



Submission to the Commission on Growth

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Questions

In your experience (and drawing on relevant evidence)

1. What aspects of infrastructure and energy are particularly important for productivity and growth?

I have not studied the macro/growth accounting literature recently, but there was considerable debate started by Aschauer in 1989 as to whether publicly funded infrastructure was productive, recently surveyed in Straub (2008) (primarily but not exclusively for developing countries, while Egert et al, 2009 briefly surveys the developed countries case). My conclusion from this was that infrastructure can have an extremely high social productivity or rate of return if it constrains production (i.e is inadequate, in terms of transport and ports, and causes high costs and/or delays; or for energy if there are blackouts) but that once the optimal amount of infrastructure has been delivered, its marginal productivity falls to low levels – as one might expect if the elasticity of substitution between infrastructure and productive activity is low. Thus macro-level econometrics may pick up high returns in some cases but not in others, and might explain the rather mixed results reported.

I would in any case mistrust a purely macro view and instead concentrate on social cost-benefit analysis where *transport* in the UK has been particularly well-served by good studies. Transport projects are subject to careful scrutiny using established methods (COBA, NATA, etc.) and tested with *ex post* evaluations to see if there are systematic biases (appraisal optimism – evident in some types of projects but less so with roads). For transport the main question has been whether the external benefits (primarily agglomeration and reducing the inefficiencies of market power) are large (Venables and Gasiorek, 1999) or more modest (Newbery, 1998). Eddington (2006) is the obvious reference here and concluded that, critically, the wider economic benefits were positive (outweighing any environmental and social damage), but more to the point, there were a large number of potential transport projects with Benefit/Cost ratios above 3-4 when anything above 1 should be undertaken (if the right rationing discount rate is used, which in the Government is rarely the case).

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As far as *energy* is concerned, social cost benefit analysis is more difficult as we are tasked by the European Commission and HMG to deliver challenging climate change mitigation targets and meet Renewable Energy targets that are motivated by the need collectively to deliver public goods (in the first case, that of climate change mitigation, in the second R&D and specifically deployment to support learning-by-doing). A proper evaluation is difficult without agreement on the social cost of carbon and ways to quantify the benefits of RD&D, which by their nature are unknown ex ante. What one can say is that is that the cost of lost load (unexpected electricity black-outs in particular) is very high. The original value used in the electricity pool was £(1990) 2,500/MWh but this is thought to be too low to deliver the level of security of supply needed in a developed country, and now the Balancing Mechanism will accept offers up to £9,999/MWh (i.e. £10/kWh wholesale that might retail at 12-14p). In political terms the perceived costs of blackouts is so high that the risk is of over-investment and certainly of over-intervention, waste rather than inadequacy (in sharp contrast to transport).

So to summarise, reliability and security of supply is critical for energy, while the same is true to some extent in transport, although the less dramatic time costs are here dominant, making congestion costs significant.

2. How does the UK compare internationally in terms of infrastructure and energy? How has this position been changing over time?

Again, I have not kept up with the recent literature since Newbery (2006), but when I studied road transport in the 1990s the UK was poor by international standards and I see no evidence that it has improved (Eddington is again the obvious source). In terms of energy the UK does relatively better in cost and diversity of supply, and served as a model for liberalising energy markets in the EU and the rest of the world. However, that was a creature of its time, in that we had fortuitously diverse energy sources (coal, N Sea oil and gas, nuclear power plants that finally started to operate after 20 years of work, and good seaports) and excess electricity capacity amplified by the ‘dash for gas’. Investment was not a problem (except for the rapidly abandoned nuclear aspirations) as gas generation was cheap and funded by long-term sweet-heart contracts with the retailing/distribution companies. Fast forward and the situation is now different, with poor energy policy choosing inappropriate forms of intervention, creating considerable policy uncertainty and hence delays to investment, a failed emissions trading system and stalled plans for CCS and nuclear, combined with a hopeless planning regime that allowed a key transmission link in Scotland to be delayed 25 years. That said, other EU countries are throwing even more money inefficiently at wind and PV, and failing to build needed transmission, so perhaps we are not particularly bad compared to many others, just absolutely not very good.

3. Does the UK suffer from (public and/or private) underinvestment in infrastructure and energy? If so, in what kind of infrastructure? In what sectors?

We are suffering acutely from a stalled road-building programme, with rising congestion and deferred maintenance raising future costs as well and an insane airports policy, where the private sector would be only too willing to invest in the key hub at Heathrow while we are contemplating throwing public money at a High Speed rail project that will need continued support and does not command an adequate benefit: cost ratio. Acting sensibly is not rocket science – just allocate funds to projects with the highest social benefit: cost ratio instead of basing choices on prejudice, whim and insane Treasury accounting coupled with political expediency.

4. Assuming affirmative response to previous question, what are the challenges that are holding back growth-enhancing investments in UK infrastructure and energy?

The two key killers are a failure to properly budget for public sector investment and policies based not on social cost-benefit analysis but on political expediency as reflected in the popular press and a failed planning system that does not align incentives with desirable outcomes. Water could be properly financed once it became a regulated private monopoly after years of under-investment in the public sector. Roads remain as an underfunded undersupplied public monopoly even though transport taxes collect about nine times annual road expenditure (of which hardly any is in expanding the network), and considerably more than any estimate of the proper road user charge (Newbery, 1990; 1994; 2005; Newbery and Santos, 1999). Electricity transmission investment lags not because it cannot be financed (as a regulated private monopoly this can be done cheaply) but because of planning objections.

Part of the problem is the public sector does not have a proper balance sheet, which, if it did, ought to allow productive public investments to be financed by additional borrowing without prejudicing ability to pay. The present debt : GDP ratio fails to take account of the asset side of the balance sheet and to distinguish between economic stimuli which increase consumption and debt liabilities and those that increase productive investment that adds assets to balance the liabilities issued. If roads were treated as a regulatory asset base that would depreciate if not properly maintained and could be augmented by investment, and if road charges were set on that basis to deliver the revenue stream (as in New Zealand) then perhaps the financial constraints on transport investment could be relaxed (although that would still leave the planning and nimbyist objections to stymy growth enhancing investments, as with airports).

5. What can be done (if anything) to improve things? (i) by government, (ii) by firms, (iii) by other stakeholders?

The Government need to get its act together and reallocate expenditure towards productive (as measured by social cost-benefit analysis) public investment that it alone ought to be financing – specifically transport. In energy, the Electricity Market Reform ought in principle to allow the needed investment to be financed, providing the government guarantees are sufficiently strong. Here the main action to take is to design sensible contracts, and to allocate the subsidy costs to general taxation not to industrial production (via electricity charges). Raising VAT on energy to the standard rate would be one transitional mechanism as is the carbon tax.

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