjoy for years to come. Is there perhaps a way of distinguishing 'profligacy debt' from 'investment debt'?

Something of this sort was tried by Gordon Brown during the last Labour administration. Under the 'Sustainable Investment Rule' the government planned only to borrow to fund investment. Under the pressure of staying within his self imposed 'Golden Rule', Brown took a very broad view of what counted as 'investment', to the extent that much current expenditure was re-classified as 'investment'.

Debt is debt, however it arises. Debt carries the obligation to pay interest and repay the debt at the agreed time. For the UK, additional borrowing simply adds to UK sovereign debt, which future generations will have to service and repay.

Clearly, as with TIF, where incremental increases in tax can be foreseen as a direct result of infrastructure spending, there is a good argument for financing through borrowing, with a view to future incremental tax funding the infrastructure. But as we have seen, TIF is only likely to raise a relatively modest amount.

More user funding

As set out above, about two thirds of UK economic infrastructure is entirely led and financed in the private sector through charging users. In sectors such as energy and water an economic regulator sets user charge ranges, based on an assessment of an acceptable and agreed return on capital, taking account of allowable costs, potential efficiencies and (to some extent) the need for investment in equipment upgrades and new infrastructure.

The average annual electricity bill in 2012 was £479.⁴⁵ With the total number of households paying electricity bills standing at about 32.3 million, the total annual usage charges for electricity

⁴⁵ Average annual domestic electricity bills by home and non-home supplier (QEP 2.2.1), www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics

stood at £15.47 billion⁴⁶ in 2012. Every £1 added to average annual household electricity bills would raise an additional £32.3 million across the electricity industry. An additional 10% on average bills, raising them to £527 would generate an additional £1.5 billion annually for the system.⁴⁷

Increasing user charges significantly is unpopular, particularly since economic factors beyond the government's control (eg gas prices) have already increased charges steeply.

There is very little clarity about how the planned and future infrastructure programme is going to be funded through increases in user charges. The National Audit Office (NAO) in its recent report on economic infrastructure planning identified the "failure to assess the cumulative impact on consumers of funding infrastructure through user charges" as a "key risk" to value for money.⁴⁸

The NAO concluded that:

"The full impact of economic infrastructure investment on consumers in future years is unclear. Limited public resources mean that the burden of funding is likely to shift towards the public as consumers, rather than taxpayers. ... In our opinion, while the existing information is useful, it does not provide clarity for consumers on the overall burden they may bear in funding new infrastructure."

This lack of clarity is not only a problem for consumers. As several fund managers we interviewed told us, it is also damaging to the UK's infrastructure financing climate because of the high level of uncertainty it introduces about where future funding will come from to pay for financing costs over time. This makes it impossible to attract financing, not because there are not sufficient institutions prepared to finance infrastructure projects out there, but because there is uncertainty about how likely it is that there will be sufficient funding from increased user charges to pay back financing costs over time.

46 Total household expenditure on energy in the UK (QEP 2.6.1), www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-s

47 This is a rough order calculation and likely to be an over estimate, since the relationship between price and revenues is not linear: consumption tends to reduce as utility prices increase.

48 'Planning for economic infrastructure', National Audit Office, January 2013 p8.

Achieving an equitable balance between infrastructure funding from tax and user charges

Getting the balance right between what is paid for through taxation and directly by users is difficult, and raises sensitive issues about fairness. For example, revenue raised in indirect tax from fuel duty for the Exchequer in 2012-13 was £26.6 billion.⁴⁹ Revenue raised from Vehicle Excise Duty (VED), which is a direct tax on vehicle users, in 2012-13 is projected to be £5.9 billion⁵⁰ According to the Institute for Economic Affairs, about £30 billion more is raised by VED and fuel duty combined than is spent on roads.⁵¹ Thus, most of the tax motorists (and other fuel users) pay goes to fund general government expenditure. This means that the arguments for introducing charges for new road infrastructure will need to show how more government funding will reach the road network.

It is positive that there has already been a significant increase in taxpayer funding for road infrastructure announced by the government. The Highway Agency's capital budget is planned to increase in the five years from 2015-16 to 2020-21 from £1.5 billion to £3.8 billion.⁵²

We suspect that in addition to this increase from the taxpayer, funding new road infrastructure will require additional user charging in due course. The CBI's proposal⁵³ to introduce a Regulated Asset Base (RAB) model for financing additional road infrastructure merits consideration. The RAB model already applies to the majority of the UK's economic infrastructure, and extending it to roads should be considered in the light of the recent announcement that the Highways Agency is to be transformed into a publicly owned corporation.⁵⁴

49 www.hmrc.gov.uk/statistics/receipts/receipts-stats.pdf

50 Autumn Statement 2012, Table B.3: Current Receipts (OBR forecast), www.gov.uk/government/uploads/system/uploads/attachment_data/file/185453/autumn_statement_2012_complete.pdf

51 'Time to Excise Fuel Duty?', The Institute for Economic Affairs, November 2012, p. 13. www.iaea.org/sites/default/files/publications/files/Time%20to%20excise%20fuel%20duty_0.pdf

52 'Investing in Britain's Future', HM Treasury, June 2013 p8.

53 'Bold thinking – A model to fund our future roads', Confederation of British Industry, October 2012.

54 The introduction of a RAB model for UK roads would require learning the lessons from other sectors where the RAB model already applies. A recent CentreForum report found structural problems with regulation in the UK water industry, which is already part of the regulated asset base - www.centreforum.org/index.php/mainpublications/505-money-down-the-drain .

Diverting further funding from elsewhere

More funding for infrastructure can be raised by diverting money from other government spending, as was done in the 2013 budget.⁵⁵

The problem with this option is that at a time when the government is cutting overall public expenditure very significantly it is unlikely to be realistic for a further £7 billion to be found each year at the expense of other spending priorities. In the short to medium term we do not see anything but a small additional reallocation as deliverable.

Of course, when the UK budget finally starts to go into surplus it will be an option to use this to help fund the infrastructure gap. But unfortunately this is likely to be several years in the future, and it will not inject further funding into infrastructure in the medium term.

⁵⁵ 'Investing in Britain's Future', HM Treasury, June 2013.

■ Conclusions and recommendations

We urgently need an affordable, funded UK infrastructure programme, not a wish list

We have seen that there is insufficient clarity about infrastructure funding. A lack of *finance* is not the problem. Funded, well-structured projects succeed in attracting *financing*. It is unlikely that the UK will be able to afford to increase levels of funding further by raising new taxes and/or increasing user charges to much higher levels. Further re-prioritising of spending from other areas to infrastructure investment is also unlikely to be possible.

So what can be done?

The UK needs to live within its means. If the UK cannot afford the funding to support spending £40 billion a year on infrastructure we need to do what any household or business would do in the same circumstances – prioritise spending in accordance with what we can afford.

Infrastructure UK and the Treasury are getting a better grip on total planned spending on infrastructure (public and private) than used to be the case. But the infrastructure pipeline is a wish list. It is not a funded, prioritised, deliverable programme.

Setting up a new infrastructure quango is unnecessary and will cause delay

Who should produce the programme? We discussed above proposed new structures such as a Department of Infrastructure, a National Infrastructure Commission, or a similar quango.

We are clear that such a structural change is unnecessary, would be a distraction, and would delay the process of facing

up to prioritising the projects the UK can afford to implement. Worse, such a body would in all probability provide long term strategic advice on infrastructure needs divorced from funding, affordability and implementation responsibility.

Clarity about affordability

Lord Deighton (who as Commercial Secretary to the Treasury is charged with pan-government responsibility for UK infrastructure) has already announced⁵⁶ that he intends to turn Infrastructure UK's list of infrastructure projects into a deliverable programme, and that he will announce this in the Autumn Statement 2013. This is good news, but only if the new programme provides clarity on funding, and demonstrates that the programme is affordable.

The new programme needs to be clear about affordability. It needs to consider and set out options for charging users more and introducing charges in sectors where most costs are currently funded from taxation. It needs to be absolutely clear how each and every project in the portfolio is going to be funded, and that the programme as a whole is affordable.

The large spreadsheet which contains the current pipeline⁵⁷ has many fields, but scant detail about how or if they have been funded. This information is crucial to developing a realistic infrastructure programme and a much better sense for financiers about infrastructure deal flow.

As well as funding clarity, more detail about whether projects in the programme are already financed (and how) will be needed. Financing opportunities should be highlighted so that potential financiers can become involved. Even funded, well structured projects do not generally sell themselves – they have to be marketed effectively to potential financiers.

56 'After Olympics, Deighton takes on infrastructure challenge', Financial Times, 30 July 2013.

57 www.gov.uk/government/publications/infrastructure-investment-pipeline

A system wide approach to priorities is needed

With limited funding available, prioritisation of projects will need to take account of system wide needs, not just look at particular projects in isolation.

This is because the benefits available through improved infrastructure networks need to be prioritised as a system. For example, there is obviously no point in having the world's best broadband network if the electricity infrastructure to power it has inadequate capacity and resilience.

Projects must be prioritised with full consideration of opportunity costs

The debate on major infrastructure projects needs to take account of opportunity costs as well as individual project benefit-cost ratios.

Opportunity cost measures the difference in benefit-cost between chosen investments and others that are given up as a consequence. Thus, deciding to invest in one set of projects which consume the entire budget means that other projects cannot go ahead because there is no money for them.

The High Speed 2 (HS2) rail project illustrates the point. Current estimates are that it will cost about £50 billion⁵⁸ which would fund beneficial projects across a range of sectors. One commentator noted that for the cost of HS2 you could fix the nation's potholes, upgrade the existing West Coast Main Line, fix other rail bottlenecks, turn busy A-roads into dual carriageways, build a third runway at Heathrow, invest £2 billion in cycle networks and provide superfast broadband across the country.⁵⁹

Alternatives to HS2 can be built for a fraction of the HS2 projected costs. The Atkins report on alternatives to HS2 has concluded that investment of £2.6 billion could increase long distance capacity on the West Main Line by an additional five trains an hour, with journey time reductions to Birmingham and Manchester.⁶⁰

58 This figure comprises £42.6 billion for the route and £7.5 billion for the rolling stock – see www.hs2.org.uk/about-hs2/facts-figures/route-trains-cost.

59 M Ridley, "Hadrian's wall was a marvellous mistake; so is HS2", The Times, 26 July 2013.

60 'High Speed Rail Strategic Alternatives Study – Update Following Consultation', Atkins, 2012.

No doubt the debate over HS2 will rumble on for some time to come. What is clear is that a deliverable and affordable programme means one in which some pet projects will need to be canned so that others can be prioritised.

Difficult choices have to be made. But that is why we elect governments.

Recommendations

1. The forthcoming revised UK infrastructure programme needs to:
 - ⋮ be clearer about what the UK can afford to fund;
 - ⋮ prioritise projects to meet UK needs;
 - ⋮ take a system wide approach to priorities, including opportunity costs.
2. Look to use Tax Incremental Financing more so that those who benefit from infrastructure investment bear some of the costs of construction.
3. Increase user charging in sectors such as road transport where these are easily captured.
4. Continue to improve the efficiency of government procurement and infrastructure development.

■ **Appendix - project methodology**

We undertook this project in 2013 as set out below.

Stage 1 – Desk research

- Identification of key stakeholders to inform research content and effective consultation;
- Research into past reports on the issue;
- Research into overseas experience, especially Canada and Australia;
- Development of discussion guides for individual interviews and group workshops;
- Drafting of report outline.

Stage 2 – Consultation

- Face to face interviews and/or group workshops with key players as identified in Stage 1 (see list opposite).

Stage 3 – Reporting

■ List of interviewees

We are grateful to the following individuals who we interviewed during this study.

Toby Buscombe – Global Infrastructure Team, Mercer.

Owain Ellis – Infrastructure UK, HM Treasury.

John Hale – Investment Affairs Manager, ABI.

Robert Hingley – Director of Investment Affairs, ABI.

Mario Lopez-Areu – Senior Policy Advisory (Employee Relations and Pensions), Confederation of British Industry).

Chris Nicholson – Special Advisor to the Secretary of State for Energy and Climate Change.

Alexandra Noble – Business Development Executive, Allenbridge Investment Solutions.

Rowan Ree – Policy Advisory (Infrastructure), Confederation of British Industry.

Gareth Robertson – Chief Operating Officer, Allenbridge Investment Solutions.

Doug Segars – Infrastructure UK, HM Treasury.

Joanne Segars – Chief Executive, National Association of Pension Funds.

Dr Tim Stone CBE – Global Senior Advisor, KPMG Corporate Finance.

Ed Thomas – Director of KPMG’s Transport Advisory Group and Secretary to the Armit Commission.

Andrew Wiggins – Head of Institutional Distribution (UK), Allianz GI.

Seth Williams – Head of Public Affairs, Membership and Events, ABI.

Deborah Zurkow – CIO and Head of Infrastructure Debt, Allianz GI.

■ Glossary

Benefit-cost ratio	The ratio of the benefits of a project, expressed in monetary terms, relative to its costs, also expressed in monetary terms. Benefits and costs are expressed as net present values.
Debt financing	Providing a loan to a project which is paid off, with agreed levels of interest, during the course of the project life.
Economic infrastructure	The economic infrastructure sectors are communications, intellectual capital, energy, transport, waste and water.
Equity financing	Taking an ownership stake in a project's assets. Equity financing carries the rewards and risks of ownership.
Financing infrastructure	Providing cash to meet the up-front costs of building infrastructure assets, on the basis that the financing plus a return will be repaid by project cash flows over time.
Funding infrastructure	The cash flows which pay for the infrastructure assets over time, paid either by those who use the assets, taxes, or both.
Monoline insurance company	An insurance company that provides guarantees to issuers that enhance the credit of the issuer.
Opportunity cost	The difference in return between a chosen investment and one which is necessarily passed up.