Reviving economic thinking on the right in Britain

by Sam Bowman and Stian Westlake

The Resurrection in Cookham Churchyard, Stanley Spencer (1924–27)

Introduction: Taking economics seriously again

For most of the postwar era, the Conservative Party has prided itself on its ability to tell an economic story. Tories traditionally explained their right to govern in terms of an overarching economic vision for the country, a vision which was instantiated in policy and which often set the political agenda.

From Macmillan to Thatcher to Cameron, they presented themselves as the party of national prosperity, and of hard-nosed economic realities, and many people voted for them on this basis. But this no longer seems to be the case.

The last few years have witnessed what elsewhere we called the Strange Death of Tory Economic Thinking.In the years following the EU Referendum, Conservatives in Britain largely dropped the economy from the heart of their political story. This is not just a criticism of Mayism, with its Home Office view of the world; many who professed to be market liberals seemed to do so performatively, without serious consideration of what they wanted to deregulate or how.

The recent change of Prime Minister provides an opportunity to put this right. We hope that the new government will turn away from the trajectory of the last three years, and start taking economics seriously again. If it chooses not to, we would urge others on the centre-right to take up the challenge.

This paper is an attempt to sketch out some principles for a centre-right economic outlook, and some specific policies to focus on.

We begin by presenting a few important stylised facts about the contemporary British economy that should frame an economic narrative; we then set out some political principles for how to turn these into economic policy.

Based on these, we set out a set of policies in four areas where we think progress can be made: tax, housing, infrastructure and devolution, and innovation and technology.

Finally, we conclude with some long-term actions that need to be taken to begin rebuilding an economic narrative for the Right.

A sketch of the UK economy

Without economics, the world appears as 'a mere chaos of proliferating and unintelligible detail, reasonable and orderly only in the small'. (Tyler Cowen, quoting GLS Shackle)

Effective economic policy requires two ingredients: a set of basic *principles*, and a *diagnosis* of what is going on.

The principles are the easy bit. Tories on the whole believe that markets and free enterprise do a good job in helping people lead more prosperous lives, that institutions (both public and private) matter, and that the government's job is to create the conditions for those competitive markets and strong institutions—always remembering that not infrequently government can help best by getting out of the way. We don't propose to challenge any of this.

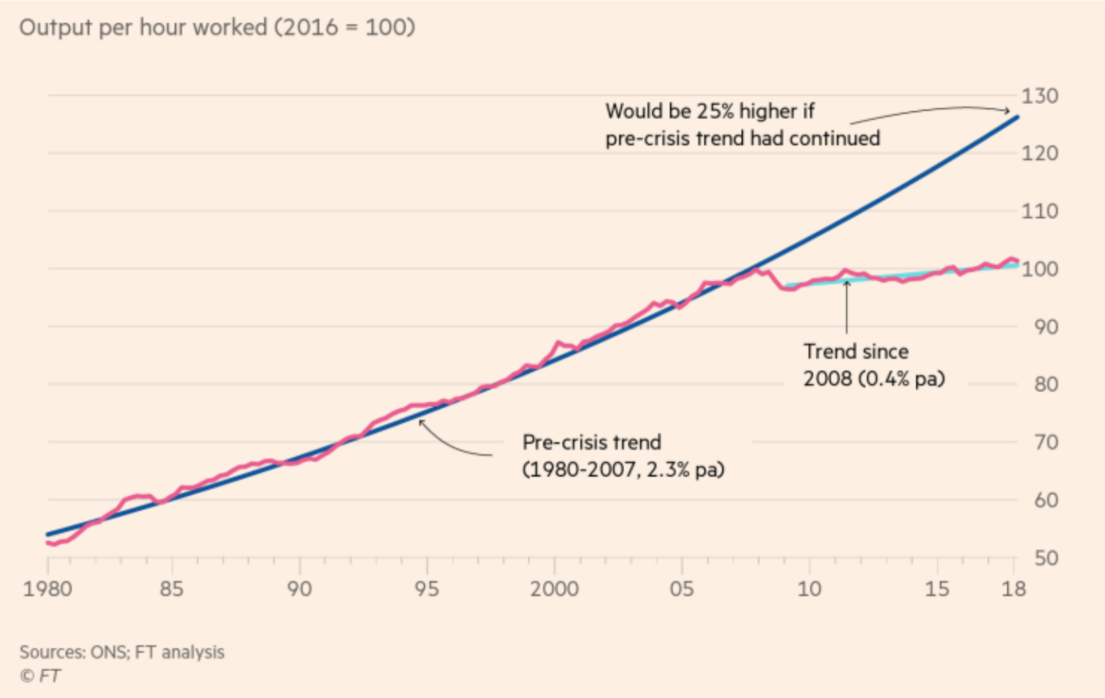
The more difficult and controversial part of building an economic policy is forming a view of what is going on in the economy, scoping out the opportunities for improvement, and developing a strategy for achieving them.

What follows is our attempt to sketch out a relatively small number of important factors and trends that could form the basis for a coherent economic policy agenda.

1. Productivity growth has slowed down dramatically.

The foundational fact in today's British economy is our slow productivity growth (the amount of output we produce per hour worked), and low productivity levels compared to other large, developed economies like France, Japan, Germany and the United States.

From 1980 to 2007, the UK's productivity grew at 2.3% per year, but from 2008 to 2018 the annual rate fell to a meagre 0.4%. If the UK had kept up with its pre-crisis trend growth, we would be 25 per cent richer today—richer per capita than Germany.



UK productivity growth (Financial Times)

Productivity growth over this period has been sluggish in all rich countries, but the UK has had worse performance than any other G7 country except for Italy. And recent research suggests Britain's downturn has particular characteristics: most of the decline in the last decade has been due to Britain's most productive firms and sectors doing less well. Productivity has grown at roughly the same rate across the country, but starting from a much lower point outside of London—gross value added per hour worked, a measure of productivity, is 85% of the UK average in Wales, Yorkshire and the Humber and the East Midlands, compared to 108% in the South East and 133% of the UK average in London.

Slow productivity growth is not just economically toxic but politically toxic too: it leads to a sense of malaise and that the system is not working for ordinary people. Conversely, strong productivity growth cures all sorts of problems. Faster productivity growth would lead to higher wages, better returns for savers and pensioners, lower taxes, and lower deficits with higher public investment. And, perhaps, more confidence in the liberal economic model.

2. Cities and towns can drive growth—if we let them.

Everyone knows that some parts of the UK are doing better than others. What's less well understood is why.

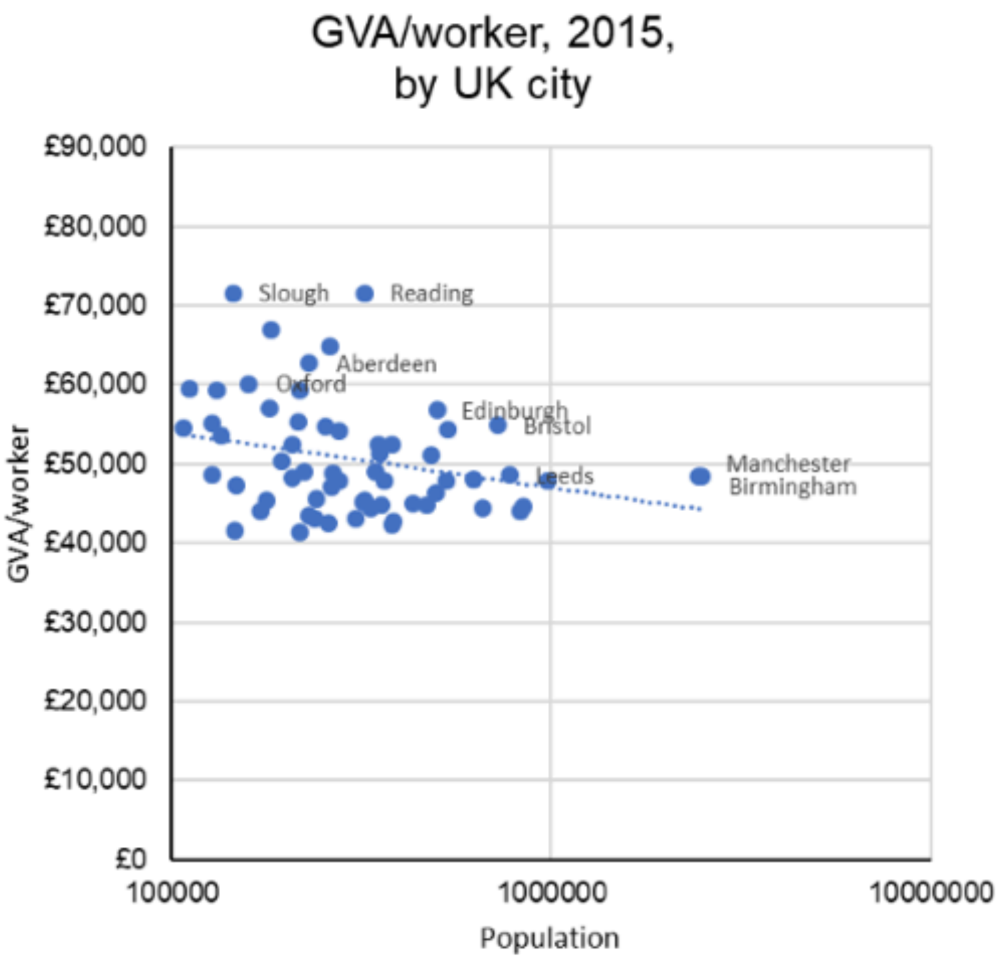
The UK has two particular problems with regional growth that better government policy could help solve. The first is that many of our most prosperous places can't grow in size, which means fewer jobs in prosperous places and less economic growth in the places with the most potential. The second problem is that most of our largest cities are nothing like as rich as they could be.

The first is a problem of what economists call "agglomeration effects". In most rich countries, big cities are richer and more productive than smaller places, thanks to "Adam

Smith" effects like specialisation, knowledge spillovers, deep labour markets and better matching to jobs.

These effects mean that workers who move from small to large cities gain a wage premium when they do so and accumulate better experience as time goes by—experience which persists even if they leave. In the United States, productivity per worker rises by 11% with each doubling of city size, "whether from 10 to 20 thousand or from 1 to 2 million".

But in Britain, while the productivity-size link holds true for London, it does not hold for most of our other big cities: places like Birmingham, Liverpool and Bristol are much poorer than cities of an equivalent size in other countries, perhaps because of England's unusually centralized political processes and the investment bias this causes.



Lack of agglomeration effects in the UK, from Tom Forth's blog (tomforth.co.uk), using Centre for Cities data

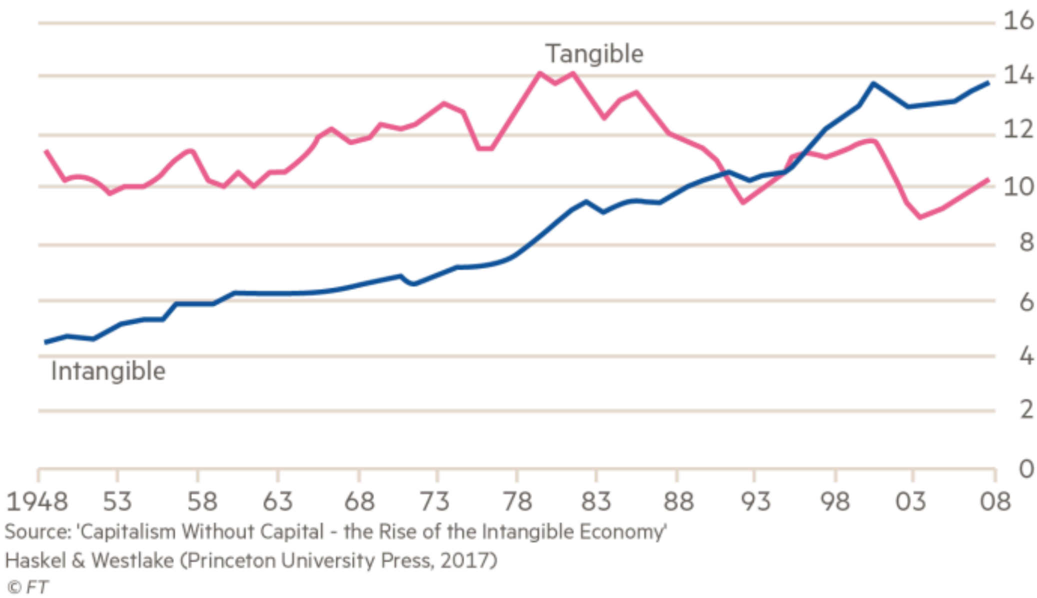
The second issue is that many of our smaller but richer cities and towns, places like Oxford or Milton Keynes, find it hard to grow by (for example) building more densely on urban land—mainly because of the UK's unusually restrictive planning laws. The same is true of our biggest city—London—too. If it is hard to build new housing or office space, it will be hard for businesses to expand, and hard for workers to move to these places to take up good jobs.

Fixing these two problems would make a big difference to British prosperity. What's more, fixing them would be politically advantageous to any party of the Right that put the solutions in place, offering a way to rekindle the fortunes of the Tory party in northern cities. Keeping cities dense would help stop marginal suburban seats from turning red because of educated, Labour-voting workers being priced out of places like London and moving to them. Lowering the cost of homes would allow people to form families earlier on, getting us more of the kind of voters that are solidly Conservative-voting.

This of course leaves the question of what happens to so-called 'left behind' towns, which once upon a time could have been supported by local manufacturing businesses. But the UK is fortunate in that most such towns are close enough to major cities to share in their economic growth if the right infrastructure is put in place. This is not the case in bigger, more spread-out countries like the US or France. Better housing and transport policy could make a virtue of England's high population density, which is closer to that of Israel and the Netherlands than Germany or France.

3. An intangible economy means winners do better.

For the last few decades, the nature of investment across the developed world has been going through a steady but profound change. In the developed world, businesses now invest more in assets you cannot touch or feel, like R&D, software and design (so-called *intangible* assets) than on *tangible* assets like factories, buildings and machines. This is partly the result of digital technologies—companies like Uber and Facebook invest in lots of intangibles—but the effect plays out in every sector of the economy.



Tangible and intangible investment as a percentage of GDP, US

This has some big implications. Because intangibles have *spillovers*, the rewards to businesses located in dynamic cities and towns increases. This is bad news for less prosperous areas that do not have a base of intangible industry to build on, or for countries whose laws and rules prevent thriving places from growing. There are big *synergies* between intangibles and highly skilled workers, which is bad news for places that cannot educate people well or attract talented people from elsewhere. Because the benefits of intangibles like R&D can't always be captured by the businesses that make them, they also tend to require more public support.

This is why there is a strong case for governments to co-fund scientific research. And because intangibles are highly scalable, particularly intangibles based on software, big intangible-rich companies like Google or Amazon can acquire dominant market positions.

High house prices also means that this effect increases regional inequality. When the cost of moving to productive areas with high spillovers is high, only the most productive people can do it—leaving behind less productive people who cannot benefit. A quarter of the United States's regional wage inequality may be down to this effect, and the effect may be even stronger in the UK.

Understanding the importance of intangible assets helps us understand how a government that wishes to improve rates of innovation should do so, and what a government that wants to allow as many people as possible to take advantage of the spillovers from those breakthroughs should do.

4. The UK under-invests—but investment is changing.

For a very long time, Britain and its businesses have invested less in *tangible* capital than other rich countries (when compared to the US and Germany, this gap is at least 150 years old). Britain also invests less in R&D, an intangible type of investment (1.7% of GDP compared to an OECD average of 2.4%).

The UK invests a lot relative to other countries in intangibles like design and marketing, but the growth of intangible investment has slowed considerably since 2008. There is some evidence that intangible investment requires different institutions and support than traditional tangible capital—for example, intangible-intensive companies tend to need equity finance rather than bank loans to grow.

So when it comes to investment in tangible capital, the UK is well behind countries it used to lead. And when it comes to investment in intangible capital, the UK only leads in some respects, and lags countries like South Korea, despite the UK's long history of scientific excellence and inventiveness.

This leads to particularly acute problems in places like the North of England that have traditionally prospered from tangible capital-based industries. Places where land is relatively cheap and where agglomeration effects have not led to booming cities should be the parts of the country where manufacturing can prosper—but because we invest relatively little in heavy industry, it is far behind some of our neighbours both in size and in sophistication. Much of this underinvestment is due to distortions in the tax code that penalise investment in tangible capital relative to intangible capital, which can be corrected to level the playing field.

Improving the UK's investment rate would bring big benefits: about half the shortfall in productivity growth since the financial crisis can be attributed to underinvestment in (tangible) capital, while some of the rest is likely to be due to the shortfall in intangible investments like R&D.

Each of these factors is politically challenging in its own way. It is hard to talk about the productivity slowdown without inviting criticism for why part of the period of slow productivity growth coincided with Conservative and Conservative-led governments. A model of growth centred on cities and on expansion will be rejected by those who believe that focusing public investment directly on left-behind towns is the answer. While we share the same aims of people who want to drive more growth in the poorest parts of Britain, we believe the way to do that is to better integrate these places into the areas that are growing strongly already, allow people to move more freely, and eliminate the geographical and other biases created by existing public policy.

Political constraints

While a bold policy agenda is necessary, there are three constraints that we set ourselves: the need for **political realism,** for **policy incrementalism**, and for **fiscal restraint**.

Political realism means proposing policies that could, at a minimum, be introduced by a Conservative Party at the beginning of a new government term without seriously threatening the Party's chances of winning reelection if their promised effects did not materialise. This is not to say that policies that might endanger the party's re-election hopes are undesirable— but at a minimum, we believe our agenda should be one that does not ask a government to risk losing power.

This constraint can be met by ensuring that policies are designed that minimise the harms to 'losers' from those policies, ideally by aligning their incentives so that they benefit from the policy as well, or that they exist in policy domains that do not usually attract electoral attention.

Policy incrementalism means, generally, proposing policies that do not require other policy changes for them to work. Each of our proposals should be feasible and desirable by themselves.

Fiscal restraint means not assuming any significant growth effects from changes to tax or fiscal policy. The Conservative Party spent most of the last decade implementing painful spending cuts that it said were necessary for the good of the country. We agree with this, and tax cuts or spending rises just to win votes would likely be electorally counterproductive and economically wasteful. The tax and spending changes we propose are for long-term productivity growth.

An economic narrative for the centre-right

The Right should be unashamed of the fact that it wants to make Britain boom again: to create good jobs, to enrich people and the places they live, and to give them the freedom and opportunity to lead better lives.

Informed by the principles we have identified—the importance of productivity growth, agglomeration effects, intangible capital and Britain's persistently low levels of investment—the policies we set out below are a plan for creating prosperity in the UK.

They allow our cities and towns to prosper, by reforming planning laws that are becoming increasingly costly and inappropriate in a way that existing residents will support, by investing cost-effectively in the infrastructure necessary for growth, and by making it easier for people to afford housing where they want to live near the jobs they want.

And they create a better climate for enterprise and innovation, by reforming the tax system to encourage private investment, by co-investing cleverly in public goods like science and technology that are becoming increasingly important, and by making markets work better by reforming regulation and the telecoms network.

Our proposed agenda is not comprehensive. It leaves out lots of areas of policy that will have an important influence on economic growth in the long run, like education or environment policy. Instead it focuses on the problems facing us now, and the solutions that will deliver their first results within the space of a single Parliament, and make us better off within ten years.

Housing

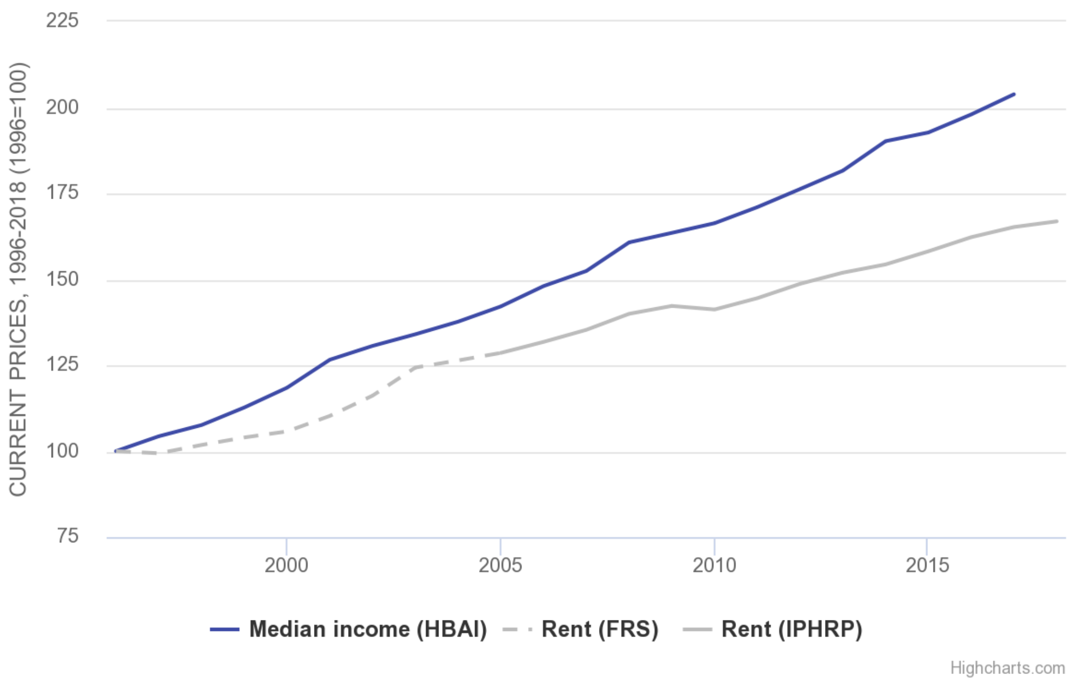
What's the problem?

The undersupply of housing, whose root cause is a dysfunctional and use planning system, is the UK's biggest problem. It slows productivity growth by preventing people from moving to get better jobs, forces them to spend more on housing costs than they need to, and to have fewer children than they would like, at a later age than they would like. It creates a brain drain from deprived parts of the country, because only the most talented people can afford to move to prosperous cities, exacerbating regional inequality, and means that many of the income gains from the slower productivity growth we do get accrue to existing landowners in the form of higher rents and housing costs, instead of higher living standards for everyone.

All of this is poisonous to the centre-right. Weaker growth and people not feeling the benefits of the economic growth we do experience strengthens the hard left. People being forced to delay family formation until later in life means fewer Conservative voters overall and means people living in the most expensive areas—who are often the most productive—have fewer children than they would like.

The researcher Andrew Sabisky has calculated that the effect of people delaying family formation and having fewer children than they would like has led to 157,000 fewer births between 1996 and 2014. Rising housing costs slash fertility rates among renters, and mean that younger renters who expect to own in the future put off having children, and may not be able to afford large homes to accommodate as many as they would like.

Expensive housing is the result of insufficient supply. Nearly every other 'cause' people point to is also a symptom of insufficient supply. Land banking exists because developable land is scarce and developers want to guarantee a steady annual supply of land to build on, to make full use of their capital and employees. House prices do fluctuate as a result of interest rates, but much more where the supply is tightly constrained—airplanes and cars do not rise in value when borrowing costs fall, but fine art and housing in places people want to live do (albeit much less in places like Houston and Atlanta where the supply of housing is less constrained by planning laws). The discrepancy between the construction cost of new houses and their market value is another clue that the main problem is on the supply side.



The Tony Blair Institute's Ian Mulheirn argues, mistakenly in our view, that building more houses will not cut housing costs. He is correct to point out that, because housing is effectively an investment good, house *prices* can be a misleading guide to the supply and demand for housing. Given tightly constrained supply, a fall in interest rates can lead to a spike in house prices. Instead, the cost of "housing services"—the cost of living somewhere for a given period of time—or what we usually call "rents" are what we should be interested in. And according to Mulheirn's data, rents have risen dramatically in the past two decades—by 66% in real terms since 1996 in England.

Any intervention that does not focus on liberalising supply is extremely likely to be harmful even if it does reduce prices. Rent controls would make rents cheaper, but in the case of first-generation controls also make the quality of housing worse—potentially far worse, judging by the experience of the twentieth century—and end up rationing access to housing on the basis of waiting lists instead of price, as in European cities that use "second generation" rent controls like Stockholm. Second- and third-generation rent controls that only apply to existing stock and are alienable are effectively a one-off lump sum transfer from landlords to existing tenants.

There is no economic reason that rising incomes should capitalise into rents and house prices. If people hold housing costs fixed as a percentage of their incomes, then over time they should be getting better and better housing for their money. The fact that this does not happen, and that in fact people are paying more for *worse* housing today, is because the supply of housing is so tightly constrained.

Note that it is not expensive housing *per se* that is the problem. People want to live in nice, large houses in nice areas, and supplying those homes is good even if it did not lower housing costs (although it does). The problem is that any given home is more expensive than it needs to be compared to the counterfactual of a world of liberalised supply.

Our goal

The supply of housing is constrained in two ways by the country's planning system: constraints on where you can build, and constraints on what you can build. You cannot, for example, build housing on most farmland without permission from local government, and if that land is in a green belt it will be even more difficult.

But often even more important are the rules that constrain what you can build on land. These mean that extremely valuable sites in cities are often underused: we have streets of semi-detached houses within a few minutes' walk of railway and Underground stations.

Housing is often misallocated as well. Stamp duty land tax means that every housing transaction above the tax threshold incurs a large tax penalty every time it changes hands, so people move less often than they would otherwise like to. The nature of the council housing system means that many people are in properties that would be worth a small fortune to someone else, but they cannot access.

NIMBYism—the "not in my back yard" reaction—arises when residents stand to lose out from new developments near them, because increased supply lowers the value of their properties or because they worry that new homes will make their neighbourhood worse off.

To get local residents to buy in to new developments, they need to benefit from them as well. The land value uplift that comes from planning permission is often enormous: agricultural land that gets planning permission can rise in value by two hundred times or more (for example, in the areas surrounding Cambridge). Similarly, allowing land that has been built on already to be made denser raises its value, so the existing landowner benefits.

Dense areas have more vibrant high streets, more amenities, more access to public services, better public transport options, and are much more environmentally friendly both in terms of air quality and carbon emissions. One reason for the decline of the high street is that people live further away from them than they used to.

In our view, the politically feasible way to liberalise housing supply is to densify our existing cities in such a way that local residents actively want new developments near them, so that new infrastructure can be self-funding while also allowing new homes nearby, and to use the stock of highly-valuable council housing more efficiently, while guaranteeing that council residents are also better off. All of this can be done in a single Parliament, without having to threaten the green belt and generating substantial new revenue for local councils and the Exchequer.

Specific policies

Allow streets to vote on their own planning rules. A Conservative agenda on housing, in our view, would introduce policies that would devolve decision-making over densification to a practical local unit—the street. This would adopt the proposals of the London YIMBY("Yes In My Back Yard") group, allowing individual streets to vote on whether to change their planning rules to, for example, allow multi-unit housing or raise height restrictions to allow medium-rise developments, with the ability to set a design code if they wish.

New low- and mid-rise developments primarily affect people on the street that those have been built. It makes sense, then, to let these people decide on new developments near them. According to surveys carried out by London Yimby, a majority of residents tended to support allowing an extra story or two to houses on their street, especially if they could choose the design rules. This was with no prompting to explain the benefits to each homeowner—and, of course, the land value uplift they would enjoy would make this rule change very attractive for some homeowners.

Doing this on a street-by-street basis solves two problems. One, it allows people who feel strongly about living in low density areas to preserve that aspect of their street. Two, it aligns the incentives of homeowners more effectively so that those streets that *do* vote for more density are the ones that experience the land value uplift.

London YIMBY has proposed a number of protections that could be considered to avoid outcomes that are unpopular. A vote could only be triggered if a certain number of locals proposed and supported one. A supermajority of two-thirds of local homeowners could be required, and/or a supermajority of people who have owned property in an area for more than five years. The purpose of this is to find areas where residents genuinely want the increased amenities and land values that come from higher density, not to force density onto those that do not.

The effects of a policy like this would likely be less dramatic than many would like. Most streets, even in areas of high demand, would probably vote for the status quo. But a few might not. The rewards to those that voted for extra density could in many cases be enormous, and (naturally) direct new construction to places where residents thought it would be of most benefit.

We expect this to lead to houses that end up filling up their lots more, making their houses bigger and more valuable, and hence sucking demand out of the top end of the market and seeing it trickle down. Some streets will opt to go denser and sell off their houses (again, at a considerable premium—making everyone on the street millionaires several times over) to allow the construction of mansion blocks in the style of Bloomsbury, Victoria and Belgravia. These styles are dense without towering over their areas, and are extremely popular with local residents. Much of London within Zones 3 to 6 is filled with semi-detached housing that could easily be replaced with housing that is much denser, without affecting views beyond that street but bringing many of the benefits of density to surrounding areas.

Introduce a Flexible Right to Buy. 700,000 local authority-owned homes are in areas where median house prices exceed £250,000; 200,000 of these are in areas where median house prices exceed £500,000. More than half of council tenants would like to own their own homes but cannot afford the properties they are in, even with the Right to Buy discount.

A Flexible Right to Buy would allow them to use the value of the Right to Buy discount to buy a different property, selling their existing council house to fund that discount and raising additional revenues for the local council. If this scheme was successful, an ambitious estimate of the impact would see 197,000 tenants benefit, with £83 billion of stock and £21 billion of discounts and net receipts of £62 billion for local councils.

The advantage of this would be to allocate valuable housing stock more efficiently, so that whoever is willing to pay the most for a property, because it allows them to live near a productive job, can live in it. It guarantees that council tenants are also better off, and creates a significant revenue stream for local councils to invest in new infrastructure to support new private sector development.

This would be particularly attractive for the Conservatives because unlike other housing policy reforms, its effects—to create a generation of new Right to Buy homeowners, and free up housing stock in some of the most high-value areas in the country—would be felt immediately.

Tax

What's the problem?

The UK's tax system taxes investment too much. Nearly all taxes create some deadweight loss. By raising the cost of the activity the tax is levied on, you get less of it than you would otherwise. The more taxes create a wedge between price signals that reflect supply and demand, the less the economy will produce things that people want constrained by what scarcities allow us to produce.

Sometimes this is a good thing: taxing congestion gives you less of it, and prices in to people's behaviour the costs they impose on others. The taxes that do not create deadweight losses tend to be ones that are or seem unjust, being based on things that we cannot control—some economists have, half-jokingly, proposed taxes on height on the basis that taller people tend to earn more and it is difficult (if not impossible) to become shorter than you are to avoid a tax.

Most of the time deadweight losses are unavoidable in taxation. But different taxes we already have affect behaviour to different degrees, and so create different amounts of deadweight loss. With this in mind, tax ought to strive for **neutrality**, disincentivising economic activity as little as possible.

The second priority is that tax and benefit system's progressivity ought to be considered **overall**, and not in the context of specific tax changes. The system overall, as James Mirrlees pointed out, can be progressive without every individual tax being progressive.

Our goal

The implication of these two principles is that Conservatives should consider the tax system as a whole, reforming or eliminating the most distortionary taxes and aiming for progressivity *overall*, not in each individual tax (where progressivity can be economically harmful). One of the worst features of political debate today is the focus on the distributional effect of tax changes of *individual* tax changes, the obsession with 'winners' and 'losers', which ignores that some taxes have a powerful effect on the total amount of wealth that can be shared around.

Our growth-focused tax agenda is designed to fix or eliminate taxes with the largest deadweight losses per pound raised. The worst among these are transaction taxes, which distort by being levied every time an asset changes hands, and taxes on investment. Overall, the tax system should shift away from taxing the investment of the rich, towards taxing the consumption of the rich.

Abolish stamp duty land tax. Stamp duty may be Britain's worst tax. As a transaction tax, it is levied every time a property changes hands, with the incidence falling on both buyers and sellers. This means that fewer transactions take place than would without stamp duty, so housing is kept in the hands of people who do not want it as much as some potential buyer elsewhere. Fewer older people downsize, for example, and the housing stock we have is inefficiently allocated. According to Savills, "people used to move house roughly four times after their first purchase. Now it is more like twice."

A study in Australia found that a similar tax to SDLT there was costing 72p for every £1 raised, making stamp duty around four times more damaging than income tax per pound raised, and nearly eight times more harmful than VAT. Stamp duty is also the UK's second most unpopular tax, after inheritance tax.

Stamp duty is a top-heavy tax, and eliminating it for homes under £1 million in value would mean that 98% of the market was now exempt, but only 68% of the revenues were lost (around £6 billion). However, there would also need to be a tapering in of the tax on homes above £1 million to avoid a large tax cliff-edge, so the true cost would be higher. It may be most prudent to scrap stamp duty altogether, eliminating the worst tax on the books, and making up some of the lost revenues with new council tax bands for expensive properties.

Introduce 'full expensing' by making investment allowances unlimited. 'Full expensing' means letting businesses deduct the cost of any investment they do from their corporation tax bills straight away. At the moment, for ongoing expenses like pens and paper, businesses can do this already. But for longer-term expenses, like investments in a new building or in new machinery, they can only deduct a small fraction of the cost of investment each year over the accounting lifespan of that investment.

This means that, in fact, businesses don't actually get back the full cost of the investment. £100 today is worth more than £100 in ten years because of inflation and the things (like other investment) you could have done with the money in the meantime. The longer the deduction period lasts, the less of the cost of the investment you can write off.

Between 2008 and 2013 the UK reduced the value of deductions for machinery and property—from 87.5 percent to 84 percent for machinery, and from 59.2 percent to zero for industrial buildings, so corporations cannot write off the cost of investing in buildings over time at all. This likely blunted the economic effects of the reductions in the headline corporation tax rate under the coalition.

If we allowed businesses to deduct their investments from their tax bills immediately, we'd effectively be allowing them to deduct the full cost of those investments, with corporation tax no longer disincentivising investments in tangible capital.

Evidence from the US and the UK suggests that full expensing could be a boon to investment and growth.

Research by Eric Ohrn looks at states that adopted a full expensing policy temporarily in 2002 and 2008. Using a quasi-experimental approach, Ohrn finds that full expensing increased investment by 17.5% and grew wages by 2.5%. Five years after the full expensing window had been available, states that adopted it had 7.7% higher employment levels than comparable states that did not adopt it, and 10.5% higher production output (which means lower prices too, though not necessarily concentrated in that state).

This is such a large result that it sounds unbelievable, but is consistent with a paper that looks at UK evidence as well—the introduction of a policy that allowed small- and medium-sized firms to write off more of their investments in plant and machinery early on. This was not *full* expensing, but closer than before—a 40% write-off in the first year instead of 25%. Among eligible firms, compared to similar firms that were not, access to more generous capital allowances increased investment by 11% (2.1%–2.6% percentage points). This is roughly consistent with the other paper (where the policy was more generous), and still shows a large effect. Both seem to suggest a high elasticity of investment, where every extra pound raised causes much less investment to take place.

Finally, Estonia's system of cashflow taxation, which is equivalent to full expensing, has helped to give it the most competitive tax system in the developed world, even though its headline rate of 20% is higher than that of many others, including the UK's. In the four years after introducing full expensing in 2000, along with other reforms to its corporation tax, investment growth was 39 percentage points higher there than in its Baltic neighbours.

The simplest way to do this would be to make the Annual Investment Allowance unlimited for all businesses. This would reduce Corporation Tax receipts by around £18 billion.

End the debt financing bias. Full expensing of investment would allow the government to end the tax bias towards debt financing of investment, which would also significantly reduce the overall cost of full expensing. Currently, businesses that finance their investment with debt can deduct the cost of interest repayments on that debt from their corporation tax bill, artificially lowering the cost of debt financing compared to equity financing. Eliminating the tax deductibility of corporate interest expenses would end the bias towards debt financing in the tax system (which also creates greater risks to the financial system) and reduce the cost of full expensing to around £7 billion.

Turn business rates into a commercial land tax. Although business rates are a fixation of business groups, and often seem like the easiest way of 'reducing the burden on business', business rates are actually paid by landowners, not the businesses that rent from them. Because the supply of land for commercial space is relatively inelastic, the total rental value of a property is largely determined by demand—how much would-be renters are willing to pay to rent there. When rates are cut, businesses bid up rents in proportion to the cut, because the value to them of occupying the property has not changed.

That means that the level of business rates makes no difference to the operating costs of businesses that rent their premises, and cuts to business rates will end up giving money to landlords, not business. So if we cut business rates, within a few years rents will increase and the burden will be unchanged. This will mean there'll be no credit for the government—costs on businesses will not have changed, and only landlords will have benefited in the medium- and long-run.

The empirical evidence supports this. Evidence from the introduction of the Uniform Business Rate in 1990, which replaced property taxes that differed greatly before then, shows that across London, property values adjusted so that total occupancy costs between matched properties equalized over time. In other words, where rates fell, rents rose; where rates rose, rents fell.

The Institute for Fiscal Studies's paper "Who Pays Business Rates?" looked at the same event on a national level and produced a similar finding, in the long run.

But how long is the long run? In the time it takes for rents to rise (as old rental agreements expire and new ones are made), businesses will capture the reduction in rates. But this may not be very long. A paper by the British Property Federation looked at five revaluations between 1990 and 2010 and found that within two to three years 75% of the value of a business rates change had been factored in to rents.

So while we should expect this business rates exemption to fairly quickly be offset by higher rents, how does the fact that small businesses only are exempted factor in? In this case, while rents rise overall, recipients of the exemption (small businesses) will end up being slightly better off. Unfortunately this comes at a cost to other businesses, and most of the benefit will still go to landowners.

This also creates a "Francification" problem of having hard cut-off points for business benefits based on their size (which the small business exemption does, based on property values). Hard cut-offs lead to situations like France's where firms cluster at the cut-off point—many French firms have restricted themselves to 49 employees to avoid all the legislation that kicks in for 'big' firms with 50 employees or more. The second problem is that small businesses are not inherently better than big businesses, and benefiting them at the expense of larger firms is likely to be wealth-destroying overall.

The main problem with business rates is that they tax the property value, rather than the underlying land value, so they disincentivise investment in better property or machinery, when that machinery is rateable. Tata Steel's rates bill rose by £400,000 a yearwhen it rebuilt the blast furnace at Port Talbot, for example.

The solution is to replace business rates with a commercial land value tax, which would be payable by the landowner, not the business. This would be levied on the value of the land itself, rather than the property on top of it, and because it was paid by the landlord it would end the confusion that business rates are a tax on businesses, and hopefully the lobbying for business rate cuts.

We already tax mostly landowners through business rates—however, because of the way this is done it is unpopular, and the incidence still partially falls on businesses, disincentivising them using land properly. If we liberalised planning to make conversion between commercial and residential uses easier, having a higher tax on commercial use would distort the system, artificially depressing the supply of commercial land.

Therefore, in the long run as we ease planning controls, we should switch to an explicit land value tax to replace council tax as well. This may be politically difficult, and should not be a priority as long as the commercial land tax does not increase the distortion compared to the status quo, but would eventually eliminate another significant distortion in how we tax property.

Infrastructure and devolution

What's the problem?

The economic divide between the south-east of England and most of the rest of the country is a decades-old feature of Britain's economic geography—so much so that many policymakers accept it as an immutable fact. But there is reason to believe that something could be done to help places outside London do much better economically. Doing so would not only be good for its own sake. It would also increase the prosperity of the country as a whole, take pressure off the richer parts of the country from the point of view of housing and infrastructure, and help Conservatives win votes and seats in cities where they currently struggle.

To get this right, we need policies that take advantage of the power of agglomeration effects—the fact that larger cities in most countries tend to be more productive and richer. Uniquely in developed countries, this phenomenon is very weak in the UK—in part because local transportdoesn't work well and we have not built the transport networks that would make places like Birmingham or Leeds function as economic units in the way their peers in other countries do.

In the post-war era, local governments prioritised cars over other forms of transport. : Leeds, for example, is the largest city in Europe without a light rail or metro system, but had an extensive tram network until 1958 when the city corporation scrapped it as part of its ambition to make Leeds the "city of the motorway".

The problem with transport in the North of England is a combination of investment in the wrong things, like this, and low investment in general. Researchers like Tom Forth have argued that, for political reasons, successive British governments have passed over transport projects in the North and funded ones in the south-east with worse benefit-cost ratios.

Addressing this will require investment: investment in transport in particular, to make cities function. Investment costs money of course, some of which should be found from private investment and some of which may need to come from the government. Some have argued we could fund Northern transport by axeing projects like HS2, but the purpose of HS2 is not simply to provide a faster service between major cities, it is to provide extra capacity.

Because intercity lines need fast services (that skip most towns in between) and slow services (that do not), adding an extra line allows for one line to be used for each, stopping slow services acting as a bottleneck on fast services and increasing total capacity by a factor of four to six times in some cases. While we do not take a position on whether HS2 should be cancelled, if other rail projects pass a cost-benefit analysis they are worth funding in their own right, whether or not HS2 goes ahead.

Better infrastructure is also an effective way of tackling the problem of so-called "left-behind towns", by allowing them to benefit from agglomeration effects. The benefits to size and of the knowledge economy in general are increasing the challenges that less productive towns face. Rather than making false promises about restoring their prosperity through spending on local projects that in many cases are driven by politics over economics, government should be investing in transport to connect them to nearby cities so that the whole area prospers.

Our goal

Over a five- to ten-year timeframe, we should seek to increase the productivity of major UK cities and their surrounding towns and villages by improving transport links to increase the effective size of these places and expand the number of towns that can benefit from the prosperity and knowledge spillovers of nearby cities.. And we should do this in a way that is sustainable from a public finance point of view.

Specific policies

Set up a regional transport and R&D fund. The government should launch a significant fund to invest in local, city-region-level transport in and around major cities. A small fund of this sort was put in place by the last government, but we should be much more ambitious: a fund in the tens of billions is likely to be needed.

Similarly, the Government should work with city leaders to increase public R&D investment in one or two cities with the potential to make the most of it: a worthwhile goal would be to make Birmingham, Manchester or Bristol much more R&D-intensive, building on their world-class universities and on their local industrial. This policy would build on UK Research & Innovation's "Strength in Places" fund, but at a larger scale and with greater focus and ambition.

Use land value uplift to fund new infrastructure. In and around London and other prosperous cities like Leeds and Manchester there is a demand both for new infrastructure and new housing. New infrastructure opens places up to more development—the areas along either end of Crossrail are now much more attractive to people who work in central London.

Historically, much of London's rail network was self-financing by, more or less, building rail lines through empty fields and building houses around the stations, and selling the houses that were now connected to the city. A similar model continues in Hong Kong's state-owned MTR and Japan, where most railways are run privately without a subsidy from the state. In both cases the operators raise significant revenues from leasing out properties in and around the stations.

The main reason that this is not more common in the UK appears to be the piecemeal nature of the planning system. Crossrail 2, for example, which would run from North to South London, could in principle support 250,000 new homes along its line. Under the current planning regime, however, TfL would need to make hundreds of separate applications for approval to build these homes. If a certain number of approvals was needed for Crossrail 2 to be viable, the risk and costs could be prohibitive.

One option to avoid this could be to set up a special purpose vehicle for new lines, like the one used to approve the 2012 Olympic Village sites. This would check new developments to make sure they were legal and operating within established building regulations, but would be less subject to local lobbying than local councils, and could make decisions along entire sections of railway lines, allowing for fewer applications to be made and less risk. In general, these new sites should be obtained at market prices and not through compulsory purchase, which is subject to abuse and deeply unpopular (as the row over the Heathrow expansion has shown), and rarely used in Japan.

This would have four benefits. One, making new infrastructure in prosperous areas self-financing and reduce the burden on taxpayers. Two, to build new housing in the places where it is most valuable. Three, to make more lines viable than would be the case under the current publicly funded model. Four, to free up infrastructure funds to parts of the country where they may have a stimulating effect, creating new agglomeration economies instead of simply improving on existing ones. And five, to create a sustainable funding stream for infrastructure, instead of being reliant on the whims of central government—which, as the Beeching cuts demonstrate, can be fatal in difficult times.

Take buses seriously. Outside of London buses are far more important than trains for commuters, but they are underused because they are slow (because of how the routes are designed) and often delayed by congestion, which puts off more passengers than any other factor and where a 10% fall in operating speeds is associated with a 10% fall in ridership.

But in other countries, bus network redesigns, such as Jarrett Walker's work in Houston and a similar scheme in Barcelona (alongside that city's pedestrianised superblock plan), are succeeding in increasing speed, reliability and passenger numbers. Dublin's plans also look promising.

The idea behind this new approach is to deliver high frequency services along trunk routes, so that the bus grid can be as simple as the tube map. When people feel certain that a bus is coming broadly to their location in less than four minutes, without them having to check times, they're happy to transfer. In Barcelona, there is a 3–8 minute headway between buses along major routes, and people make transfers on around a quarter of all journeys because they're so regular they're almost akin to the Tube. Once the system has fully rolled out, it is expected that nearly half of all boardings will be bus-to-bus transfers (the figure is 13% in London and likely to be much lower in cities outside of London). This kind of approach may work with the grain of existing bus deregulations, which led to higher supply and frequency along trunk routes.

Whether or not the massive postwar expansion of the urban and suburban road networks was a good idea, we have them now, and using city streets for cars is much less efficient than for rapid bus networks. Local government should be given as much power as possible to move towards this kind of system—redesigning the network won't unless there is also more priority for buses (in the form of bus lanes), and higher congestion charges.

Break up Openreach and open broadband up to competition. As a national monopoly that is vertically integrated into by far the largest telecoms company, BT, Openreach is chronically inefficient. It is heavily unionised, has a captive market in the form of BT's customer base, and uses cable laying methods that are more expensive than the methods of its smaller rivals. The result is weak fibre rollout and weak competition. BT also has an enormous lobbying team and budget, and a very close relationship with Ofcom that may border on regulatory capture. All of this contributes to a broadband network that is badly lagging behind: in Ofcom's 2017 rankings with similar countries, the UK was 18th out of 18thin terms of fibre-to-the-premises rollout.

To achieve faster fibre rollout and lower costs, the national broadband market should be opened up to competition and new entry. To achieve this, Openreach should be broken apart into eleven regional companies that are separate from BT. Each of these could then expand outside their region and compete with each other.

This would create more competition in fibre rollout between these new businesses and other, more efficient ISPs. The fact that there would be no automatic relationship with BT would mean that these new regional companies would have to compete with other ISPs to supply BT customers, and would not be doing so as a national monopoly.

This would drive faster fibre rollout in cities and towns, especially if broadband companies were given the same rights to build infrastructure that the energy and water sectors enjoy, without the need for planning permission that currently holds back rollout. It should also boost rural broadband rollout, with more active searching for profit opportunities by smaller players that can now access BT customers, compared to OpenReach's current weak incentives and high costs.

Innovation and technology

What's the problem?

One of the reasons capitalism and markets work well is because of innovation: competition and enterprise come up with new goods and services that improve people's lives and make them happier. Indeed, if you had to boil down the last 10,000 years of human history to a single significant story, the rise of liberal innovation and the massive improvement in human existence in the countries that gave it free rein would be it.

But while innovation has its roots in ingenuity and enterprise, good governance has an important role to play in making it flourish. First of all, governments set the rules for how markets operate—including everything from competition policy to health and safety rules to technological standards—and they can do this in ways that encourage innovation and novelty, or in ways that favour incumbents and quash innovation.

Secondly, governments have a role to play in investment in innovation. Developing an idea and turning it into a product requires lots of investment in intangibles like research and development and design. Economists have long known that these investments tend to have big *spillovers*: the business that makes them can't be sure that it will reap the rewards rather than a competitor[1]. (Think of the CT scanner, invented by the British business EMI, but sold worldwide by Siemens and General Electric, who got most of the commercial benefit.) Investors know this too—for all we think of Venture Capital as funding "tech", for the most part, successful VC funds take little true tech risk.

This is why governments should fund innovation, whether in the form of basic research, applied research, targeted funding in fields like defence and energy, through tax credits for R&D, or through artificial property rights in innovation in the form of patents. The twentieth century provides many examples of significant publicly-funded research projects that led, in due course, to big economic benefits, from GPS and the Internet to hydraulic fracturing and the graphical user interface. (Although it's wrong to suggest, as some do, that the government is the main or only risk-taker when it comes to innovation: all these inventions also involved large amounts of risky investment by the private sector. For every pound the Government invests in R&D, the private sector invests two, and that for every pound of R&D investment, there are ten pounds of investment in things like design and marketing.)

We believe that both when it comes to public funding of R&D and designing regulation that does not quash innovation, the UK government can do a better job.

UK public funding of R&D lags that of most other rich countries (0.5% of GDP compared to levels of 0.7 to 0.8% of GDP in countries like the United States, Germany, France, or the Netherlands). The ratio of public to private R&D in countries like the USA and Germany is about the same as that in the UK; our total levels of R&D investment are lower because both our public and private sectors invest proportionately less.

What is more, the way we fund innovation has some unusual quirks. Compared to other rich countries, more of our public research funding goes through universities than through public labs or government research agencies like Germany's Max Planck and Fraunhofer Institutes. IN addition, much of our recent increases in public R&D funding have gone through the Industrial Strategy Challenge Fund, which has developed as a funder of big joint industry-business projects in four so-called Grand Challenge areas (chosen by Government) and signed off by ministers. There are two drawbacks to this funding model:

- The dominance of university research risks missing a trick, to the extent that some cutting-edge public funding bodies, like DARPA, seem to have a good track record of original, impactful research linked to practical application. Many academics do brilliant work; but the incentives to generate publications and citations rather than either longer-term or more practical forms of impact are strong.
- The Industrial Strategy Challenge Fund seems to favour quite broad and generic challenges (the official four grand challenges include "the Ageing Society" and "the Future of Mobility"). What's more, ISCF funding is decided through a politicized decision-making process (in which BEIS ministers make the final investment decision), which seems likely to favour easily explicable projects rather than radical breakthroughs. To put it another way, we find it hard to imagine a breakthrough project like ARPA's Information Processing Techniques Office being funded through the high-level Whitehall and ministerial meetings that run the ISCF.

When it comes to regulation, we face two challenges. While British regulators have a relatively good reputation globally, most of them are not tech experts: it is simply not how they are set up. But increasingly, they are facing questions with big technological dimensions: is it a problem that Google enjoys a large share of the online advertising market? If a water utility uses AI leak detection to reduce its costs, how should those savings be passed on to consumers? What remedy is there for rights-holders if search engines routinely direct users to pirated version of their content? It is not clear that our regulators are staffed up to meet these new issues.

The second issue is a global one. One of the arguments made for Brexit was that it would allow the UK to set its own rules in new technologies that would give British businesses the edge over rivals governed by putatively more onerous EU laws. This will be much more likely to be true if the UK can not just develop better rules, but can also convince other countries to accept them. All other things being equal, the EU has more international clout to get its rules accepted than the UK does alone. Overcoming this challenge will be important if the UK is to make the most of whatever "regulatory divergence" opportunities arise in tech.

Finally, the UK has an unusual geographical problem when it comes to the commercialization of our leading-edge academic research. Because academic research funding is awarded on the basis of excellence, much of it has traditionally gone to places like Oxford, Cambridge and the centre of London. It just so happens that these places have very onerous planning restrictions, making it very hard to build new homes, offices or factories. This is an economic problem: if it's hard to build new offices, it is more expensive and difficult to set up spin-out businesses. If it is hard to build houses, it will be hard to attract skilled workers to work in spin-out businesses. In this way, planning constraints in effect turn into powerful constraints on innovation and high-tech business growth. Or to put it another way: the most effective tech transfer policy is planning liberalization in R&D-intensive places.

Our goal

We need a government that invests in research and technology in a comparable way to other advanced economies. It must do so in a way that encourages radical, high-impact innovation, which will require a diversity of funding streams and room for experiment. It must be backed up with a regulatory system that creates space for new, tech-enabled insurgents to enter established markets, and a capability to persuade other countries to adopt our rules and standards. Finally, planning policy needs to reinforce tech policy, making it easier to live, work and build businesses in places with a history of excellent research.

Specific policies

Four specific policies can help deliver this vision.

A significant increase in public R&D funding, increasing public R&D funding from 0.5% of GDP to 1.0%. This would take the place of the current target of increasing total R&D to 2.4% of GDP, which although worthy in its intention, is not clearly in the Government's control, since most R&D is not government-funded.

New funding mechanisms. Rather than channeling new public R&D funding through vague, broad Grand Challenges, with consortia of large businesses and ministers closely involved in bid selection, we should focus a proportion of new funding to one or more radical breakthrough funding agencies, closer to DARPA or ARPA-E than to the ISCF.

To the extent we fund challenges, we should make them narrowly focused and technically demanding (the current STEP project to develop a spherical tokamak for nuclear fusion seems much more appropriate than broad challenges on themes like "healthy ageing").

Competition in regulated sectors. As well as the broad trends we've described, and the policies we suggest to respond to them, there are some niggling problems with the UK economy that an economic-minded Conservative Party should consider.

The first is the growth of the utilities regulators. These were initially set up to manage monopoly infrastructure: in energy, for example, we have an at least notionally competitive retail sector and production sector, but distribution, while privately owned, is mostly done by national and regional monopolies (the National Grid and the Distributed Network Operators). The same goes for other privately-run infrastructure that is either a natural monopoly (like the water network) or effectively a monopoly (like the railways or airports).

The regulators were set up to monitor these monopolies and ensure that they did not capture all the value that could otherwise be passed on to consumers, and to regulate the newly deregulated consumer markets for a time limited period (while the market reached maturity). However, mission creep has led them to accumulate lots of other responsibilities that have turned many of them into bureaucratic juggernauts. Ofgem and Ofcom both employ more people than many government departments, with annual budgets of around £90 million and £120 million respectively.

These sector regulators have 'concurrency' powers that mean that they, not (in practice) the Competition and Markets Authority, have responsibility for competition enforcement in their sectors. But very few competition cases have ever been brought, compared to France or Germany, for example.

Unlike a competition enforcer that has to stick to an established, cross-sectoral rulebook, regulators make ad hoc interventions that amount to micro-management of many aspects of the market. As well as this, repeated interactions between regulators and industry mean that regulators have incentives not to punish existing players too harshly—regulators rely on established players for information and cooperation, and staff move back and forth between industry and the regulator.

Regulators tend to make static analyses and as a result they do not put much weight on innovation or barriers to entry as important factors in the market improving. The result of this is that incumbents in these sectors are focused more on the regulator than they are on consumers and competing with their rivals.

A solution to this may be to redesign the regulatory system so that it is not sector-specific, with competition powers and a requirement for market investigations given to the CMA, a new independent agency for consumer protection, the n+1 regulator discussed above, and one for access and network regulation.

This single access regulator could be given the narrow mandate to protect consumers by guaranteeing open access to monopoly infrastructure, in order to facilitate new entry and promote the interests of consumers, instead of trying to micromanage or centrally design the market structure.

A new cross-sector sandbox authority. John Fingleton, former CEO of the Office for Fair Trading, has proposal for an "n+1 regulator" that would sit across all sectors of the economy, and aim to support new companies with innovative business ideas that existing laws or regulations meant could not operate.

It would grant five-year licences to new companies whose business models conflicted with existing regulations—the next Uber, for example—and allow the companies to operate for this period whether they were in breach of existing law or not. The companies would be required to take out liability insurance, or in some cases the regulator itself may offer it (at a price) if the private sector would not insure an innovative business.

This approach already exists in healthcare, where treatments that haven't had regulatory approval are allowed to be used under certain circumstances, and to some extent in fintech. It would have two responsibilities: one, it would allow innovative companies into the market that would be blocked by regulation otherwise, and two, it would be responsible for negotiating with the sector regulators to change the rules so that they could continue to operate in the long-run. Setting this up would put the UK at the forefront of global regulatory practice and be a statement of intent about our regime after Brexit.

We also need to project this influence globally. To that end, the government should charge UK Research and Innovation and our national laboratories and standards bodies to establish a centre for international technological standards and ethics, dedicated to undertaking groundbreaking international work on standards and norms for new technologies, and putting in the work to get these standards adopted as widely as possible. (Standards and norms aren't sexy, but the UK is good at them, and compared to many "big science" projects, they are dirt cheap: a relatively small investment in the field will go a long way to helping the UK make the most of our global technological ambitions.)

Tech cluster planning reform. A lot of ink is spilt on optimising "tech transfer" policy, often involving tweaks to licensing regimes or nugatory funding pots announced to much fanfare. But: the simplest and best policy for tech transfer is to make it easier to build homes and offices near places where excellent research happens. The Government should throw its weight behind a major expansion of either Oxford or Cambridge, our two most research-intensive towns, where despite decades of wrangling, it is still hard to build significant amounts of new housing (Cambridge is currently doing a better job than Oxford). The Government's vision should be a significant, beautiful expansion of one of the two towns, inspired by historical projects like Edinburgh New Town or Bath. They should be delivered to high architectural standards and with adequate infrastructure, funded by land-value capture. Having an open tender for Nansledan/Poundbury style urban extensions, masterplanned as a single project like Fitzrovia, Bloomsbury or Marylebone, may not be the first-best way of building out but in a world of tight planning rules it may be the second- or third-best.

Finally, if planning reform near our oldest universities proves to be absolutely impossible, we need a serious rethink about the geography of innovation. If local politics makes it prohibitively expensive to build significant numbers of offices, houses, or factories near where the bulk of publicly funded R&D happens, Government should consider shifting the location of some of that R&D to places where building is possible, especially when there is already a lot of private sector R&D going on there. This would involve working closely with elected leaders in cities like Birmingham, Manchester or Bristol to greatly expand public funding to their excellent universities, together with plans for development and links with local businesses. If the mountain will not come to Mohammed, Mohammed must go to the mountain.

A couple of more specific issues:

Procurement for innovation. You can't spend long reading about innovation policy before you come across someone saying "if only the government spent a bit of its procurement budget on innovation, it would change everything". This is technically true, but it's much easier said than done. The general problem is that procurement officials generally work to tight budgets, are aiming to deliver value for money, and have few connections with the world of innovative entrepreneurs. Procurement is difficult enough on its own without giving the people responsible additional goals that are often in direct opposition to their core objective.

And the risk-averse culture of politics is a big disincentive for civil servants or ministers to take a chance on a small supplier. The only place where procurement has historically led to innovation is the US defence sector, which is characterised by vast budgets, fifty years of total commitment to technological superiority, and a degree of political untouchability.

The way to address this is for the Government to pick one or two specific areas of public service spending where there is real political desire to innovate. ("Real political desire" means it must be one of the Secretary of State's top three priorities—accept no imitations.) Then, the relevant department should set up a focused team dedicated to nurturing external innovations, funding them with R&D money (which UKRI should support), and connecting them to the department's procurement pathways, using challenges and procurement tools like SBRI. This was nearly done for renewable energy innovation in 2016, but the change of government saw the project cancelled.

Doing research better. The past thirty years of British research policy have seen research funding become significantly more managerialist and more metrics-driven, a trend exemplified by the Research Excellence Framework that academic researchers are periodically subjected to. Like a lot of managerialist public service reform, this trend has had some major benefits: it has professionalised research funding, and focused attention on quality and, to some extent, on impact. But as many researchers have pointed out, managerialism can go too far. There is the risk that impact assessment is encountering diminishing returns (the time and effort required to comply with the system may no longer be justified by the benefits the system brings). Others have raised concerns that it discourages really radical research, or that it discourages the production of useful outputs like digital tools.

Government should commit to reduce the bureaucracy of research funding, and to pilot new methods like funding lotteries for scientific grants. A good way to start this off would be by commissioning a review into research funding bureaucracy, led by a senior researcher. This is a complicated area, where there is a risk of throwing the baby out with the bathwater, but an important one if we care about research.

At the same time, we should be ensuring the UK leads the field in what we might call meta-research: understanding what research methods work most effectively (especially in the light of modern technologies), and ensuring our research funding system encourages them.

The Long Run

In this paper, we have set out an overarching framework for thinking about the UK's economy and a set of feasible economic policy ideas that a centre-right government should focus on. But there is one other piece to the puzzle: how to embed these changes and entrench economic thinking in the years to come.

To do this well, we should learn some lessons from Britain's left. The left has had some important successes when it comes to economic policy in recent years. Consider the way the Resolution Foundation, a left-leaning think tank, patiently campaigned and researched to drive the issue of inequality and the working poor up the political agenda, until it was embraced not just by Labour but by the Conservatives too, and formed the basis for the National Living Wage.

Or, further to the left, how projects like the New Economic Organisers Network systematically train activists to be plausible talking heads and campaigners on economic topics. Or look at how today's Labour leadership has developed an economic programme of impressive—some might say frightening—ambition, founded on a critique of capitalism that even seems to won converts in the May government. Or how Labour's local economic strategy in Preston, which has been in development since John McDonnell's days at the GLC, has become a flagship for left-wing local authorities, as iconic for the far left as Wandsworth Council was for local government Tories in the 1990s. You don't have to be a fan of Corbynomics to recognise the effectiveness of these slow but determined methods.

The centre Right can learn from these tricks, by doing three things to invest in the long term.

First of all, we need to recognise that the right-wing think-tank landscape suffers from a lack of policy expertise and depth, compared to equivalent organisations in the United States (such as the American Enterprise Institute) and compared to impressively resourced centre-left organisations in the UK such as the Resolution Foundation.

The economics-focused think tanks that do exist are too small, precarious or focused on Brexit to produce the kind of primary research and econometric analysis that would support the advancement of policy ideas in government.

What is needed is a serious, rigorous and **non-partisan think tank** addressing some of the big economic questions set out here, in particularly productivity, from a perspective that recognises the value of innovation, enterprise, and economic growth. This is a fairly significant undertaking, but not ridiculously so—the Resolution Foundation, for example, achieved great things on a budget of less than a million pounds a year by being focused and by refusing to pursue short-term policy errands or chasing extraneous funding at the expense of long-term impact.

Such a think tank would not just provide intellectual firepower: it also acts as a valuable outrider. Theresa May's lack of any real outriders, such as a friendly think tank to float policy ideas for her before being adopted by the government, was one reason that she ended up backing plans that only turned out to be unpopular after they had been announced as official policy.

The second thing to do is to invest in the capability for **practical economic activism**. Economy policy depends on institutions as well as on clever wonks. But in recent years, many on the Right have been suspicious of institutions and those who work in them, perhaps seeing them as inherently left-wing. This is a mistake: the skills of influencing institutions is something the Right should develop.

To do this, a think tank or similar body could consider setting up a programme dedicated to improving institutions, focusing not only on understanding the details of how they work, but on improving their governance, and mentoring and supporting people involved in their management or their boards. In a sense, it would be a more hands-on version of Conservative Home's longstanding "Calling Conservatives" feature, focused on improving those institutions public and private with a big role in economic growth.

Finally, the Right should look to **test its ideas out on the ground**. Preston Council is a testbed and poster child for the local economic strategies first developed at the GLC in the 1980s. Those on the Right should ask themselves what their equivalent would be, and work in a small number of places to make it a reality. Getting this right will depend on local buy-in from a council or metro mayor, but also on central support, and on think-tanks and activists focusing on the practical implementation of their ideas outside SW1.

These three moves would be modest but practical ways of entrenching economic thinking on the right for the long-term.

Perhaps more than anything, though, Conservatives need to revise their understanding of how to win elections and realise that principles and narrative matter. Focus groups and opinion polls have a place, but they should be used to test policies that we have arrived at for other reasons—because we think, for example, that they will drive economic growth or give people more opportunities to live the lives they want. When Conservatives are in power, they need to show people that they will use that power responsibly, implementing policies that are not just popular, but effective.

Conservatives would do well to remember the distinction that Margaret Thatcher made between policies that are popular in themselves, and policies that have popular results. The political benefits of the former are immediate, but often short-lived. But it is policies with popular results that change a country for the better, and which underpin long-term political success. An understanding of what is going on with the economy and how public policy can make it work better for the country is crucial for coming up with these policies. We hope this paper can contribute towards the development of such an understanding.

[1] We note in passing the remarkable fact that many people involved in government innovation policy don't seem to have a clear model of why government funds R&D.