

MAKING PUBLIC INVESTMENT SMART

**Response to HM Treasury and IPA
Infrastructure Finance Review, March 2019.**

A Social Democratic Future.

A Social Democratic Future was established in 2009 as a politically non-affiliated independent organization dedicated to the identification of feasible and effective policy pathways to economic efficiency and equality.

Website: <https://www.asocialdemocraticfuture.org>

Contact: asocialdemocraticfuture@outlook.com

Summary

The level and quality of public infrastructural investment directly influences future macro-economic performance. It must meet macro-economic and social requirements and be efficient in selection and execution.

The UK investment record falls short across both inter-linked counts. For many decades there has been under-investment in productive infrastructure assets.

The wrong projects have often been selected, leading to wasteful expenditures, attached with high opportunity costs, on one hand, stopping potentially more productive project seeing the light of day, on the other.

And, in addition, arrangements that combine private and public financing in the most efficient way have failed to develop, contributing to under-investment and inefficient selection and delivery outcomes.

The curtailment of the Private Finance Initiative (PFI) in the Budget 2018, following its dismissal as a 'fiscal illusion' by the Office of Budget Responsibility (OBR) in 2017, provides testimony to that.

Other Public-Private Partnerships (PPP) from the London Underground Tube PPP to the recent Thames Tideway have involved expensive use of private money often combined with hidden subsidies that have or will ultimately have to be met by the consumer or from the public purse.

Progress has been made. The establishment of the Infrastructure Projects Authority (IPA) in 2016, and the National Infrastructure Commission (NIC) in 2017, provides potentially a stronger institutional footing for the effective planning, funding, selection and execution of infrastructural projects.

There is better shared political understanding of the role that public infrastructural investment must play in underpinning a future sustainable productivity-driven growth economy.

Yet the fiscal and institutional environment for the funding, selecting, and delivering of infrastructure remains, unfortunately, unfit for purpose.

This [Infrastructure Finance Review](#) (the Consultation) seeks stakeholder views on securing private finance in support of productive infrastructural provision in such a way that the 'benefits brought by private finance must outweigh the additional cost to the taxpayer of using private capital', (*para. 1.9*) and institutional options for delivering government support for infrastructural finance, including establishing a new

operationally independent institution in the expected post-Brexit environment, in which UK will no longer benefit from access to the European Investment Bank (EIB).

The considered view of *A Social Democratic Future* is that without reform to the wider fiscal framework impacting upon the availability of public capital resources for productive economic and social infrastructure, continuing under-investment is inevitable and that – despite the public policy commitment cited in para.1.9 – private finance will be used to meet the funding gap in ways that will involve net higher public costs and hence public debt and borrowing over project life-times and/or hidden taxes and charges on consumers, with regressive incidence on household budgets.

Section 2 of this submission explains why the essential purpose of this consultation depends on ending the discrimination against public investment within the current unitary cash- based fiscal framework in more detail, putting the development of the fiscal rule framework into historical, political, and economic context.

Section 5 examines the issues and factors affecting the relationship between contractual form and envelope (conventional, PPP) and the achievement of whole-project efficiency, recording and applying the lessons learnt from nearly three decades use of PFI. These are tabulated and summarized in *Table 1*.

The conclusions of both sections are distilled into Recommendations 1-5.

Reform of the fiscal treatment of investment

An in-built institutional bias against investment remains built-in within the public expenditure system. This results in under-investment.

A recent case in point is the paring of the upgradation of the Trans-Pennine line, losing the Greater Manchester and West Yorkshire regions substantial potential growth and productivity gains.

The NIC is hamstrung by its Fiscal Remit which bears no necessary and actual relationship with the needs of the wider economy and society for economic and social infrastructural investment.

It was set rather by the imperative to meet a blunt unitary fiscal target that lumps together recurrent annual recurrent with investment expenditures that although concentrated in the short-term bequeath long-term economic benefits.

Recommendations 1-5:

1. The 2019 Spending Review (2019SR) should increase the NIC's current Fiscal Remit and disentangle it from unitary cash-based fiscal targets, in accordance with recommendations 4 and 5 below.
2. The NIC should provide evidenced assessment of the future volume need for public investment and its sequencing to the Treasury.
3. A reformed fiscal rule framework should put public procurement and PPP's on a level playing field. Consistent with that:
4. Capital spending on both conventional and PPP's should be freed from year-to-year financial cash-limits, but their modelled future revenue liabilities included in future government debt projections used to assess future debt sustainability.
5. The choice of procurement route for publicly-supported procurements should strictly and wholly be determined by relative whole-life project efficiency; the NIC and IPA should ensure that business cases, options appraisals, and contract documentation should reflect that requirement through the development of standardised documentation, project audits, and wider assurance activity.

Institutional reform covering the selection and ordering of projects

Section 3 of this submission surveys the current institutional environment for infrastructural investment in the wake of the recent establishment of the IPA and NIC.

It underscores the imperative for institutional reform to secure demonstrable efficiency in the selection, planning and delivery of infrastructural investment and that this must be made integral, and not subsidiary, to the design and operation of fiscal rule reform, as greater fiscal latitude must go hand-in-hand with greater demonstrable efficiency in project selection and execution.

Recommendations 6-7:

6. The NIC should assist each government department to publish an annual Departmental Investment Plan (DIP).
7. Each DIP should prioritise projects according to their estimated economic and social return, incorporating auditable information on the methodology applied to rank projects according to their expected whole project-life return.

Optimal ranking of the relative macro-economic worth of competing projects is, however, difficult to achieve in practice for many reasons.

These include the complexity of the wider policy environment in which the selection and prioritisation takes place; the related need to balance competing multiple objectives; the existence of contingent political pressures that can favour some projects for reasons other than their economic and overall worth, as well as capacity constraints within the public sector to apply effectively project appraisal methodologies, which like all economic tools, are also only as robust as their underlying assumptions allow them to be.

Recommendations 8-10:

8. The IPA should be specifically tasked and resourced to expand the pool of personnel skilled and experienced enough to conduct the project appraisals underpinning DIP's.
9. Partnerships with universities and the private sector could also be developed in order to develop the methodological base and to enlarge and deepen the skill set of appraisers.
10. The National Audit Office (NAO) should periodically audit DIP's and their methodological bases.

The efficiency of public investment, as well as its overall macro-economic impact, will also depend on the availability of materials, equipment, and required inputs of skilled professional and craft labour and related supply side conditions.

Varying investment levels to regulate aggregate demand for macro-economic stabilization purposes is likely to be contrary to the efficient planning and delivery of the investment pipeline and projects.

Progress towards the attainment of a steady state planned and coordinated level of infrastructural investment would help to maximise growth and productivity outcomes.

The IPA and NIC should embed that in its appraisal and review activities, consistent, with *recommendations 2, 6 and 7*.

Recommendation 11:

11. The future availability and planning of labour and material inputs critical to the requirements of the Infrastructure Pipeline should be subject to joint IPA-NIC review, in partnership with the private sector.

Reducing the cost of productive infrastructural investment

The reformed fiscal institutional and policy environment that *Sections 2 and 3* set out should help to incentivise public and private providers of infrastructure to develop positive supply-side practices in relation to supply chain management and the training and use of labour, so improving balanced growth and productivity outcomes.

Certainly, greater certainty in fiscal planning should foster efficient public planning and programming of projects and a greater degree of partnership planning between the public and private sectors.

One practical example of the potential of public investment to engineer sustained structural improvement in the economy is a sustained increase in affordable housing investment to a known broad steady-state level planned and meshed with the targeted and planned expansion of apprentice and training opportunities to indigenous workers.

Leaving aside social impacts, that should help to mitigate and avoid existing and future labour bottlenecks within the industry, enhancing human capital and productivity outcomes within it, especially as a shortage of bricklayers and plumbers is likely to trigger escalating wage-inflation (particularly with post-Brexit restrictions on EU intra-labour mobility) with the next cyclical unplanned upturn in private housebuilding activity.

It was indeed puzzling why the Consultation excluded social infrastructure. Its planning, funding, selection, and execution has macro-economic as well as social impacts, as *section 1* points out. Under-investment will undermine efforts to achieve the step-increase in growth and productivity that the UK so desperately needs to escape continuing stagnation.

Moreover, given the competition for public capital resources, and to avoid Councils and other commissioning public authorities reverting to private financing arrangements involving the 'fiscal illusion' that dogged PFI, it is vital that the reformed institutional environment applies to both social and economic infrastructure.

Recommendation 12:

12. The definition of infrastructural investment should be widened to cover social infrastructure, including housing.

Section 5 of this submission points out that the sheer scale of future infrastructural funding requirements means that in the absence of the development of alternative and innovative public funding mechanisms, many productive projects will not proceed, regardless of the design and operation of an effective and combined reformed fiscal rules framework and infrastructural institutional environment.

The true fiscal crisis should be recognized: the demand and need for productive public expenditures across both current and capital budgets will inevitably outstrip public willingness to pay through efficient and salient sources of taxation within a competitive short-term political system. In that light, the costs of providing infrastructural investment needs to be reduced by tackling market failures and rent-capture directly.

Housing is a case in point where wider entrenched and endemic market failure requires more radical and comprehensive reform than the micro-reforms to lending institutions and arrangements that the Consultation focused on.

These could include reducing the cost of public investment by direct land value capture through the reform of the compulsory purchase rules, and the use of a public lending intermediary to channel capital to a wider range of private firms on a more steady-state rather than fluctuating cyclical basis, at minimal long-term public subsidy.

Likewise, the future long-term rental income and sales of a steady-state affordable housing programme could be securitised to provide collateralised backing for its public funding.

Land value capture linked to the extension of compulsory powers to acquire at existing use value and a maximum set premium would serve to reduce the land value component of new housing provision: a cost that has magnified since the mid-fifties.

Similar sectoral strategies should be developed, such as for life-long education, health, and medical research, other sectors and incorporated with the DIP process in accordance with *recommendations 6 and 7*.

Recommendation 13:

13. Sectoral and departmental infrastructure strategies should identify, address, foster and link to joined-up policy efforts to make public investment less costly in net

public expenditure terms through addressing market failures, inducing greater competition, and identifying innovative public funding mechanisms, within the DIP process, with the support of the IPA and NIC.

Recommendation 14:

14. Consideration should be given to the established of a dedicated funding intermediary that could take equity stakes in economic and social infrastructure where long-term return (for example, linked to revenue streams, such as rents rising with inflation, interest on loans, profit-shares) could be realized for public recycling purposes.

1 Introduction: What is productive infrastructural investment and why it is economically important.

Increased productivity – broadly defined as the amount of output produced per person per hour – is key to raising living standards and the quality of life.

This is because changes in productivity is very closely related to Gross Domestic Product (GDP) per capita. It drives economic growth. Measures of household income tend to track it over-time.

The rate and composition of economic growth determines the amount of resources available to be shared between:

- private consumption;
- public spending on services, including education, health, social security, and housing, and;
- public and private investment in new and even more productive capacity and infrastructure, both economic and social.

Transformative economic growth requires the establishment of infrastructural transport, energy and communication networks.

Such networks allow and enable the effective and efficient movement of goods and people, the powering of factories and enterprises, and the sharing of commercial-critical information.

The industrial transformation of the UK, German, and US economies in the nineteenth century, the East Asian economies (Japan, from the 50's, and to varying extent, the Korea, Singapore Malaysia, and Thailand, and, more recently, of the Chinese and, in continuing part, the Indian economies, provide historical confirmation of this intuitively common-sense observation.

The provision of sanitary and hygienic living environments for workers and basic literacy and numeracy - a modicum of universal education – increasingly through publicly-funded social infrastructure, progressively followed that industrial transformation in Europe, and often preceded it across East Asian economies.

Bank of England data indicates that the annual UK growth rate was:

- below 1% until c1840 (with big yearly and cyclical variations related to agricultural events and other mainly war-related shocks);
- around 1% until the late 1940's, before rising to;

- to around 3% during the post-war boom period that lasted until 1973, when the OPEC oil price shock struck;
- It fell an average of around 2% in subsequent decades with most recent decade in the wake of the Great Financial Crash in 2008 (GFC) marked by at best stagnant productivity.

As economies mature and services replace primary and manufacturing production as the main source of growth, the provision of education, sanitary, and housing and other services that allow the inputs of labour and capital to be combined efficiently and sustainably becomes increasingly important, leaving aside their relationship to political stability and social cohesion.

The impact of the development of the UK railway system in Victorian Britain, the interstate highway system within the US before and after the second world war, provide clear examples of the first-order effects of infrastructural investment at scale on productivity and economic growth.

The development of the arterial roads and public transport system around London in the thirties along with the establishment of the electricity National Grid, allowed an overcrowded and badly housed inner-city population to move to more healthy and secure suburban homes and productive enterprises to establish and expand in more spacious green-field, but well-connected, sites.

Such modern enterprises utilized capital to harness the most modern industrial machinery and processes that increased labour productivity, and hence wages and profits.

Post-war, the building of the motorway system, improved universal access to education, as well as mass car-ownership, tended to reinforce that virtuous circle. Industry became more footloose, expanding production in well-connected modern factories, whose workers could commute by car, within a wider macro-economic environment marked by steadily rising incomes and demand for most of the products produced that encouraged further productivity-enhancing investment in plant, machinery, and human capital: a positive feedback circle.

The de-industrialisation of the eighties was followed by an accelerated sectoral shift into financial, professional and other services. Productivity-enhancing technological and process innovations in the computer and information-technology areas proved key to their expansion.

These and the later roll-out of digital broadband infrastructure networks helped to enable and encourage the agglomeration of workers - particularly skilled and educated workers in the services sector - back into high density urban centres, large cities

especially. The population of London, for example, after falling continuously from 1939 to the mid-eighties, rose, and continues to rise.

Agglomeration of specialized economic activities produces second-order productivity gains. These derive from improved matches of jobs and people, the sharing of information, knowledge and innovation, as well as facilitated market access.

Such agglomeration spill-overs – or the external benefits of concentration - are not new: early industries, such as nail, instrument, and cutlery-making benefited from the spatial concentration of producers in particular locations, in terms of close access to skilled labour and complementary intermediate good supply chains and markets for finished goods.

As the secular trend for service sector has ever-more-predominant within the wider economy, the scale and significance of such agglomeration-related enhancements to productivity has risen and can be expected to continue to rise.

Their effective realization presupposes bigger and more people-dense cities: a trend outcome that, in turn, requires high quality transport, digital, and social infrastructure in housing, education, and, to a degree, cultural services, to a rising and more demanding population.

In the UK context, that means supporting primarily the densification of London, and other high-productivity clusters. That, of course, potentially conflicts with regional spatial and social equity and cohesion policy imperatives, and certainly is in tension with them.

A clear need in the post-Brexit environment has emerged to support and foster the recovery and rejuvenation of smaller cities and towns, generally concentrated around the coast and north of a line drawn between the Humber and Wash, and Cornwall, areas also that will particularly suffer from the future loss of EU Structural Funds.

Reconciling both will prove challenging, to say the least. It must, however, be effectively grasped. That, in turn, underscores the need for a fiscal and institutional environment more amenable to the efficient infrastructural investment in economic and social infrastructure required.

2. Fiscal reform and infrastructural investment

Infrastructural investment that maximises total economic welfare reflecting revenues and external benefits relative to costs incurred, appropriately time-discounted, should be promoted and funded-publicly – either in full or part - where its private funding is not possible or feasible.

This suggests that productive public infrastructure should be defined or measured according to its economic characteristics. But it has not – mainly because such characteristics are inherently difficult to isolate and measure.

Statistics are maintained, rather, according to whether an asset has a life of longer than one year and its funding source – as is the case with the UK Public Finance Dataset – or, more recently, according to functional classification, as developed by the Office of National Statistics (ONS).

This section - based on the data assembled in *Appendix Table 1* - uses the measure of public investment (net of disposals and depreciation) that the Public Finance Dataset has reported since 1955-56, as such a proxy.

Available ONS data is then used to further disaggregate into central, local, general government and public corporation categories, at constant 2017-18 prices, and as a percentage of GDP.

The level of both net general government and public investment measured in constant 2017-18 prices fell sharply by an order of up to a third and a quarter, respectively, in volume terms, and from 3.4% of GDP, since 2008-2010, when it last peaked, to as low as 1.7% in 2013-14.

It has recently recovered and is expected to reach up to c48M and 2.2% of GDP by 2021-22. This, despite claims that ‘public capital investment is set to reach levels not consistently sustained for 40 years’, is well below the levels achieved between April 2008 and March 2011.

As way of historical context, from 1950 to the late seventies, public net investment - expressed as a ratio of GDP - never fell below 3.2%; between April 1966 and March 1971 it exceeded 6%, peaking at 7.4% during 1967-68.

It then collapsed progressively to 0.7per cent of GDP by 1988-89, or barely one per cent of total public expenditure. That low coincided with the boom engineered by then Chancellor, Nigel Lawson, seriously overheating the economy, leading to subsequent rising inflation. In effect, public investment was crowded-out by excessive private investment and consumption.

The creaking and antiquated railway infrastructure of London and south-east, to take the most striking instance, had by then become patently inadequate to the task.

Public under-investment in infrastructure was widely recognised as a threat to the capital's continued economic growth.

This proved amenable to the emergence of a nascent overlapping technical and political consensus that public investment had fallen below an economically optimal or sustainable level and that it needed to increase again.

And, indeed, public investment from that record low base did recover in the early nineties, albeit only to 1.9% of GDP.

But a recession - made much worse by interest rates being raised to historic highs in order to maintain the UK's membership of the European Exchange Rate Mechanism (ERM) at an overvalued sterling rate - had then begun to damage the public finances again.

In order to regain a balanced budget or surplus, the Major government found it politically easier to cut future planned investment than existing current programmes involving making visible reductions in services and jobs with a user constituency,

Consequently, investment fell back again to below 1% of GDP during the remainder of the decade.

Following the election of New Labour in 1997, the new Chancellor, Gordon Brown, introduced a rules-based fiscal framework.

First, the 'golden rule' permitted borrowing to fund investment over the duration of an economic cycle, but not for current spending.

Second, a 'sustainable investment rule' required public debt to be kept at a stable and prudent level, which was taken to mean that net public debt, as a proportion of GDP should be reduced below 40%.

One purpose of the second rule was to safeguard against uncontrolled levels of public investment pushing up the debt burden to the point that it failed to provide the government with sufficient reserve elbow room to counteract a future economic shock by a fiscal expansion.

Another concern was that the financial costs of investments imposed excessive claims on future taxation revenues contrary to inter-generational fairness, especially where the benefits were social, rather than financial or economic in content.

The setting of a 40% ratio was, however, arbitrary and not based on any real evidential economic grounds.

In actuality, the impact of the 2008-09 Great Financial Crash (GFC) – largely an external shock resulting from leveraged international lending on sub-prime US mortgage assets – on the public finances, ten years on, rendered the sustainable investment rule redundant: public borrowing ballooned to prevent a re-run of the 30's depression.

Ironically, or, perhaps, inevitably, unbridled financial liberalisation linked to the ascendancy and over-reach of neo-liberalism as it had developed from the eighties onwards led to an economic crisis caused by excess private, not public, debt.

The front-loading of the cash costs of investments into the short-term and their immediate impact on net debt, when their benefits accrue over the long-term meant, however, that discrimination against investment expenditures remained under New Labour's cash-based fiscal framework.

The ordering of the golden and sustainable investment fiscal rules, in addition, produced a perverse incentive for public infrastructure assets to be procured off-balance sheet, through Public-Private Partnership (PPP) arrangements, primarily the Private Finance Initiative (PFI), insofar that their up-front capital costs, depending on their accounting treatment, were not counted as public expenditure and did not add to either the fiscal deficit or net public debt measures.

Such arrangements did, however, bequeath long-term financial public revenue liabilities, with client authorities having to pay, generally over 30 years, annual reoccurring charges covering the provision and maintenance costs of the assets in question, plus private profits, leading to the final ending of PFI in 2018, as *Section 4* details.

Overall, net public investment under New Labour, measured as a proportion of GDP, recovered only slowly to exceed 2% in 2004-2005, before peaking at 3.4% during 2008-10; still well below average post-war levels.

Apart from the specification of the fiscal rules, underspending of departmental capital budgets was a brake on achieving a higher investment outturn. For example, during 2005-6, recorded net public investment was more than ten per cent lower than the £26bn projected two years earlier.

With the election of the coalition government in 2010, and the appointment of George Osborne as chancellor, the 'Golden Rule' was jettisoned.

Investment again bore the brunt of cuts in public expenditure that the 2010 public expenditure review made to reduce the borrowing deficit.

The housing capital programme was cut by over 40% in cash terms, for instance, during a period when total new housing supply was collapsing to levels not experienced since the second world war.

Excess corporate saving resulted in a dearth of investment within the economy that should have been offset by substantially higher sustainable levels of productive public investment.

But, instead of raising public investment during a period of record and sustained low interest rates, with the real cost of public borrowing to fund long-term productive assets, to all intents and purposes zero, and when unused capacity was going to waste in the construction and other industries, public investment was slashed, compounding under-capacity and leading to a loss of skills in those industries.

The overall contractional fiscal stance, concentrated on capital spending, proved self-defeating. Efforts to restore the public finances to balance and to reduce the public debt ratio were initially stymied by continuing recession, then delayed and hindered by muted recovery, and subsequently by stagnation.

Mechanistic and varying – and often obtuse – fiscal targets have been missed and extended. Parliament in January 2017 committed the government to reducing the cyclically adjusted deficit to below 2% of GDP by 2020-21 and having debt falling as a share of GDP in 2020-21.

These rules are designed to guide the UK towards a balanced budget by as soon as possible in the next decade. They, however, will constrain public investment below macro-economic requirements and/or continue to encourage the use of private financing arrangements that take spending off-the public balance-sheet in the short-term, even though they will prove more expensive to the public purse over time. The long-term fiscal sustainability of the public finances will be undermined, either way.

It seems that the macro-economic justification for austerity was conflated with a political objective to shrink the state (strategic surplus bias).

A brief interlude occurred prior to the 2015 election, when investment was temporarily increased, as part of a classic electoral cycle response: strategic surplus bias interrupted by a short-lived tactical return to deficit bias.

The Brexit referendum result in June 2016 further unsettled the economy and led directly to the replacement of David Cameron as Prime Minister by Theresa May.

The fiscal austerity tone was softened, but not definitively. It was only when the 2017 election result reduced the Conservatives to a minority government that realisation the contribution that the post-2010 fiscal austerity had made to the prolonged period of recession and stagnation that the UK has suffered since the GFC, seemed to receive a more cogent hearing within government.

Public investment levels were maintained and even increased in both the Phillip Hammond 2017 budgets, at least in future planned levels – which do not necessarily, or often, translate into realised investment – but not to the levels required by the macro economy, as evidenced by the paring of the Trans-Pennine line.

The achievement of currently badly specified fiscal rules that continue to discriminate against investment spending is largely contingent on the performance of the macro-economy, bound to be buffeted by Brexit-related developments.

The operation and impact of these rules that still discriminate against investment will continue to hinder the selection and progress of productive public investment projects.

Efforts to raise the growth rate and to reverse the underlying downward secular productivity trend of the economy, and to hence make the public finances sustainable, will consequently continue to be undermined.

The need for fiscal rule reform

The budgetary cash cost of providing a publicly provided asset is front-loaded during its inception, construction, and mobilisation phases, and thus concentrated in the short-term, making investment projects the first target of public spending cuts during periods of fiscal stress or austerity.

This tendency for investment to bear the disproportionate brunt of public expenditure cuts during periods of fiscal stress, reflects that Investment projects can be postponed at often far less political cost than is the case with current programmes.

Their postponement or cancellation score greater savings to near-term, rather than long-term budgets – an outcome particularly helpful to governments seeking to secure headline public expenditure savings, or poorly specified fiscal rule targets for that matter.

The other side of that coin is that the benefits of investment projects are spread over their entire life, often rising over time. A cash-based public expenditure system fails to register these future benefits.

3. Reforming the institutional environment

The establishment of the Infrastructure Projects Authority (IPA) in 2016, and the National Infrastructure Commission (NIC) in 2017, marks a potential transformation in the institutional environment for infrastructural provision.

Infrastructure Projects Authority (IPA)

The Infrastructure Projects Authority (IPA) was established in January 2016 with the merger of Infrastructure UK and the Major Projects Authority, as the government's 'centre of excellence' for infrastructural project delivery.

Its purpose is to improve the delivery of infrastructure and major projects in line with government priorities, through taking responsibility for the overall project delivery system – or 'ecosystem' – across projects, processes and people.

In terms of governance, the IPA is a government agency that reports jointly to the Treasury and Cabinet Office. It is funded from departmental budgets, is staffed by 150 civil servants headed by a Chief Executive. Ministers retain direct responsibility for decision-making.

Its core Teams include experts in infrastructure, project delivery, and project finance, prioritising four key activities:

1. setting up projects for success by influencing the policy environment, deploying our expertise as early as possible and helping projects access resources;
2. creating market confidence by providing foresight and transparency on the future pipeline of projects and establishing the right financial policies and products to support private investment;
3. building delivery capability by providing world class leadership programmes, career pathways and leading the project delivery and project finance professions;
4. measuring and improving performance of infrastructure and major projects over time, in order to help them deliver benefits for society and provide value for money.

Outputs include:

- maintaining an annual pipeline register of projects including providing an annual assurance rating for major projects, its 2018 Pipeline identifying nearly 700 projects, programmes and other investments of planned projects, programmes and other investments in the pipeline, including around £190 billion to be invested by 2020/21, and a projection of infrastructure investment over the next 10 years of over £600 billion, while noting that the pipeline does not represent a

commitment to undertake all the projects and programmes shown. In privately funded sectors, the decision to go ahead with individual projects will be determined by the market. The pipeline for regulated sectors is consistent with agreed regulatory settlements;

- undertaking over 200 specific assurance reviews of projects linked to Treasury approvals of at business case and other review point stages,
- issuing guarantees with a value of £1.7 billion, supporting £4 billion of investment in UK infrastructure and;
- providing training and upskilling courses and accreditations for infrastructure professional, most notably through – in conjunction with the Oxford Said Business School – its Major Project Leadership Academy (MPLA), and the coordination of the intake of approximately 100 project delivery graduates and apprentices each year.

The National Infrastructure Commission (NIC)

The National Infrastructure Commission (NIC) was established as an Executive Agency of HM Treasury in January 2017. It comprises seven Commissioners appointed by the government, chaired by Sir John Armitt, supported by an Oversight Board and a permanent staff of c.40, currently led by a career civil servant, Richard Graham.

The establishment of the NIC was announced by the-then chancellor, George Osborne, to the Conservative party conference in October 2015, as response to growing concern about the volume and quality of infrastructure investment within the wider context of fiscal austerity.

It is thus a relatively new body with no statutory independent remit. Instead its Charter from the Treasury requires the NIC to support sustainable economic growth across the UK, the improvement of the UK's international competitiveness, and the quality of life of its residents, by:

- assessing national infrastructure needs, carrying out in-depth studies into the UK's most pressing infrastructure challenges, making independent recommendations to the government, in accordance with its Fiscal Remit - also set by the Treasury - and the terms of reference set for specific studies;
- monitoring the government's progress in delivering infrastructure projects and programmes that the NIC recommends.

Otherwise – outside that very significant binding Fiscal Remit - the NIC's Charter provides it with 'complete discretion to determine independently its work programme, methodologies and recommendations, as well as the content of its reports and public statements', in terms of defining the nation's long-term infrastructure needs, prioritising and planning, and testing value for money, to ensure that investment is properly targeted to deliver maximum benefit'.

It also requires the NIC to produce two key outputs.

First, a National Infrastructure Assessment (NIA) once in every Parliament, setting out the NIC's assessment of the UK's long-term infrastructure needs. The first July 2018 National Infrastructure Assessment covered the 30-year time horizon between 2020 and 2050.

And, second, an annual monitoring report, taking stock of the government's progress in areas where it has committed to taking forward recommendations of the NIC. Hitherto, two have been produced, the 2019 Annual Monitoring Report, the latest.

In addition, specific studies, undertaken in accordance with the terms of reference set by the government for each study must be produced, as and when required.

Seven such studies had been completed by 2019, covering new technologies, digital future, smart power, roads for the future, the roll-out of 5G mobile services, the future transport connectivity of London (with particular reference to CrossRail2), and of the North (with particular reference to high speed train connections)

Helping to make public investment smart by reforming the NIC Charter and Fiscal Remit

The ability of the NIC to identify, recommend, order, and sequence infrastructural investments requiring public investment in an adequate and efficient manner is hamstrung by its current Fiscal Remit: stillborn, in effect.

It covers the NIA and any future specific studies that the NIC may complete. It provides the NIC with a gross public investment funding envelope of between 1.0% and 1.2% of GDP in each year between 2020 and 2050.

That limit has no necessary relationship to optimal macro-economic requirements, and no evidence is offered by the government that it does. It was set rather by the imperative to meet a blunt unitary fiscal target that lumps together recurrent annual recurrent with investment expenditures concentrated in the short-term bequeathing long-term economic benefits.

NIC recommendations for economic infrastructure must keep within the Fiscal Remit envelope, taking account of existing commitments, including HS2, Crossrail 2, and Northern Powerhouse Rail, but excluding the spending of the devolved assemblies in Scotland and Wales.

In that light, and crucially, such existing commitments combined with expected maintenance spending on existing assets will consume an estimated 1.1% of GDP between 2020 and 2025, and 0.9% between 2025 and 2030.

Clearly, this will leave very limited fiscal space over the short-to-medium term for new and additional projects, regardless of their economic utility and capacity to produce project lifetime benefits in excess of costs, over time.

The arbitrary limit set will undermine any effort of the NIC to select, rank, and sequence, projects efficiently, given the lumpiness and interdependency of many projects.

For example, to assess and to recommend upgradations and new additions to the intra- and inter-urban transport network to the capital and other urban areas that will be needed, if the posited benefits of HS2 is to be effectively reaped, or if the productivity of under-performing urban agglomerations, such as the West Midlands, held back by congested and inadequate public transport connectivity, is to be brought up closer to European average levels.

Without greater investment funding flexibility, little scope exists, as noted above, for the NIC to assess, identify, order, and sequence, needed productive new economic infrastructure projects.

The 2019 SR should not only increase the NIC's current Fiscal Remit but disentangle it from unitary cash-based fiscal targets.

Looking to the future, a strong case can therefore be made, for the NIC's independent remit properly to be enlarged to cover on-going evidenced assessment of the future volume need for public investment and its sequencing to the Treasury.

Poorly selected projects will generate sub-optimal economic outcomes, even where their contractual arrangements, their structuring of public-private inputs relative to project circumstances, and their execution is efficient.

The flawed institutional arrangements and processes that result in, or contribute to, projects being poorly selected usually continue to impact upon the delivery stage.

It follows that robust, transparent, and credible appraisals of the both the net and relative economic worth of projects are needed.

Greater accuracy and transparency in the production of these should help to maintain financial market confidence in institutional rule-based arrangements designed to raise

and maintain public investment at levels consistent with sustainable long-term economic growth.

In that light, the NIC remit should also be extended to assist each government department to publish an annual Departmental Investment Plan (DIP).

Each DIP should prioritise projects according to their estimated economic and social return, incorporating auditable information on the methodology applied to rank projects according to their expected return.

Optimal ranking of the relative macro-economic worth of competing projects is, however, difficult to achieve in practice for many reasons.

These include the complexity of the wider policy environment in which the selection and prioritisation takes place and the related need to balance competing multiple objectives, contingent political pressures that can favour some projects for reasons other than their economic and overall worth, as well as capacity constraints within the public sector to apply effectively project appraisal methodologies, which like all economic tools, are also only as robust as their underlying assumptions allow them to be.

It is therefore vital the NIC should also be tasked and resourced to expand the pool of personnel skilled and experienced enough to conduct the project appraisals underpinning the plans.

Partnerships with universities and the private sector could also be developed in order to develop the methodological base and to enlarge and deepen the skill set of appraisers.

The National Audit Office (NAO) should periodically audit DIP's and their methodological bases.

The efficiency of public investment, as well as its overall macro-economic impact, will also depend on the availability of materials, equipment, and required inputs of skilled labour and other supply side conditions.

The future availability of these inputs relative to the requirements of the Infrastructure Pipeline should be subject to joint IPA-NIC review in partnership with the private sector.

Varying investment levels to regulate aggregate demand is likely to be contrary to the efficient planning and delivery of the investment pipeline and projects, which rather requires movement to a steady state planned and coordinated level, which such planning should assist.

4. The achievement of whole project-life efficiency

The public sector spends more money on contracts than it spends on providing services itself. During 2014-15, according to [NAO PF1 and PF2 report](#), it spent £242 billion (31% of total government spending) on external suppliers, compared with £194 billion on staff costs.

According to that same report, there are currently over 700 operational PFI and PF2 deals, with a capital value of around £60 billion. Although capital investment using PFI and PF2 has over past 20 years averaged around £3 billion a year – compared to publicly financed government capital investment of around £50 billion a year - annual charges for these deals amounted to a whopping £10.3 billion in 2016-17. Even if no new deals occur, future charges which continue until the 2040s, totalling £199 billion.

The poor previous public sector record in procuring and managing investment projects provided the ostentatious driver of the Treasury's initial expansion of the Private Finance Initiative (PFI) programme back in the early nineties.

PFI is a contractual arrangement where the private sector partner through the establishment of a Special Purpose Vehicle (SPV) is contractually responsible for not only the provision/upgrading of assets for a public client, but also their management, maintenance, and operation for a contract period of usually at least 25 years: in other words, a long-term Design, Build, Finance and Operate (DBFO) contracts.

The SPV raises finance from debt and equity investors to pay for construction. Once the asset is provided and available for use the taxpayer makes the contractually agrees 'unitary charge' payments to the SPV over the contract term.

This payment is inclusive of debt and interest repayments, shareholder dividends, asset maintenance, and other agreed contracted services, generally indexed to inflation.

The injection of private sector project management and financial disciplines into complex large-scale procurements, covering the health, housing, education, justice and transport sectors, was perceived as offering potential and significant efficiency and value-for-money (vfm) gains to the public purse.

The prime initial attraction of PFI, however, was that a considerable amount of up-front investment expenditure on core health, education and transport programmes could be recorded off-public balance sheet, during a time of severe pressure on the public finances.

During the New Labour years, changes in public accounting practice, most notably the introduction of the Golden Rule in 1999, seemed to reduce that incentive for government to choose contractual arrangements on the ground of its public expenditure accounting treatment, rather their ability to deliver overall value-for-money.

In 1999, for instance, the Treasury Taskforce emphasised that the justification of PFI hinged on its ability to secure performance improvements and efficiency savings, not because it offered an additional source of investment finance.

The importance of public clients selecting particular procurement options for particular projects that demonstrate best value for the taxpayer taken on a whole-life project cost basis (after costs and benefits have been discounted in relation to their time profile as to when they are incurred or secured during the project period) continued to be highlighted subsequently.

A National Audit Office (NAO) study back 1999 found that only 30 per cent of non-PFI major construction projects were delivered on time or budget compared to over 70 per cent of PFI projects with respect to time, and 100 per cent to cost, providing technocratic support to its expansion.

This gave some needed technocratic cover to an expansion of PFI during the New Labour years as to means to secure needed additional investment in social infrastructure on schools and hospitals, particularly, in a way that combined economic efficiency and social justice.

PFI and PPP's, accordingly, accounted for a significant proportion of public procurement during New Labour's second and terms – although the 2008 GFC significantly increased the cost of private capital and stalled the use of PFI.

PFI continued, however, to be the government's preferred form of PPP until 2012, when it was replaced by Private Finance (PF2), which, however, was subsequently used only six times, with a total contract value of c900, before it was ended in 2018.

Its use in public procurement was from the outset controversial. Detractors characterised it as a form of hire purchase where the public sector would pay a more expensive price over the entire project period, compared to what it would have done if it had procured the project conventionally and had paid up-front for the asset and procured management and maintenance services separately.

The public sector trade unions also accused PFI as being a Trojan Horse, where private sector companies can whittle away the working terms and conditions of already disadvantaged groups of workers under the guise of operating efficiency.

Often the case for and against the PFI, however, was based on pre-determined assertion and/or the use of partial evidence with undeclared assumptions.

Definitive statements about the relative efficiency of a PFI contract relative to a conventional or other procurement dominated the debate, despite the manifold uncertainties involved.

As usually, the devil was in the complex, technical, and the often obscured, detail.

In practice, Public Sector (cost) Comparators (PSC's), inevitably, incorporated assumptions based on selected previous projects, the costs of which were, sometimes, inflated, to secure the capital funding (PFI Credits) that otherwise were not available to the commissioning public authority. Poor baseline performance levels, likewise, may have been included in business cases to provide evidential justification for using the PFI procurement route.

Indeed subsequent evaluations by NAO (2013 and 2017) concluded that the PSC process that was applied until 2012 (when it was abolished by the Treasury with the introduction of PF2) advantaged PFI over public procurement, concluding that it involved an in-built 'incentive to show that private finance (would) offer better value for money than the PSC, as unless alternative capital funding is made available the project (would) unlikely to proceed'.

PFI at the time provided the only financing option for some public capital investment projects, rendering the prospect of it proving more expensive over time (whole-project-life), less relevant to the commissioning department/council.

Unforeseen additional costs resulting from contractual and other changes, such as termination costs were also not be factored into the original appraisal process.

For all those, and for other reasons, it was always going to prove devilishly difficult, if not impossible, to accurately compare or quantify precisely the relative ultimate and long-term value-for-money (vfm) of conventional and PFI procurement over a 30 year or similar contract.

There was no real way at contract initiation stage to know whether expected and assumed efficiency gains secured from private provision and operation would in practice be realised over the contract term, both in quantum and timing profile.

Some honesty on that point from the start could have saved the false start that PFI proved to be with its associated substantial financial and service delivery costs.

A 'chicken and egg' problem in securing potential efficiencies from the PFI route was also not often frankly recognised: a mature market characterised by many prospective private participating partners was envisioned.

But the development of such a mature market presupposed the prospect of future returns n scale and realizable sufficient in practice to attract enough market players to enter and contest the market and make it competitive on a sustainable basis.

Participation in a less than mature market was likely and proved to be relatively expensive. The learning curve had to be climbed. Uncertainty led to higher risk-pricing, leading to complaints about the supra-normal returns that some early PFI's reported.

At the same time, the prospect of incurring high transaction costs during a protracted and novel procurement process discouraged market interest, resulting in limited competition, sometimes confined to one bidder shortlists.

In practice, an effective 'managed' market - given such imperfections - was the best effective outcome that could have been hoped for. That remains the case for a future PPP sector, and should be recognised from the outset.

In that light, it is important that future PPP arrangements are designed and selected that can demonstrably add-value in terms of evidenced superior whole-life performance, rather than providing a means to achieve in lower recorded levels of government debt and public spending in the short term.

Unlike conventional public procurement, debt raised by PPP's to construct assets can avoid featuring in government debt figures, and the capital investment is not recorded as public spending even where it is for the public sector.

Such arrangements - within the current cash-based public accounting system - can allow public bodies to invest in capital projects when they do not have sufficient capital budgets as the costs are spread out over time, while it can be attractive to government as recorded levels of debt will be lower over the short to medium term (five years ahead) even if total costs are significantly more over the entire project-life, due to the operation of mechanistic debt-to-GDP-type fiscal rules.

For that reason, the NIC's proposed analytical framework for comparing the whole life costs and benefits of private financing and traditional procurement on an objective whole-life project basis seems an incomplete starting-point.

Its future effective development will wait upon the establishment and embedding of economically appropriate institutional arrangements for the design and setting of the future public funding envelope for public infrastructural investment. Such a reformed fiscal rule framework should put public procurement and PPP's on a level playing field.

Capital spending on both conventional and PPP's should be freed from year-to-year financial cash-limits, but their modelled future revenue liabilities included in future government debt projections used to assess future debt sustainability.

The choice of procurement route should strictly and wholly be determined relative whole-life project efficiency, with all assumptions used in that choice transparently defined, and assessed by the NIC.

Table 1 outlines some of the major issues that in the future will need to be at the heart of such assessments.

Table 1: The selection of contract form and arrangements: the issues arising from the PFI experience

	Issue	Primary concern	Wider dimension
1.	Construction and operation risk	<p>PFI contracts fixed construction cost.</p> <p>Operational costs subject to indexation and other contractually agreed adjustments.</p> <p>Construction risk in terms of completion on budget and time and operation risk was transferred to Supplier.</p> <p>Risks should be transferred to party best able to manage them.</p> <p>Low likelihood but high impact risks outside the control of the Supplier should be retained by the Client or made subject to suitable public guarantee or indemnity.</p> <p>Risks outside the direct control of the Supplier but best managed by Supplier, should be covered contractual provisions incentivises them to best manage the risk if it emerges or occurs.</p> <p>The sustainability of the contract and industry should be considered when setting pricing frameworks.</p>	<p>NAO in 2018 reported some continuing evidence of greater price certainty under PFI.</p> <p>Net cost savings depend upon vfm of the fixed price set at the outset, however.</p> <p>PSC bias towards selection of PFI due to operation of fiscal rules.</p> <p>Construction and operation risks were invariably priced-in by PFI Suppliers, often to the point where the client over-paid, evidenced by some PFI projects, providing super-returns to equity-owners: some SPV owners, however, such as Jarvis, took losses on some contracts (e.g. Wellington Hospital) and exited market.</p> <p>Problem compounded with risk allocations that the Supplier cannot not manage, as well as control.</p> <p>Problem with fixed-price contracts generally is that risk is either tend to be over- or under-priced. This can be applicable to PPP's and directly procured contracts.</p> <p>Increased risk of default/bankruptcy or/lack of market sustainability.</p>

		<p>Correct and clear specification by the Client and fit-for purpose contractual and performance framework is key, whatever the contractual form adopted.</p> <p>Effective transfer of operation risk is subject to the robustness of the Client's contractual and performance framework and the contract management arrangements.</p> <p>Expectation that PFI would incentivise to provide asset in such a way to reduce long-term running costs and hence achieve whole-project-life vfm.</p> <p>Private sector suppliers should be, but not necessarily are, more X-efficient than public sector counterparts: private sector has profit motive to respond to commercial pressures to minimise costs and maximise returns if these are set in the contract.</p>	<p>Possible Profit-share mechanisms linked to the achievement of financial and service requirements.</p> <p>NAO reported that it remains uncertain that the London Tube public-private partnership (PPP) will offer optimum vfm, for example, due to the way its contractual framework was structured.</p> <p>In 2018, NAO more generally highlighted that public Clients tend not, but need, to devote sufficient time and resources to ensure that business cases, specifications, and contracts capture effectively its delivery and performance requirements, risk allocation, and accommodate foreseen changes and needed flexibilities, including possible termination scenarios.</p> <p>2011 NAO evaluation could not identify evidence that PFI delivered superior asset quality or operating performance at either project or programme level.</p> <p>X-efficiency will depend upon market/Supplier structure and context, including the interaction of the contractual incentives and penalties.</p> <p>Public service ethos in place of profit motive could drive X-efficiency, but this cannot be assumed.</p>
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2	Financing cost	<p>Private sector pays more for investment finance than public sector: between 2-4% more than cost of government gilts, higher during periods of financial stress, such as GFC. Equity and debt cost of capital is higher to the private sector with project risk is priced-in. The private sector also does not have benefit of Treasury no-default guarantee and the ability to raise finance wholesale through Public Works Loans Fund.</p> <p>NAO reports that redeeming a debt of £100 million over 30 years with interest of 2% costs £34 million in interest; at 4% this more than doubles to £73 million.</p> <p>Other additional costs that SPV's need to cover, including insurance, external advisers, cash reserves, and management fees add c2% to contract cost.</p>	<p>The differential in financing cost should reflect the transfer of investment and operating risk to the private sector, but differential cost of finance has resulted in PFI projects proving more expensive in whole project—life terms.</p> <p>Differential might be expected to narrow as PPP provision and financing instruments become more sophisticated and competitive within a mature market, but as text explains managed rather than mature competitive market is more likely, and additional finance costs will always tend to make private procurement more expensive.</p>
3	Transaction and monitoring costs	<p>Large amounts spent on consultants and other bid costs that ultimately are passed back to public client (£450m in case of London Tube PPP).</p> <p>Public client must establish monitoring arrangements that</p>	<p>Development of standardised documentation and procurement templates should help to reduce project transaction costs as successful models are replicated and both client and contractors become more familiar with the process.</p> <p>The proportion of total costs taken by transaction costs should reduce with the scale of the project.</p>

		then add to the cost of the scheme, which can be over complicated, cumbersome, and difficult to apply at proportionate cost.	Monitoring arrangements should be based, where appropriate and practicable, on Supplier self-reporting and quality assurance, verified by Client reality checking the delivery of defined service standards and outcomes, with robust rectification contractual process linked to Supplier-fault default and termination provisions.
4	Termination risk	<p>Risk of expensive termination costs linked to a change in client requirements over contract term: for example, a hospital or school becoming surplus to requirements.</p> <p>Change-in-law and policy risk.</p> <p>Future financial and service delivery autonomy of Foundation Schools, Academies and Hospital Trusts can prove inconsistent with PFI provision and funding.</p> <p>The long-term liability of a PFI unitary charge has proved inconsistent with a dynamic market environment where a failed school can be forced to close - unless the risks of such liabilities can be pooled or otherwise managed.</p>	<p>Need for robust public sector planning and risk analysis at strategic and outline business case stages, covering project development, construction, operation, and handbook stages.</p> <p>Identify where contract flexibility could be important during contract-life and reflect in documentation.</p> <p>Termination costs of PFI contracts onerous, even catastrophic to Client budgets.</p>
5	Economic and Social Sustainability	Some early evidence of use of casualised labour employed on inferior insecure terms (health service ancillary and cleaning staff) relative to former public sector terms with little or no training opportunities.	<p>TUPE protection for existing staff transferred to PFI operator was extended to new employees by Cabinet Office guidance.</p> <p>This guidance required PFI operator to offer comparable</p>

		<p>Replacement of public-sector pensions with inferior money purchase or other schemes.</p> <p>Later concern that companies were importing EU labour on inferior terms, exploiting different social security provisions to minimise UK tax and national insurance contributions, reducing incentive to employ local indigenous workers, but this applies to all forms of procurement,</p> <p>Clients can specify additionalities, such as employment and training outputs, in specification, but these need to be monitored and verified.</p>	<p>pension arrangements but not necessarily final salary pension.</p> <p>EU Postal Worker Directive Reform.</p> <p>Impact of Brexit, if it occurs.</p>
6	Development of secondary market	<p>This may undermine performance incentives where contract is conveyed to new purchaser investing little equity stake in contract.</p> <p>Frequent sales of contracts for short-term financial gain can prove inimical to partnership working and continuity of service.</p>	<p>Robust secondary market increases market confidence and assists market benchmarking of price and services.</p>
7	Long lead in times and lack of competition	<p>NAO notes continuing insufficient public sector capacity to procure complex PPP/PFI schemes and to negotiate/monitor effectively with commercially oriented private sector partners.</p> <p>This has resulted in delays (many PFI projects took longer than three years to procure)</p>	<p>Greater use of standardised documentation.</p> <p>Pooling of knowledge and know-how between public and private sectors and project teams.</p> <p>Other reasons such as market abuse/collusion by private</p>

		linked to misspecification or inadequate preparation of contractual requirements, lack of private sector confidence in the process resulting in reluctance to enter and remain in the market	sector could have contributed to PFI delays.
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5. Recognising the true nature of fiscal crisis of the state

The IPA in its November 2018 analysis of the National Infrastructure and Construction Pipeline projected an infrastructure and construction pipeline of £600bn over the next years to 2027-28, split between social and economic infrastructure, and public and private funding sources.

It does not, however, (and cannot due to current fiscal and institutional arrangements) match the pipeline to known funding sources.

As *Section 3* identified, the NIC's current Fiscal Remit, provides little or no scope for the inclusion of new projects, regardless of their economic utility, due to the preemption of the available fiscal envelope by existing projects, and HS2 in particular. It also does not incorporate social infrastructure, such as housing.

The Remit provides the NIC with a gross public investment funding envelope of between 1.0% and 1.2% of GDP in each year between 2020 and 2050, but existing commitments combined with expected maintenance spending on existing assets will consume an estimated 1.1% of GDP between 2020 and 2025, and 0.9% between 2025 and 2030.

Needed infrastructural investment will, therefore, not occur unless that fiscal constraint is lifted.

Appendix Table 1 reports net public investment at constant 2017-18 prices, will – on current plans – is expected to stabilise at around £42m into this decade.

Even if SR2019 increased that level progressively to £50bn, that would not be sufficient to close the infrastructural funding gap for needed economic infrastructure, let alone social infrastructural requirements, linked, for example, to the government's (and by the other main political parties) often expressed commitment to increase annual new housing supply to 300,000 dwellings in England.

That is simply is simply a 'head-in-the clouds' aspirational pipedream given the current 'broken' housing market and the available public capital budgets for housing.

But a step-change in the supply of affordable housing is, indeed, needed if growth and productivity is to be fostered in the way that *section 1* outlined, dampening future class-area-and generational based social conflict.

The sheer scale of future infrastructural funding requirements coupled with the relative investment price effect explained below, means that in the absence of the development of alternative and innovative public funding mechanisms, many productive projects will not proceed, regardless of the design and operation of an effective and combined reformed fiscal rules framework and infrastructural institutional environment.

The public investment relative price effect

Another problem is that infrastructural investment has become relatively more expensive. The cost of providing a new runway at Heathrow at current prices cannot be estimated or computed relative to the cost of doing so in the immediate post-war period, by simply allowing for the changes in the general price level.

The land assembly, compensation, planning, and other associated costs now involved in providing a new runway in that location, have escalated much faster than general inflation.

The escalating cost of land as a component of housing investment is another striking instance of that relative price effect.

Generally, the unit cost, x , of providing y amount of infrastructure has risen considerably above the changes in the price level, varying with category.

Intervening to reduce the cost of public investment

It reinforces the need for mechanism to be identified and developed that reduce the cost of productive infrastructural investment to the public purse.

Housing is a case in point where wider entrenched and endemic market failure requires more radical and comprehensive reform than the micro-reforms to lending institutions and arrangements that the Consultation focused on.

These could include reducing the cost of public investment by direct land value capture through the reform of the compulsory purchase rules, and the use of a public lending intermediary to channel capital to a wider range of private firms on a more steady-state rather than fluctuating cyclical basis, at minimal long-term public subsidy.

Likewise, the future long-term rental income and sales of a steady-state affordable housing programme could be securitised to provide collateralised backing for its public funding.

Land value capture linked to the extension of compulsory powers to acquire at existing use value and a maximum set premium would serve to reduce the land value component of new housing provision: a cost that has magnified since the mid-fifties.

Similar sectoral strategies should be developed, such as for life-long education, health, and medical research, other sectors and incorporated with the DIP process in accordance with *recommendations 6 and 7*.

