

**BIS** | Department for Business  
Innovation & Skills

**NEW INDUSTRY, NEW JOBS**

What next to secure  
Britain's economic success

CONFERENCE REPORT

HELD AT CASS BUSINESS SCHOOL  
14<sup>TH</sup> OCTOBER 2009

# Foreword

I am pleased to be able to introduce this report on the proceedings of the BIS conference held on 14<sup>th</sup> October 2009. Since *New Industry, New Jobs* was published in April 2009, the Department for Business, Innovation and Skills has made significant progress in implementing this new approach to industrial policy, but as we continue to develop and refine our policies it is important that we draw as widely as possible on experiences of what works and why.

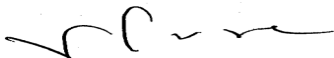
Our conference brought together experts from business, academia, think tanks and government to help us understand more about the industrial policy experience, both overseas and in the UK, and to ask where we should be focussing resources in terms of horizontal policies, and sectors and markets, to drive forward growth.

Lord Mandelson's opening speech set the scene with the main developments since *New Industry, New Jobs* was published and the challenges that remain in areas such as the provision of risk capital to industry. In response Will Hutton drew out the important implications for the UK of an increasingly knowledge driven global economy.

Three parallel sessions then explored the lessons from international experience with industrial policy in the US, Europe and Asia, the lessons from historically successful sectors in the UK and the impact of horizontal policies in areas such as competition, innovation, skills and access to finance.

At the closing session we drew together the key themes about the range of policies needed to enable growth, particularly through sectoral development. As well as traditional drivers such as skill and innovation this includes a wider role for Government, for example through innovative procurement. These discussions are already proving useful in informing our ongoing policy development.

I am grateful to all the speakers and participants for excellent contributions to the debate and wish to thank Cass Business School for hosting the conference.



**Vicky Pryce CB**

Director-General, Economics, Department for Business, Innovation and Skills & Joint Head, Government Economic Service

# Opening session

**Lord Mandelson's** key note speech<sup>1</sup> set out the aim for the conference 'to widen and deepen our thinking' on New Industry New Jobs and 'to ask where we might go from here to secure Britain's economic success'.

He explained the change in thinking developed in New Industry New Jobs:

'This is a conference that almost certainly wouldn't have taken place two years ago. It is about questions that we weren't really asking in government two years ago. They are post-banking crisis questions about the roles of government and the market. About how we build a balanced recovery.'

'But the challenge of the long term, low carbon recovery and growth has pushed us to look more carefully at the way in which government can drive growth. How government policy can equip our country and our companies and our people to compete in a global economy.'

He stressed the implications of New Industry New Jobs for the role that government plays in the economy:

'Government actions are a huge part of what actually defines the shape of the market and the capabilities of our people and companies when they compete in it.'

He gave examples of the steps that the Department for Business, Innovation & Skills, and the government as a whole, have taken to implement the New Industry New Jobs agenda, highlighting the development of new frameworks for higher education and adult skills policy and the investments financed by the £750 million Strategic Investment Fund<sup>2</sup>.

He concluded that a genuine recovery required not just a return to economic growth, but also a sustained rise in employment and that 'to argue that there is no role for active public policy in reinforcing this growth seems to me either dogmatic or complacent, or both'.

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<sup>1</sup> The full text of Lord Mandelson's speech is available at <http://nds.coi.gov.uk/clientmicrosite/content/Detail.aspx?ReleaseID=407540&NewsAreaID=2&ClientID=431>

<sup>2</sup> See BIS (2009), "The UK Strategic Investment Fund: Interim Report" available at <http://www.berr.gov.uk/files/file53157.pdf> for further details on investments financed by this fund.

**Will Hutton** provided the response, arguing that the New Industry, New Jobs approach outlined by the Secretary of State was 'an intelligent way of going forward'. He outlined what he thought were the most important developments that will shape the recovery and determine the UK's future economic success.

He drew attention to the role of new technologies in creating new goods, services and business models with multiple spillovers. He highlighted the particular impact of general purpose technologies in driving economic change using historic examples such as the steam engine, railroad, aeroplane and the internet.

Hutton argued that new technologies will be developed at an increasing rate, resulting in the knowledge economy accounting of a growing share of the economy. This will be further enhanced by a shift in consumer demand towards higher value-added experiential services and technology based goods.

The implication of these changes is that for an economy to succeed investment in knowledge creation and exploitation through science, innovation and skills will become even more important. The national innovation framework needs to work in a way that value from this knowledge creation is captured in UK economic activity.

He also emphasised that genuine recovery would require a sustained rise in employment. A disproportionate number of jobs will come from innovative new firms and new market entrants pioneering new technologies. It is therefore particularly important for government to dismantle barriers to market for new firms, and assist in capacity building by incentivising innovation.

# Parallel Session One - Lessons from International Industrial Policies

The session drew out lessons from different approaches to international industrial policy. The panellists drew on the experience of US, European and Asian economies. A number of themes emerged from the discussions on this topic:

- There was a widespread consensus that the appropriate role for industrial policy is expanding beyond basic macroeconomic stability, tax, regulation and openness to trade into broader areas such as skills, innovation support, the performance of the university sector and the intellectual property framework.
- There was much less consensus about how far the international evidence supports intervention in individual sectors. Governments also need to think of a clear exit policy in cases of both success and failure.
- Over time different countries are widely viewed as having successful industrial policies, for example both Japan and France have been held up as having successful interventionist policies. But there was little evidence that industrial policy had in fact played the key role hypothesised, and there was an awareness of the risk of governments 'picking losers'.
- The importance of building local strengths was emphasised, but what was meant by local varied greatly, for example, a geographic strength can vary from a local cluster around a specific university or firm, to a state as large as California.
- More use needs to be made of evaluation evidence from overseas, but this must also consider the transferability of policies from one country to another, and care needs to be taken in the design of instruments.

**Martin Wolf** opened the session by outlining some general observations about the role of industrial policy, broadly defined. He argued that a wide range of policies from tax and regulation to the role of universities contribute to the development of industry.

He pointed out that new jobs will not just come from new industries. Experience suggests that the jobs will come from a wide range of industries as economies come out of recession. He argued therefore that policy should not focus excessively on new industries. Nor should

policy focus solely on manufacturing, as the distinction between manufacturing and services is no longer useful for policy purposes.

He stressed the importance of policymakers distinguishing between catch-up and frontier economies. The former can to some extent learn from the first mover, but the policy approach for frontier economies is much more difficult.

Catch-up economies almost inevitably struggle to maintain performance as they get closer to frontier economies. Japan is an example of an economy that was widely viewed as a successful catch-up economy, but whose performance as a frontier economy has been less remarkable.

He drew attention to the role of universities. Their impact does not just derive from the research they conduct, but also from their role as regional hubs for investment, and the many links they have with industry. Finally, he noted the important role of finance in supporting innovation in many countries.

**Reinhilde Veugelers** characterised Europe's industry as having a concentration of large companies strong in medium tech sectors, but less success in high-tech sectors like ICT, and in innovative, rapidly growing firms.

As in all countries, European policy makers face the challenge of deciding the balance between horizontal framework policies and sector specific targeted policies. In recent years EU wide industrial policy has tended to focus more on framework conditions than targeted interventions. Furthermore there is a question of the appropriate level of industrial policy, i.e. in terms of policy design and implementation, what is the role for co-ordinated EU action and where should member states design and implement their own policies?

Veugelers suggested that government is less able to pick winners, firms and technologies, but is better able to examine how framework conditions work for specific markets. This might lead to sector specific interventions supplementing framework policies as market failures will vary between sectors.

She suggested that new emerging sectors may be amongst those with the most significant market failures. Given that Europe lacks rapidly growing innovative firms, knowledge spillovers in these sectors may be particularly important market failures. But she emphasised that the risk of government failure is high in these sectors, i.e. the potential for unsuccessful interventions is high.

Veugelers argued that there has been some experience in Europe of successful sector-focused interventions, for example with Airbus

although the aim had been to create a European champion in a relatively mature industry. Examples of successful interventions in high-tech sectors are more difficult to find, although some failed interventions, e.g. HD television, are well known.

She emphasised that more understanding is required of the performance of different interventions. There is a need for evaluation of these interventions to properly understand the impact that they have in different markets.

**Bronwyn Curtis** covered US industrial policy and began by setting out the institutional structure by which industrial policies are determined. At national level, the President is able to establish policy priorities, but Congress will focus on the budget for, and delivery of, business support.

State government also plays a significant role, and states are often in competition to attract new businesses. In addition the private sector in the US has a significant lobbying role in influencing policy development both at national and state level.

She suggested while some argue that the US does not have a particularly active industrial policy, it does undertake a wide range of activities that impact on industries. For example in science and technology the impact on government spending on defence and space is substantial and has knock-on effects on a wide range of private sector activity.

Curtis highlighted trade as a policy area where intervention has targeted particular industries. Trade defence measures have been used in an effort to protect both old and new industries. Further examples of government intervention aimed at limiting foreign competition include the provision of subsidies (for example in textiles, steel, agriculture) and restrictions on foreign ownership, for example the furore around acquisition of P&O by Dubai Ports World.

Curtis suggested that the success of the US in innovation and entrepreneurship is best understood by looking at the *microeconomic environment* in which firms operates. This determines the incentive structure that firms and entrepreneurs face. For example, the latest Global Competitiveness Report shows that the US ranks relatively highly in intensity of local competition, innovation capacity, advanced skills and, until recently, financial markets.

Curtis pointed out that US industry structure is more marked by clusters than in many Europe countries. Empirical work shows that these clusters are associated with higher levels of productivity and innovation. And the fragmented policy process in US and highly developed local

coalitions between government and businesses is an important element in the success of these clusters.

**Gerard Lyons** discussed the industrial policies in the major Asian economies, and the implications for the UK. He stressed the diversity of Asian experience, with a wide range of income levels and industrial structures among the economies in the region:

- Singapore and Hong Kong are predominantly service oriented economies with, in Singapore's case, some high value added manufacturing;
- South Korea and Taiwan have capital-intensive advanced manufacturing capabilities; and
- Other catch up countries such as China, Indonesia and Vietnam have made attempts to move up the value chain via a labour intensive manufacturing sector.

Lyons argued that the latter group, and in particular China, has had a major impact on developed country industrial policies in recent years, with the emphasis changing from how to compete with China, to how to sell different products in China.

He emphasised that the significant variation between Asian economies in the extent of state ownership, openness to foreign direct investment and the importance of horizontal policies.

He pointed out that many Asian countries reconsidered their approach to industrial policy following the emerging markets crises of the late 1990s. In many Asian countries, even those thought of as relatively free market economies, there is a relatively top down approach to selecting and supporting sectors. But no clear formula for how to do this successfully has emerged.

For instance, Hong Kong in 2002 followed a strategy of building on existing strengths in four sectors - financial services, tourism, trading logistics, producer and professional services. However, Hong Kong has had some sectoral failures as well, such as its project to promote a biotech industry. In India, many commentators point to economic policy changes in the 1990s, however success at the global level has been relatively focused in ICT related sectors.

He argued that the success of industrial policy in China should not be judged on apparent high growth rates alone. The exceptionally high levels of investment raise the question of whether industrial growth should have been greater than that achieved? In both China and Korea, the questions asked by policy makers are increasingly focused on how to make effective use of government spending, rather than just focusing on the level of industrial support.

Lyons also argued that implementation and delivery of industrial policy is as important as the analysis of the problems facing an economy. He was also sceptical about the long-term sustainability of some Asian models and their applicability to the UK, in particular when the country in question is at a much lower level of income than the UK.

## Parallel Session Two - Learning from historic successful sectors

The objective of this session was to look back at the evolution of some of the UK's successful sectors and examine the impact that government has had, both positively and negatively, in order to identify lessons for future government policy. The panellists drew on the experiences of the aerospace, pharmaceuticals, creative industries and textiles sectors<sup>3</sup>.

A number of common themes emerged from the discussions on this topic:

- Good framework policies relating to corporate tax, planning rules, provision of high quality education and infrastructure matter a lot across many sectors.
- The characteristics of sectors play a big role in determining whether government intervention can make a significant positive impact on the sector. For example, sectors differ in terms of their ability to compete with low-wage competition, the importance of agglomeration and the impact of trade policy.
- Government's role as a purchaser has been central to success in aircraft and pharmaceuticals. In the creative industries, government action has shaped the market in a different way, for example through institutions such as the BBC.
- Policies that facilitate successful diffusion (rather than invention) of new technology are central to raising productivity and generating consumer benefits. There is a need to support value capture as well as value creation, for sustained success.
- The value chains in many sectors are international, so understanding the position of the UK within that global value chain is key. For example in pharmaceuticals, manufacture may increasingly be located overseas, while the UK still has significant competitive advantages in research.
- What matters most is sustainable long-term competitive advantage in an economic activity, not whether a country invents, or is first to produce a new good or service.

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<sup>3</sup> A forthcoming BIS economics paper will give a more detailed review of the wider lessons that can be drawn from these sectors.

The four sectors covered in the session had significantly different experiences, and the key factors in the development of the industry varied between the sectors. For example, in sectors such as pharmaceuticals and aerospace where there are long lead times in developing new products, industry needs a stable and predictable environment.

Agglomeration and co-location are important for the success of many sectors, including the creative industries. The Government has an important role to play in supporting agglomeration through the provision of infrastructure and through policies such as planning.

In sectors where Government has a role as a purchaser, procurement design matters. The procurement methods suitable for one sector may not be appropriate for another, as can be seen in the aerospace and pharmaceuticals sectors.

Specific points raised with regard to each sector are summarised below:

### **Creative industries**

**Gerben Bakker** highlighted that there are more than 1500 British firms in the creative industries of music, videogames and film. Collectively these firms employ over 70,000 persons; more than are employed in car factories.

The sector is largely project-based in nature and resources are configured specifically for each project. This, Bakker explained, means that crucial to the success of the sector is a cluster of specialised skills and inputs on which those projects can draw. London is such a cluster and the creative industries here benefit greatly from being located close to other London based business services clusters, such as financial and legal services. In addition, Bakker pointed to the role of the UK's elite educational institutions in turning out 'superstars' who are vital to creative industries.

Drawing particularly on the history of the film, music and videogames sectors, Bakker discussed the way in which creative industries have evolved and grown in new and unexpected ways. Government can best serve this sector by creating an environment in which firms can take advantage of new opportunities. Good framework policies relating to corporate tax, planning rules, the provision of high quality education and infrastructure therefore matter.

## **Pharmaceuticals**

**Sue Middleton** gave an overview of the performance of the UK pharmaceuticals industry over the last fifty years, highlighting the increase in R&D expenditure over the period and the large increase in exports, particularly since the 1970s.

Middleton argued that government intervention has been instrumental in the evolution of the pharmaceuticals sector. Government controls the pricing environment for drugs and acts as a major purchaser through the NHS. Historically industry feels that this has been handled well by the government and the mechanisms, such as the pharmaceutical price regulation scheme, have provided stability and predictability which has contributed to the success of the sector.

A world class science base is also key to making the UK an attractive R&D location for pharmaceuticals. However, in an increasingly competitive global investment climate, the government must not rely on the historical success of the sector. The wider business environment, including issues such as taxation, will impact on the success of sectors within the UK, as will the Government's attitudes to purchasing new technologies developed by the industry in the future.

## **Aerospace**

**Keith Hartley** explained the unique characteristics of the aerospace sector, highlighting the large economies of scale, the cost incentives for collaboration and the large role of Government.

Aerospace is a unique strategically important sector and Government has the power to determine ownership, size, structure, conduct and performance of this sector. The Government has multiple roles in the aerospace market: acting as a major buyer of military aerospace equipment; a provider of launch investment for civil aerospace equipment; determining property rights and regulating monopolies.

The success of UK aerospace depends crucially on the governments approach to procurement and regulation. Given that the structure of the industry means that suppliers will often have a degree of monopoly a key challenge for government is to assess the impact on efficiency of that monopoly power, and the develop an appropriate regulatory response.

Hartley argued that future challenges for the sector include increasing competition from new entrants from countries such as China and Japan and the WTO review of launch aid.

## Textiles

**Tim Leunig** set out the historic pattern of development of the textiles sector. A century ago Britain had the greatest textile industry in the world and Britain invented two of the big three 20<sup>th</sup> century artificial fibres; rayon and polyester. However, despite government efforts to support the sector, the industry declined rapidly during the second half of the 20<sup>th</sup> century and today the UK has only a very small textile sector

Leunig argued that if the Government had been writing “new industry, new jobs” in 1945 then the polyester sector would probably have been selected as an important future sector where the UK would be well placed to excel. He suggested that this illustrated the danger of Government attempting to pick winners.

He suggested that the lesson from post-war textiles for the new industry, new jobs agenda is it doesn't matter whether a country invents something, or whether it is first to produce it. What matters more is whether the country has a sustainable long-term competitive advantage in producing that sort of good.

Leunig suggest that the factors which indicate that a sector could have a manufacturing future in the UK. These include the existence of a specific comparative advantage such as expertise in formula one cars, where goods are perishable or too costly to transport and where reputation is important either for safety issues (such as parachutes) or for branding such as Rolls Royce cars.

# Parallel Session Three - Developing Horizontal Policies

This session covered some of the key elements of industrial policy that have a cross cutting impact on economic performance such as competition, skills, innovation and access to finance.

A number of themes emerged from the discussions on this topic:

- The interaction between different horizontal policy areas, for example, the need for innovative firms to be able to access finance was widely recognised.
- More generally the impact of changing patterns of demand raises challenges across a wide range of industrial policies. Many aspects of industrial policy tend to focus disproportionately on incumbent firms and do not take into account the changing structure of the economy.
- One area where government activity has a big influence in shaping the future structure of demand is through public procurement.
- It was recognised that markets need regulation to function properly, but in judging the appropriate level of activity the risk of excessive intervention may be higher than the risk of lack of intervention.
- Government can perhaps identify areas where there seems to be enduring comparative advantage for UK and consider the possibilities for targeted intervention in these sectors.
- The need to consider the spatial impact of policies was highlighted with a recognition that the business environment matters at national, regional and local level. The current recession has seen different patterns of unemployment increase compared with those in previous recessions. The rise has been more marked in small towns than large, and in cities associated with service sectors as well as manufacturing.
- The role of entrepreneurs as agents of change in the economy was highlighted. Government can play a role in providing support to entrepreneurs.

**John Fingleton** argued that competition policy plays an essential role in supporting economic growth by encouraging efficiency and innovation. He cited airlines and telecom as examples of sectors where competition has resulted in lower prices and new business models.

He argued that competition authorities have a key role to play in preventing incumbents from blocking new entrants. With regard to the relationship between competition and innovation, the competition rules do not prevent collaboration if it delivers efficiencies and consumers receive a fair share of the resulting benefits.

He suggested that, though the role of government in markets is an important one, there is a risk of over-intervention, not under-intervention. This arises, amongst other reasons, because the evidence base put to the authorities is often biased or incomplete. For example, incumbent businesses tend to be 'louder' than potential new entrants in defending their interests. Hence the authorities need to make careful independent assessments to avoid intervening where it is not justified by the costs and benefits deriving from intervention (including consideration of dynamic efficiency and spillovers to other sectors).

He also emphasised the importance of the demand side impact of government impacts. Government can influence demand through taxation, subsidies, regulation and education as well as its own purchases. While New Industry, New Jobs initiatives have focused on the potential role for supply side measures, there is a huge potential dividend in the use of demand side instruments, including consumer policy.

**Chris Humphries** emphasised that a strong skills base is essential for competitiveness, productivity and growth. He drew attention to the UKCES research published early this year<sup>4</sup>. In particular the UK is now ranked 17<sup>th</sup> on 'low' level skills, 18<sup>th</sup> on 'intermediate' skills and 12<sup>th</sup> on 'high' level skills. Other countries are improving their skills profile so despite improvements in the attainment of qualifications the UK's relative position has changed little in recent years. Leadership and management skills are a particular area of concern.

The relatively low level of skills in the UK, the limited extent of skills shortages and the potentially relatively low demand for skills relative to their supply, taken together, imply a demand side weakness.

He argued that in order to build an internationally competitive economy, the employment and skills system will need to invest as much effort on raising employer ambition to stimulate demand, as it does on enhancing

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<sup>4</sup> UKCES (2009), "Ambition 2020: World Class Skills and Jobs for the UK"

skills supply. This would help create a 'virtuous circle' between the skills available and the skills required.

He added that one of the most important steps to be taken on skills is to raise the general state of skills across the labour market. It is important to equip people with general employability skills and then allow employers to train specifically based on their need. Recent improvements have been made in literacy skills, but numeracy, and more broadly science, technology, engineering and mathematics skills are an area of weakness.

**Sir Chris Powell** set out the argument that government needs to shift focus towards 'high-growth firms', which are engaged in innovation and generating significant employment. It is the firms that are able to make best use of new business models, new markets and new technologies that will be play a large role in generating new jobs.

He highlighted a recent NESTA report<sup>5</sup> that argues that 6% of UK businesses - 11,500 businesses with 10 or more employees - hold the key to job creation and wider prosperity. This small number of businesses has generated 54% of new jobs - 1.3 million out of 2.4 million - created by all existing businesses with 10 or more employees in the last three years.

Powell highlighted four ways in which government can help stimulate high growth firms:

- There is a need to develop the optimal financial architecture for growth firms. This will involve broadening the potential sources of finance, for example by encouraging business angels, and reversing the decline in availability of venture capital, including through the co-investment of private and public funds.
- The rate of creation of new investable ideas needs to increase. Universities have played a growing role in this area, but it could become a higher priority for universities leaders.
- Government procurement has long been identified as having a large impact on the pattern of the demand. The technology strategy board has made some progress in identifying opportunities for innovation but there is more that could be done.
- Making places, and in particular cities, stronger centre of innovation will help stimulate high growth firms. The evidence from overseas, and relatively successful UK cities, points to the

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<sup>5</sup> More information on the NESTA report is available at:  
[http://www.nesta.org.uk/home/assets/features/measuring\\_business\\_growth](http://www.nesta.org.uk/home/assets/features/measuring_business_growth)

importance of joined up leadership between political and business leaders.

**Hermann Hauser** echoed Fingleton on the importance of new entrants and their business models. In the US 20% of the top 1,000 companies were founded after 1980, but the equivalent figure is 5% in Europe.

Commercialisation of inventions has often required changes to existing business models. The impact of new entrants in the market for microprocessors, in particular Cambridge-based Arm, and the challenge that posed to existing market leaders such as Intel, was given as example of a successful new business model.

Hauser pointed to the role that Fraunhofer Institutes play in German. Such technology development centres can play an important role in helping a country capture value from a new technology.

Hauser argued that government will have great difficulty in picking companies, but it is much more sensible to stimulate investment in leading technologies. Assessment of new technologies is still difficult but Hauser suggested criteria that could be used. These included the size of the potential market, the potential for world leadership by Britain, the absorptive capacity for the technology within the country plus the requirement that the technology be a platform one that would be used by many firms. He suggested that plastic electronics and regenerative medicine were two such technologies.

Other issues raised in the session included the government changes that would help government deliver the New Industry, New Jobs agenda. Many of the horizontal policy outcomes need government bodies to work together. Sir Adrian Montague highlighted the area of infrastructure, where the creation of Infrastructure UK is intended to provide a coherent view of the aims of infrastructure policy, and the changes needed to meet those aims.

**Dermot Finch** highlighted the importance of ageing population, and the impact that would have on patterns of demand. He used this as an example to show that growing sectors of the future would not just be those arising from new technologies.

## Closing session

The final session of the conference, chaired by Vicky Pryce, brought together a panel including chairs and rapporteurs from the previous sessions.

On horizontal policies, **Dermot Finch** reported that demand side issues were much more prominent in the discussions than they would have been two years previously. Examples included lack of demand for recent graduates, with many taking jobs that do not use their graduate skills, and the role that government procurement plays in shaping demand in many industries. The demand for finance by innovative high growth firms was another example.

Finch also emphasised the spatial impact of policies. The recession has seen a distinct pattern in unemployment increases with certain cities seeing a much more marked increase. More private sector job creation will be needed to overcome the reliance on public sector jobs for graduates in many cities. Stimulating private sector jobs would thus be a key challenge in the recovery from the recession.

**Sir Adrian Montague** highlighted the difference in challenges for horizontal policies in the current economic environment. Compared to before the recession, financial services will account for a smaller share of national income. Horizontal policies must play a significant role in enabling start-ups and firms with the potential to grow, to generate the output and jobs that will be needed in the recovery.

**Andy Wyckoff** reported that much of the debate about the lessons from international policies, centred on the extent to which framework conditions were sufficient for industrial policy success. Including Asian examples in these discussions had added to the debate, as more and more of those countries become important markets, but also a source of competition for the advanced economies.

He highlighted two issues that raise important challenges for policy makers in the coming years. The first is the how a country gets a share of the output and employment gains from new technologies in what is essentially a global innovation system. The second is to recognise that even where policies are successful the distribution of the gains maybe geographically concentrated in certain regions or clusters.

**John Alty** highlighted the impact of disruptive technologies. This is important not just in terms of who captures the benefits, but also the losers whose activity is replaced as a result of the new technologies. He also drew attention to the way in which the policy making process

impacts on the policy outcome, for example in the US where the almost chaotic, interactive approach has generated some success.

**Nick Crafts** reported on the discussion of the impact of government intervention on the in the historic development of sectors in the UK. The experience varied greatly between sectors, both of terms of the impact market forces and government intervention. The range of policies that had an impact extended beyond those traditionally thought of as industrial policy, for example where agglomeration effects are significant, land use policy impacts on the ability of clusters to develop.

He concluded that evaluation of policy interventions in sectors has not a generated a good set of cost to benefit measures to compare the success of the interventions. But given the diverse range of results, it will be important, when intervening to be selective in order to identify as clearly as possible where government can have a positive impact.

**Philip Rutnam** highlighted the importance of identifying areas of potential enduring comparative advantage for the UK economy, but this is not alone sufficient to justify intervention. He emphasised the diversity of the impact of government interventions across different sectors. Evaluation of these interventions plays a particularly important role in establishing an evidence base on the costs and benefits of interventions.

**Stephen Marston** emphasised the importance of raising the general state of skills across the whole labour market, and in particular generic employability skills that are needed across all sectors of the economy. He also highlighted the need to consider both the demand and supply aspects of skills. A focus purely on supply may lead to manpower planning of a disruptive form. A better route is to try to aim for informed employers and individuals to determine their own demand for skills.

Additional comments from conference attendees concentrated in a number of areas. Integrated international production chains were argued to have implications for government policy across a number of areas. Some argued that these global value chains made framework conditions more important, as an economy was likely to have a share of a large number of value chains.

Others highlighted the importance of value capture, and not just value creation. The distribution of value capture across the supply chains is very uneven. This distribution varies greatly across sectors, for some products the suppliers of raw materials currently capture a very large share of the value.

Others argued that the environmental sustainability of economic activity will become more important. Carbon policy, and in particular the

development of a carbon price, will have very wide ranging impact across the economy, i.e. the development of policy in this area will in effect be a framework condition for the economy.

The impact of the current fiscal position was also raised. It was suggested that pressure on government finance will mean that direct spending will decline. Will this mean that government looks more to framework conditions and sector interventions that are more regulatory based?

**Will Hutton** provided closing remarks for the session. He argued that the debate needed to be about more than the success or failure of government picking winners. Economists were increasingly moving away from a general equilibrium view of markets, where intervention was linked to (relatively rare) market failures.

Market outcomes are more tumultuous than mainstream economics had recognised. In assessing the performance of markets he argued that there is a constant need to ask the question of whether the system is working, both in terms of firm performance and the impact of the public sector intervention.

He highlighted that it is not only the government that is at risk of picking losers. As the need for government support has indicated some banks developed a corporate loan book with considerable problem loans indicating that just as government struggles to pick winners, so do financial institutions.

He argued that in terms of innovation the threat of Asia has been overemphasised. National innovation frameworks in Asia have not yet begun to generate widely applicable technologies in large numbers, and will not do so for some decades. As evidence for this he pointed out that China has less than 0.1% of triadic patents.

## Annex: Conference speakers

### Overall approach to NINJ and industrial policy

Chair	Vicky Pryce – <i>Director General, Economics, BIS &amp; Joint Head, UK Government Economic Service</i>
Welcome remarks	Steve Haberman – <i>Deputy Dean &amp; Director, Cass Business School</i>
<b>Key note address</b>	<b>The Rt Hon Lord Mandelson</b> – <i>First Secretary of State, Secretary of State for Business, Innovation &amp; Skills, Lord President of the Council</i>
Response	Will Hutton – <i>Executive Vice Chair, The Work Foundation</i>

### Parallel breakout sessions

#### Theme 1 Lessons from international industrial policies

Chair	John Alty – <i>Director General, Fair Markets, BIS</i>
	Martin Wolf – <i>Associate Editor &amp; Chief Economics Commentator, Financial Times</i>
	Reinhilde Veugelers – <i>Resident Scholar, Bruegel</i>
	Bronwyn Curtis – <i>Head of Global Research, HSBC</i>
	Gerard Lyons – <i>Chief Economist, Standard Chartered</i>
Rapporteur	Andy Wyckoff – <i>Director, OECD Directorate of Science, Technology &amp; Industry</i>

#### Theme 2 Learning from historic successful sectors

Chair	Philip Rutnam – <i>Director General, Business Group, BIS</i>
	Gerben Bakker – <i>Lecturer, London School of Economics</i>
	Sue Middleton – <i>Director, Corporate Government Affairs, GlaxoSmithKline</i>
	Keith Hartley – <i>Emeritus Professor of Economics, York University</i>
	Tim Leunig – <i>Reader in Economic History, LSE</i>
Rapporteur	Nick Crafts – <i>Director, ESRC Research Centre on Competitive Advantage in the Global Economy</i>

**Theme 3                      Developing horizontal policies**

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Chair	Sir Adrian Montague – <i>Chairman, Friends Provident</i>
	John Fingleton – <i>Chief Executive, Office of Fair Trading</i>
	Chris Humphries – <i>Chief Executive, UK Commission for Employment &amp; Skills</i>
	Sir Chris Powell – <i>Chairman, NESTA</i>
	Hermann Hauser – <i>Partner, Amadeus Capital Partners Ltd</i>
Rapporteur	Dermot Finch – <i>Chief Executive, Centre for Cities</i>

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**Drawing conclusions for the way ahead**

Chair	Vicky Pryce – <i>Director General, Economics, BIS &amp; Joint Head, UK Government Economic Service</i>
Panel members	Will Hutton, chairs and rapporteurs from panel sessions

