Perspectives

Fresh economic thinking for business

UK infrastructure investment

In an era of subdued economic growth and low productivity performance (refer to Perspectives – *Reconciling the productivity puzzle and fiscal budget*), infrastructure investment is a key focus of economic policy. In this article, SRM Economics' Niki Etebari seeks to explore UK infrastructure investment and analyse the key infrastructure challenges the government faces ahead of the November budget.

Introduction

Analysing the potential contribution of infrastructure investment on economic performance is vital for policy decisions. From a conceptual perspective, infrastructure is tied to growth both directly, through "sector contribution to GDP formation and as an additional input in the production process of other sectors," and indirectly through potentially raising total factor productivity.[1] This is predominately supported by empirical literature which, while far from unanimous, broadly agrees on the positive effects of infrastructure on output, productivity, and growth.[2]

The political economy of infrastructure is quite complex however. Conflicting interests, methodologies, and views about the data create a less than optimal environment for facilitating informed and appropriate decision making. The key challenge for policy makers lies then in properly analysing the demand for infrastructure in the future and developing a strategic plan to meet that demand. It requires a broad understanding of the specific needs of the public and "a strategic, network oriented approach that goes well beyond a project-by project analysis of specific investment proposals."[3]

The government must also find a way to reconcile how, and the extent to which, it will invest in infrastructure projects with its focus on fiscal prudence leading into the next decade. It is not much of a question of how many projects the government takes on, but rather about the quality of its investment projects in enhancing the long-term productive potential of the economy.

UK infrastructure investment

In an era of subdued growth, boosting productivity remains a key challenge for policy makers. Infrastructure contributes to productivity growth in a variety of ways - it can raise the productive capacity of sector inputs, "the marginal rate of return of private investment, increase the durability of private capital, the volume of international trade and generate positive externalities (such as agglomeration

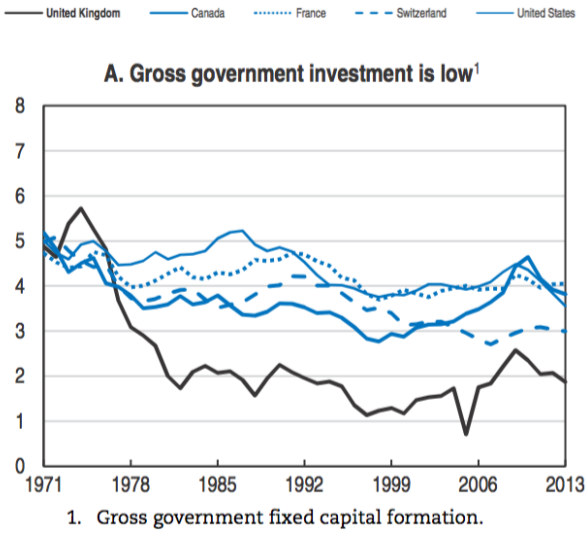
[1] Serven, Luis; *Infrastructure and Growth*, World Bank, (2010); LSE Growth Commission, *Investing for Prosperity*, (2017).
[2] LSE Growth Commission, *Investing for Prosperity*, (2017).
[3] Coelho, Miguel and Ratnoo, Vigyan; *The Political Economy of Infrastructure in the UK*, Institute for Government, (2014).

effects)" - and is essential to encourage more foreign direct investment.[4]

The government views its role in infrastructure policy as one responsible for providing funding, directing investment, and ensuring the development of coherent infrastructure systems.[5] It provides guidance for a variety of sectors, each with specific priorities, risks, and investment and involvement demands, but the underlying challenge remains the "tension between ensuring short-term affordability (for consumers and businesses) and ensuring that long-term investment is secured."[6]

Since the 1980s however, public spending on infrastructure in the UK has been markedly low *vis-a-vis* other OECD countries. While a boost in private spending, following the privatisation and liberalisation reforms of the 1980s, did offset some of the decline in public spending, the effects are hard to quantify in an international comparative context.[7]

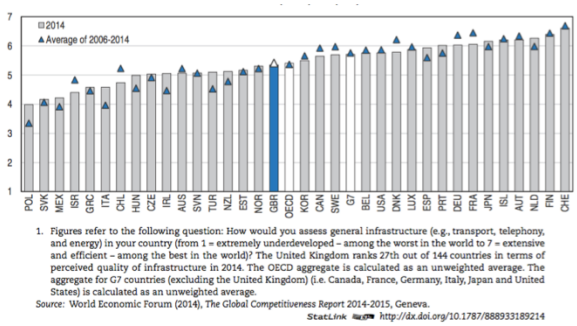
Figure 1: Government infrastructure investment (% of GDP)[8]



Today, the government continues to seem reluctant to take a greater financial stake in infrastructure. Along his last Autumn Statement, Chancellor Hammond issued a fiscal remit to the recently set up National Infrastructure Commission (NIC) outlining that Government "spending on infrastructure [would] lie between 1% and 1.2% of GDP by 2020-21."[9]

Looking to quality, the UK ranks in the middle among OECD countries, at 27th worldwide, in overall *perceived* quality of infrastructure, leaving much to be improved.[10]

Figure 2: Perceived quality of overall infrastructure rankings[11]
Value from 1 (worst) to 7 (best)



Despite historic under spending on infrastructure, the Government has been outlined its renewed focus on infrastructure investment as the "heart…[of its] plans to close the UK's productivity gap."[12] The establishment of the National Infrastructure Plan (NIP) in 2010 represented the "first steps in the right direction" in developing a comprehensive plan and delivery strategy.[13] In recent years, the government has launched various other initiatives and departments to help broaden policy objectives (which now include housing and social infrastructure) and develop a more coherent strategy.[14] This has in turn helped

[4] OECD; Economic Surveys United Kingdom, (2015).
[5] Mor, Federico; *Infrastructure policies and investment*; House of Commons Library; Briefing paper #06594, (March 2017).
For more details on the government's policy approach by sector, refer to pg.7.
[6] *Ibid*.
[7] 'Cross-country comparable data on both public and private spending are not generally available.' OECD; Economic Surveys United Kingdom, (2015).
[8] *Ibid*.
[9] HM Treasury; *Autumn Statement 2016*, (2016).
[10] OECD; Economic Surveys United Kingdom, (2015).
[11] *Ibid.*
[12] *UK infrastructure investment to reach record high*, (2016).
[13] NIP reorganized in 2016 to form the National Infrastructure Delivery Plan. OECD; Economic Surveys United Kingdom, (2015).
[14] The National Infrastructure Commission, The National Productivity Investment Fund, pension fund reforms, PF2, UK Guarantee's Scheme etc. OECD; Economic Surveys United Kingdom, (2015). For a brief list, refer; *Infrastructure policies and investment*, pg.8-13.

lower policy uncertainty and create more confidence for private infrastructure investment.

Portfolio

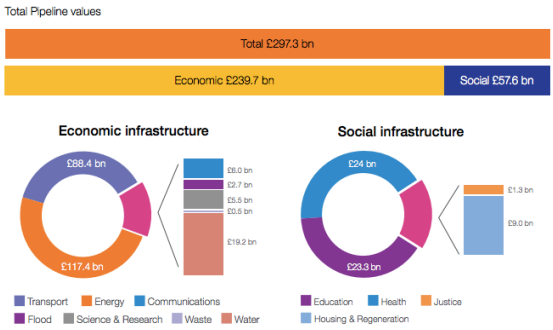
The National Infrastructure and Construction Pipeline provides an overview of announced projects and programmes.[15]

Figure 3: National Infrastructure and Construction Pipeline, by sector[16]

Sector	Number of projects	Number of programmes[3]	Total value (£ million) 2016/17 to 2020/21	Total value (£ million) Total Pipeline
Communications	1	7	15,528	15,546
CPS	0	2	14	14
Education	0	20	22,488	22,488
Energy	96	18	78,624	206,264
Flood	7	22	2,721	4,138
Health	13	19	2,886	2,943
Home Office	0	6	73	73
Housing and Regeneration	5	13	12,916	12,916
Justice	1	43	1,528	1,528
Ministry of Defence	38	9	5,780	8,374
Police Forces	10	19	1,239	1,257
Science and Research	18	7	5,912	6,178
Transport	123	128	91,929	138,331
Utilities	20	76	59,213	74,812
Waste	7	0	538	538
NPIF 2021/22	0	1	–	7,000
Total	**339**	**390**	**301,388**	**502,399**

Transport, energy, and utilities projects make up almost three quarters of the pipeline's projects and represent the sectors with the highest level of investment.[17] With regard to project priorities, agency problems continue to be an ongoing, and often overlooked, challenge. Rather unsurprisingly, politicians are more keen on promoting an infrastructure agenda filled with 'mega-projects' than one with smaller (though equally important) schemes.

Figure 4: Overview of economic and social infrastructure spend to 2020-21[18]



Of the £500 billion in planned projects, more than half (£300) is set to be completed by the end of the decade. While economic infrastructure projects are the main focus, social infrastructure projects comprise almost 20 percent.

Infrastructure is not only essential to unlocking the economic potential of the region in which they are physically located, but also the surrounding areas through the creation of supply chain jobs.[19] This is highlighted in the fact that around 60 percent of the value of projects in the pipeline (to 2020/21) relate to schemes that are either national or multi-regional, including the High Speed 2, Smart meters programme, and Superfast Broadband rollout Programme Phase 1 and 2.

The UK employs a mixed model finance plan in which projects are "ultimately funded through consumer bills, user charging, public funds from taxation, or a combination of these mechanism," which provide revenues to cover construction, operation, and maintenance costs.[20] The initial capital investment; however, is *the* critical

[15] "The publication of 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.
Infrastructure and Projects Authority; *National Infrastructure and Construction Pipeline Analysis*, (2016).

[16] Infrastructure and Projects Authority; *National Infrastructure and Construction Pipeline Analysis*, (2016).

[17] For a more detailed sectoral breakdown of the pipeline refer to *National Infrastructure and Construction Pipeline Analysis*, pg.14.

[18] Infrastructure and Projects Authority; *National Infrastructure Delivery Plan 2016-2021*, (2016).

[19] "For example, more than 60% of suppliers for Crossrail are currently based outside of London." (While the projects are distributed across the country, the majority of the pipeline's value is concentrated in England as "most infrastructure spending in Northern Ireland, Scotland and Wales is the responsibility of each devolved administration).
Infrastructure and Projects Authority; *National Infrastructure and Construction Pipeline Analysis*, (2016).

[20] Infrastructure and Projects Authority; *National Infrastructure and Construction Pipeline Analysis*, (2016).

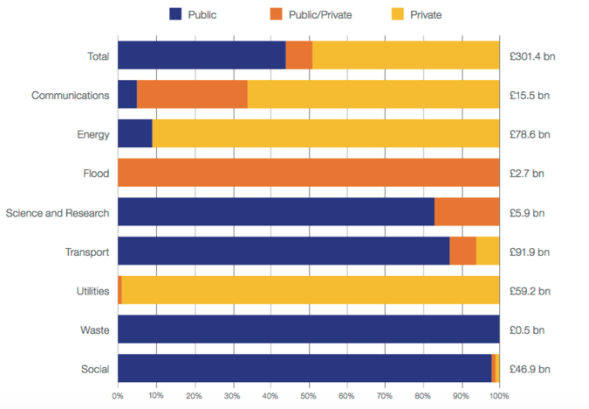
component to transition a project from planning to execution.

Analysis – it takes two to tango

The financial demands of infrastructure investment are heavy and the consensus view is that it takes both public and private investment to bridge the gap.

Analysis of the Infrastructure and Construction Pipeline reveals that 43 percent of the total planned investment through 2020/21 is publically funded while 50 percent is privately funded; the remaining 7 percent is funded by a mixture of public and private funds.[21]

Figure 5: Funding mix from 2016/17 to 2020/21[22]



But while investors have no qualms about putting equity into existing infrastructure (as there is little to no risk associated), it has been difficult to raise funds for 'greenfield projects'. The challenge here lies in establishing a more stable long-term strategy to create better market conditions for private investors.

And while the government has increasingly shifted public spending towards infrastructure projects, its current position is "unlikely to contribute substantially to necessary spending on infrastructure".[23] And if the Chancellor is to remain resolute on fiscal consolidation in the upcoming budget announcement, it will only strain an already weak public investment.

Conclusions

With a myriad of planned projects worth over £500 billion, the government seems eager to showcase its commitment to ameliorating the country's productivity woes through infrastructure projects.[24] But against the backdrop of a rigid fiscal framework, UK infrastructure investment continues to fall well below the country's needs and the international average. Even if the £500 billion were delivered in full, investment as a percent of GDP would still fall short of the OECD's recommendations.

While the government has an undoubtable bias towards private financing, the current low-interest climate suggests there are greater opportunities to take on a more substantial financial role in future infrastructure projects through public borrowing. With growing pressure to boost public spending, solve the 'productivity puzzle' and stimulate economic growth, infrastructure investment and the extent to which public funds are allocated will continue to be a key topic in the upcoming budget.

[21] Mor, Federico; *Infrastructure policies and investment*; House of Commons Library; Briefing paper #06594, (March 2017).
[22] Infrastructure and Projects Authority; *National Infrastructure and Construction Pipeline Analysis*, (2016).
[23] OECD; Economic Surveys United Kingdom, (2015).
[24] *UK infrastructure investment to reach record high*, (2016).