Speech

# Industrial Strategy and Institutions

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The views expressed here are my own, in my capacity as Chair of the Industrial Strategy Council (ISC). They are not necessarily those of the Bank of England or the Monetary Policy Committee. I would like to thank Kate Barker, Nicola Mendelsohn, Nancy Rothwell and Matthew Taylor for their comments and contributions.

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On 5 May 1973, Sunderland beat Leeds 1–0 in the FA Cup final. It was a memorable final – the Jim Montgomery double-save, the Ian Porterfield goal, the Bob Stokoe victory dance. It was David versus Goliath, only with worse haircuts. I feel bad bringing that up in Leeds. But as someone born in Sunderland, but who grew up just north of Leeds, I think I can just about get away with it.

Of course, there is more that links the two great cities of Leeds and Sunderland than separates them. Both were, in their day, industrial giants. Both have a rich manufacturing heritage dating back to the Industrial Revolution. Both cities were part of the Northern Powerhouse long before that expression was commandeered by politicians. And both played a transformative role, not just in their regions but across the UK and globally, in embedding industrialisation, creating jobs and boosting living standards.

Sunderland's industrial heartland was coal-mining and ship-building. For a period it was known as "the largest shipbuilding town in the world". At that time, Britain was the workshop of the world. Sunderland helped distribute its worldly wares. This was the origin of the word "mackem", now used colloquially to describe people from Sunderland. When it came to ships, Sunderland would "mackem" (make them) and Newcastle would "tackem" (take them for kitting out).[1]

Leeds also has a rich manufacturing history dating back to the Industrial Revolution, helped by the canal and railways routes to Liverpool opened in the early 19th century. While it was often associated with textiles, perhaps the most striking feature of the industrial landscape in Leeds was its diversity, which included engineering, chemicals, leather goods and printing. Leeds was a "mackem" city too, but in its case it was known as "the city that made everything".[2]

**Three Productivity Problems**

These similarities from the past have not been repeated more recently. The fortunes of the two cities have diverged over recent years and in more ways than just football. In many respects, this divergence in fortunes has been mirrored right across the UK economy.

The last Sunderland shipyard closed in 1988 and the last coal mine in 1993. Adjusting to the loss of both signature industries has been far from easy. New industries have emerged, including automotive, IT and renewables. But unemployment in the region remains 1.4 percentage points above the national average and levels of productivity 4% below. Sunderland still does "mackem", but not on the scale of the past.

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1 https://englandsnortheast.co.uk/sunderland-mackems/
2 For example, see https://historicengland.org.uk/listing/the-list/list-entry/1375260

Leeds has also had to re-invent itself since the loss of textiles during the 1980s. Its transition from an industrial to a knowledge economy has, however, been rapid. Today, Leeds is the largest hub for financial and professional services outside London. It is also a digital hub with high growth in digital healthcare, medical technologies, cyber security and data analytics. Leeds is still the city that makes everything, but these days these things tend to be digital not physical.

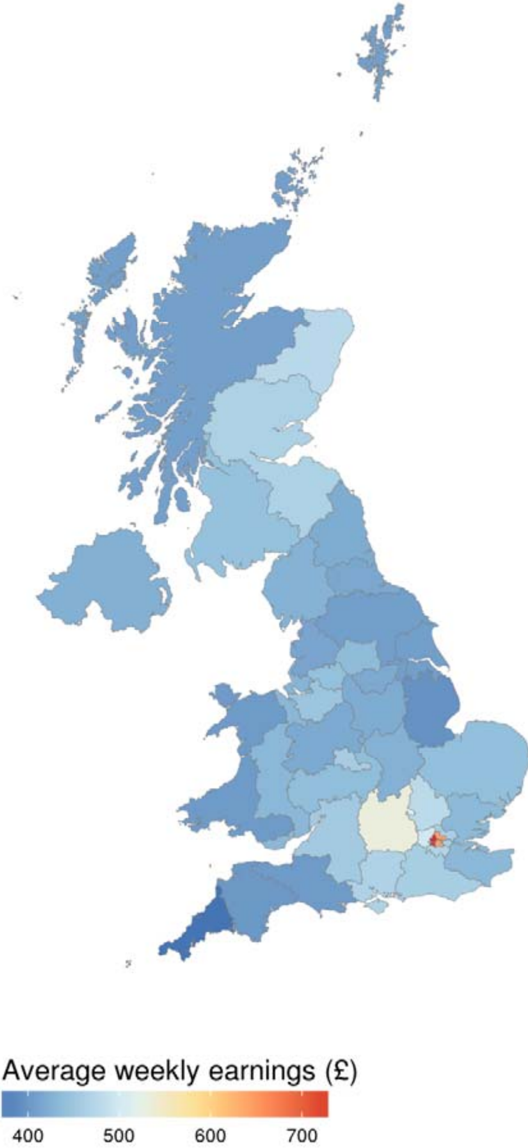
In this respect, Leeds has mirrored trends in the broader UK economy which has becoming increasingly service sector oriented. For Leeds, this model has worked. It has grown by a quarter over the past decade.[3] Leeds has one of the highest rates of start-up and scale-up across the UK. It attracts 26 million visitors a year to its retail and tourism sites. Unemployment and wages in Leeds are roughly in line with the national average.

The diverging fortunes of Sunderland and Leeds are mirrored in pay packets. In 1975, the average weekly wage of a worker in the Tyne & Wear region was £42. That was a little *above* pay for the average worker in West Yorkshire, at £40 per week. Today, the average worker in Sunderland earns £433 per week, while the average worker in Leeds earns £461 – a difference of around 6% in the other direction.

These pay differences can be seen right across the UK. In 1997, the best-paid workers lived in London and earned £357 per week and the worst-paid lived in Northern Ireland earning £238 per week.[4] That was a regional pay gap of around one-third. Today, the gap between the best (London) and worst-paid (Wales) UK regions remains a similar order of magnitude (Chart A). Pay gaps between different parts of the UK, whether by nation, region, county, city or town, have been large and persistent.

[3] Centre for Cities data tool based on ONS data (GVA in Leeds comparing 2017 and 2007).
[4] Figures refer to median gross pay using ONS ASHE data by workplace.

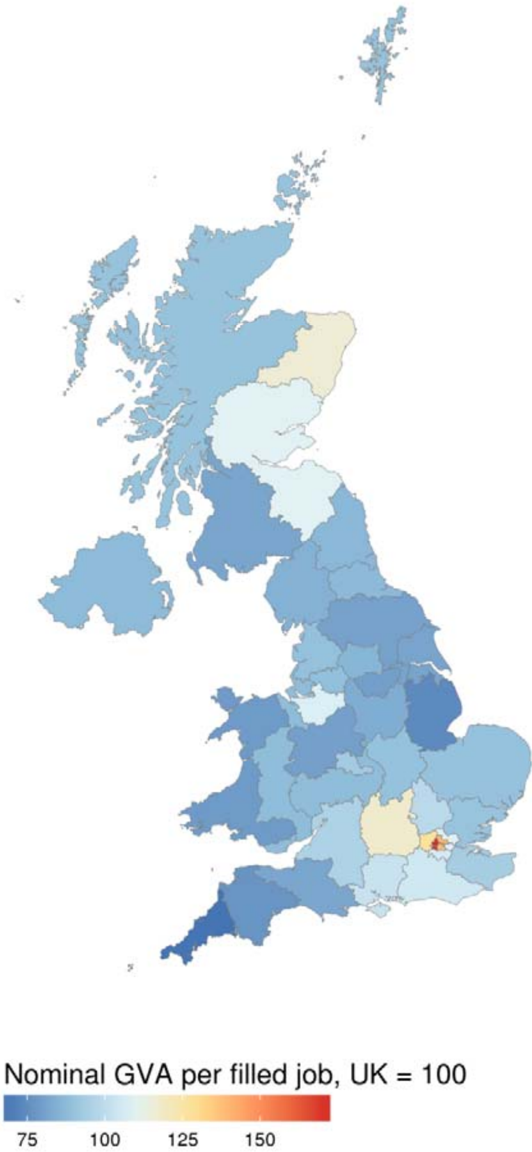
**Chart A: Pay by UK region in 2018**




Source: ONS ASHE.

Notes: Gross median average weekly earnings. Regions shown at NUTS 2 level.

**Chart B: Productivity by UK region in 2017**




Source: ONS.

Notes: Nominal GVA per filled job, UK = 100. Regions shown at NUTS 2 level.

These differences are large even by international standards. The UK is home to one of the highest-paying regions in Europe, London, which has levels of income per head 90% above the EU average. The UK is also home, however, to regions which occupy 5 of the bottom 10 places when it comes to living standards across the UK, France and Germany.[5] So what is the source of these large and persistent regional gaps in pay packets?

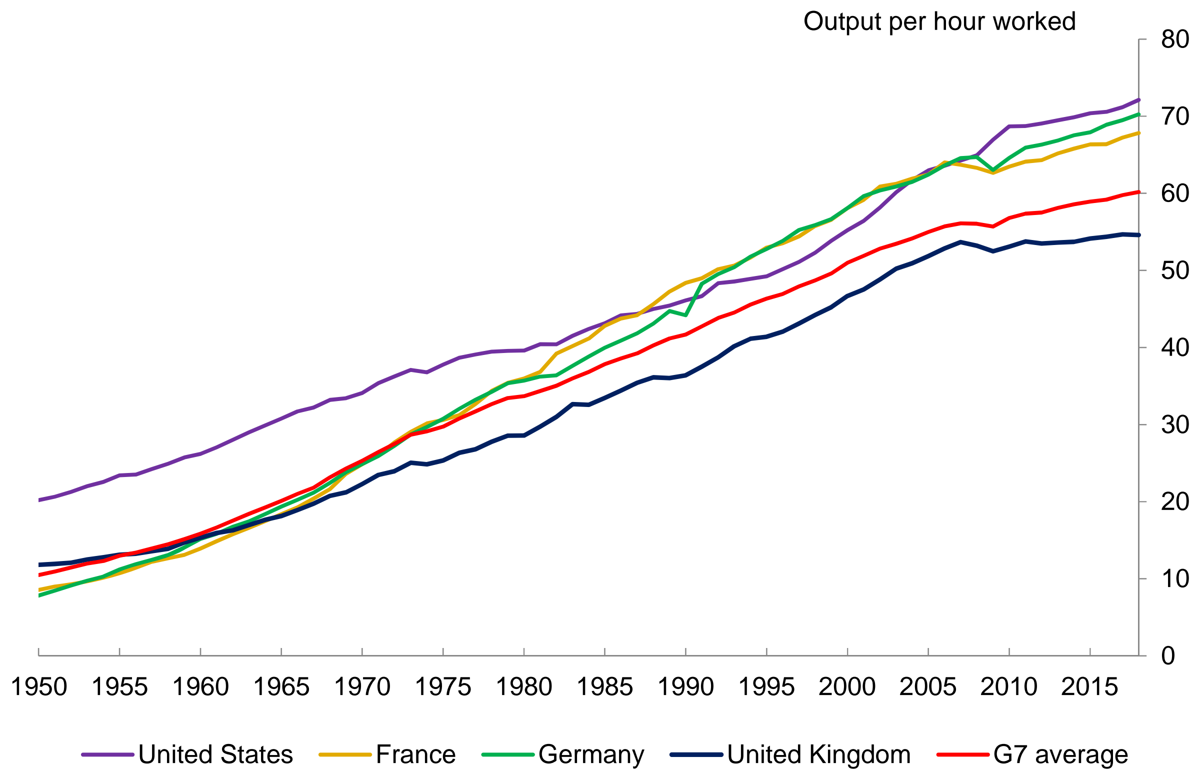
The short answer is productivity – the amount each worker produces each hour. Productivity growth in companies is what pays for pay rises by their workers. History makes clear that, where productivity leads, pay follows. When looking for reasons for the UK's regional pay gaps, then, look no further than regional productivity gaps (Chart B). These, too, have been large, persistent and have mirrored the regional pay gaps. The reason pay is a third higher in London than in Wales is because productivity is higher.

This "regional gap" is one dimension of the UK's productivity problem. But there are at least two other productivity "gaps" which are important for understanding the challenges facing the UK economy. The second is the "international gap" between levels of productivity in the UK and those in our main competitors. Measuring productivity is difficult at the best of times, doing so on a consistent basis across countries especially so. Nonetheless, some broad patterns are clear.

In the 1950s, levels of output per hour worked in the UK were roughly in line with the average of other G7 countries (Chart C). Today, they are over 10% below. Over the past ten years, the gap between the level of productivity in the UK and the rest of G7 has widened by 5 percentage points. The gaps with our main competitor countries, Germany, France and the US, appear to be significantly larger. On some estimates, these currently stand at between a quarter and a third.[6][7]

[5] Eurostat data based on Purchasing Power Standards (PPS) per inhabitant. Regional comparison between UK, France and Germany at the NUTS 1 level.
[6] Conference Board data based on output per hour in 2017 US$ (converted to 2017 price level using 2011 PPPs).
[7] Ward, Zinni and Marianna (2018) discuss international productivity gaps and the importance of measurement of average hours when computing estimates of output per hour.

**Chart C: G7 productivity levels**

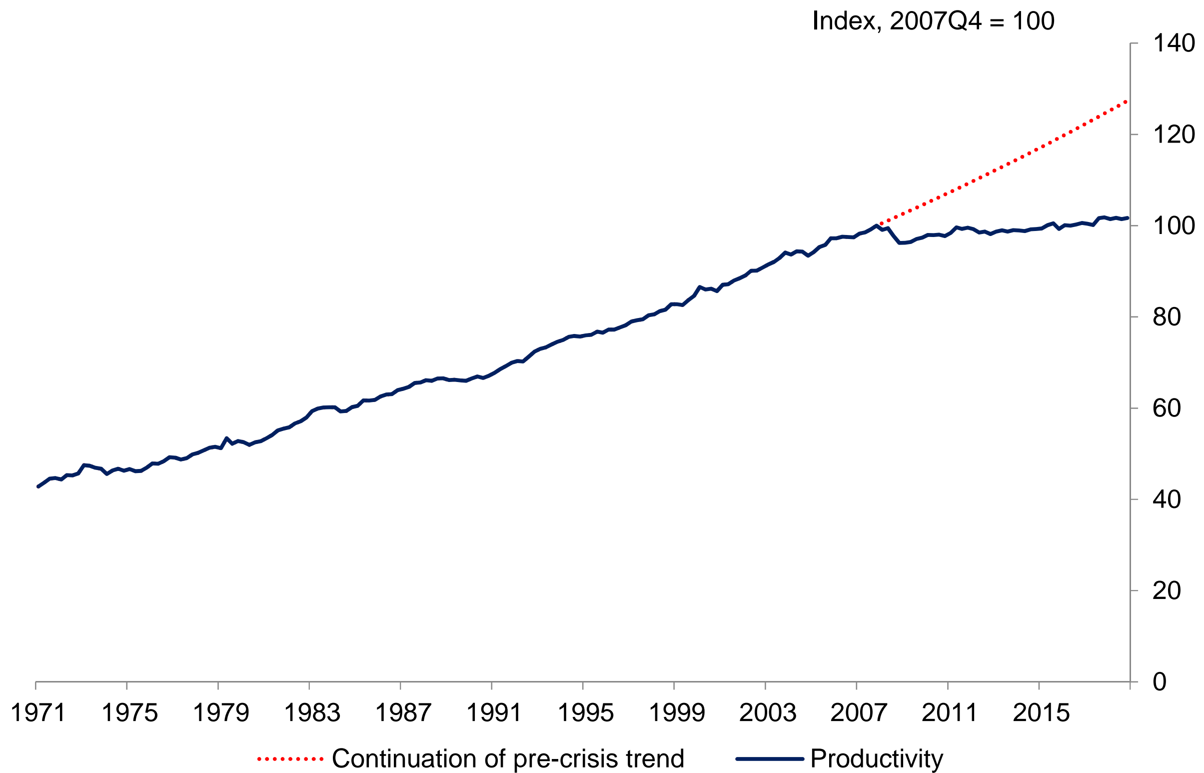



Source: Conference Board Total Economy Database.

Notes: Output per hour in 2017 US$ (converted to 2017 price level with updated 2011 PPPs).

The third gap is the "crisis gap" between levels of productivity growth in the UK since the crisis and those prevailing pre-crisis. In the ten years prior to the global financial crisis, productivity in the UK grew, on average, by 2 ¼% per year. In the period since, it has grown by only ½% per year. Although there is clearly a question about whether those pre-crisis trends were sustainable, UK productivity is currently around 20 per cent lower than had it followed these pre-crisis trends (Chart D).

**Chart D: UK productivity**



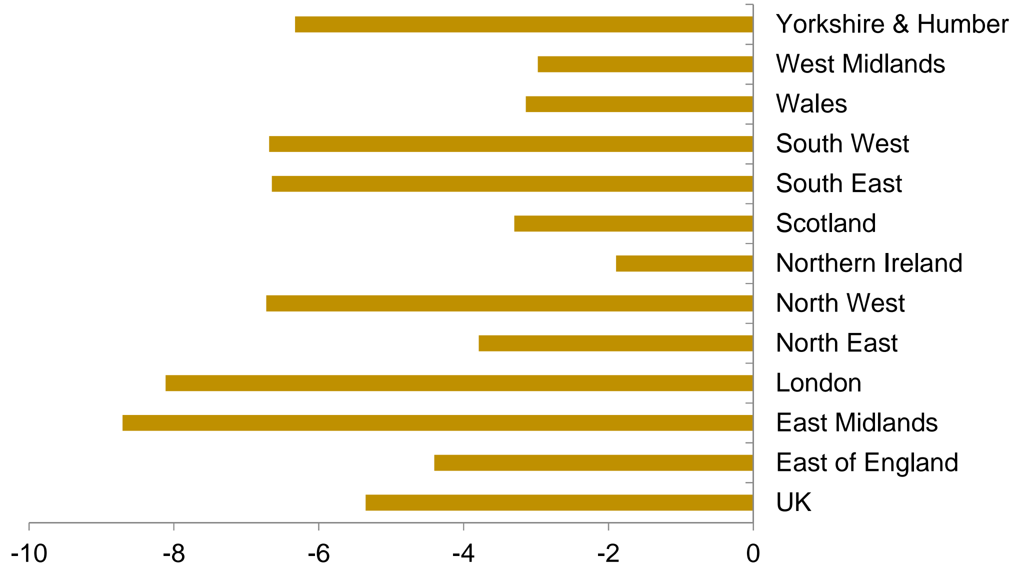

Source: ONS and own calculations.

Notes: Productivity based on output per hour. Pre-crisis trend based on average productivity growth between 1998 and 2007.

Mirroring past patterns, the UK's recent weak productivity performance has taken its toll on people's pay and on economic growth. Between 2008 and 2018, inflation-adjusted pay fell by around 5% for the average British worker. The majority of British workers have less to spend today than before the crisis – a "lost decade". Every UK region saw real pay fall over that period, as did every age cohort, albeit to significantly varying degrees (Charts E and F). Flat-lining productivity largely explains why.

In 2018, real pay in Northern Ireland was less than 2% lower than its pre-crisis level. By contrast, despite having the highest *level* of pay in the UK, London has been one of the regions where pay has fallen furthest, by around 8%. Different age groups have also had sharply varying experiences. For those aged 16-17, real pay is over 15% lower, while for those aged over 60 it is only 3% lower.

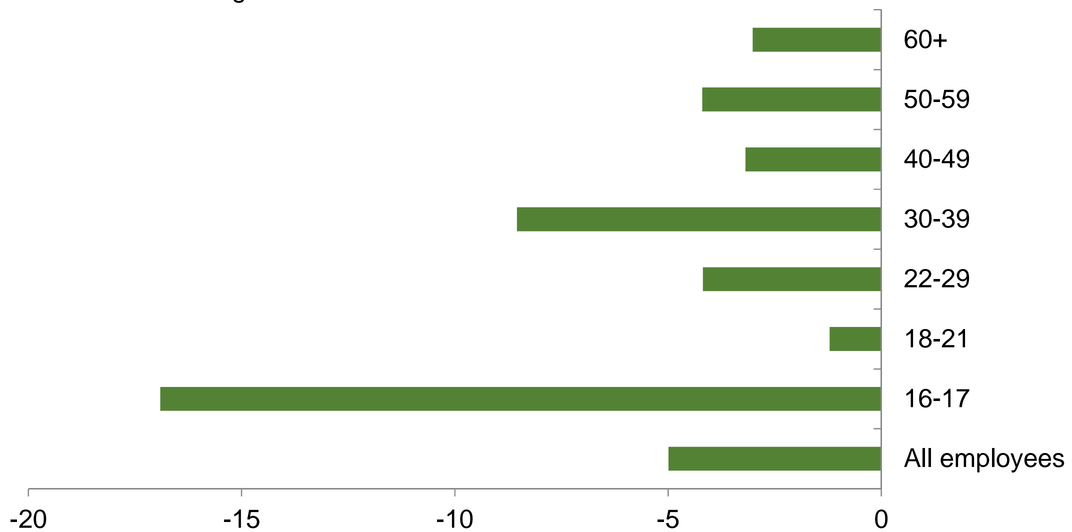
**Chart E: Change in real wages between 2008 and 2018 by region**




Source: ONS ASHE and own calculations.

Notes: Median gross average weekly wages deflated by CPI.

**Chart F: Change in real wages between 2008 and 2018 by age group**




Source: ONS ASHE and own calculations.

Notes: Refers to full-time employees only. Median gross annual weekly earnings deflated by CPI.

Weak productivity has also laid low economic growth. Since 2008, output growth has undershot the Bank of England's one-year-ahead forecasts by, on average, 0.8 percentage points each year. Pay has undershot forecasts by, on average, 1 ¼ percentage points over the same period. And productivity has undershot expectations by, on average, 1 ¾ percentage points. In other words, nasty productivity surprises more than explain the UK's anaemic economic and pay growth since the crisis.[8]

Productivity surprises also fully account for weak economic growth since the EU referendum. Since the middle of 2016, the UK economy has undershot the Bank's GDP forecasts by around 1 ½ percentage points. Over the same period, productivity has undershot the Bank's forecasts by close to 3 percentage points. How much of this negative productivity surprise is Brexit-related, rather than a continuation of pre-referendum trends, is unclear.

The UK, then, has three sets of closely-related economic problems. There is a problem of *productivity*, across time, region and country – the three "gaps". This in turn has given rise to a problem of *pay*, with a lost decade for the majority of British workers. And those problems of productivity and pay have shown up in different *places* across the UK, whether that is Leeds versus Sunderland or London versus Wales. The UK faces a "Three-P Problem" – productivity, pay and place.

**Tackling the Three-P Problem**

It is important, though, to place these problems in context. In some sectors and regions, the situation is far less gloomy than the aggregate statistics would imply. When I travel around the country, I see plenty of examples of world-leading companies in thriving cities right across the UK. That is true here in Leeds, but also in Manchester and Newcastle, Edinburgh and Glasgow, Birmingham and Belfast, Bristol and Cardiff, Oxford and Cambridge.

The facts bear this out. There are more high-productivity, frontier companies in the UK than in either Germany or France.[9] They are also growing more rapidly than in either country, with 9 of the 25 fastest-growing European companies based in the UK.[10] A new business is started in the UK every 75 seconds.[11] Despite ranking low in the productivity league tables, Sunderland is also home to one of Europe's most productive car plants.

[8] Figures compare current vintage of four-quarter growth in real GDP, output per hour and average weekly earnings against one-year-ahead forecasts for four-quarter growth in *Inflation Report* forecasts from start of 2008.
[9] Haldane (2018).
[10] Based on FT 1000 list of fasting growing European companies in 2018.
[11] Department for Business, Energy and Industrial Strategy (2017).

The problem is not that these high-productivity companies do not exist. It is that they are not evenly sprinkled across sectors or regions. There is a "long tail" of companies and regions where productivity and pay has stalled.[12] Some sectors, like digital, sparkle. Others, like construction, stagnate. Some cities, like Leeds, shine. Others, like Stoke where I visited last week, stall. This is a tale of two companies and a tale of two cities. And in both cases, this tail is too long.

A second important piece of context is that, where productivity and pay problems do exist, we know quite a lot about how to fix them. The recipe for improved productivity will be familiar to every company in this room. Indeed, it is a recipe which has been familiar since the Industrial Revolution: a skilled, experienced and engaged workforce; cheap, fast and reliable transport and digital infrastructure; state-of-the-art machines, processes and management.

When it comes to improved productivity and pay, then, there is no secret to this sauce. Leeds has been manufacturing this sauce since the Industrial Revolution. Although the labelling, flavouring and distribution has changed, it continues to do so successfully today. When it comes to the wider UK economy, however, insufficient of this not-so-secret sauce is currently being produced by enough companies and enough regions. Therein lies the Three-P problem.

A third important piece of context is that the government is taking steps to address these problems. In late-2017, it issued a White Paper on so-called Industrial Strategy.[13] The very expression "Industrial Strategy" can sometimes conjure up images of good taxpayer money being thrown after bad businesses. Or that at least was too often the 1970s recipe for industrial strategies – not so much picking winners as supporting losers. The government's current industrial strategy has a very different ethos.

At its centrepiece are foundations that everyone would recognise were important if we are to boost businesses' productivity and workers' pay packets: higher innovation and investment; a more skilled and engaged workforce; more efficient infrastructure, physical and digital; and a stable and open business environment. Crucially, the industrial strategy emphasises the importance of having these foundations right across the UK. In short, this is a strategy focussed squarely on the Three-P Problem.

If the solution to the UK's problems of productivity, pay and place problems lay in published white papers, they would have long since been solved. Alas, we know that is not the case. According to the Institute for Government, over the period since the Second World War the UK has had almost a remarkable twenty

[12] Haldane (2018).
[13] Department for Business, Energy and Industrial Strategy (2017).

sets of policies that could loosely be described as industrial strategies.[14] As the timelines imply, the most notable feature of these strategies has been their lack of longevity.

That matters. The raw ingredients of improved productivity – skills, experience, infrastructure, investment – take time to build. The time lag between sowing the seeds of structural policy and harvesting its fruit in higher productivity and pay is measured in decades not months or even years. An industrial strategy not given time to grow roots will yield no harvest. Structural policies which are chopped and changed are pre-ordained to fail. That has been the UK's historical experience.

So how do we prevent this time's industrial strategy suffering the same fate? This problem of policy consistency and longevity is not confined to industrial strategy policy. In the past, it has afflicted many other arms of public policy. There are, I believe, some important lessons to be learned from other arms of public policy which have had a better recent track record on delivery and longevity. To illustrate that, let me go on a small detour into the recent history of monetary policy.

**The Monetary Policy Framework**

On 16 September 1992 – "Black Wednesday" – the pound sterling was forcibly ejected from the European Exchange Rate Mechanism (ERM). This was a Black Day for the country, for economic policy and for me personally. As a relatively new recruit to the Bank of England at the time, I found myself on the foreign exchange desk that very day as the country's foreign exchange reserves emptied into the pockets of speculators.

In some respects, it was an even blacker day for UK monetary policy. By 8 October, a new framework for monetary policy had been announced. At the time this was a new and untried contraption which went by the name "inflation-targeting". To be honest, no one gave it much hope of lasting, including me. History, certainly, was not on its side. In my less than three years at the Bank at that time, this was already the third monetary policy regime to have been tried.

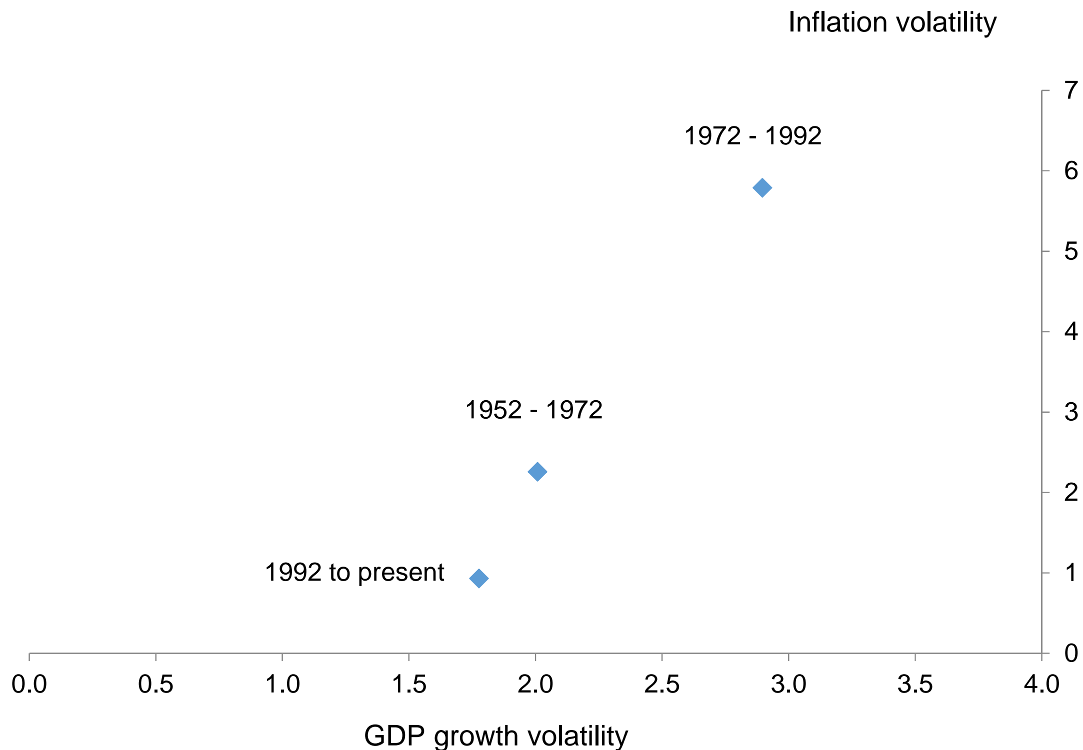
This was a pattern for UK monetary policy strategies which had been repeated from the 1970s onwards. In the period between sterling leaving the Bretton Woods fixed exchange rate system in June 1972, and it leaving another fixed exchange rate regime (the ERM) twenty years later, half a dozen monetary policy regimes had been tried in the UK. All had failed, often ingloriously.

[14] Norris and Adam (2017).

Those monetary policy regimes lacked longevity and lacked success. Between Bretton Woods and sterling's exit from the ERM, UK inflation averaged almost 10% and peaked at almost 27% in 1975. Growth was more than 40% more volatile than during the two decades prior to Bretton Woods. The UK's macro-economic and monetary policy performance was, in old money, distinctly third division. As a Sunderland fan, I know how that feels.

Yet more than 26 years on, to everyone's surprise, inflation targeting is still going strong. It has, not unrelatedly, also been successful. Inflation has averaged just over 2%. The volatility of economic growth has fallen by 40%, despite the global financial crisis (Chart G).[15] Having languished in the third division, the UK's macro-economic and monetary policy performance over the past twenty years or more now make it, arguably, an established Premier League team.

**Chart G: GDP and inflation volatility in different eras**




Source: ONS and own calculations

Notes: Chart shows standard deviation of inflation and GDP growth over relevant periods. Inflation based on a spliced series that uses 12-month RPI inflation until end-1975, RPI-X from 1976 to November 2003 and CPI thereafter. GDP based on four-quarter growth in real GDP. Dates used for calculations are based on UK exit from Bretton Woods (June 1972) and exit from ERM (September 1992).

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[15] King (2012).

So what explains the longevity and success of the UK's monetary policy strategy since 1992? I would suggest two vital ingredients. First, a clear and measurable set of policy success criteria. For inflation targeting, this took the form of a quantified target for retail or consumer price inflation. This established a quantitative benchmark for evaluating the success of monetary policy. The performance of policy could now be monitored by financial markets, politicians and the general public alike on an on-going basis.

Second, an independent body was made responsible for tracking the economy and evaluating the impact of policy on it. During the period of inflation-targeting, this role has been played by the Bank of England. Initially this took the form of advice given by the Bank, independently and transparently, to government. This was the so-called "Ken and Eddie" era between 1992 and 1997. From 1997 onwards, the role was played by the operationally-independent Monetary Policy Committee (MPC), on which I sit.[16]

After 1992, these twin ingredients – clear and quantified success criteria, independently evaluated – subjected UK monetary policy to a greater degree of scrutiny and accountability than ever previously. This quickly helped establish credibility. Measures of inflation expectations, a measure of monetary policy credibility, adjusted downwards rapidly (Chart H). They have since remained anchored close to the inflation target, despite a sequence of shocks as large as any in the 1970s or 1980s. The institutional framework has helped anchor monetary policy and inflation expectations, despite the stormiest of seas.

**Chart H: UK inflation expectations**

Source: Bloomberg Finance L.P., Tradeweb and Bank of England calculations.

Notes: Chart shows 5-year 5-year forward inflation implied from inflation-linked bonds. Data shown at monthly frequency using monthly averages of daily observations.

[16] For example, Kynaston (2017).

Recently, we have seen those same institutional ingredients – clear success criteria evaluated by an independent third-party – emerging in other realms of public policy. UK fiscal policy provides a case in point. Since 2010, fiscal policy has been overseen by an independent Office for Budget Responsibility (OBR), which uses clearly-defined criteria to evaluate the stance and success of fiscal policy in a rigorous and open fashion.[17] UK infrastructure and regulatory policy has similar institutional foundations.

**The Industrial Strategy Council**

When it comes to industrial strategy policies, the situation until recently has been rather different. Historically, industrial strategies have tended to last about as long as monetary policy strategies in the 1970s and 1980s. Because structural policies have an even longer gestation period before showing up in improved economic performance, this lack of longevity has probably been even more damaging for industrial strategy than it was for monetary and fiscal policies in earlier times.

If we were looking for reasons for a lack of longevity in past industrial strategies, we do not need look far. They have lacked the two vital institutional ingredients vital for a successful policy framework – clear and quantifiable success criteria and independent evaluation. With no clear basis for measuring success, and with no agency holding policy to account, it has been only too easy for these policies to chop and change. For structural policies, that is a sure fire recipe for failure.

There are good reasons to think this time could be different. In its White Paper on Industrial Strategy in late-2017, the Government announced it would put in place a new institutional structure to support delivery of the industrial strategy.[18] This new body is called the Industrial Strategy Council (ISC). It met for the first time towards the end of last year at No.10 Downing Street, with the Prime Minister, Chancellor of the Exchequer and Secretary of State for Business in attendance.

I am delighted to be the ISC's first chair. It has 19 other members whose backgrounds mean the Council is extremely rich in experience and diversity.[19] Individually and collectively, Council members have long and deep experience as leaders in business, civil society, academia and policymaking, locally and nationally. The ISC is balanced by gender and has representatives from all of the UK nations.

Each member of the Council acts independently. I am not the Bank of England representative and Archie Norman is not the Marks and Spencer representative – a company which of course was founded within 5 minutes' walk of where we sit today. The Council, individually and collectively, operates independently

[17] For example, OBR (2018a) and OBR (2018b).
[18] Recommendations to set up an institution on the lines of the Industrial Strategy Council had been made, for example, by the Industrial Strategy Commission.
[19] https://www.gov.uk/government/news/new-industrial-strategy-council-meets-as-membership-announced

from Government and other interests. This independence is crucial if the ISC is to evaluate – rigorously, dispassionately, credibly – the success of the Government's industrial strategy.

To do so, the ISC will also require some success metrics. When it comes to monetary and fiscal policies, we have well-defined, quantitative measures of success – for monetary policy inflation and growth, for fiscal policy debts and deficits. No such simple off-the-shelf success metrics exist for industrial strategies. That is, in part, because industrial strategy policies tend to be multi-faceted, helping support a wide array of structural foundations of the economy – people, machines, infrastructure, innovation.

We would expect success of an industrial strategy to show up, ultimately, in higher levels of productivity in companies and pay for their workers. But these are the final destination for industrial strategy. They will take time, sometimes as long as a generation, to reach. The Council needs earlier-stage indicators to assess whether industrial strategy policies are moving the economic dial in the right direction and at roughly the right speed. This is one of the early aims of the ISC's work programme.

It is important also to remember that the success of industrial strategy policy may not be fully defined by improvements in productivity and pay, even if these are its primary goals. An effective industrial strategy will result in citizens who are better skilled, better managed, better matched to secure work and more engaged at work and in society. In short, a successful industrial strategy should support *well-being* in society, not just productivity and pay packets in the economy.

One of the first roles of the Council, then, will be to begin developing this quantitative framework for evaluating the industrial strategy. At our meeting last week, we reviewed progress on developing this framework. This framework needs academically-rigorous roots, at the same time as being comprehensible to businesses and the public. It will form the foundation stone of the ISC's first *Annual Report* on industrial strategy, which we expect to publish before the end of the year.

Another report on economic policy does not sound like a recipe for rejoicing. Yet one of the most significant steps towards establishing the credibility of the UK's monetary policy framework after 1992 came with the publication of the Bank's *Inflation Report* in February 1993. That *Report* quickly became a centrepiece for debate about the appropriate stance of UK monetary policy. It remains so today. The ISC's *Annual Report* should aim to help inform and anchor the debate about structural policies in the UK.

Because industrial strategy policies are intended to improve outcomes right across society, the work of the ISC needs itself to have as wide a societal reach as possible. So the Council intends engaging and consulting widely, both during the evidence-gathering phase of its work and when publishing and

promulgating its findings. This event, the first of its type, is an attempt to do that. I hope it will be the first of many, right across the UK, which engage with a broad church of stakeholders.

The ISC aims to complement its annual, comprehensive assessment of the implementation and progress of the industrial strategy with periodic, deeper-dives into some of its constituent parts. The Council agreed last week it would undertake work in three areas: *sectoral deals*, where nine have so far been signed; *skills*, where a range of new government initiatives are, or are about, to be put in place; and *place*, where devolved national or local industrial strategies are being drawn up (including by all 38 of the Local Enterprise Partnerships or LEPs) to support UK-wide initiatives.

A third dimension of the Council's work is commissioned research. As the MPC did for monetary policy, the ISC can help catalyse outside research on structural policies. This can then help improve understanding of structural problems and the design of policies to tackle them. The Council has commissioned research on the links between the quality of work and productivity following-up the Taylor Review[20] and on the contribution of Higher and Further Education institutions to prosperity and jobs.

This is an ambitious work agenda. It will require the ISC to draw on a wide range of expertise across businesses, academia, civil society and government. The ISC can also learn from other countries' experience with bodies similar to the ISC.[21] For example, Australia has had a Productivity Commission since 1973.[22] And, more recently, Austria, Canada, France, New Zealand, Sweden and Singapore, among others, have set-up bodies operating along broadly similar lines.

These bodies differ in form and emphasis. But the OECD has defined some general principles to guide the design of these institutions.[23] These include *independence*, both from government and from other vested interests; *transparency*, in terms of reference and published outputs; and *economy-wide success criteria*, so that no single sector or region is favoured. The ISC model satisfies these three criteria.

It is early days for the ISC. It will take time to develop a coherent and comprehensible evaluation framework. And it will take time to build the credibility and reputation of the Council as a rigorous and independent evaluator of the Government's industrial strategy, just as it will take time for industrial strategy policies themselves to bear fruit. As with the industrial strategy, the success of the ISC will be judged by its longevity, consistency and objectivity.

[20] Taylor (2017).
[21] Banks (2015).
[22] The Industries Assistance Commission was the predecessor of the Productivity Commission in Australia. Their combined history is discussed in Productivity Commission (2003).
[23] Banks (2015).

The ISC does not have the statutory underpinning of other bodies. Nor does it have a role in either setting or prescribing policy. But it was clear targets and independent scrutiny that began changing the fortunes of UK monetary policy over a quarter-century ago. This marked the start of the long march to improved UK monetary policy credibility. The ISC also marks a significant institutional shift from the past. It is taking its first steps along the long road to improving the credibility of UK industrial strategy policies.

**Conclusion**

Leeds and Sunderland are currently both vying for promotion from their respective football leagues. That is the good news. The bad is that in neither case is this from the starting point these clubs would wish. The same is true of the UK's productivity and pay performance. This currently starts too far down the league table, but has high hopes of improvement.

The Government's Industrial Strategy, supported by the new Industrial Strategy Council, aims to help provide the foundations for improvement in the UK's pay and productivity performance. The hope is that, in time, promotion will beckon. Leeds' recent experience shows what is possible. If that experience could be replicated in more companies and cities, that really would be a Cup Final win for the country.

## References


**Banks, G (2015)**, 'Institutions to Promote Pro-Productivity Policies: Logic and Lessons', *OECD Productivity Working Papers*, No. 1, November 2015.

**Department for Business, Energy and Industrial Strategy (2017)**, 'Industrial Strategy – Building a Britain fit for the future', *HM Government*.

**Haldane, A (2018)**, 'The UK's Productivity Problem: Hub No Spokes', *Bank of England*, speech on 28 June 2018.

**Industrial Strategy Commission (2017)**, 'The Final Report of the Industrial Strategy Commission', *Industrial Strategy Commission*, November 2017.

**King, M (2012)**, 'Twenty years of inflation targeting', *Bank of England*, speech on 9 October 2012.

**Kynaston, D (2017)**, *Till Time's Last Sand: A History of the Bank of England 1694-2013*, Bloomsbury Publishing.

**Norris, E and Adam, R (2017)**, 'All Change: Why Britain is so prone to policy reinvention, and what can be done about it', *Institute for Government*.

**OBR (2018a)**, 'Fiscal sustainability report', *Office for Budget Responsibility*, July 2018.

**OBR (2018b)**, 'Economic and fiscal outlook', *Office for Budget Responsibility*, October 2018.

**Taylor, M (2017)**, 'Good Work: The Taylor Review of Modern Working Practices', July 2017.

**Productivity Commission (2003)**, 'From Industry Assistance to Productivity: 30 Years of 'The Commission'', *Productivity Commission*, Canberra.

**Ward, A, Zinni, M and Marianna, P (2018)**, 'International productivity gaps: Are labour input measures comparable?', OECD Statistics Working Papers, No. 2018/12.