“THOSE WHO CLAIM TO BE ABLE TO FORECAST THE FUTURE ARE LYING, EVEN IF BY CHANCE THEY ARE LATER PROVED RIGHT”
In the emerging post-Covid and post-Brexit world, there will be a need for a clear sense of direction from government on how to address these new challenges, alongside other priorities – the ‘levelling up’ agenda and the ‘net-zero carbon commitment’ – and alongside longstanding economic problems such as relatively low productivity growth, a dearth of investment, skill shortages and short-term decision making in capital markets. Building upon recent experience of Industrial Strategy should be part of the response.

What is called industry policy, or - more grandly - industrial strategy, based on active government intervention, usually to promote economic growth, is not a new idea. And the concept has been applied in many countries, in different ways and with different degrees of success. We are emerging from a period in which the dominance of free market ideas rendered it unfashionable and of limited value. Governments have moved from being seen as an economic problem and burden to having a useful and, indeed, indispensible role in a wide range of economic activity.

What is industrial strategy? And why is it necessary? Industrial strategy can be ‘horizontal’: the pursuit of general policies which are conducive to productivity and growth: incentivising and regulating markets to improve training, innovation, infrastructure and flows of capital. Or it can be ‘vertical’: prioritising sectors of the economy. Modern industrial strategy usually has elements of both. Sometimes it is argued that ‘industrial strategy’ should be about manufacturing – making things – but that is too narrow a view and fails to reflect the way in which data-based technologies have permeated everywhere and generated new industries which are service based as well as manufacturing.

The ‘why’ question can be answered at different levels. There is a low bar which is the recognition that it is generally better policy to have a framework, a strategy, rather than random interventions as arise, for example, from government purchases of defence equipment. A higher bar stems from the belief that there are serious market failures in the provision of training, infrastructure, the D in R and D and finance capital which the state needs to correct. The question then is whether government failure is likely to be greater or less than market failure.
Beyond that is the belief that the state can proactively engender innovation: the ‘entrepreneurial state’. And the Covid pandemic in particular has created a sense that government, business, the workforce and the research community are much more effective as a co-operating whole than as the sum of their parts.

I proceed by making use of my own period in government introducing an industrial strategy and implementing it; drawing on my predecessors’ experience; and evaluating what has happened since. I draw on a wide range of experience in other countries which do not conform to any ideological stereotype but in different ways have made good use of industrial strategy, whatever they choose to call it.


TEN POINT PLAN

1. Re-establish the structures of the Industrial Strategy developed in the last decade which worked well enough at a technical level but lacked political support

2. Set the objective of maximising ’sustainable growth’: that is, economic growth but using technologies designed to achieve the net-zero climate goal

3. Don’t reinvent the wheel wasting time and money: build on the existing sectoral groups and programmes

4. Give the Industrial Strategy Council real clout: a statutory basis and a mandate for the ‘real economy’ comparable to the Bank of England for monetary policy with accountability to Parliament

5. Re-establish a scenario planning capability as part of the Industrial Strategy, comparable to best practice in the corporate sector

6. Fully fund the Catapult network through Innovate UK to drive innovation across the UK

7. Reconstitute the Regional Growth Fund to co-finance with the private sector projects that support Industrial Strategy in depressed areas of the UK.

8. Bring back into the public sector the successful Green Investment Bank or re-established on a similar basis.

9. Ensure that the Industrial Strategy Challenge Fund is operating and on the scale envisaged to achieve ambitious R & D objectives

10. Continue with broadly-based policies designed to improve Britain’s currently poor performance in vocational training, lifelong learning, STEM in schools and higher education, mathematical literacy and creativity
INTRODUCTION

One of the more surprising features of economic policy in recent years has been the return to intellectual fashion of active ‘industry policy’ involving government intervention at firm or sector level. An idea disparaged as ‘picking winners’, wasteful of economic resources and distorting markets has returned in a new guise. The concept of the state as an ‘entrepreneur’, creating markets rather than merely acting to offset market failure, is finding favour in both developed and emerging economies and in countries with and without a tradition of planning. In some Asian countries-Japan; South Korea; and, now, China- such activism is well established, but in North America and Europe such policies remain controversial.

In the case of the UK, the idea of government adopting an industrial strategy was endorsed by the Cabinet in 2102 after I made a submission seeking a more formal structure than preceding, reactive, interventions to support firms in automobiles, aerospace and railway manufacture. Several years of sectorally based policy followed. The Conservative Government of Theresa May, which succeeded the Coalition and the Cameron government in 2016, maintained and claimed to strengthen the Industrial Strategy it inherited including a strong sectoral element.

This intervention marked a big departure from the thinking of an earlier Conservative government under Margaret Thatcher and beyond, and even the thinking of the Blair/Brown Labour governments until the financial crisis of 2008/9 forced a rethink. Now, in a post-Brexit environment, there is enthusiasm for supporting what used to be called ‘national champions’: British owned and located firms, of global significance, at the frontier of new technology, and untrammelled by restrictions on ‘state aids’.

CONCEPTS AND THEORY

There are a few bits of jargon which are important to the policy debate. A distinction is normally made between ‘industrial strategy’ which provides a framework for policy and specific industrial policies. The specific policies are divided into, first of all, the ‘horizontal’ which are nation wide interventions through tax or regulation designed to correct for market failures resulting in under-supply of investment capital, training, R & D and infrastructure; environmental damage. The other kind are ‘vertical’, limited to particular sectors.

When I refer to ‘industry’ in this context I am not referring narrowly to manufacturing, construction and utilities. The Coalition’s ‘industrial strategy’ specifically identified service sectors: creative industries, higher education and professional services.
Now, in the post-Covid world, digitisation has been given added impetus and is at the centre of emerging industry.

It is also useful to ask the question: what is industrial strategy for? And what are the alternatives? Even if governments disdain any such ambition, they may practice industry policy by default. When the state buys goods and services, it is implicitly favouring some firms over others, however transparent and competitive the procurement process. And in particular the demands of the military for weapons and support services create a form of industrial policy. Famously, the US Department of Defence could be said to have created the infrastructure of the Internet—and much else.

In that sense all governments have an industry policy, strategic or otherwise, explicit or not. Topically, the British government has recently invested $500 mn. formerly bankrupt satellite company, One Web; it isn’t at all clear where the decision came from but merely by making the investment the government was asserting a strategic commitment to the space communications industry. Earlier, reactive interventions in support of the steel sector represented an industrial strategy by default.

Not only that: countries are affected by other countries’ industry policies. The development of the Korean shipbuilding, then steel, industries could be said to have been a success for very active Korean industrial policies, leading to global firms with major scale economies and the lowest costs in the world. In countries with competitor firms, passively adjusting to this new competition may be the best policy option but involves more than merely accepting the verdict of the market; rather, it involves importing Korean industrial policy. That has become a highly contentious issue with the emergence of a very successful Chinese ‘state capitalism’ including its active industry policy which the Americans in particular regard as ‘unfair’ and ‘an act of aggression’ in trade terms.

Another concept which has coloured the debate is ‘mission-based’ industrial policy. This idea, which owes its origin to Mariana Mazzucato, cuts across the ‘vertical’ and ‘horizontal’ distinction and refers to big, overlapping, programmes with a clear, over-riding objective: landing a man on the moon; achieving a ‘net zero carbon’ economy; ‘levelling up’ underdeveloped regions; achieving a safe anti-Covid vaccine; winning a war. The state takes a leadership role galvanising and coordinating the activity of disparate firms and organisations.
The early theoretical framework behind industry policy dates back to one of the oldest ideas in economics, in the controversies involving Adam Smith and Mill and their contemporaries: the so-called ‘infant industry’ argument for state protection. A firm starting up in a new industry may not be competitive against established foreign competition. But over time, with scale and experience, it could be competitive if helped over that establishment phase. Moreover, by training a pool of workers in the skills required in this industry, investing in local suppliers and innovating new technological practices it reduces costs for other firms coming into the same or a related industry (externalities). Alexander Hamilton in the USA used a sophisticated version of the ‘infant industry’ argument to justify temporary support-subsidy or tariff-for an emerging manufacturing sector: the first recognisable industry policy in its modern form. Germany, Japan and, then, other East Asian countries have built on that argument.

But, in the messy real world, decision makers are operating under conditions of uncertainty. Technology may or may not work; costs may or may not fall over time; competitors may or may not raise their game. Moreover, government decision makers are subject to pressures different from those facing a private firm: political influence and accountability; public sector accounting conventions; public opinion.

The pessimism about industry policy in recent decades was fuelled by the judgment that the costs of government failure, the consequence of political influences of various kinds, were likely to exceed the costs of market failure. Such pessimism was reinforced by the costs of some unsuccessful, government supported and promoted ‘infants’. Classic examples were the Concorde supersonic aircraft and the AGR model of nuclear reactor and attempts to launch early-generation computer companies like ICL in the UK or Honeywell-Bull in France.

Negative experiences are most commonly associated with what came to be called ‘sunset’ industries in a state of decline: shipbuilding, steel, coal and textiles. In these cases the theoretical case could be, and was, made that the social costs of plant, or industry-wide, closure are so great—because geographical isolation prevents the redeployment of labour, that it is justified to subsidise or protect production. The problem then became that subsidy could become open-ended and disproportionate and at the expense of schemes to retrain and redeploy staff.

A set of conditions was required to justify the temporary intervention, notably that the infant should grow up and become self-supporting and should pay back to society the equivalent of the subsidy.
There was then the additional problem of not being able to judge, ex ante, whether an industry was ‘sunset’ or sunrise. No-one would dispute that a combination of new technology and changing tastes led the sun to set irrevocably on the stagecoach making industry and its supply chain, candle making, gas lighting, mouse-trap manufacture and more recently steam trains, jute bags, analogue radios and black and white TVs. But in some cases the sun has set behind, but not completely behind, the cloud of competition from overseas – as with textiles and shipbuilding. Steel has not died as a product though the British industry currently struggles. And it is not absolutely certain that we have seen the back of the oil and gas industry or that the ‘paperless’ office and Kindle have killed off the demand for paper. The depiction of industries as irrevocably doomed will be particularly contentious where communities rely on them.

In the case of the British car industry, support for British Leyland is often cited as one of the worst examples of industry policy; but support for the modern car industry, mostly under foreign ownership, has been apparently a success (and had the mooted integration of British Leyland and Honda proceeded, British Leyland might have succeeded too).

Indeed it is now better understood with hindsight that the British car industry had a big future as part of global or European supply chains as opposed to being a fully integrated national industry. Aerospace has had a similar journey. And in retrospect it is not clear if apparently failed interventions in machine tools or electrical engineering justified subsequent abandonment.

A modern view of industry policy, developed by the likes of Dani Rodrik and Philippe Aghion, as well as Marianna Mazzucato has been described as neo-Schumpeterian. Markets and institutions are highly imperfect, so narrow calculations of market and government failure are inappropriate. The focus is on stimulating innovation through entrepreneurial activities with new technologies and creative disruption. Innovation can arise through a ‘pro-business’ approach to taxation, regulation and intellectual property protection.
But that is not enough. The state can and should act as an entrepreneur in its own right, doing things that the private sector cannot or will not do. In some sectors, coordination and temporary monopoly may be necessary to achieve economies of scale; intervention may be needed to ensure the availability of venture and other risk capital or finance with longer maturities than is available in the market; access to manpower at the right level of education will be crucial; and the diffusion of technology can be speeded up by supportive institutions in what is fashionably called the innovation ‘ecosystem’.

The emergence of Silicon Valley and its early support from Federal Government and the state of California: the long history of state supported business in Japan; the transformation of Singapore and Israel into a major centres for innovation; and the transition in democratic, ‘capitalist’ South Korea and then non-democratic, ‘Communist’ China from traditional heavy industry to highly innovative and entrepreneurial tech firms: these represent contrasting models of the neo-Schumpeterian approach involving both active government and very successful business. Many of the examples of ‘state entrepreneurship’ are from the USA—where they are not acknowledged as such—but much of the current revival in industrial policy is in middle income countries with limited state capacity. The question arises: what can we learn from this disparate range of experiences?
THE ROLE OF GOVERNMENT IN THE NEW INDUSTRIAL POLICY

The idea that government should stick to limited and ‘horizontal’ policies, correcting market failure and little else, was embedded in official thinking in the UK until just over a decade ago and is still widely held. It is still the predominant view of policy makers in the USA (except that President Trump has reverted to trade protection to revive formerly declining industries like steel). But it is from the United States that there are some of the best examples of the state acting successfully as an entrepreneur.

The US federal government has stayed well clear of the kind of explicitly interventionist industrial policies seen elsewhere. The narrative of American success in frontier, high tech, industries has been based on the idea of the remarkable entrepreneur backed up by a deep and adventurous venture capital market. Without an explicit industry policy, the US government has nonetheless has done much to help: as a consumer; promoting research institutions and acting as an intermediary with business to realise the value of the research; setting tax and regulatory policy to facilitate venture capital; and, until Trump, promoting liberal immigration for talented researchers and innovators. It has also been a fierce defender of US intellectual property to the extent of making patent protection a key element in numerous bilateral investment protection and trade agreements.

There have been several American public sector institutions without which the private success stories would never have happened. One is DERPA, the Defence Advanced Research Projects Agency. DERPA is credited with having funded the earliest stages of the Internet and numerous projects which resulted in innovation in aerospace, electronics, computing and material science. Then there is SBIR which has provided early stage funding for innovation; among its beneficiaries were Intel and Apple. Apple’s devices have made use of the Internet, GPS, touch screen and other technologies developed with the funding of federal government. It is said, too, that the key algorithm which launched Google was also the product of publicly funded research. The pharmaceutical industry, also, has benefited enormously from research funding. There is no formal industry policy but industry gets a great deal of help especially in frontier science and technology.
There are much smaller countries than the USA which have adopted the US philosophy of liberal economics, market competition and well-rewarded entrepreneurship but have, nonetheless, managed through government action to promote innovation with considerable success.

Israel was ranked third in the world in the Global Competitiveness Report in relation to innovation. Israeli companies are well recognised in software applications and are now amongst the world leaders in fields like AI. Israel had one major, unique, supply supply-side advantage: its history meant that large numbers of brilliant researchers and skilled people came as refugees from Europe. And in the 1990’s there was a major influx of Russians, many of them scientists. Then there was a wave of Israeli scientists and entrepreneurs returning from a stint in Silicon Valley. Crucially, Israel built up a high level of self-sufficiency in defence equipment from which spun off companies specialising in electronics, software, medical devices among others. The description of an ‘entrepreneurial state’ fits well.

Another small country with an active and apparently successful industry policy (and which models itself in part on Israeli experience) is Singapore. As in Israel the official ideology is one of the country being open to business, especially foreign owned business, and committed to free trade and competition. But, contrary to its image in the West, Singapore is a long way from being a bastion of laissez-faire.

The state has a central role in mobilising savings, providing infrastructure, planning manpower and ensuring a high level of life-long education and training. In recent years, the government has been actively involved in ensuring that Singapore is at the forefront of innovation by investing heavily in R&D and setting out explicitly sectors into which it wants to attract investment and talent. The government established Biopolis, a campus with extensive facilities to promote bio-science in Singapore. It has more recently established a similar R & D complex for quantum computing. And there is a long term plan for making Singapore a centre for creative industries and design. Another ‘entrepreneurial state’ with an active industry policy.
More extreme levels of intervention, have been the norm in South Korea and China. In Korea, the foundations of today's industries were laid in the 1960's and 1970's.

Leading Korean firms, the Chaebols, were persuaded by the military government and its supporting bureaucracy to over-ride their commercial judgement and invest heavily, with the help of credit from state-owned banks, in industries chosen by the state. Chats with the secret police and arrests were used to encourage businessmen to share the government's priorities. Korea launched into shipbuilding, steel, heavy engineering and chemicals, in direct competition with Japan, as well as consumer electronics and textiles where Korea had a more obvious comparative advantage. In the event, Korea developed world-beating firms in shipbuilding (Hyundai and Daewoo) and steel (Pohang) as well as consumer electronics (Samsung).

Another sector, cars, illustrates the limitations—but also the adaptability—of the South Korean approach. In the 1970's, the government decided that Korea should have a car industry modelled on the Japanese keiretsu (Honda, Toyota, Nissan) with domestic supply chains and large-scale exports. When the Asian financial crisis hit Korea, a quarter of a century later, the leading car makers were exposed as financially weak and uncompetitive and poorly integrated into global supply chains. Most of the companies failed and were taken over by foreign carmakers, with the exception of Hyundai which adapted its business model and has flourished.

The ability of Korean industry to sustain substantial losses over long periods, supported by government, and to survive to correct its failures has been a function of the political system. Korea was, in the 1960's and 1970's, a dictatorship and decisions were not subject to democratic scrutiny. But as Korea has evolved a democratic system there is more accountability; though active industry policy continues, albeit with more market discipline and transparency.

Korea, like Japan earlier, has had to adapt its interventionist strategy not just to the market disciplines expected of a (now) developed country in the WTO and the OECD, but to the emergence of its giant neighbour, China. Until recently Korea was able to use China as a complementary economy: making low cost components for its supply chains and as a market for Korean exports and investors. But, as China has grown and developed its range of competitive manufacturing exports and moved into advanced technology, there is more competition: Pohang with China's giant steel companies-Wuhan, Hestell, Jiangsu, Pudong- and Samsung with Huawei. Korea's industrial strategy now includes new, post-industrial sectors like creative industries: film, music, TV soaps, fashion and design.
China’s own industrial strategy has evolved through the two separate strands of Chinese development in the Deng and post-Deng era of economic reform. There are the old heavy industries, mostly publicly owned and subject to central planning, but now increasingly subject to product and capital market disciplines. And there is the Chinese private sector, big and small, comprising, now, some of the world’s leading companies, some matching the American tech giants in scale and technological sophistication.

The emphasis has changed over 40 years from planning heavy industry to making China the ‘workshop of the world’ to making China the ‘research lab of the world’. The current emphasis on the last of these is achieved by fostering innovation. Official ideology notwithstanding, many of the key elements of policy resemble those in the USA: the state acting as a consumer to promote innovative firms; a big network of public sector financed research institutions; incentives for venture capital (now on a bigger scale than in the USA) and other sources of commercial finance.

China puts a lot of emphasis on long term planning and its current, key, policy statement-Made in China 2025-looks 30 years ahead. Clearly, the political system makes that easier to plan long term than in the West. China’s vast market size also enables economies of scale to be quickly achieved. And there is intense competition. Chinese ‘state capitalism’ combines the power of the state to control and plan with the dynamism of entrepreneurs and the disciplines of the market.

The Chinese government also seeks to boost the supply of personnel for the industries of the future like 5G, AI and Big Data. There is a special programme to identify and promote high-fliers with PhDs from top Western universities and evidence of innovative capability. Sceptics will argue that the Chinese education system does not encourage creativity and critical thinking but there is no evidence, yet, of a shortage of either. In any event, the Chinese authorities have the confidence to let their nationals top up their Chinese education with education overseas.

An inevitable drawback to the more interventionist aspects of Chinese industry policy is the misallocation of resources. But, with its vast reservoir of domestic savings there is a plentiful supply of capital and there is sufficient market discipline-reflected in the big rise in bankruptcies in recent years-to limit waste. A more serious problem in the short run is that Chinese industry policy is seen by the USA, and to a lesser extent the EU, as a form of aggression to be countered by sanctions. With China still dependent on foreign technology in some areas, its companies...
are vulnerable to sanctions as we are now seeing with Huawei. Its global leadership in 5G is dependent on US-controlled supplies of micro-chips. Conflict however is more, rather than less, likely to reinforce strategic planning within its industry policy.

One country where the principles of industry policy are being rethought is Germany. The prolonged period of success of its manufactured exports, based on high quality, precision and reliable engineering meant that, until recently, there was little call for a change of direction. The model of industry policy rested heavily on ‘horizontal’ policies designed to support large numbers of medium sized, ‘Mittelstand, companies. There were three elements: the apprenticeship training system designed to prepare large numbers of young people for highly skilled and well paid –and high status- jobs in engineering; the Fraunhofer innovation centres designed to promote constant technological improvements in the workplace; and a range of financial institutions providing long term patient capital and loans, including from the state-backed KFW.

The idea of explicitly ‘picking winners’ was not part of the German tradition and EU state aids rules constrained the government in any event. Its industry policy was real enough but based on ‘horizontal’ interventions. But recent proposals from the Economy Minister for a ‘National Industrial Strategy’ envisaged national champions (Siemens; Thyssen-Krupp; the car companies; DeutscheBank); the state taking shares in new high-tech ventures; state-backed consortia in areas like long life car batteries for electric vehicles; and attempts to promote tech platforms, AI and autonomous driving. The proposals were shot down by much of the business community. But there is a growing recognition that Germany has fallen behind the USA, China and Japan in terms of innovation in the new Internet based technologies and that its system of training and industrial financing are not ideal for that world. This sense that old models weren’t working was also key to the new thinking in the UK after 2010.
BRITAIN’S JOURNEY ON THE DAMASCUS ROAD

For three decades, the kind of active intervention in the structure of the economy which characterises most industry policy was essentially taboo. There was however, especially in the era of Gordon Brown as Chancellor, a heavy emphasis on ‘horizontal’ industrial policies based on ‘endogenous growth theory’. Emphasis was placed on ‘human capital’: investment in education from ‘early years’ to mass participation in higher education. And in addition there was active promotion of science research as a contributor to innovation. Lord (David) Sainsbury was the most prominent of several science ministers who boosted the science budget substantially.

The financial crisis in 2008/9 led to a change in direction. The collapse of demand and the contraction of credit, in the form of loss of working capital and supply-chain finance, threatened to destroy large parts of British industry. Under Peter Mandelson, an explicit industrial strategy emerged and at its heart was a scrappage scheme for the car industry to stimulate demand for new vehicles and the formation of an Automotive Council to act as a forum and strategic planning group for the industry.

The initial response of the Coalition was to revert to a non-interventionist approach since that was ideologically more comfortable and since the programme of public spending cuts made it impossible to make major financial commitments. That approach lasted about eighteen months and was overtaken by two developments in particular. The first was the recognition that, without long term planning and support for R & D, the aerospace industry was disappearing. The other was the experience of tendering for trains for the Thameslink route which, in the absence of any supply-chain planning, resulted in imported equipment and a threat to the remaining train manufacturing industry in the UK.

As the relevant Secretary of State, I responded to the growing demand in parliament and in industry for a more coherent set of policies by announcing an industrial strategy, which was approved by Cabinet. The Strategy broke new ground by identifying 11 key sectors important for their role in international trade, such as cars and aerospace as well as service exports such as universities, seen as exporters, and professional services; some sectors which were key enablers as with construction and ICT; and some which had important supply-chain linkages as with offshore oil, wind power and nuclear and railway manufacture. Others, like creative industries, were added and there were ad hoc programmes for the reviving textile industry.
There were several cross-cutting policy themes. The first was innovation. We took the view that simply pouring money into university research would achieve little without mechanisms to incentivise the take-up of ideas by business. Our response was to establish co-financing arrangements for the car, aerospace and bio-science industries such that private sector R & D on agreed priority programmes was matched one-to-one by government funding. In addition we established a network of Catapults, loosely based on the German Frauenhofers, to support private sector innovation in advanced manufacturing, space applications, battery development, personalised medicine and other fields.

A second priority, reflecting the needs of business in the aftermath of the financial crisis, was access to finance. So, loan guarantee schemes, supply chain finance and builders’ loan schemes were launched; the British Business Bank was established to provide a range of funding streams, equity and loan, through conventional and unconventional channels such as peer-to-peer lending; and the Green Investment Bank was established to finance ‘green’ projects which would not otherwise have satisfied purely commercial criteria (subsequently privatised but now being re-established).

But it is also fair to say that there has been no consensus around the proposition that Britain has under-invested and that the state should make up for the lack through more public investment. The Treasury has clung to the view that there is a ‘crowding out’ problem ie government investment pushes up the cost of capital and discourages private investment. For the last decade that has patently not been the case which caused serious disagreements within the Coalition with some of us arguing strongly but unsuccessfully that ‘austerity’ should not apply to capital spending. The evidence from the Green Investment Bank and the Regional Growth Fund was that government investment served to multiply investment. In post-Covid and post-Brexit conditions, with very low investor confidence, that argument for public investment at the heart of the industrial strategy is overwhelming.

Third, an attempt was made to expand apprenticeships, especially up to degree level, in a range of areas identified as meeting industry needs and standards. Subsequent changes to the financing arrangements with the establishment of an apprenticeship levy and slow progress in accreditation have undermined a lot of this work.
But enduring products of this period have been the training academies for specialist skills -tunnelling; coding; railway signalling- and the Talent Retention Scheme which has retained the skills of thousands of experienced engineers who would otherwise be lost to redundancy. Fourth, following the debacle over railway tendering, a new system of public procurement was established enabling British companies to plan ahead and engage their supply chains to bid for future contracts.

Last, and perhaps most important, there was a sustained attempt to change the culture of 'short-termism': abolition of compulsory quarterly reporting; long term mandates for statutory competition and takeover bodies; long term planning within the sectoral councils; and a legal change to the duties of directors which hitherto prioritised short-term profit. Cultural change is difficult in firms and amongst investors but some steps were taken to alter the mind-set of Anglo-Saxon capitalism.

INDUSTRIAL STRATEGY REBORN

The change of government in 2015 threatened to bring this experiment to an early end. A purely Conservative government did not 'own' industrial strategy, introduced by a Lib Dem minister, and the new Secretary of State distanced himself from it. But Brexit changed everything. There was a new Prime Minister, Theresa May, who believed in industrial strategy and put it at the centre of the new government’s programme.

The industrial strategy was rebadged but not greatly changed. The sectors remained much as before with the addition of tourism. A new element in the sectoral strategies was ‘sector deals’ in which money was forthcoming from government subject to agreed deliverables from industry, building on the model developed earlier for aerospace and automotives. The cross-cutting, ‘horizontal’ policies were essentially the same. There was less emphasis on access to finance which had substantially improved. But an attempt was made to integrate infrastructure with the rest of the strategy and to integrate place-based-regional- policies whose absence was a deficiency of the earlier approach.
The innovation strand in the strategy was strengthened by the creation of a well financed competitive ‘challenge fund’ for bidders with ideas on applying new technologies. A new element altogether was a series of ‘grand challenges’, which were an attempt to create ‘mission-based’ policies of the kind advocated by Mariana Mazzucato: AI and the data revolution; promoting green growth; adapting to an ageing society; and improving mobility.

Overall, the strategy was well-received but there were two basic concerns which have been there throughout the decade. The first was the limited funding to achieve the many objectives. In particular, there was to be a big increase in public as well as private R & D without a commitment to fund it. A second concern was whether the commitments would stick in the face of ministerial changes and other priorities and preoccupations: Brexit and Covid. Under the Johnson government, the strategy has disappeared from view and currently appears to lack ministerial leadership. An exception should perhaps be made for the accelerated programme of decarbonisation of motor vehicles.

A BRAVE NEW WORLD

After a decade of attempted industrial strategy, we are now in a period of chronic uncertainty which has changed the assumptions underlying it, but without changing the underlying reasons why it was necessary. Several big changes are taking place.

1. There is Brexit. We still do not know what the conditions of exit will be at the end of the transition period. There may or may not be tariffs and quotas. But we do know that there will be some regulatory divergence and that access to the EU Single Market will be more problematic and costly; that there will be more trade friction affecting exports and imports, goods and services; that supply chain industries linked to the EU market will face extra bureaucracy and cost around inputs imported from outside the EU; that EU nationals, such as construction workers, will face obstacles to hiring. There is also the loss of EU research funding, which makes the target of expanding R & D spending from 1.7% to 2.4% of GDP in a decade less plausible.

On the other side of the argument there is greater freedom (should the Treasury sanction it) for the UK to subsidise activities that would otherwise fall foul of the state aid rules; opportunities for employers to cut labour and other costs by eroding standards; and a small number of significant trade agreements including, possibly, with the USA, which are not available within the EU.
It can be argued that a newly liberated UK can be more ambitious in ways that the EU is not. It is striking that, with the exception of a state-backed Airbus, the EU has no companies with the scale, market dominance and global reach of the big tech US and Chinese companies; the nearest are Germany’s SAP, Sweden’s Spotify and Eriksson and, until it was taken over recently, Britain’s ARM.

We should set aside the endless debates about whether Brexit is desirable and ask how it affects economic policy and industry policy going forward. One crude market adjustment mechanism to accommodate the impact of Brexit would be to say that, overall, the additional trade barriers are the equivalent of, say, a 10% tariff and, to offset it, the authorities should engineer a 10% devaluation (recognising that this is not straightforward in a world of free capital movements with interest rates set by independent central banks).

Such a move would neutralise the competitiveness impact for traded goods and services albeit at the expense of a cut in real wages from higher import costs.

But if the whole purpose of Brexit was to make a sacrifice in living standards to achieve greater ‘freedom’, that should not be a problem. Brexit should not then affect industry policy except to impose some specific challenges –like planning the future of aerospace in an industry dominated by a European consortium—and open up a few limited opportunities including greater subsidy freedom (though the Brussels prohibitions mainly related to failing enterprises in declining industries which the government says it has no interest in supporting). But the central point is that whether or not we like Brexit, it is happening and now requires a reset in national priorities which a committed industrial strategy can define, potentially mobilising business investment.
2. The second big change is Covid. Covid has speeded up structural changes which were happening in any event: internet shopping and distant learning and conferencing. It is also making large numbers of jobs unviable for the foreseeable future though, to the extent that these result from government prohibitions, they could not be regarded as fundamental, permanent, market, adjustments; they should return in due course.

It is the permanent damage caused by temporary closures, in particular loss of skills and unique venues, which poses a particular challenge to industry policy. What does it mean for the creative industries, a major export, with the permanent loss of actors and theatres, musicians and concert halls, sports stars and stadia? Is the damage to clusters of professional and financial service activities temporary or permanent? Does the dislocation of rail and air travel have long term implications for supplier industries?

But, equally, there are temporary boosts in demand for some sectors-life sciences; domestic tourism- which could prove permanent.

The suddenness and seriousness of the pandemic and its impact of the economy have prevented a very strategic response. The main damage has been felt in retail and hospitality which were, in any event, relatively low productivity non-traded activities which did not loom large in the Industrial Strategy. The government’s economic response, centring on subsidising labour costs during lock-down and ensuring that small and big business has access to loan capital, has enjoyed broad support at least up to the point of the phasing out of the furlough scheme (now postponed until February). One of the key components of the industrial strategy-the promotion of innovation-is maintained through a £500m Future Fund offering match funding, through convertible loans, for innovative projects. That is a model to build on in the post-Brexit world.
3. A third big source of uncertainty is the geo-political and geo-economic shift which is taking place around China. Already, the speed with which 5G technology, a key enabler for other sectors like AI and autonomous vehicles, can be introduced has been affected (almost certainly slowed) by the decision to exclude Huawei from the UK. Other sectors which are directly affected by the emerging cold war between the USA and China, and the knock-on effect on allies, are nuclear (where what remains of the plans to extend nuclear capacity depends on a Chinese investor); automotive (JLR’s large investment and sales in China); and universities (heavily dependent on Chinese students). China’s economic advantage over the USA, in terms of market size, has widened considerably because of Covid, complicating decisions around business priorities.

4. Finally there is energy and what many believe to be a permanent and decisive shift in demand away from oil as well as coal. In the past, demand and prices have been cyclical reflecting economic cycles and trends as well as producers’ ability to manage supply. The episode at the beginning of the pandemic when oil prices were, briefly, negative may have been a freak but also suggested the possibility of deeper weaknesses in demand. It is reported that even oil companies are planning on the assumption that we have passed ‘peak demand’. It is possible that, as in the 1980’s, a period of weak prices could revive demand and prices. But environmental concerns have greater salience now. Two of the key ‘missions’ of the existing industrial strategy (clean growth and zero-emission vehicles) have been strongly reinforced by recent weakness in demand for fossil fuels, but the drivers of change may or may not be permanent. If the government’s commitment to a net-zero carbon economy is to be more than declaratory it will need a consistent, ‘green’ thread which is not deflected by price fluctuations
THE FUTURE OF
INDUSTRIAL POLICY:
THE VISION

If we start from the point of seeing how to make a success of Brexit rather than bemoaning it, the first big question is whether the economic model is to be as close as possible to the ‘free market’ ideal which many Conservatives espouse; what is – quite mistakenly - described as the ‘Singapore model’. Although the pandemic has reinforced statist instincts there are still strong advocates of a competitive, market-friendly, economy open to trade, investment and talent with the minimum of tax, regulation and impediments to competition. Except for small states like Mauritius or some Caribbean islands and Hong Kong before the take-over there are however few such places in the real world. There are competitive, market-friendly, open economies but they have a welfare state attached (Sweden, Denmark or Finland) or strong regulation (Switzerland).

Or they have an active industry policy (Singapore). It is not too difficult to see how consensus could be built around a model which synthesises the best of the Scandinavian, Singaporian (and US) systems and which makes use of the experience of modern and successful industry policies.

The big question to answer is what would be the central objective, though there may be several. What is striking about the industrial strategy of recent years is that the goals were not explicit though implicitly they were about economic growth. So what should the goals be?

1. The years from the mid 1990s until the financial crash emphasised economic growth as the over-riding factors in economic policy. Gordon Brown famously boasted that he had presided over the longest period of sustained economic growth since the Hanoverians. He endorsed ‘endogenous growth theory’ as providing the theoretical underpinning for interventions to support education, training and innovation. But the growth was not sustainable; it led to a bloated and unsustainable financial services sector. Some would argue that a large migrant influx boosted growth at the expense of per capita income and, also, social cohesion.
2. The period of industrial strategy in the Coalition was characterised by modest recovery in growth but most strikingly by recovery in employment alongside low productivity. So should productivity be the new central objective? Higher productivity leads potentially to increases in living standards. But that may not lead in helpful directions. At present, the industries with the highest labour productivity would almost certainly include financial services and offshore oil and gas. But, for other reasons, any forward-looking industrial strategy might want to de-emphasise both sectors.

3. Another objective, overlapping with the above, might well be international competitiveness. The Coalition industrial strategy defined priority sectors in terms of ‘revealed comparative advantage’ as a technical measure of what Britain was good at. That gave priority to such industries as aerospace, pharmaceuticals, creative industries and professional services but also to financial services which was excluded because of the wider problems associated with the sector. This criterion also missed sectors which may not have been directly tradable but were important infrastructure building blocks: ICT, construction. These were added rather arbitrarily. By using a criterion based on past performance it also excluded ‘industries of the future’ such as wind power and associated supply chains as well as ‘self-organising’ sectors, like the railway industry and textiles, which saw the attractions of cooperating on a sector basis but would not otherwise have made the cut.

4. A more focussed approach would be to narrow down to the ‘green agenda’ and specifically climate change which Boris Johnson has himself prioritised, has cross-party support and builds on a lot of the existing sectoral work on the existing industrial strategy: automotive (following through on the current plan to eliminate new vehicles using petrol and diesel by 2030; battery development); aerospace (energy efficient design and engines); wind power and nuclear sector supply chains; construction with low carbon technologies; energy saving in foundation industries like steel; railway industries; frontier industries associated with data and AI and also with bioscience which have a low carbon footprint. In practice the aim of the industrial strategy would be ‘sustainable growth’ which captures the environmental core of future growth.

5. Some might argue that the industrial strategy should be about place and regional balance. This is, after all, the government’s declared priority. But that takes industrial strategy into social policy: issues around schooling, early intervention and the particular problems of small towns whose decline has been accentuated by the success of nearby cities. It is not obvious how the interaction of business and government around issues of industrial technology and supply chains can contribute usefully to these discussions and
there is a danger of being distracted and overloaded by a wider social policy agenda. In any event if industrial strategy can contribute to a strengthening of the automotive, aerospace, railway, metals and other manufacturing sectors (as with the successful nurturing of wind turbine manufacturing at Hull) that would contribute generously to the regional issue (together with sectoral work on services industries relevant to depressed areas as with tourism and sea-side towns). And alongside the sectoral work there is a need to revive, as part of the industrial strategy, financial bodies like the Regional Growth Fund and the Green Investment Bank which can attract new private investment into the lagging regions.

To summarise, the focus of industrial strategy should be economic growth, but ‘sustainable’ growth to reflect the green, and specifically climate based, agenda. Alongside the sector work there is also a continuing need for the ‘horizontal’ elements in industrial policy. These have not greatly changed except that British failings in education and training are more acute than ever.

In broad terms the needs are understood: the prioritisation of vocational training, and higher apprenticeships in particular; a revival of lifelong learning through adult education; the reform of universities on a more financially sustainable basis without losing the capacity to support high cost teaching and research; more mathematical literacy; creativity, not skills which can be substituted by intelligent machines.

If industrial strategy is to succeed there are also a few simple principles which should guide it.

**ONE OF THE BESETTING SINS OF BRITISH POLITICS IS THE TRIBAL URGE TO MAKE EVERY TRANSITION OF POLITICAL POWER AN OPPORTUNITY TO TRASH WHAT WENT BEFORE**

**Don't Reinvent the Wheel**

One of the besetting sins of British politics, which burdens so many areas of public policy, is the tribal urge to make every transition of political power an opportunity to trash what went before. In 1979, 1997, 2010, 2015 and 2019 (in varying degrees) a new administration came in determined to make an impact and make a fresh start by ditching, changing or re-labelling what went before, good or bad. Industry policy has been a particular victim. In 2010 there was a determination to bury the legacy of Gordon Brown including perfectly sensible interventions. It took over a year to reinvent the wheel on industrial
policy. And then, in 2015, another year was wasted on ideological purification until the May administration resurrected the Coalition's industrial strategy while pretending it was new. In 2020, all the parts have again been thrown in the air, in an atmosphere of revolutionary transformation, leaving a policy vacuum.

A good starting point would be to acknowledge that there is a legacy to build on of good intervention (as well as some mistakes) from Heseltine in the 1980’s and Brown and Mandelson before 2010, from myself in the Coalition and Theresa May after 2017. To those who say that a belief in consensus and cross-party continuity is naïve, the answer is that, in some crucial areas of policy, continuity and consistency has been maintained despite constant political change: monetary policy and an independent Bank of England based on a mandate created in 1997; the Climate Change Committee carrying out the mandate of the 2008 Climate Change Act; the Office of Budget Responsibility dating from 2010 but continuing the fiscal rules of the mid 1990’s; the competition policy of the Competition and Markets Authority, continuing the work of its two antecedent bodies; a variety of sector regulators dating from the 1980’s. To reinforce the objective of continuity requires the creation of governance which commands cross-party support and respect.

**Good Governance and Consensus**

One element in the success of industrial strategy is having an effective oversight body. I established an Industrial Strategy Council to assess progress and make recommendations. It was chaired initially by Richard Lambert. The Council was later, in 2018, formally reconstituted and placed under the Chairmanship of Andy Haldane, Deputy Governor and Chief Economist of the Bank of England. The Council had representation from big business, institutional investors and the trades union movement. The move was good, if belated, meaning that, at last, the sectoral bodies and mission groups had a steer and buy-in from both sides of industry and leadership from a politically independent heavyweight.

To beef up the industrial strategy, one step should be to put the Council on a statutory footing with its members (certainly the Chair) accountable to parliament through scrutiny of their appointments, like members of the MPC; with direct oversight of key operating bodies like Innovate UK; and publication of its regular assessments of the effectiveness of the strategy and the performance of the various sector councils and mission groups.
Ministers would, as now, put forward nominees for the Council but, hopefully, seek to maintain wide support by avoiding political cronies and choosing individuals who command wide support and also include people with a background in the English regions and devolved nations.

Planning for Uncertainty

As illustrated above, policy is being made under conditions of high levels of uncertainty. That is an argument for flexibility but not for abandoning all attempts at long term thinking and planning. Business in many sectors already operates in a highly uncertain environment but has to make commitments to long-term investments and R & D. Some elements of uncertainty can be reduced to quantifiable risk as with, say, oil prices and exchange rates and the risk can be mitigated by hedging strategies. But much uncertainty cannot be quantified and managed in this way. That is why companies which have to plan long term, but also have to navigate big changes in the business environment, have developed techniques like scenario planning. Shell is generally accepted to be both a pioneer and market leader in this field, developing scenarios which challenge company strategy to test its robustness.

One of the main premises behind scenario planning is that it isn’t possible to predict the future. The future is unknowable even for ‘super-forecasters’.

An oft-quoted adage in Shell planning is that “those who claim to be able to forecast the future are lying, even if by chance they are later proved right”. In the past, such scenario planning has not translated well into government. Politicians do not like it to be known that they are entertaining uncomfortable stories about the future: ‘thinking the unthinkable’. They have problems explaining that such scenarios are not forecasts. They tend to encourage scenario thinking which isn’t challenging or in so many different forms as to be useless. The best way to deal with this problem is to have an independent unit, reporting to the Council rather than ministers, and publishable only after the completion of its work.

4. Budgets and Resources

One major criticism of recent industrial strategy work is that it is stronger on promises and rhetoric than disbursing resources to realise the ambitious targets. In fact the criticism is overstated. The strategy which I oversaw had 50:50 financing of major collaborative projects generated by the Automobile Council and the Aerospace Industrial Partnership and for bioscience in addition to funding allocations to Innovate UK and other agencies serving the Strategy.
The latest iteration of Industrial Strategy commits to £12.5 bn. over the four years to 2021/22 for public R & D; as part of that total, £4.7bn. for the Industrial Strategy Challenge Fund; and large additional allocations for public infrastructure investment, specialist training schemes and science education.

One of the advantages of putting the Council on a statutory footing with genuine independence is to have proper budgeting of these-probably flaky- numbers and to spell out the kinds of resources needed to meet the government’s declared objectives and how much is actually being made available, on what basis.

Completing the Institution Building

Governments can and do consume a lot of time and resources establishing new institutions in shiny offices with high overheads and limited effectiveness. One of the reasons for the demise of the Regional Development Agencies was that some of them were seen as wasteful and self-indulgent bureaucracies without many friends in the regions whose interests they were trying to promote. So I am hesitant about new institutions.

In relation to innovation, which is central to industrial strategy, there is already institutional infrastructure in the form of Innovate UK. There is an argument for shifting the line of accountability for Innovate UK to the Council of the Industrial Strategy (it is currently tied up with the academic research councils). And there is an argument for strengthening the Catapult network which the government, by turning the individual units into self-financing companies, has limited their potential usefulness. A 50:50 split would better reflect the public good: the diffusion of new technologies to small and medium sized companies.

The human resource aspects of the Industrial Strategy are currently a mess and the mess has been deepened by the switch of skills and FE back to the Department of Education. But nothing can be achieved by setting up new institutions and moving around the Whitehall furniture yet again. If the Industrial Strategy Council were to become a more serious force and bully pulpit that would help.
The Whitehall treatment of infrastructure is also a confused tangle of ministerial responsibilities. There is however a National Infrastructure Commission, with statutory authority to give overall coherence and oversight. Provided the Industry Strategy Council has a clear line of sight to the Commission’s Infrastructure Plan as it affects Industry (energy generation; transport networks) there is no need or call for additional institution building.

Finance for business has long been a serious weakness for the UK with a dearth of patient, long term capital especially for medium and small companies; a lack of venture capital or other risk capital for companies seeking to cross the ‘valley of death’ as they seek to scale up innovations; and the disappearance of locally based lending institutions leading to the loss of relationship banking.

After the banking crisis, a serious effort was made to plug some of these gaps. Under the ‘Merlin agreement’ on bank lending, the banks financed the setting up of the Business Growth Fund supporting medium sized growth firms. The British Business Bank was set up to plug several holes by providing: a system of loan guarantees for bank credit; funding to catalyse new funding streams for business like peer-to-peer lending; start-up loans for potential entrepreneurs from disadvantaged backgrounds; venture capital funds.

Its remit expanded in the Covid pandemic to take in the management of several emergency government assistance schemes for business.

In addition, the regulation of new banks was, in principle, made more permissive to enable ‘challenger’ banks to emerge. In practice new banks have made few inroads into business lending and, despite high expectations that a version of German business lending could be replicated in the UK, community based bank lending has not taken off.

A more contentious intervention was the establishment of the Green Investment Bank to support long term projects which were marginal in commercial terms but had high environmental impact. The Edinburgh-based bank was successful in co-financing around £12 bn. of private capital with £2 bn. of its own resources, mostly in offshore wind with some projects in energy conservation and waste management. Critics believed that, given borrowing powers, it could operate on a significantly bigger scale. But in 2016 it was judged, controversially, to be superfluous to market mechanisms and sold to the Australian group, MacQuarrie. It is reported that the government now acknowledges the mistake and is trying to recreate the GIB.
Finally, the Coalition operated a Regional Growth Fund which provided equity capital to new projects, mainly industrial, alongside private capital, in regions of high unemployment. The RGF was, in effect, a replacement for the Regional Development Banks which had been abolished; but, in the case of the RGF, operated as a challenge fund for competing bids with attractive projects chosen by a panel of business leaders chaired by Lord Heseltine.

All projects were required to satisfy a benefit-cost test with a hurdle of 2. The RGF was popular and achieved its objectives but ceased because of Treasury funding constraints. An active regional dimension to the Industrial Strategy requires the recreation of a similar body, generously funded.

A key issue, not easily resolved however, is how to move decision-making out of Whitehall to the elected Mayors and other devolved bodies without creating a wasteful plethora of competing bodies.

There are various suggestions for augmenting this menagerie of institutions with a state Investment Bank based on the model of the German KFW, with borrowing powers. The rationale would be to put public investment, mainly for infrastructure projects, on a more disciplined and sustained basis rather than reliant on ministerial approvals and the capricious management of public spending and borrowing.

The aim would be to ensure that public investment was subject to more rigorous and consistent evaluation, would ‘crowd in’ rather than ‘crowd out’ private capital in the manner of the GIB, and give the Treasury confidence that capital spending was productive. The cessation of the operations of the European Investment Bank in the UK, post Brexit, also provides a rationale for such a body. And the recreated GIB could be one branch of it.
CONCLUSION

I have described above the way in which the concept of an ‘entrepreneurial state’ has taken hold in countries with different political systems. The debates of the 1980’s about ‘picking winners’ are very much of the past. The issue for the UK is how to build on the experience of the last decade to make government intervention more effective. The first step is to ensure that its underlying objectives- to raise productivity and sustainable growth- have the same status in policy making as short term economic management. One of the achievements of governments in the last three decades is to have created solid, non-partisan institutions for monetary policy and fiscal policy.

THE ISSUE FOR THE UK IS HOW TO BUILD ON THE EXPERIENCE OF THE LAST DECADE TO MAKE GOVERNMENT INTERVENTION MORE EFFECTIVE

The MPC and the OBR and the mandates they operate under are now sufficiently well established and respected for their independence and impartiality that they can survive changes of government. What is needed now is a third pillar, of ‘industry policy’, which covers long term growth. This third pillar is undoubtedly more difficult to erect than the others since the issues are more complex and cover many aspects of policy: not just ‘industry policy’ in a relatively narrow sense, concentrating in particular on innovation, but as a cross-government exercise extending into education, infrastructure and regional policy. And the process of innovation is itself poorly understood and difficult to pin down.

A good start would be to build on what exists rather than create a new set of institutions. Over the last decade a basically good structure has been put in place with the right priorities. But it lacks authority of the kind enjoyed by the MPC and OBR. The apex body of the Industrial Strategy, the Council, is almost unknown and was established in 2018 as something of an after-thought, albeit with high quality representation. It should be put on a statutory basis with lines of accountability and regular reporting to parliament. And the whole industrial strategy must be led by a senior cabinet minister with status and powers comparable to the Chancellor.

Many of the sectoral bodies within the Industrial Strategy currently work better than the whole. They are genuinely representative of the sector; are bi-partisan with representatives of the workforce as well as employers; and have a grounding within the geographical areas where they are based. I sought to ensure that the financing institutions and the Catapults were distributed across the UK in a way that was efficient but ensured ‘buy in’. One of the most challenging tasks looking forward will be to ensure that the industrial strategy is properly integrated with ‘devolution deals’.
It is obvious, but trite to say, that there should be significantly higher levels of public investment in R & D and to fill the gaps in long term business financing not supplied by the market, in a way which 'crowds in' rather than 'crowds out' private capital. There are already several public sector initiatives, like the BBB, or the former GIB and RGF, which can be boosted or reinvented along with a public Investment Bank, needed to replace the role of the European Investment Bank.

We have moved on from tired old debates about 'picking winners' to the acceptance that government has an important role to play in creating a climate more conducive to training, innovation and investment. The current Industrial Strategy is not ideal but a sensible place to start. It needs strengthening so that it becomes a central part of government policy making. The need for Britain to make a fresh start in the aftermath of the damaging and exhausting battles over Brexit and Covid will require a unifying framework for government, business and the workforce. An industrial strategy, properly constructed, is a good place to start.
**Vince Cable**

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THE RETURN OF INDUSTRIAL STRATEGY

by Vince Cable

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