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Brexit: What next? Sovereignty, Devolution, and Economic Policy – an open forum

Wednesday, 12 October 2016 Time: 5.15pm to 6.45pm
Location: Maurice Keyworth Building SR (1.09)
Leeds University Business School

Jamie Morgan, Leeds Beckett University

Brexit and the Future of UK Economic Innovation

Given the current uncertainty, perhaps the best way to approach this question is to consider what the scope for the current government to make a difference to the environment of innovation is, and also how this in turn is influenced or framed by a general attitude or framework of how an economy operates.

So far we only have the early October 2016 Conservative Party conference and various press briefings to go on. Perhaps the best point of contrast to apply to this is the Budget Report, March 2016 - since this is the main post-referendum articulation of the previous leadership.

The general approach articulated by the new leadership seems to be (at least as a public discourse) to take the optimistic position that leaving the EU removes barriers to trade and constraints on economic dynamism in the UK (not quite the Minford doctrine of the minority of economists who supported leave, but the broad outlines are not dissimilar). The implication is that the UK will simply leap into action. Swathes of entrepreneurs who have been sat on their hands or gnashing their teeth because of an oppressive EU will leap up and suddenly flourish (Liam Fox is exhorting business to take up the challenge in a 'post-geography trading world').

This contradicts the previous position that being in the EU helped to develop the UK as an outward looking open economy - on the basis that the EU accounts for 44% of UK exports; a position clearly stated in the last Budget Report under Cameron, March 2016, p. 11 and 19. Page 19 provided the main statement regarding the Remain position within the Budget Report.

Though the current narrative emphasises that the UK is being liberated and control is being reclaimed, the underlying theoretical tenets of the role of the state and the nature of an economy remain broadly the same (it is just the positioning of the EU that is altered). That is, liberalised trading as a competitive framework. This may ultimately become meta-market thinking without necessarily the single market (if 'hard Brexit' occurs)

The basic premise is that corporations in the UK will (once uncertainty and fear are put aside) increase their investment and turn to trade outside the EU and new corporations will locate in the UK.

In terms of innovation, specific new policy stated at the October conference include:

£220 million for additional support for technical/technological innovation
£100 million for biomedical funding
£120 million for technical/technological transfer from universities to foster innovation

However, this needs to be placed in context. The UK is a £1.8 trillion economy (5th or 9th economy in the world); with a total budget of around £ 750 billion. The state accounts for around 40% of the economy (and is carrying net debt of 83% of GDP). These new commitments are small.

At the conference, the new Chancellor, Philip Hammond, announced 'we are ready to provide support to British business' but did not suggest how… It seems reasonable, therefore, to assume the policy framework remains influenced by the same approach to economics that dominated prior to the new leadership (not least because that approach has endured in various forms for more than 30 years)

The new Prime Minister, Theresa May, meanwhile, announced that her government will specifically seek to ensure that those left behind by the economic growth of recent decades will have their grievances addressed (there will be more of a sense of 'fairness')

She also stated there would be a new 'industrial strategy' - implying also policy to address the differences in economic experience of the regions. She did not actually state what this would be. However, it is to be led by Greg Clark (secretary of state for business, energy and industrial strategy). [Issue: strategy is not a set of vacuous mission statements, it is a diagnosis of some problem area, a set of principles to guide how it is addressed, and a set of subsequent coherent policies or actions consistent with the principles. It is an open question as to whether the government has an industrial strategy. They are however, influenced by principles regarding the role of the state for and in terms of an economy]

Since we are in Leeds one ought also to consider the Northern Powerhouse initiative. Its main champion, former Chancellor Osborne, has been sidelined, whilst one of its main architects, Jim O'Neill has resigned from his Treasury advisory role (mainly over Hinkley). However, the core of the Northern Powerhouse idea was investment in transport and digital infrastructure, as well as the devolution of decision making in order to create a flexible localised system and empower a more effective business friendly environment. This is unlikely to change because it is consistent with Theresa May's rhetoric and with the limits on what industrial strategy is likely to be. Again, a great deal of what was in the Budget Report March 2016 (p. 77) will probably be unaffected.

So, the new government's response is likely to be a combination of a new policy narrative about fairness and opportunity, continuity in terms of what they are

currently doing at a regional level, and continuity in terms of the general framework of how an economy is conceived (see also below).

However this "change without change" by no means indicates the future will be like the past. The consequences of continuity involve also an attempt to manage Brexit (which is in many ways a damage limitation exercise), and to do so based on a received framework.

The UK is a mixed economy so it is neither all one thing nor all another - but dominant ideas have influenced the development of the economy… how it changes how innovation arises

The guiding theory of the last thirty years has been that:

1. Government is like a household and must balance its books. This restricts capital spending (and does so in further ways since the idea of a fiscal stimulus is always constrained by the way inflation is modelled and addressed - this is built into DSGEs and used to guide monetary policy through the Bank of England - Bank independence is not neutral in its effects, monetary policy implicitly dominates fiscal opportunity within contemporary economics and policy frameworks. This has become basic to fiscal 'discipline')
2. Government tends to misallocate resources and so should minimise the resources it directly invests or controls (one should prefer market failure to government failure).

This has meant that over the last thirty years the governments main ideological position has been that the state helps to create and support markets, and that markets create the basis for efficient investment and allocation of resources, and in turn motivate entrepreneurial individuals to create firms, and for firms to 'innovate' - a dynamic efficiency. This may start in some places but eventually expands across different geographies because it gradually becomes more cost effective to shift resources to new regions as established ones become more expensive to operate from. An open economy is open within and open beyond itself…

The broad consequences of this approach have been:

- A withdrawal of the state from ownership or control: the government acts as a 'partner' and covers private risk (typically this means contracts which transfer risk to the state whilst guaranteeing long term capacity to make profits to corporations), the government creates loan systems (quasi banks and investment funds for particular purposes - the Green Bank etc), and provides incentives and some subsidy. Ultimately the government seeks to steer rather than own or control major sectors of the economy (notably energy production)
- A constraint on expansionary or active fiscal policy - we have capital spending but it is permanently affected by short-term compromise (sub-contraction, public-private partnerships etc), which affects the nature of

infrastructure decisions, and it is permanently affected by the attempt to treat the state as a household (concepts such as the multiplier, merit goods, and public goods become incoherent - though never disappear entirely, since the state remains a £750 billion actor)

More specific consequences include:

- A reduction or constraint on active industrial policy (this has affected manufacturing in the UK a great deal of which is now component production or assembly for MNEs in supply chains (Nissan, GKN etc)[1] It is these that May embraced as strategically important businesses at the conference. These are to be 'supported' (car manufacturers, aerospace - which includes the arms industry though this is rarely emphasised outside security circles) along with university to business start up transfers - biomedical science, digital economy etc as previously noted
- A reduction or constraint on active regional policy, we are still waiting for equalisations through mainly market processes… deindustrialisation has not resulted in renewal or transformation in general… This is not to denigrate the achievements and vibrancy of some areas in the North, but rather to recognize the broader reality
- A centrifugal economy, dominated by London (more than 20% of UK GDP from a population of 8.6 million) and the South East
- A pathological evolution of our economy - metaphorically described as unbalanced, or structurally distorted (hence the frequent references to rebalancing and structural reform by governments (by which they mean steered evolution) especially since the GFC - as Colin Hay notes. This lack of balance has manifested as the gradual rise in significance of finance and financial services, an increasing proportion of the private sector economy dominated by retail (the biggest employer at around 2.7m, with the big 4 supermarkets accounting for around 1m) and then by construction (1.8m).

[1] Noting: The manufacturing industry employs around 2.6 million people in the UK and, in 2013, accounted for 10% or £150.7 billion of national economic output. Manufacturing has underperformed the services sector for many years. Output in the sector declined particularly sharply during the 2008/09 recession, and after a short period of growth it declined again in early of 2012, 2013 and 2014 have seen relatively strong growth. Almost 70% of Research & Development investment is in the manufacturing sector, and goods produced in the sector account for 44% of all UK exports. (Manufacturing: Statistics and Policy, 2015: pp. 4-5; House of Commons Briefing Paper 1942, C. Rhodes)

Manufacturing output
Gross Value Added (GVA), £ billion

	Current prices (£ billions)	2011 prices (£ billions)	Real % change on previous year	% of total economy
1997	145.9	151.1	-	14.0%
1998	145.3	151.7	+0.4%	13.6%
1999	141.3	152.5	+0.5%	13.2%
2000	144.1	156.0	+2.3%	13.0%
2001	139.3	153.5	-1.6%	12.5%
2002	137.5	149.6	-2.6%	12.0%
2003	137.0	148.7	-0.6%	11.4%
2004	136.7	151.5	+1.9%	11.3%
2005	141.2	151.4	-0.1%	11.0%
2006	143.2	154.8	+2.2%	10.9%
2007	143.2	155.9	+0.7%	10.7%
2008	146.0	151.4	-2.9%	10.4%
2009	136.3	137.2	-9.4%	9.9%
2010	143.1	143.6	+4.7%	10.1%
2011	146.2	146.2	+1.8%	10.1%
2012	146.9	144.4	-1.3%	9.9%
2013	147.3	143.4	-0.7%	9.7%
2014	150.7	147.8	+3.1%	9.7%

Source: ONS series: KKE3 (current prices), KL8V (real prices), KL8A (total economy)
Real prices are 2011 prices

Innovation has come to involve:

- Conflation with financial innovation - something with questionable social value (a problem now increasingly recognized though little has been done to change the dominance and influence of finance despite persistent formalised criticism and more oversight - macroprudential approaches, ring fencing etc have been steadily diluted)
- A more general conflation of innovation with the narrative of dynamic visionary entrepreneurs engaged in industry wide disruption - the wealth creators (Branson, Dyson etc). This is despite that this is the minority of actual business and employment (around 60% of private sector employment is in SMEs; most of the private sector is not 'cutting edge' design or technology and much of that is now outsourced and produced elsewhere in the world including Dyson, adding to the issue that the corporate sector is MNEs not UKEs - leaving the EU is actually to create a barrier in this sense). Only 11% of UK companies are actually exporters.
- Are most SMEs and sole traders a source of innovation? They are part of GDP but an innovative haircut is not quite the same thing as building Google. I'm not denigrating it, but consider the range… (both are cultural, but they are not within the same concepts of business structure). One must also consider that 16% of the population are now self-employed… This creates a challenge in terms of addressing wealth creation and wealth capture through work. If one is concerned by wealth and income distribution can one only think in terms of traditional ideas of shifts

between left and right, if read as affecting the balance between unions and corporations etc (14% of private sector workers are in unions)?

The UK also has a reputation for primary discoveries in science, for its creative industries (gaming, films and TV), for culture; and perhaps despite rather than because of education policy over the last decade, the quality of many of its universities.

This brings us back to Brexit: is it likely to be a profound transformation in how we approach supporting or fostering innovation?

Clearly the answer is yes and no - though Brexit itself has not been directly about encouraging innovation.

It should not be neglected that: **We haven't yet left the EU**

Whilst there is some credence in the claim that Brexit *so far* has not been as bad as some thought, this is simply in terms of immediate market panic and effects on consumer behaviour. The indicators one looks at are the FTSE (volatile but not crashed), currency (significant Sterling decline - 18% from 23rd June to October 11th) consumption (so far mainly unaffected), business investment (long term seems to already be reducing, but short term inventory measures though volatile are not yet on a significant downward trend based on purchasing managers indexes PMI - since these respond to the media and consumer behaviour because the data is surveyed from managers who are as influenced as any other member of the public by negative and positive news, this is unsurprising). These all involve what Keynes used to call problems for the MEC and issues of convention and investment behaviour (animal spirits etc albeit in a world of technical and algorithmic trading where some capital markets are now essentially cyberspirits - hence the flashcrash in sterling). One can, however, expect inflation because of our trade profile and this will likely also affect foreign holdings of UK sovereign debt (as inflation rises, non-index linked bonds real return reduces, they may, therefore, be sold off. Leading to rises in yield curves - ultimately creating a problem that UK debt becomes less attractive on markets irrespective e of its credit rating (another problem issue for the future).

The real issue regarding Brexit concerns the institutional form that the UK's new relation with the EU and the rest of the world takes after the initial period of uncertainty is resolved (though this will not be an end to uncertainty merely a change in what is uncertain). Theresa May's announcement of a Great Reform Bill is an announcement of a time threshold. It lacks substance so it is not actually a direct answer that resolves uncertainty. 'Brexit means Brexit' remains essentially empty at this stage…

Thereafter, there are many reasons why prospects are problematic…

Consider the key personnel:

- Liam Fox, International Trade (remit outside EU but cannot act officially since the UK is a WTO member via the EU and the EU represents the UK on trade with member states)
- David Davis, Department for Exiting the EU (cannot formally negotiate with individual members of the EU since negotiation of the form of exit, and by implication, subsequent relations with the EU must first be agreed between EU members. This is a matter for the Commission, the Council and the Parliament - at some stage they require a unanimous position based on the remaining 27 members - e.g. Guy Verhofstadt is the designated lead negotiator for the European Parliament)
- Boris Johnson, Foreign Secretary (is empowered to encourage trade relations via diplomatic activity, but is not actually responsible for agreements and lacks the authority to make binding commitments)
- Philip Hammond, Chancellor (responsible for the budget response to radical change in UK - after payments to the EU and payments from the EU cease; and within the general response to short and long term consequences of leaving EU).
- Amber Rudd, Home Secretary (will oversee immigration policy and status of residents)

And Oliver Robbins, chief civil servant for Brexit

Problems:

1. Strictly speaking no one can engage in formal talks with specific states inside or outside the EU in order to develop actual trade treaties.
2. There are clearly mis-communications between departments and personnel, and also a vying for influence and resources between the different responsible parties. There is no collective position. There are also problems over the special status for interest groups - passporting for finance[2], free (or at least freer than others) movement of labour for finance (and perhaps agriculture)
3. Even if (when) a collective position emerges - wanting an outcome does not mean one is able to achieve that outcome. Negotiation requires other parties to be amenable to your goals. Much of actual trade already conforms to EU and WTO rule systems. Leaving the EU simply changes the terms of access based on those rule systems, but then requires also specific treaties with each trading party (to replace a collective EU position). This will not be a freeing from 'red tape' - merely a change in the power position of the UK (clearly recognized p. 19 of the March 2016 Budget Report)

[2] The issue currently hinges for finance on the Markets in Financial Instruments Directive II (MFIDII) that comes into force in 2018 and, notably the status of 'equivalence'. If UK qualifies as an equivalent regulatory regime then it is possible financial services will have right to operate in each EU member state. However, equivalence is open to interpretation and could be made conditional on conformity to other EU initiatives. Uncertainty here is problematic even if one thinks the UK has a 'finance curse' or dependency. 25% of UK financial services revenue derives from the EU and the finance sector provides £60billion of UK tax revenues in one way or another.

4. Negotiating trade deals even with cooperative and willing partners is an intensive and long affair - the recent EU Canada trade deal took 7 years. The technical aspects of setting out an actual treaty form for the UK in relation to 27 EU members or the EU as a whole, and also perhaps with reference to the 50 third party trade agreements that the EU has, is a prodigious undertaking, even if there were (will be) a clear basis for negotiation (what each side wants and how this is to be set out in initial regulatory form)

Two likely immediate policy areas that will likely be emphasised as 'good news' in forthcoming months:

- Bringing forward some capital spending on infrastructure is expansionary fiscal policy only in the narrowest sense. It is the same spending over a shorter and nearer timeframe. Consider the context. Delaying meeting deficit reduction targets is not the same as expansionary fiscal policy. It is still an austerity approach - what is termed 'fiscal consolidation'
- Housebuilding and reducing planning restrictions are not 'innovation'. They may result in more houses being built. There may contribute to a local multiplier and some popularity based on reducing housing pressure. But the government is not envisaging a broad programme of state sponsored housebuilding, social housing etc and the total builds involved are not likely to be sufficient to solve the housing stock shortage that has accumulated (and become part of our unstable debt-based asset economy).

Consider also the meaning and distribution of consequences from austerity (since the overall direction of policy is not likely to change):

Much of the reduction in welfare spending (rather than capital spending) has traded on a policy narrative of division and blame. It began with an 'We are all in this together'. This was then qualified with a: 'but there are those not pulling their weight who can be targeted and this is in their own best interests'. 'Hardworking families' has become a trope. It is a trope that implies the chief targets of austerity are benefit layabouts. And to this has been added immigrants gaming the system of welfare and a large swathe of those excluded from work by a dysfunctional welfare system that can be supported back into work. The underlying theme is that we can differentiate the deserving and undeserving as though this were simple and that the undeserving will be the chief targets of policy. This masks the actual nature of austerity as lived experience. Putting aside the immigration issue, changes to working tax credits, outsourcing the monitoring of eligibility for welfare payments (to private sector firms incentivised to deny welfare eligibility), changes to childcare eligibility, the bedroom tax, and changes to disability benefit eligibility tests are in no clear sense targeted at some moral panic construct of layabouts. They affect someone in almost every extended family in the country and asymmetrically affect the vulnerable.

Also consider what this focus is not. Recipients of state support did not run banks, or create Collateralised Debt Obligations, or Credit Default Swaps. They did not pillage corporate revenues via special dividends and decimate the pension schemes of those corporations. They didn't invent zero hour contracts, they didn't agree among themselves how to accelerate executive compensation (and to create one way bet incentive schemes that harmed the businesses they were (are) supposedly stewards of). They didn't fix Libor, they didn't sell payment protection insurance that no one needed. And they have not had the resources to bankroll politicians and thing tanks and positional reports…

To paraphrase von Clausewitz, austerity is economic warfare, a continuation of politics by other means.

Overall then, Theresa May is opting for a business as usual approach that probably won't please business (the new fairness agenda is already causing nervousness at the CBI and IoD), and that because of its constraints through Brexit and through how an economy is conceived, is unlikely to deliver significant improvements in the economy in terms of the distribution of wealth and income.

The very idea of 'innovation' is positioned and confused.

In quite a different way, one might argue that the major innovations of recent times have helped to create the problems we are now experiencing.

We live in increasingly polarised societies that encourage confirmation bias. Social media allows us to seek out the likeminded and to shape the information and opinion we are exposed to as a mutually reinforcing construction of strongly held belief. This creates dichotomies - those with and those against - that tends to put aside actual reasoned debate and evidence. Michael Goves' 'we are all tired of experts' or Donald Trump's bombastic ignorance are symptoms of something more pervasive and deeply dangerous for any functioning democracy. The willingness to see another point of view and consider the basis of argument…

The problem has not been helped by the deep sense of disenfranchisement created in the last decade. We have only had one year in the last 9 where a recognized leader has led government. That is in the sense that the democratic system actually put forward someone a 'majority' (in a first past the post sense) voted for. Gordon Brown came to power without election in 2007, was defeated in 2010, and replaced by a coalition government led by David Cameron 2010 to 2015. Cameron actually won a majority (12) in 2015, but resigned in June 2016 and was replaced by Theresa May in July. This raises a deep issue of legitimacy and mandate despite Brexit

Appended extracts from the March 2016 Budget Report:

From p. 11:

1.11 The UK is one of the most open trading economies in the world and is not immune to the weaker global outlook. And as in other major advanced economies, the UK's productivity growth has been slower since the financial crisis. Combined, this means that the challenge of delivering a sustained rise in living standards following the financial crisis of 2008 and 2009 is greater here in the UK than the OBR previously forecast, with GDP growth, inflation and nominal GDP growth now forecast to be weaker than at the time of the Spending Review and Autumn Statement 2015.13

From p. 15:

1.23 In the UK, debt levels remain high. Short-term, discretionary fiscal stimulus would simply increase public debt without expanding supply.
1.24 Furthermore, the Monetary Policy Committee (MPC) forecasts inflation to return to the 2% target in the medium term. As the Governor of the Bank of England has recently said, "the G20 needs to use the time purchased by monetary policy to develop a coherent and urgent approach to supply-side policies".
1.25 The long-term solution is structural reform. These policies seek to make economies more efficient, competitive and productive. Both the IMF and OECD recognise that structural reform is needed to boost long-term growth. Their research shows that the most effective structural reforms include lowering the rates of distortive taxes, ensuring that product markets are flexible and competitive, and cutting or simplifying business regulation. These policies are critical to delivering sustainable growth for the next generation.

From p. 16:

1.27 This Budget announces further measures to drive productivity growth across the UK:

- reducing distortive taxes by continuing to lower both income tax and business taxes
- improving education by accelerating fairer schools funding and committing to full academisation of schools in England
- promoting enterprise through business rate cuts for small businesses, cutting Capital Gains Tax and extending entrepreneurs' relief to external investors in unlisted trading companies
- delivering long-term infrastructure improvements, by giving the green light to major projects recommended by the National Infrastructure Commission including Crossrail 2, and High Speed 3 between Leeds and Manchester
- improving economic decision-making by devolving power to cities and regions, including new devolution deals for the East and West of England

[This is basic supply side economics, as the Report also notes is a preferred and more effective approach than significant fiscal stimulus]

From p. 17:

Regional rebalancing

1.32 Regional economic disparities have long been a problem, with London and the South East having higher growth than the UK average for decades. The government is determined to rebalance the economy by building the Northern Powerhouse and the government's devolution revolution is creating powerful elected mayors, allowing local

governments to reduce and retain business rates, and giving local leaders across the country new powers and rewards for driving local growth.

From p 19:

Economic opportunities and risks linked to the UK's membership of the European Union

Membership of the EU has increased the UK's openness to trade and investment, reinforcing the dynamism of the economy. The Treasury has highlighted openness as a key driver of productivity, wages and living standards. The UK's full access to the single market, through its EU membership, clearly increases the openness of the British economy, creating jobs and supporting livelihoods. At the February 2016 European Council, the Prime Minister secured a new settlement for the UK in a reformed EU. The agreement covered four key areas: economic governance; competitiveness; sovereignty; and welfare and free movement. Together, the new settlement and the UK's existing opt-outs from the single currency and common border-free area give the UK a special status in the EU. Voting to leave the EU would create a profound economic shock and years of economic uncertainty. Such a vote would be the start of a series of lengthy, interlocking negotiations with the EU and with other international partners. The associated uncertainty would have a material effect on jobs, the economy and the public finances. Some of the concerns related to such an outcome are already becoming apparent in financial markets. In their discussion of external analysis of the impact of an exit from the EU the OBR conclude that "Leaving aside the debate over the long-term impact of 'Brexit', there appears to be a greater consensus that a vote to leave would result in a period of potentially disruptive uncertainty while the precise details of the UK's new relationship with the EU were negotiated"
The UK's current full access to the single market cannot be matched by any existing alternative. UK firms and consumers enjoy tariff-free trade and reductions in non-tariff barriers across the EU. The UK is also inside the customs union, eliminating the need for customs compliance for trade between EU member states. None of the alternative arrangements with the EU would provide the same level of access, particularly for services, which accounts for 79% of the UK economy. A new relationship which gives the UK the access to the single market that it needs would involve contributing financially to the EU, accepting the free movement of people and adopting EU rules without having any say over them.

In their discussion of current risks and uncertainties the OBR highlight that "whatever the long-term pros and cons of the UK's membership of the European Union, a vote to leave in the forthcoming referendum could usher in an extended period of uncertainty regarding the precise terms of the UK's future relationship with the EU. This could have negative implications for activity via business and consumer confidence and might result in greater volatility in financial and other asset markets" The OBR note that, reflecting their statutory remit to prepare forecasts based on current government policy, it is not for them to judge at this stage what the impact of leaving the EU might be on the economy and public finances.

Remaining in a reformed EU will make the UK stronger, safer and better off. It will allow a reformed EU to continue supporting UK productivity. And it will offer certainty for UK businesses and consumers and those foreign firms investing in the UK. As Christine Lagarde, the Managing Director of the IMF has made clear, a vote to leave the EU would create uncertainty in the UK: "no economic player likes uncertainty. They don't invest, they don't hire, they don't make decisions in times of uncertainty.

Figure 4: Northern Powerhouse Timeline

2015-16 Key Project Starts:

- £220m upgrade to M6 J16-19 between Crewe and Knutsford
- Construction of the £230m A6 to Manchester Airport relief road
- Phase one of the Leeds Flood Alleviation Scheme

Key Project Completions

- Electrification of railway between Manchester and Liverpool
- £120m M1 J39-42 Smart Motorway between Wakefield and Leeds
- Construction of the £300m Liverpool2 deep water terminal at Seaforth

2016-17 Key Project Starts:

- Construction of £200m New Polar Research Vessel, Birkenhead
- New rail franchises for TransPennine Express and Northern start 1 April 2016
- £100m improvement to A19/A1058 Coast Road Junction in Newcastle
- £75m development of improvements to M60, Northern TransPennine links (A66 and A69) and TransPennine tunnel between Manchester and Sheffield

Key Project Completions:

- £192m upgrade to A556 Knutsford to Bowdon
- Carrington Power Station enters operation, after a £620m construction

2017-18 Key Project Starts:

- ESIOS – Energy Subsurface Test Centre, Chester
- National Centre for Ageing Science and Innovation, Newcastle
- Smart Motorway on the M62 J10-12 (Manchester – Warrington)
- £13m Hull UK City of Culture 2017

Key Project Completions:

- £380m of improvement works on the A1 Leeming to Barton
- £210m Smart Motorway on M60 J8 – M62 J20
- Graphene Engineering and Innovation Centre, Manchester
- Cognitive Computing Research Centre, Cheshire (Hartree Phase III)
- Plans produced for High Speed 3 between Leeds and Manchester to reduce journey times to around 30 minutes
- National College of High Speed Rail, Doncaster

2018-19 Key Project Starts:

- Ouse and Foss flood defence schemes in York, and phase two of the Leeds Flood Alleviation Scheme
- Publish 2nd Roads Investment Strategy (2020-25), which could include TransPennine tunnel and upgrades to northern TransPennine roads and M60
- Comprehensive upgrades to the TransPennine rail route, paving the way for High Speed 3

Key Project Completions:

- Tees Renewable Energy Plant and £190-200m Energy Works in Hull
- Great Exhibition of the North 2018

2019-20 Key Project Starts:

- Upgrades to the A5036 Princess Way and M56 J6-8 Smart Motorway (Manchester Airport – A556)
- Smart Motorway on the M62 J20-25 (Leeds – Manchester)
- Upgrades to the A1 north of Ellingham
- M62/M606 Chain Bar in Bradford

Key Project Completions:

- M62 J10-12, M60 J24-27 & J1-4 South of Manchester Smart Motorway
- Sir Henry Royce Institute for Advanced Materials, Manchester
- National Institute for Smart Data Innovation, Newcastle