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Rebalancing the economy sectorally and spatially: An evidence review

Volume 1 – Main report

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Rebalancing the economy sectorally and spatially: An evidence review

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Foreword

The UK Commission for Employment and Skills is a social partnership, led by Commissioners from large and small employers, trade unions and the voluntary sector. Our mission is to raise skill levels to help drive enterprise, create more and better jobs and promote economic growth. Our strategic objectives are to:

- Provide outstanding labour market intelligence which helps businesses and people make the best choices for them;
- Work with businesses to develop the best market solutions which leverage greater investment in skills;
- Maximise the impact of employment and skills policies and employer behaviour to support jobs and growth and secure an internationally competitive skills base.

These strategic objectives are supported by a research programme that provides a robust evidence base for our insights and actions and which draws on good practice and the most innovative thinking. The research programme is underpinned by a number of core principles including the importance of: ensuring '**relevance'** to our most pressing strategic priorities; '**salience'** and effectively translating and sharing the key insights we find; **international benchmarking** and drawing insights from good practice abroad; **high quality** analysis which is leading edge, robust and action orientated; being **responsive** to immediate needs as well as taking a longer term perspective. We also work closely with key partners to ensure a **co-ordinated** approach to research.

In November 2010, The UK Commission contracted a consortium led by SQW including Cambridge Econometrics, the Centre for Urban and Regional Development Studies, and the Institute of Employment Research to undertake an evidence review of existing national and international evidence regarding the rationale for government intervention in the sectoral and spatial structure of the economy. There has been considerable discussion concerning the role of the state in helping to build a stronger, more sustainable and balanced economy in order to ensure long-term competitiveness and in light of continuing regional disparities within England. This project sought to understand the existing evidence base around the rationale, impact, effectiveness and relevance of previous policy interventions in rebalancing the economy both in the UK and abroad, and to understand, where possible, the role of skills policy in ensuring the required effect. This main report (Volume 1) summarises the overall findings from the evidence review. A second report (Volume 2) contains five international case studies which were developed as part of the research.

Sharing the findings of our research and engaging with our audience is important to further develop the evidence on which we base our work. Evidence Reports are our chief means of reporting our detailed analytical work. Each Evidence Report is accompanied by an executive summary. All of our outputs can be accessed on the UK Commission's website at www.ukces.org.uk

But these outputs are only the beginning of the process and we will be continually looking for mechanisms to share our findings, debate the issues they raise and extend their reach and impact.

We hope you find this report useful and informative. If you would like to provide any feedback or comments, or have any queries please e-mail info@ukces.org.uk, quoting the report title or series number.

Lesley Giles
Deputy Director
UK Commission for Employment and Skills

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Executive Summary

Study objectives and approach

The need to '*rebalance'* the economy as the UK recovers from recession is a high priority for the coalition government. As set out in the Plan for Growth published on 23 March 2011, the government aims "to achieve strong, sustainable and balanced growth that is more evenly shared across the country and between industries" going forward. Whilst there is substantial commentary on the intent to achieve '*rebalancing'*, there remains a lack of clarity and agreement on what '*rebalancing'* means: some commentators refer to the balance between public and private employment, sectors (especially manufacturing and services) and London/the South East and elsewhere in the UK; others refer to '*rebalancing'* in the context of public spending and receipts, imports and exports, and domestic/public consumption and business investment, and, most generically of all, between economic, social and environmental outcomes. Furthermore, there appears to be limited formal articulation of the rationale for the government to intervene in the '*rebalancing'* process, how '*rebalancing'* might be achieved most effectively, and how the inherent tensions and trade-offs in addressing different elements of the '*rebalancing'* challenge should be managed.

Against this background, this study explores the issue of *'rebalancing the economy, sectorally and spatially'*, identifying where possible the role of, and implications for, skills and employment policy. The work collated and reviewed UK and international literature in order to better understand the following issues:

- the nature and scale of the *'rebalancing'* challenge in the UK, and its causes;
- the rationale for state intervention in the sectoral and spatial structure of the economy, both in the UK and abroad;
- types of interventions that have been employed by governments to influence the sectoral and geographical structure of the economy, particularly in terms of skills and employment interventions;
- what works and why in *'rebalancing'* economies sectorally and spatially;
- what might be done in the UK to create a more (re)balanced economy, and the implications for, and on, skills policy in supporting this process.

The study involved an extensive review of relevant conceptual, empirical, policy and evaluation literature from the UK and abroad, complementary case studies on '*rebalancing'* in Finland, Germany, Korea, Netherlands and Germany, and formal projections of the amenability of the UK economy to '*rebalancing'*. As part of the study, a typology of interventions was also developed to help classify the different types of actions that had been introduced to assist in economic *'rebalancing'*, reflecting the intensity of intervention by the public sector, and the extent to which resulting outcomes were tangible and/or intangible. The research took place between January and early March 2011, with subsequent analysis and reporting in late March and early April.

	Tangible	*Mixed*	*Intangible*
Setting the ground rules, direction/promoting the efficient operation of the market			
Building enablers/ conditions for growth			
Tilting the playing field/ playing the role of principal actor/agent			

The research was undertaken by SQW Ltd, in collaboration with Cambridge Econometrics Ltd (CE), the Centre for Urban and Regional Development Studies (CURDS), and the Institute for Employment Research (IER).

Overview of findings

Nature and scale of the '*rebalancing'* challenge

The term *'rebalancing'* has become used increasingly as a metaphor for a wide variety of changes seen to be required in the UK economy relating to its sectoral structure, shifts from public to private sector activity, differences in economic performance across spatial areas, and/or the balance between economic, social and environmental considerations. The first conclusion of the study is that, even though the term is of recent origin and has multiple interpretations, ***'rebalancing'* matters in a substantive sense.**

That said, **clarity is needed about what the term '*rebalancing'* the economy means in particular contexts**. The wide nature of the *'rebalancing'* challenge means that policy makers need to take integrating approaches to *'rebalancing'* action in their policy areas and in links with other policy areas. In the skills and employment arena, this might mean, for example, taking a holistic view of actions to address the issue of the general skills needed for trading overseas, as opposed to focusing narrowly on a specific tradeable sector.

The evidence also unambiguously shows that **there is little common agreement on the detail of what an *'optimal balance'* might be in the sectoral and spatial sense,** and there are very **few examples of direct relevance to UK's governance and planning contexts where '*sustained rebalancing'* has been realised.** It is legitimate, nevertheless, to be concerned about the need for *'rebalancing'* even though it may not be possible, or even appropriate, to paint a detailed endpoint of what balance looks like at the microeconomic level. Indeed, the endpoint itself is a moving target. For policy makers in general, this means acknowledging there is no 'silver bullet', and '*rebalancing'* objectives and actions need to be considered in process terms rather than as a well-defined endpoint.

There is a related and important definitional point here, that **microeconomic '*balance'* does not necessarily equal growth, and is not necessarily desirable in all contexts**. For example, achieving a balanced low-skills equilibrium of low value added, low skills and low wage employment, is not a desirable outcome .

Whilst there may be definitional issues about what constitutes microeconomic '*balance*', **the evidence and economic data confirm clearly that the *'rebalancing'* challenge, in all forms, is a long-standing one**. Sectoral change over the last 40 years has been driven by globalisation and resulting market and technological change, and this will continue to be the case. Western economies have shifted from manufacturing towards services and knowledge-based economies seeking to compete on content rather than price. Concerns about 'deindustrialisation' have been around for several years and, in the UK, these have been strengthened by more recent specialisation on financial services and the lack of resilience that this was seen to provide to global shocks and uncertainty. Growing spatial imbalances reflect patterns of agglomeration, and have led over many decades to some places being significantly and persistently more vulnerable to, and less capable of responding to, these sectoral shifts.

Consequently, the challenges of imbalance and *'rebalancing'* are widely experienced by the UK's competitors, and economies more generally worldwide. Decomposing GDP by its components of expenditure, the UK's broad balance is typical of several other large developed economies such as Canada, France, Italy, and further afield in New Zealand. **Therefore, whilst the UK's '*rebalancing'* challenges are significant, they are not unusual internationally.** Differences in productivity growth have also played a major role in the widening imbalances in economic performance, and skills disparities are a key factor in explaining national and regional productivity differences. Whilst the label may be new, **the issue of *'rebalancing'* is not unique to the UK, and one in which skills and employment issues in particular are key elements.** This provides a strong general argument for interventions designed to assist *'rebalancing'*.

The study has also found that **there are significant tensions and trade-offs involved in addressing the *'rebalancing'* challenge, with potential negative feedback effects between the macro and microeconomic *'rebalancing'* dimensions.** Interventions to support *'rebalancing'* on one dimension may have unintended adverse consequences for balance elsewhere. In particular, and drawing from the study's macro scenario projections, achieving macroeconomic balance at national level and shifting from the public to the private sector as a source of employment is almost certain to lead to greater spatial imbalances. These have not always been articulated fully in recent UK policy debates. The Office of Budget Responsibility's forecasts expect private sector job growth to compensate for the loss of public jobs nationally. This will go some way to rectify the public-private sector imbalance at an aggregate level. But, at the sub-national levels at which most labour, skills, and enterprise markets work, **the private sector may find it very difficult to compensate for lack of public sector job growth in areas where it has performed poorly in the past.** This potential negative feedback loop of macroeconomic action on the microeconomic context needs to be considered in the design of any '*rebalancing'* interventions.

Rationales for intervention

There is considerable debate in the literature as to whether government can and should intervene with respect to *'rebalancing'* in a sectoral and spatial sense, which has clustered around the following issues:

- Deadweight public sector costs (expenditure that does not result in additional activity)
- The risks that such interventions are not sustainable without on-going support
- Distortive effects caused by the allocation of resources and unintended adverse effects elsewhere and/or at a later date.

These concerns are most obviously evident within a neoclassical growth framework, in which spatial and sectoral differences in productivity are expected to reduce if market forces are allowed to operate. These issues are also a concern within a theoretical framework based on more recent thinking about new economic or functional geographies, where spatial differences can be expected to persist long-term because of agglomeration economies. Over time, endogenous growth and new economic geographies theories have become more influential in economic development policy, which focus on improving the adaptive capacity, productivity and utilisation of resources in places and maximising positive externalities.

The evidence has shown that **the rationales for specific government intervention in support of *'rebalancing'* activity have generally moved towards the need to address the underutilisation of resources and improve the competitiveness of places, focusing on place-based growth rather than redistribution.**

What works?

The evidence suggests that there are a number of factors which appear to be linked with *'rebalancing'* impact and success:

- '**Packages' of interventions that span policy areas have better chances of success than single silo actions**. For example, interventions linking housing and transport are key to enabling agglomeration benefits in urban centres. The study's projections also highlight that mixed interventions can help mitigate against the trade-offs and inherent tensions within *'rebalancing'*.
- In general terms, **interventions that go with the sectoral and cultural grain** of places and are designed to sustain growth tend to be the more successful. For example, this could be to relieve congestion in growth areas to sustain the advantages of agglomeration, which has been an important factor in the development of the UK's financial service sector.
- **Certainty and predictability going forward matters**, especially where the public sector is working with the private sector and where the market needs to have confidence in the future direction of travel if it is to invest meaningfully, as it takes time to achieve shifts in balance (especially spatial). This was, for example, a key factor in the long-run success of industrialisation initiatives in Asia. Continuous change in funding streams, qualifications, systems, governance structures, and policy disrupt the *'rebalancing'* process. Similarly, '*rebalancing*' is more successful where there is **simplicity in 'enabling' environments,** such as tax incentives and regulations.
- **Autonomy at the 'right' spatial level is key**, along with local, city regional, regional and national actors working in co-ordinated and reinforcing ways. This is especially the case in the wider European context, where the capacity and autonomy of regional institutions to develop regional spaces appears to have been a very significant factor in *'rebalancing'* effects in Sweden and the Netherlands. It seems to be the case that certain policy areas require a broader spatial perspective than the local area, because infrastructural policy issues relating to *'rebalancing'* (e.g. innovation, strategic transport, energy planning, and supply chains) tend to operate at spatial footprints that extend beyond local and sub-regional boundaries.

- **Capable and competent governance and oversight is key**. This not only provides the certainty and predictability referred to above, but the calibre of thinking and accountability for performance are important factors in driving *'rebalancing'* action forward. Linked to this, as illustrated in the international case studies, institutional context is critical in considering what works where, and how. The international evidence provided by the literature also shows that any significant role for the public sector (generally) works best in **collaboration with the private sector**.
- **Dialogue between employers, unions, workers and other organisations** builds co-operation and co-ordination in ways of working across different spatial scales, and between organisations within sectors. This can yield successful outcomes when faced with challenges of sectoral restructuring, although it takes time for trust to build.
- **Investments targeting human capital and soft infrastructures have had positive results**, although their impact varies from context to context. Skills development is a particularly effective form of investment, although it does need to be integrated with the local economic base. The existence of a varied set of institutions offering both highly qualified knowledge workers and provision for medium skilled workers also supports '*rebalancing'* interventions. Employers, as both individual organisations and within employer networks, should be part of this institutional fabric, and their products and business strategies more generally play a crucial role in shaping skills demand.

Role of employment and skills

Skills and employment initiatives are an important part of the 'intervention mix' and very much a critical part of the long-term *'rebalancing'* process. There have been a range of skills and employment-specific interventions in the UK and abroad that have been designed to address:

- the causes of imbalance, for example to raise skills levels, as part of a broader programme to create the conditions for growth to address spatial imbalances;
- the consequences of imbalance, for example the public sector as a job-creator in areas where the private sector under-performs;
- the consequences of the sectoral '*rebalancing*' process, for example, in helping people to adapt to changing skills or occupational requirements as the sectoral structure of an economy changes.

Turning now to 'what works' in terms of employment and skills policy in '*rebalancing'* initiatives, the key messages are:

- Interventions supporting the development of the educational infrastructure and hybrid people and skills interventions have **provided some of the highest returns** of any human capital and skills interventions which have assisted in '*rebalancing'* economies sectorally and spatially in the UK and abroad.
- International evidence suggests that the **expansion of higher education**, including specific targeting of applied sciences in some regions, has provided skills of value to sector *'rebalancing'*.
- **Intermediary organisations** can play useful roles in working with employers and education and training providers to ensure employers' demand for skills are met, particularly as an economy rebalances sectorally.
- Skills development and investment in training to aid the '*rebalancing'* process needs to be **shared between employers, individuals, and government**. Multi-stakeholder approaches can help achieve better skills provision.
- **'*Flexicurity'* approaches**, emphasising lifelong learning and the skills for sustaining and progressing in work, can yield positive outcomes for individuals and can assist in the '*rebalancing'* process between sectors (including potentially the public-private sector).
- **Lifelong learning** is important in helping to deal with sectoral *'rebalancing'* and in responding to sectoral change. Information, advice, and guidance (IAG) is a crucial component of lifelong learning.
- There is international evidence on the success of **labour market policies** in helping to deal with restructuring and in responding to change, both sectorally and spatially, especially when targeted at sectors with prospects for growth. This suggests that anticipating skills change is crucial.

Towards a future *'rebalancing'* framework'

Drawing on the evidence as a whole, the key overall conclusion is that **sectoral and spatial imbalances matter where they constrain the ability of an economy to increase and realise its growth and development potential**. This can happen in a number of ways:

- Persistent spatial imbalances will be associated with unemployed and underutilised resources that could be used more productively.

- Sectoral imbalances can restrict growth if they cause underinvestment in technological opportunity and change, and constrain its dissemination throughout the wider economy (e.g. because of fractured supply chains, wider activity that gets in the way of open innovation).
- Spatial and sectoral imbalances can make an economy, at local, city-region, regional or national levels, less resilient to the increased shocks and uncertainties that come from globalisation, be this in the form of market or technology change.

Reviewing the macro and microeconomic data, the unavoidable conclusion is that the UK has been, and is, an imbalanced economy in these three senses and that, therefore, *'rebalancing'* is an important concern for policy makers. The long-standing nature of what we now call the *'rebalancing'* challenge re-emphasises this imperative. At the same time it should also be acknowledged that in some ways '*imbalance'* is a natural state of affairs. Reducing the UK's dependence on financial services, on London and the South East and on the public sector as a source of employment and income have already been highlighted in policy as integral elements of the *'rebalancing'* process. So, too, will be increasing private sector investment in R&D and innovation, in skills development, and in overseas trade, as the Plan for Growth touches on.

But how this *'rebalancing'* will, or should, manifest itself in the changing patterns of economic activity, and to what extent, is less easy to specify. This is not just because of uncertainties and idiosyncrasies at the microeconomic level, but also because government's macroeconomic *'rebalancing'* policies will influence the sectoral and spatial distribution of UK activity, as will the changes taking place in the global balances of trade and investment, and the relentlessly differentiating impacts of market and technology change. Throughout this process, there is a challenging conflict between government's policy objectives and the likely outcomes of powerful market forces, especially in terms of spatial *'rebalancing'*, and a need for realism in what policy can achieve in this context, particularly in the short-term and when addressing spatial imbalance.

Despite the uncertainties about the precise shape that sectoral and spatial *'rebalancing'* can or should take, **the evidence that we have drawn from UK and international experience tells us that appropriate government microeconomic interventions can contribute to this *'rebalancing'*** and help overcome the constraints that imbalance places on growth and development. However, the evidence also suggests the need for caution about what can be achieved by these means. Overall, the evidence emphasises:

- the importance of working as far as possible with the grain of market forces to prompt the private sector to realise the full potential of *'rebalancing';*

- the care that must be taken to avoid distortive effects which displace or crowd out other sectoral or spatial economic activity, especially private sector activity;
- the need to build on existing strengths and capacities at sectoral and spatial levels, acknowledging the importance of intangible assets, including knowledge networks and assets, place and business cultures, or wider clustering effects between principal actors including those in the skills and employment arena. This might mean using 'old skills' in 'new ways' in places with sectorally relevant antecedents;
- that combinations of interventions (particularly from mainstream service providers such as local authorities) required to induce sustained changes in the behaviour and practice of people, businesses, and networks, but bearing in mind that relevant geographies are increasingly not co-terminus with administrative boundaries;
- the investments that are often required to improve access to markets, both in tangible (e.g. transport and housing) and intangible forms (e.g. supply chains and links between universities and businesses).

Referring back to the typology of *'rebalancing'* actions developed in this study, interventions that are most likely to be effective are those that fall above the line shown in the diagram below. Generally, these interventions tend not to have high unit costs in terms of public expenditure, and hence would be consistent with the current austere environment for public spending, which can be anticipated as lasting for some time.

Defining the focus of *'rebalancing'* interventions going forward

	Tangible	Mixed	Intangible
Setting the ground rules and direction / promoting the efficient operation of the market	**1**	**2**	**3**
Building enablers and conditions for growth	**4**	**5**	**6**
Tilting the playing field, playing the role of principal actor/agent	**7**	**8**	**9**

As well as the need for caution in implementing microeconomic *'rebalancing'* interventions, **it is important to be realistic about the extent of *'rebalancing'* that interventions might actually achieve certainly over the short term.** In particular, no matter what success is achieved in macroeconomic and sectoral *'rebalancing'*, addressing spatial imbalance is likely to prove a sustained long-term project. Significant shifts will be required to reverse imbalances in the geographical distribution of economic activity that have been caused by deep-seated historical legacies handed down from one generation to the next. Whatever the rationale, the long-term nature of such interventions will undoubtedly require the maintenance of continuity and stability in governance and management arrangements, all highlighted above as critical factors in effective *'rebalancing'*.

1 Introduction

1.1 Aims and objectives of the study

In November 2010, the UK Commission for Employment and Skills (the UK Commission) commissioned research on 'rebalancing the Economy, sectorally and spatially', identifying where possible the role of, and implications for, skills and employment. At its core, the study sought to "review existing national and international evidence regarding the rationale for government intervention in the structure of the economy with the intention of building a strong and sustainable economy, balanced geographically and sectorally"[1].

The study's emphases were on providing conceptual, empirical, and policy perspectives on the '*rebalancing'* issue, and analysing what might assist in *'rebalancing'* the UK economy, particularly from a skills and employment policy perspective. More specifically, the research questions were as follows:

- What is the nature and scale of the *'rebalancing'* challenge in the UK, and its causes?
- What has been the rationale for government intervention in the sectoral and spatial structure of the economy, both at home and abroad?
- What types of interventions have been employed by governments to influence the sectoral and geographical structure of the economy, particularly in terms of skills and employment interventions?
- What works and why? What have been the relevance, effectiveness and impacts of previous policy initiatives in *'rebalancing'* the economy sectorally and spatially?
- What might be done in the UK to create a more (re)balanced economy, help create the new economic circumstances, sectors, products and services on which a successful, sustainable and competitive economy can be built? And what are the implications for, and on, skills policy in supporting this process?

The research has been undertaken by SQW Ltd, in collaboration with Cambridge Econometrics Ltd (CE), the Centre for Urban and Regional Development Studies (CURDS), and the Institute for Employment Research (IER).

[1] Sourced from UKCES study brief, 2010.

1.2 An introduction to '*rebalancing*'

The term '*rebalancing'* has recently come to mean many things in the UK context: the balance between sectors (especially manufacturing and services), private and public economic activity, London/the South East and elsewhere in the UK, exports and imports, public spending and receipts, domestic/public consumption and business investment/exports and, most generically of all, between economic, social and environmental outcomes.

Against this wide ranging background, the main focus of this study has been on the *sectoral* (including public and private sector) and *spatial* dimensions of the *'rebalancing'* debate. However, throughout the study, it was recognised that different aspects of the *'rebalancing'* challenge are interconnected. These interconnections are both positive, so for example any *'rebalancing'* towards manufacturing is likely to be associated with growth of exports, and negative, whereby balanced growth in the economy as a whole could be consistent and even driven by apparent imbalances between high and low growth sectors, and/or places.

At a *macroeconomic* level, the concept of *'rebalancing'* is more readily understood and defined in terms of a specific balance to be achieved (for example, in relation to fiscal balances), and this is reflected in the published literature, including the recent government Budget published on 23 March 2011. At the *microeconomic* level, the term '*rebalancing'* has entered into the political discourse in the UK over the last year or so, referring to a preferred 'direction of travel' (for example, from financial services to higher research and development (R&D) intensive manufacturing, or from the public to the private sector), but with limited clarity or agreement on what the resulting balanced endpoint might look like. Moreover, whilst there has been substantial commentary on the current policy intent to secure '*rebalancing'*, there is limited detail on specific interventions to achieve this. More recently, the 'Plan for Growth' published alongside the Budget in March 2011 does outline some interventions to achieve 'balanced growth', such as introducing Enterprise Zones.

Given this broad context, the purpose of this study was to collate and review literature that explicitly or implicitly referred to the *'rebalancing'* challenge, to better understand government intervention in this area, and to characterise where and how spatial and sectoral '*rebalancing'* or '*balance'* has (or has not) been achieved in the past.

1.3 Approach and methodology

This study was based on an extensive review of relevant conceptual, empirical, policy and evaluation literature from the UK and abroad, complementary international case study work, and formal projection analyses using an established econometric model. As part of the study, a typology of interventions was also developed to help classify the different types of actions that had been introduced to assist in economic *'rebalancing'*, reflecting the intensity of intervention by the public sector, and the extent to which actions were tangible, intangible or a mix of both.

The first stage of the work, completed during December 2010, involved a detailed Scoping Phase to establish the dimensions of the evidence base for review, and potential international case study candidates from which learning might be usefully gained. A set of search terms and search engines, agreed with the UK Commission, was used systematically to generate a 'long list' of relevant written evidence, which was subsequently concentrated into a 'short list' of 80 key sources of literature for review and analysis. Further details of the sources included are provided in the bibliography at the end of this report. At the same time, a review proforma was developed in consultation with the UK Commission by which each piece of literature could be reviewed on a consistent basis against the study's research questions, as set out above.

A Scoping Paper was produced and agreed with the UK Commission in early January 2011, characterising in headline terms the proposed evidence base for review, the review proforma to be used, and the international case studies ultimately chosen for exploration[2]

The Main Research Phase, completed during January and February 2011, comprised five complementary strands of work:

- Formal, detailed review of approximately 80 key documents, which was completed prior to the publication of the government's Budget and Plan for Growth in March 2011;
- International case studies of *'rebalancing'* experiences in Finland, Germany, Korea, Netherlands and Sweden[3];
- Development of a typology of interventions to classify and organise the various types of *'rebalancing'* interventions generated from the literature review and case studies;
- A detailed assessment of the scale and nature of the *'rebalancing'* challenge in the UK and international case study countries;

[2] Volume 2 of this report contains an explanation of how the case studies were selected.
[3] Many of the international examples or comparisons provided in the report are drawn from these case studies, but this is not to say that other countries could not be used as comparators.

- Finally, the development of three projections of the impact on the sectoral and spatial balance of the UK under different policy scenarios.

1.4 Report structure

This Volume 1 main report is structured as follows:

- Section 2 characterises the scale and nature of the '*rebalancing'* challenge in the UK. It presents the quantitative and qualitative evidence on the dimensions of the challenge and how it has changed over time, and highlights the extent to which the UK's *'rebalancing'* challenge is shared by other countries. It also explores how '*rebalancing'* is variously defined, and summarises views on the drivers and causes of imbalance in the literature.
- Section 3 considers the rationales and policy arguments for active public sector intervention to address sectoral and spatial rebalancing, and the various spatial level(s) at which past interventions have been introduced.
- Section 4 presents a summary of the practical types of *'rebalancing'* actions yielded by the literature review and the international case studies that have been implemented in the UK and abroad. The findings are organised using the typology of interventions developed for this study.
- Section 5 considers how moves towards a *'rebalancing'* future might be practically achieved, based on evidence of past interventions to address sectoral and spatial imbalances. It discusses what works (or not) in achieving better balance, and why, with an emphasis on practical and relevant learning for skills and other policy and interventions.
- Section 6 models the potential impacts on spatial and sectoral *'rebalancing'* arising from three different policy scenarios at the level of the UK as a whole. The section illustrates the extent to which a microeconomic *'rebalancing'* challenge may still remain, even where macroeconomic *'rebalancing'* has been achieved.
- Finally, Section 7 presents the study's conclusions, implications for action, particularly for skills and employment policy, and highlights potential future research to further fill gaps in understanding.

Following the Bibilography, the report is supported by two appendices:

- Appendix A sets out our approach to devising a typology of *'rebalancing'* interventions, and offers more detail on the types of actions that fall into each category of the typology.

- Appendix B provides a description of CE's Multisectoral (MDM – E3) Model.

In Volume 2 of this report, we present the five international case studies on the nature of the '*rebalancing'* challenge and how it has been addressed in those countries. This includes a summary of how, and why, the case study countries were selected.

2 The scale and nature of the *'rebalancing'* challenge in the UK

2.1 Introduction

To set the scene for the wider report, this section characterises the scale of the '*rebalancing'* challenge that the UK faces. It opens with a *quantitative* analysis of key economic and data variables to characterise the scale of the *'rebalancing'* challenge in the UK. Indicators of *macroeconomic balance* are first reviewed, followed by indicators of *sectoral* and *spatial* balance This is followed by a *qualitative discussion* of the causes of sectoral and spatial imbalance in the UK. Both the qualitative analysis and the reflective discussion that follows are based on the data sets and literature reviewed for the study.

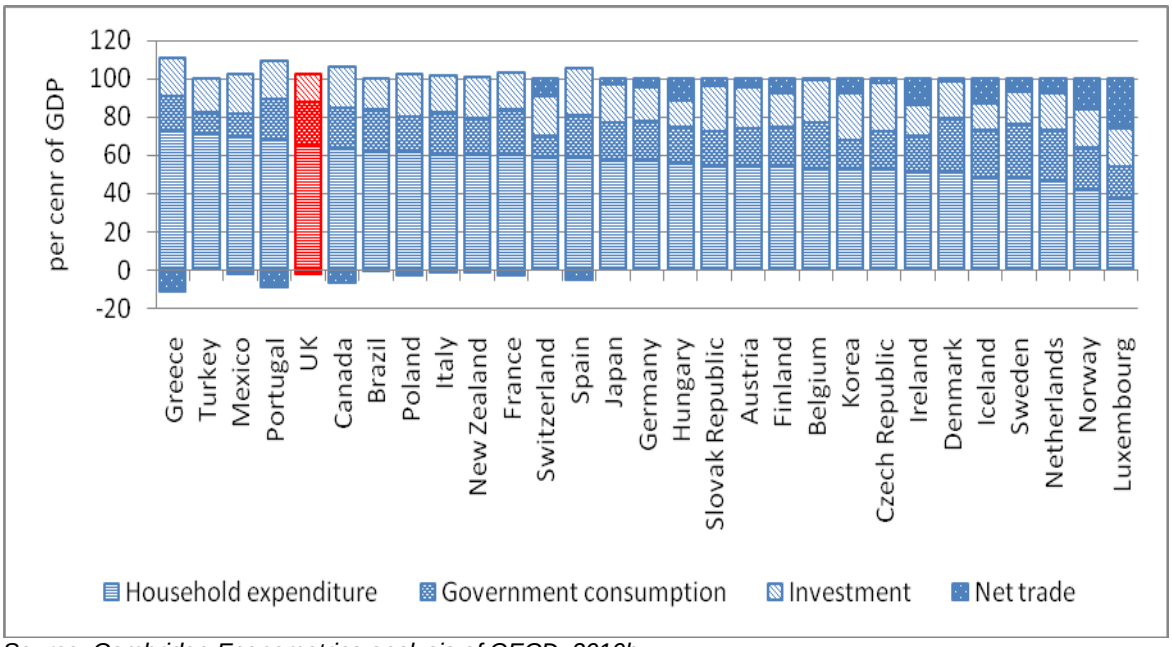
2.2 Macroeconomic balance

Recent trends in particular macroeconomic indicators have prompted the current political discussion of *'rebalancing'* the UK economy. The following are the key dimensions of macro imbalance identified by the government (see BIS, 2010k) and a wide range of expert commentators:

- According to the Organisation for Economic Co-Operation and Development (OECD) by 2007 the UK had the largest government structural deficit of any G7 economy. The government deficit widened to more than 12 per cent of GDP by 2009; one of the largest government deficits of the OECD countries.
- Relatively large shares of UK Gross Domestic Product (GDP) are accounted for by household and government consumption, 64 per cent and 22 per cent respectively on average during the 2000s. Similarly large shares of household and government consumption are typical of several other developed economies such as Canada, New Zealand, and in Europe, France and Italy (see Figure 2.1). Brazil also has a relatively high contribution to GDP from household and government consumption. Government consumption typically accounts for a large component of GDP in Scandinavian countries, but in countries such as Luxembourg, Norway, Finland and Korea household consumption as a proportion of GDP is comparatively low.
- Business investment as a share of GDP fell to 10.5 per cent in 2000-08 (compared to 11.7 per cent during 1990-99), which is below the share in the US, Canada, Japan, Germany and France. Furthermore, the contribution of business investment to GDP growth has also declined (to 1/8 of GDP growth in 2000-08, which compares to 1/3 in Germany) (BIS, 2010 l).

- There has been a persistent trend (since the early 1970s) for net trade[4] to make a negative contribution to UK growth and this is reflected in its sustained current account deficit. During 2005-09, the UK current account deficit averaged 2.3 per cent of GDP per annum (pa), a slightly higher proportion than the OECD average (see Figure 2.2). Net trade made a substantial positive contribution to GDP growth in many of those OECD countries that achieved the highest GDP growth over the past 10-15 years (e.g. Ireland, Slovakia, Luxembourg, Korea, Israel, and Iceland).

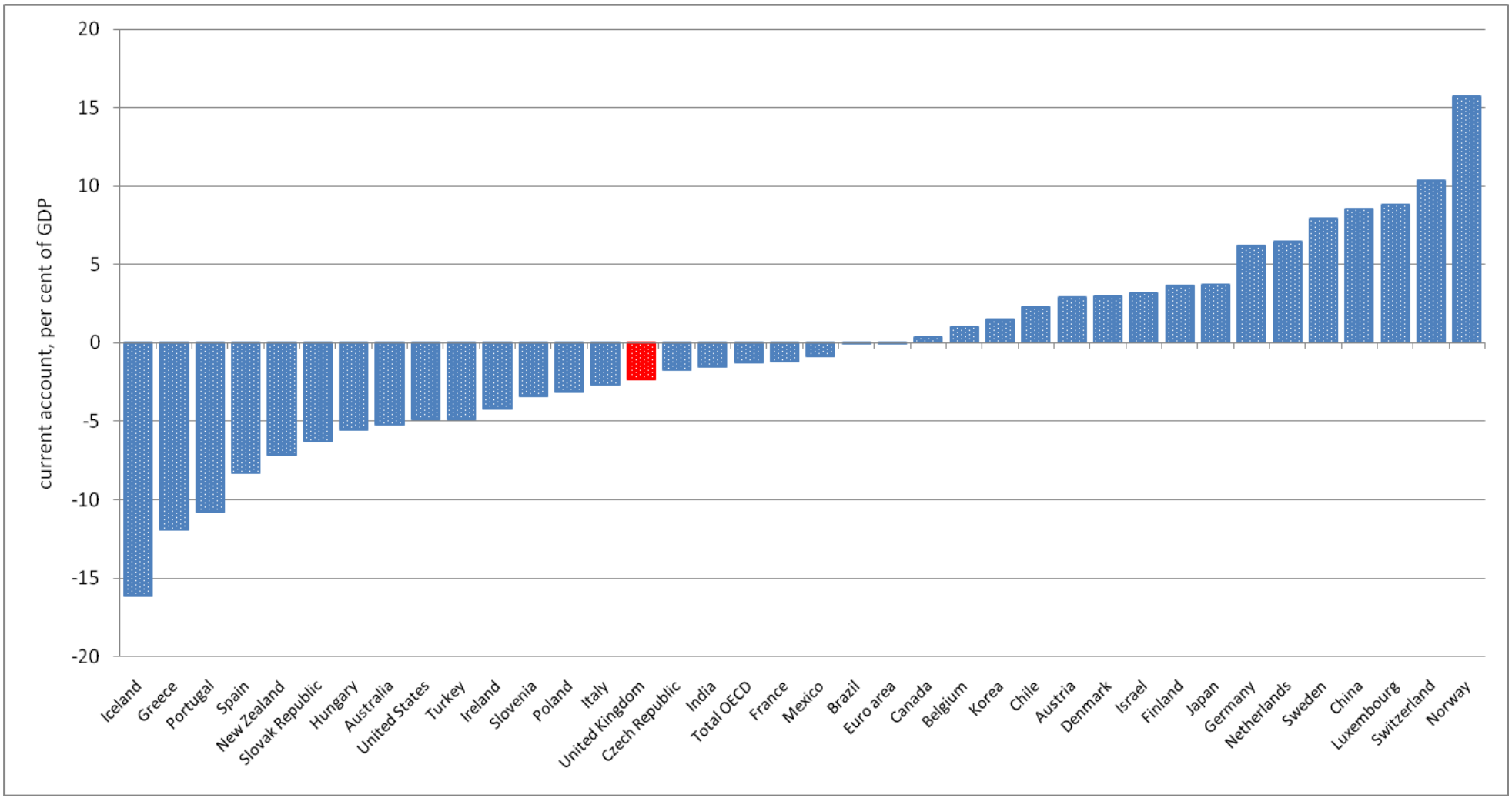
Figure 2.1 Expenditure components of GDP, 2009



Source: Cambridge Econometrics analysis of OECD, 2010h

[4] Net trade is the difference between exports and imports.

Figure 2.2 Current account balances, per cent of GDP (average 2005-09)

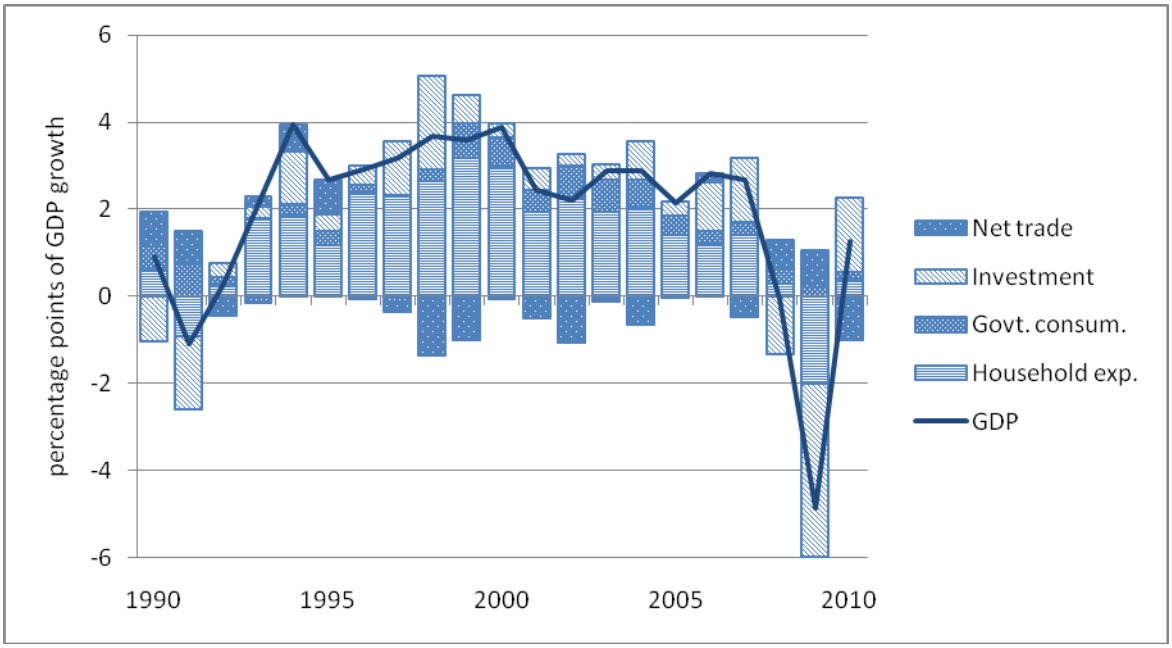


Source: Cambridge Econometrics analysis of OECD, 2010h

Some aspects of imbalance are not new. Indeed, some have persisted for decades (e.g. the large proportion of GDP accounted for by household expenditure and the current account deficit). Others have shifted and changed over time in response to policy, global trends and/or other drivers of growth, and specifically in response to the global financial crisis of 2008. Such changes are illustrated by Figure 2.3, which shows UK GDP growth in the 1990-2010 period and the contributions that each economic component made to overall GDP growth. The larger the component's share in overall GDP and the faster the growth of that component, the greater was its contribution to GDP growth. The current account and government balances are shown for the same period of time in Figure 2.4.

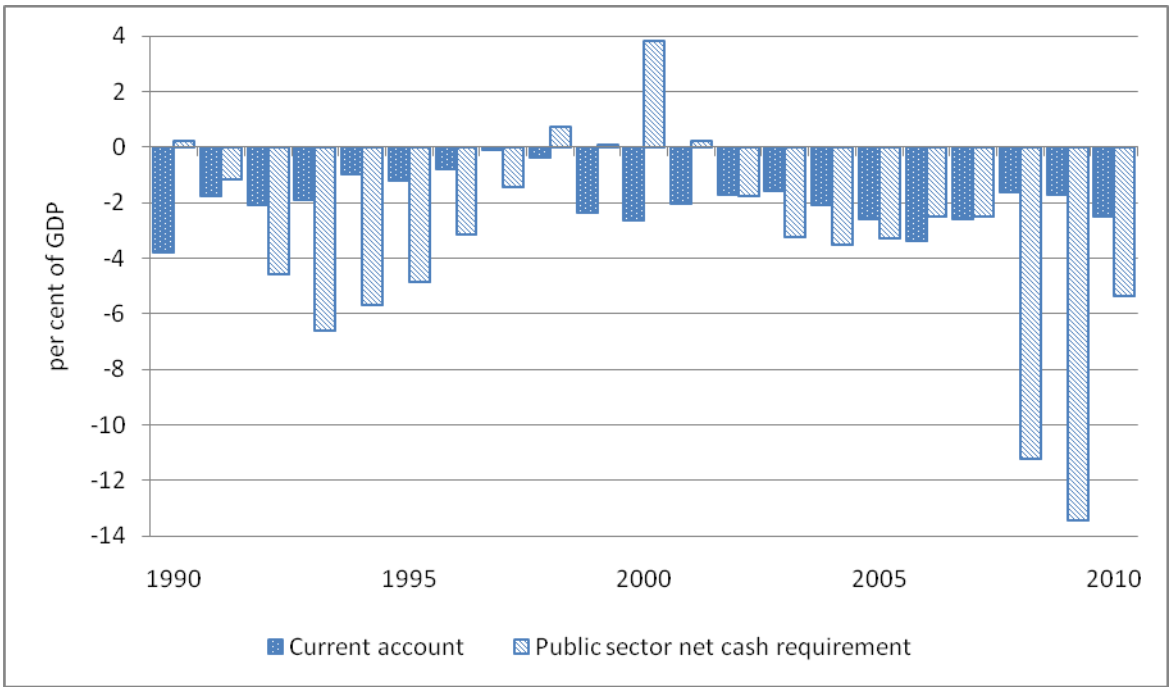
In the early 1990s, the UK's recovery from the recession was aided by the depreciation of sterling in 1992. The international competitiveness of UK exports was consequentially boosted so that net trade made a positive contribution to GDP growth. The current account deficit narrowed from 4-5 per cent of GDP at the end of the 1980s to around 1 per cent by the mid-1990s (see Figure 2.4). The small contribution to GDP growth made by government consumption (see Figure 2.3) reflects the tight stance of fiscal policy during the early 1990s; however, the aftermath of the early 1990s recession exacerbated public borrowing (see Figure 2.4).

Figure 2.3 The composition of UK GDP growth 1990-2010



Source: Cambridge Econometrics analysis of ONS, 2010

Figure 2.4 The external and government balances 1990-2010



Source: Cambridge Econometrics analysis of ONS, 2010

In the 1995-2000 period, the strong growth of household spending and investment drove robust GDP growth of 3.5 per cent pa. Household and business confidence was bolstered by rising property and stock market prices, and domestic expenditure increased more rapidly than did income. The household saving ratio fell from more than 10 per cent in 1995 to less than 5 per cent by 2000. Export growth continued at pace, but import growth accelerated to satisfy the strength of domestic demand; consequently the contribution of net trade became negative and the current account deficit began to widen once again. Strong economic growth and tight fiscal policy contributed to an improvement in the public finances; a surplus was achieved by 2000.

During the 2000-2007 phase, GDP growth moderated but was sustained, interest rates remained relatively low, and the deficits widened on the balance sheets of households, government and the current account. Through expansive fiscal policy, government spending was a significant driver of GDP growth and public borrowing began to grow gradually. Export growth slowed, net trade continued to be a drag on GDP growth and the current account remained in deficit. In an environment of relatively low interest rates and steady growth, households funded their continued spending by drawing further on savings and expanding debt; by 2008, the saving ratio had fallen to its lowest level since the 1950s.

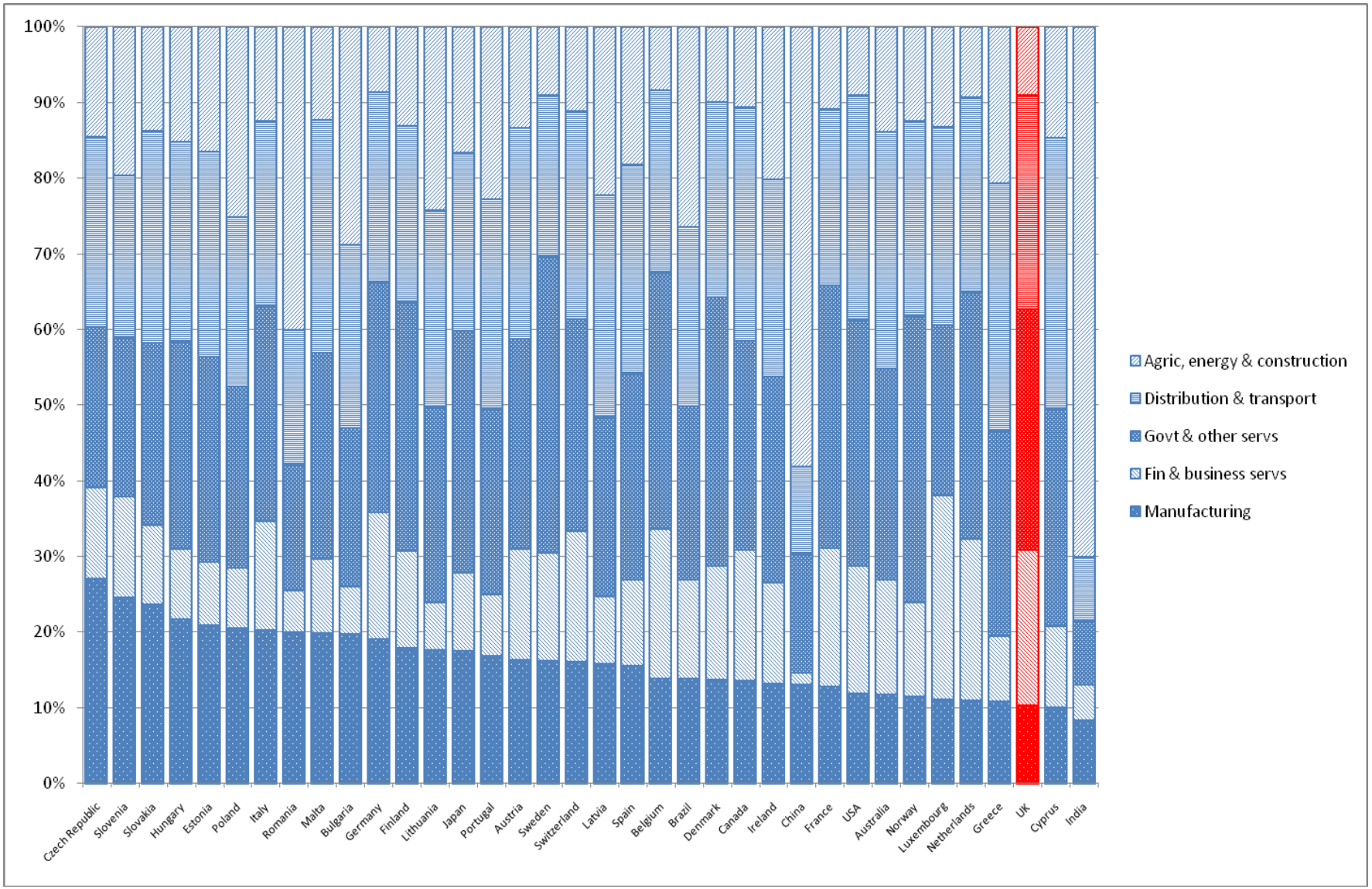
The financial crisis brought about large shifts in the balance sheets of the corporate sector, households, government and the current account during 2007-09. Already in healthy surplus at the outset of the crisis, the collapse of corporate investment has further boosted the surplus on the balance sheets of (non-financial) companies. There was a sharp shift from deficit to surplus of household finances, because households swiftly cut spending to rebuild their savings. Following the policy measures implemented in the aftermath of the global financial crisis, the government deficit widened markedly. The initial support to financial markets (such as asset purchases, Asset Protection and Credit Guarantee Schemes) amounted to substantial expenditures and the temporary cut in the rate of Value Added Tax (VAT) put a squeeze on revenues. Subsequently, the current account deficit has narrowed a little. The balance of trade improved, partly because the fall of imports (due to weaker UK demand) was larger than that of exports (resulting from the collapse of global demand).

2.3 Sectoral balance

Against this long run macroeconomic context, this section turns to issues of balance in the UK's sectoral structure. The following key points have been extracted from the evidence:

- The public sector accounts for a relatively large share of the UK economy, both as a share of total (value added) output (19 per cent), and even more so as a share of the total number of jobs (27 per cent, see Figure 2.5). This is comparable to the share of public sector employment in the USA. Those countries with the largest share of employment in the public sector (more than one-third of all employment) include the Scandinavian countries, France, Belgium, and the Netherlands. Public sector employment is comparatively lower in places such as Luxembourg, Brazil, Czech Republic and Poland.
- Financial services also accounts for a relatively large proportion of economic activity: 22 per cent of output and 24 per cent of jobs. Financial services' share of employment in the UK is only exceeded in Luxembourg amongst European Union (EU) Member States and comparable to that of the Netherlands.
- Manufacturing accounts for a diminishing and now relatively small proportion of economic activity: 11 per cent of output and 9 per cent of jobs, lower than in all other EU countries. The more recent accession states continue to have a relatively high share of manufacturing employment, as do several long-standing Member States such as Italy (20 per cent) and Germany (19 per cent).

Figure 2.5 Shares of employment by sector, 2006

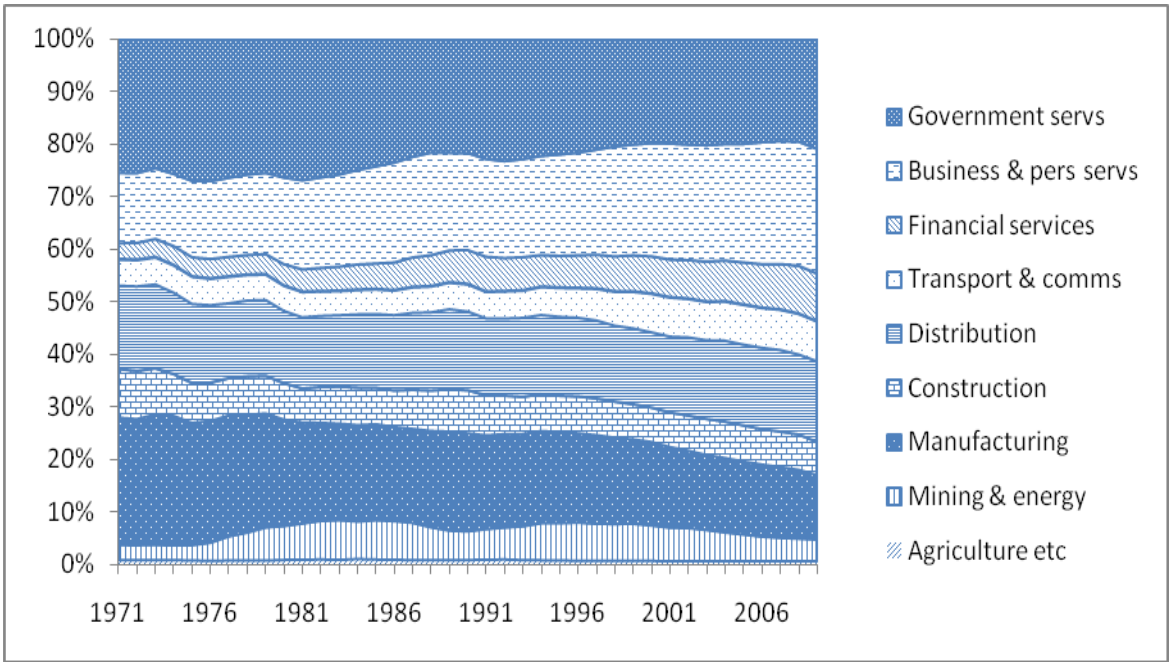


Source: Cambridge Econometrics, 2010

Changes in the sectoral structure of the UK economy, reflecting some of the macroeconomic trends described above, have persisted over the last 30 years or so. In decomposing these changes, the following points are noteworthy:

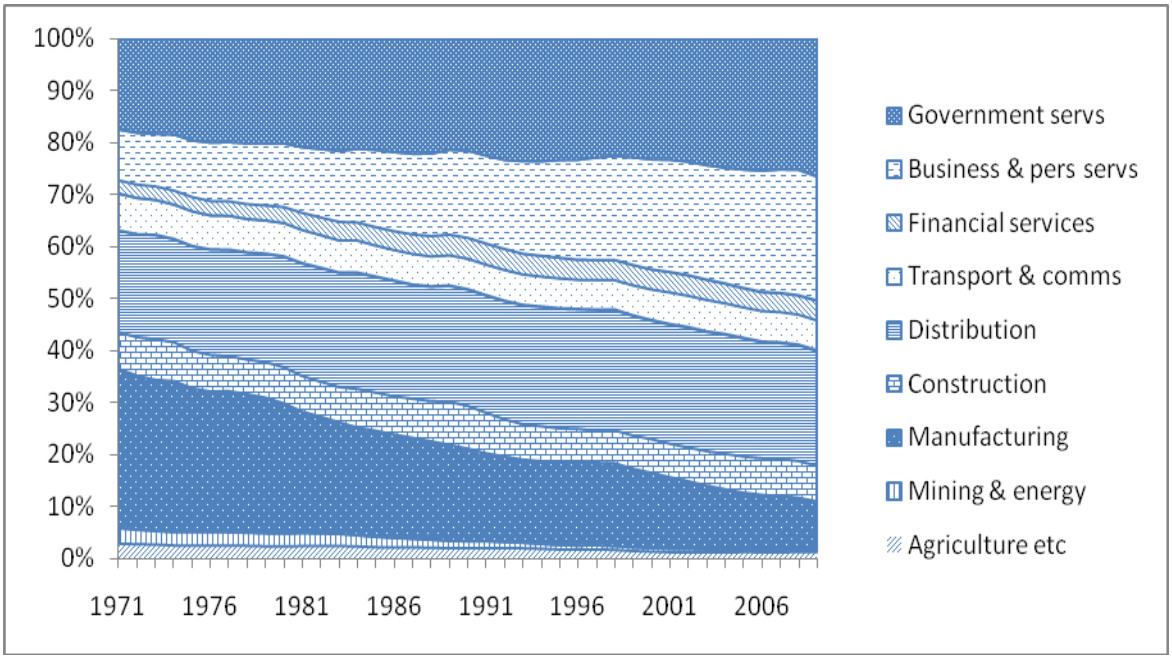
- Since the early 1970s the share of output accounted for by the UK public sector has shrunk a little, but the share of employment has increased (see Figures 2.6 and 2.7). At the time of expansionary fiscal policy from the late 1990s to the mid-2000s, the number of jobs in the public sector increased more rapidly than did the number of jobs in the private sector.
- Reflected in the sustained deficit in the balance of trade in goods, the share of manufacturing (a highly traded sector) in the UK economy has been falling persistently since the early 1970s; the share of employment has fallen faster than that of output because those manufacturing activities that remain have made increasing gains in productivity.
- The output of financial services grew rapidly during the latter half of the 1980s attributed by many commentators at least in part to financial deregulation. Through the 1990s until the financial crisis, the UK had a growing surplus in the balance of trade in services, brought about through the growth of exports in tradable services. The exports of financial services picked up from the late 1990s and the share of this sector in total output expanded further. Although financial services have made a strong contribution to output growth since the 1990s, its share of total jobs has not increased.
- According to BIS (2010j), the UK stands out compared to the EU average as having a disproportionately large contribution to output growth in recent years from the financial and business services sectors. In addition, the UK is now the world's second largest exporter of services (HM Treasury and BIS, 2011).
- Other business and personal services have been growth sectors with regards to jobs; taking the two sectors together, the share of output has risen from 18 per cent to 22 per cent between 1990 and 2009 and the share of jobs from 17 per cent to 24 per cent. Other business services (including professional services such as architecture, accounting, real estate, and support services such as security, cleaning) have been boosted by activity in the property market, the increased demand from financial services, outsourcing and overseas demand. Personal services (and also retailing, distribution, hotels & catering) have benefitted from the sustained growth of UK household spending.

Figure 2.6 UK value added output by broad sector, 1971-2009 (per cent of total output)



Source: Cambridge Econometrics analysis of ONS, 2010

Figure 2.7 UK employment by broad sector, 1971-2009 (per cent of total jobs)



Source: Cambridge Econometrics analysis of ONS, 2010

2.4 Public–private balance

The previous section highlighted that in the UK the public sector accounts for a relatively large share of the economy. Figures 2.6 and 2.7 show that since the early 1970s, the public sector (government services) share of output had shrunk from 25 per cent to 20 per cent by 2009, but the share of employment increased from 17 per cent to 27 per cent. **This indicates that productivity (as measured by value added output per job) of government services declined over this period. The growth of the public sector, in terms of employment, has largely taken place over the last decade,** although some (such as CRESC, 2011) argue that the incapacity of the private sector to create jobs has occurred since the 1980s.

2.5 Spatial balance

Looking at balance from a spatial perspective, the UK can be characterised as follows:

- Spatial variation in prosperity[5] across the UK remains high compared to that in many other EU countries.
- Much growth and prosperity is concentrated in London and the adjoining regions together forming the Greater South East. This has been the case for many decades and the long-term trend is that regional disparities have continued to widen. London's role as one of the three world cities globally will always mean that its position in the specific UK context is different.
- Those nations and regions with the highest proportion of high-skilled workers have relatively high Gross Value Added (GVA) per capita, productivity and earnings; those with high proportions of no or low-skilled workers have relatively low employment rates.
- The variation in productivity rates across the UK's nations and regions reflects industrial specialisation, for example the concentration of high value-added financial and business services contributes to high productivity in London, but also a wide range of agglomeration effects that contribute to spatial concentrations of economic activity[6].
- At the sub-regional level, the disparities in prosperity and labour market outcomes are even more pronounced than at the national and regional level, with areas of very significant wealth often being side by side with locales experiencing deprivation and need. This is especially so in the major cities (for

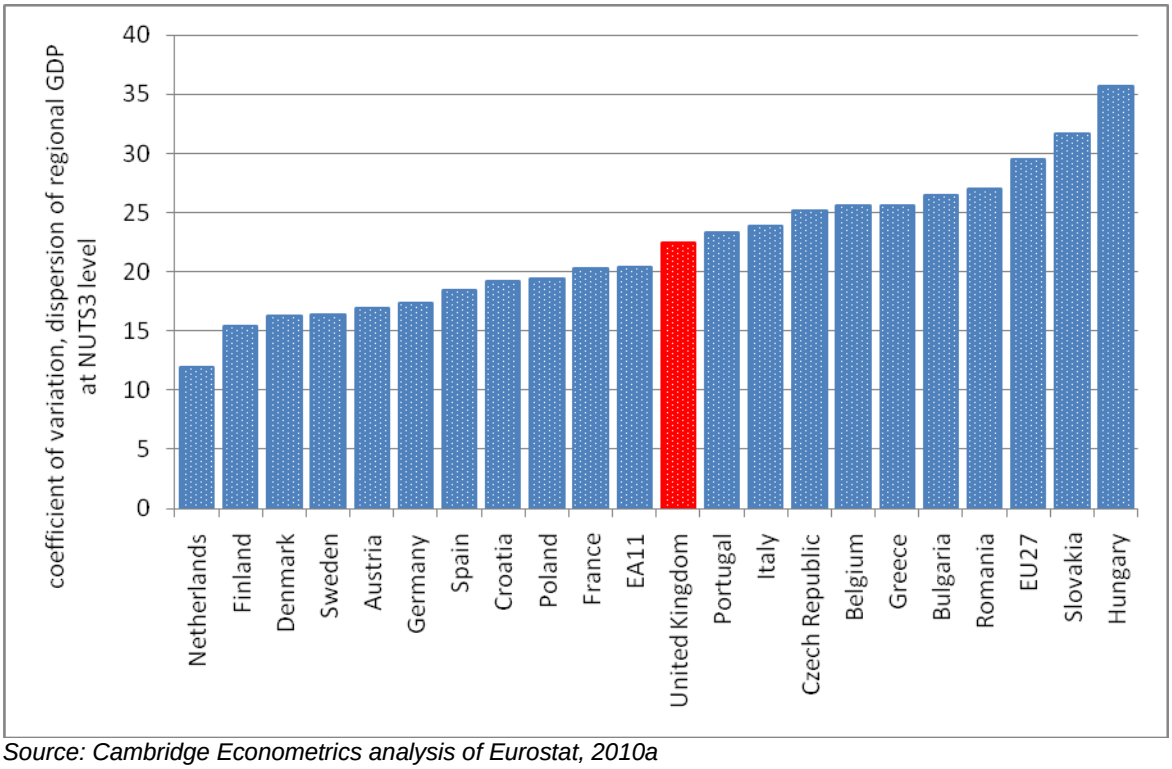
[5] Spatial variation in prosperity is measured by the variation in wealth (GDP per capita) across the different (NUTS3) sub-regions within each EU member state.
[6] Agglomeration effects refer to the economic benefits that firms obtain when locating near to each other. Agglomeration is further discussed in *3.3 Underpinning theories of growth.*

example, localities within London) and this significant variation has persisted over a long period of time.

The following paragraphs discuss some of these overarching characteristics of spatial balance in more detail.

The headline indicators of economic inequality show that income distribution in the UK is less equal than that in the euro-zone and the OECD average (see Figure 2.8) and has not improved in recent years. This contrasts with the EU11[7] (core euro-zone countries, which exclude the most recent accession countries) as a whole, where the variation in sub-regional GDP per capita diminished between 1995 and 2005, but is likely to have widened during the recent recession. At the end of the 1990s, sub-regional variation in GDP per capita in the UK became more pronounced than the euro-zone average, and remained so until the mid-2000s.

Figure 2.8 Sub-regional variation in GDP per capita, 2005



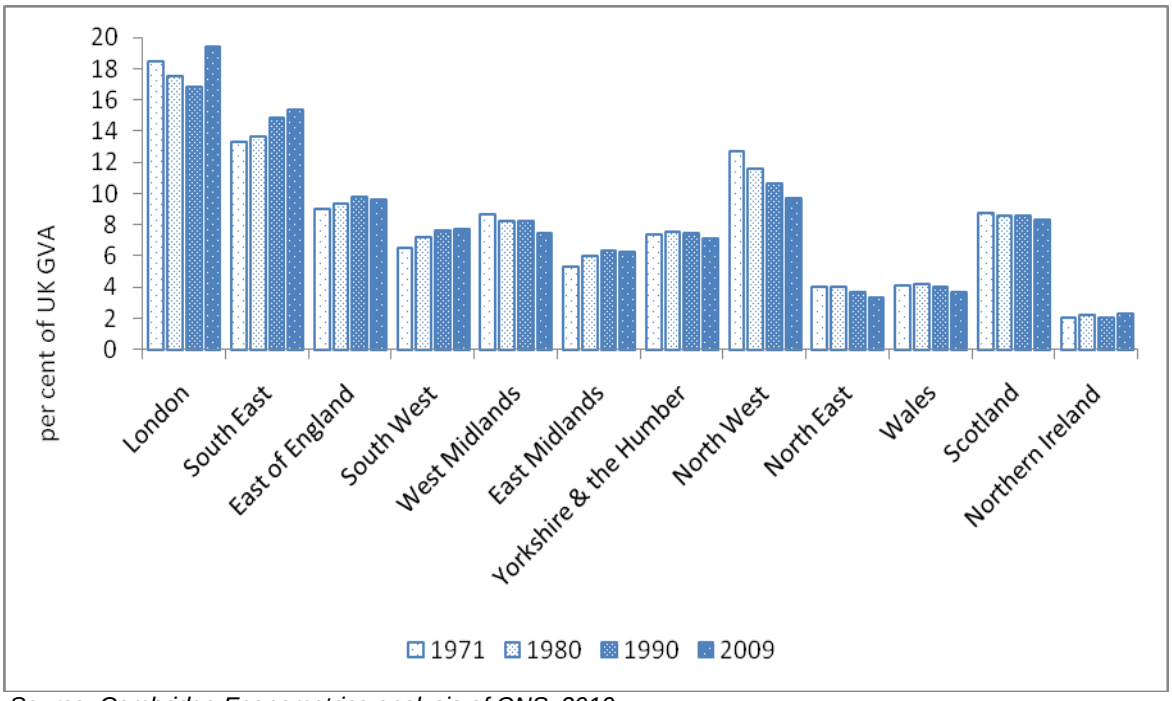
Source: Cambridge Econometrics analysis of Eurostat, 2010a

Reflecting its world city status, much growth and prosperity is concentrated in London and the adjoining regions, a situation which has persisted for many decades. Indeed, BIS (2010j) notes that London's GVA per head has consistently been higher than the rest of the country for the last 140 years. Some other world cities, for example the capital region of Seoul in South Korea[8], have similarly dominant concentrations of population and economic activity.

[7] The EU11 is Belgium, Germany, Ireland, Spain, France, Italy, Luxembourg, Netherlands, Austria, Portugal, Finland.
[8] See case study for Korea in the Volume 2 report.

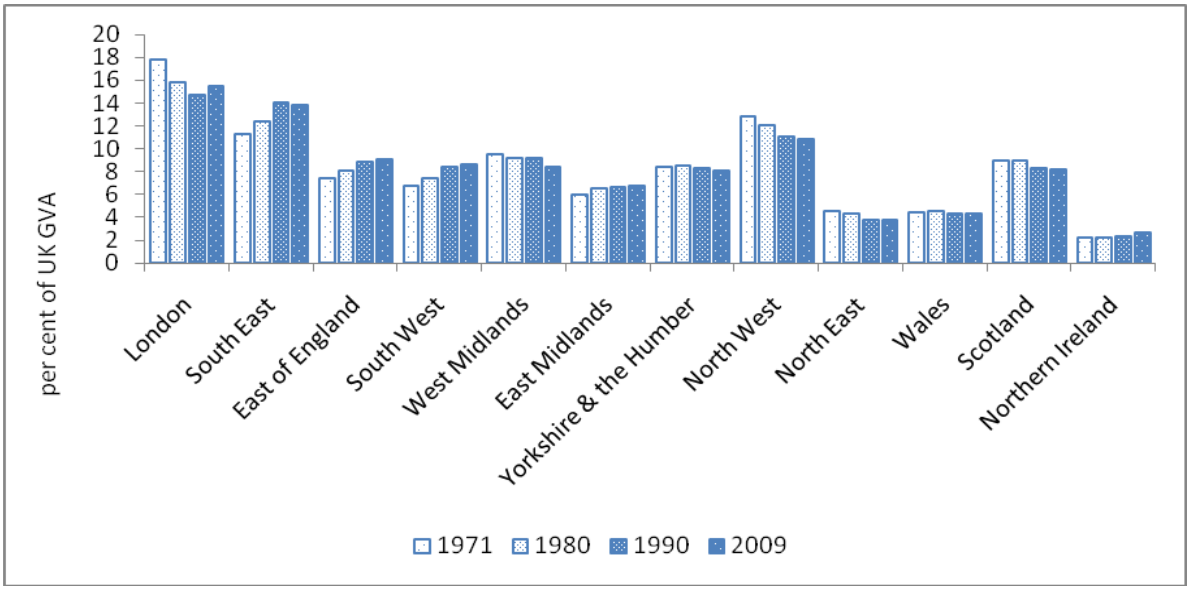
London and the South East now account for almost one-third of UK GVA and this share has grown steadily since the early 1990s (see Figure 2.9). The general trend since 1971 has been faster than UK average growth in the economies in the south of England and the East Midlands so that their shares of UK GVA have expanded at the expense of the northern regions, Wales and Scotland. The notable recovery in London's share of the UK economy since 1990 has been driven by the expansion of financial and business services. Also notable is the upward trend in the relative size of the South East economy alongside the decline in the share of the North West economy (and more recently the West Midlands, North East and Wales). The same general trends are present in the changes in the regional pattern of jobs (see Figure 2.10), although the recent growth in London's relative position is less pronounced (because of the scale of in-commuting to London). The productivity gap has also been growing strongly and, as BIS (2010j) reports, the gap between London and the least productive region expanded from 55 per cent to 80 per cent between 1993 and 2008.

Figure 2.9 Regional shares of UK GVA



Source: Cambridge Econometrics analysis of ONS, 2010

Figure 2.10 Regional shares of UK jobs



Source: Cambridge Econometrics analysis of ONS, 2010

Private sector jobs growth has also been concentrated in London and the South East. As noted by the Centre for Cities (2010b) 'for every private sector job generated in the North and Midlands between 1998 and 2008 ten were created in London and the South[9]'. As a result, the share of private sector jobs in London and the South East has been rising (whereas in the North and Midlands it has been falling) and London has generated 34 per cent of new private sector jobs since 1998 (ibid). Figure 2.11 shows that, during 1998-2006 when employment growth in the public sector was particularly strong, much of the employment growth in English regions outside of London/the South and Scotland was attributable to jobs created in the public sector.

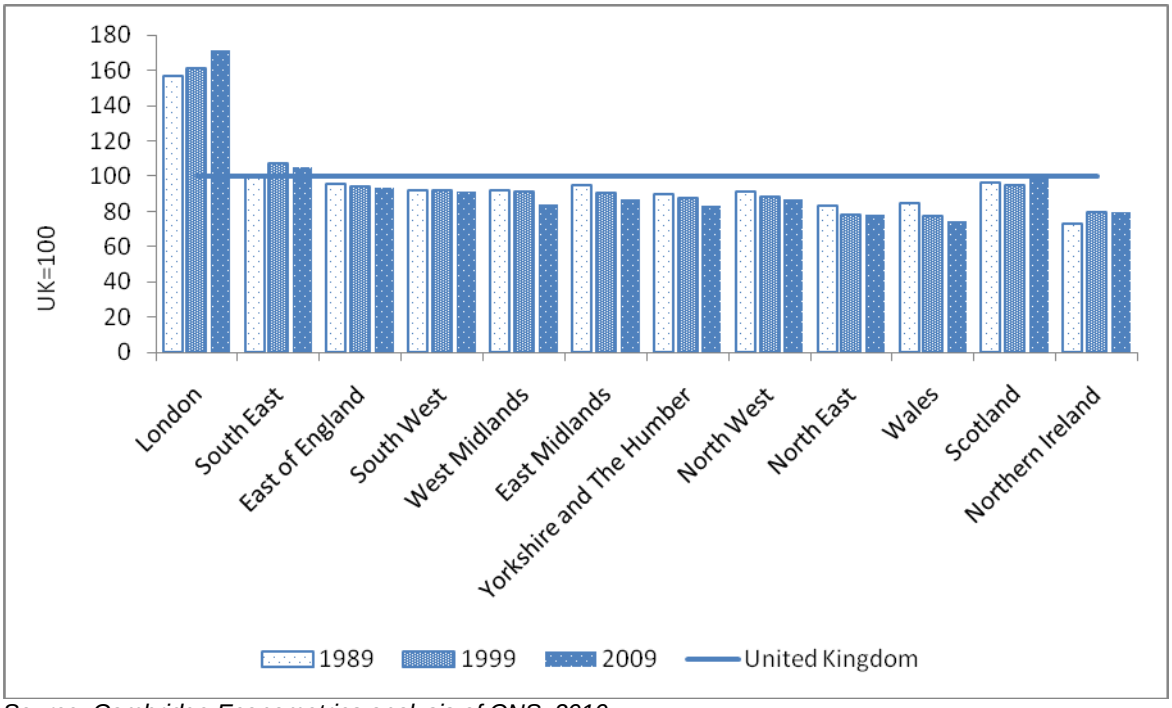
Figure 2.11 Public versus private sector jobs growth 1998-2006 by region

Source: Cambridge Econometrics analysis of ONS, 2010

[9] The South here refers to the South East, East and South West regions of England.

These patterns of GVA and employment growth feed through into the relative levels of national and regional GVA per head (see Figure 2.12). Over the last two decades, only London and the South East have achieved GVA per head at or above the UK average. Elsewhere, since 1989 only Scotland and Northern Ireland have made any gains to narrow the gap.

Figure 2.12 Regional GVA per head



Source: Cambridge Econometrics analysis of ONS, 2010

2.6 Defining the '*rebalancing*' challenge – an 'optimal' balance?

We now turn to the evidence base to see how *'rebalancing'* is defined, whether an 'optimal balance' is possible, and what the key drivers and causes of imbalance are assessed to be. Our focus here is on sectoral and spatial '*rebalancing'*, but it should be noted that the challenge around the balance of economic, social and environmental outcomes is seen by some commentators as equally important.

'Balance' is far easier to define and measure at the macroeconomic level, and there is broad agreement across the literature reviewed for this study that correcting fiscal and trade deficits towards some kind of 'equilibrium' will lead to positive outcomes for an economy.

At the microeconomic level, however, there is no single definition of '*rebalancing'*, or common agreement on what this means. The concept is often used as a metaphor for a preferred 'direction of travel', rather than a condition or 'end point' that can be achieved, across a wide myriad of economic measures, including GVA growth or GVA shares, job creation, prosperity and even incomes depending on the protagonist's perspective. The

Department for Business, Innovation and Skills (BIS) expressed the challenge in its recent White Paper on Local Growth (2010f, p.5) in the following terms:

> to create a fairer and more balanced economy, where we are not so dependent on a narrow range of economic sectors, and where new businesses and economic opportunities are more evenly shared between regions and industries...

More recently, the government's Budget in March 2011 aims to "support balanced economic growth and job creation" and The Plan for Growth (published alongside the Budget) again sets out the government's economic policy objective "to achieve strong, sustainable and balanced growth that is more evenly shared across the country and between industries". As above, the emphasis is on achieving a more balanced economy, but this Plan clearly anticipates that investment and exports will play a central role in achieving this objective, through attracting Foreign Direct Investment (FDI) and trade/exports, increasing private sector employment outside London and the South East, and increasing investment in low carbon technologies.

At the same time, BIS acknowledges that it is not possible to specify exactly what a '*rebalanced*' economy might look like or how long it might take to achieve. This is generally the case across the reviewed literature which does not provide a rigorous definition of 'optimal balance' in the micro context. On the contrary, the literature contains more discussion on what an optimal balance is not. This is reflected in the government's Strategy for Sustainable Growth (BIS, 2010k, p.8):

> There is no wide agreement on what the optimal balance between regions and sectors should be.
>
> It would be unrealistic to expect regions to all have the same level of income per head, and both structural and wider geographical and sociological forces will mean that different regions enjoy differing periods of growth over time. But the extent and persistence of present imbalances mean we are not maximizing our overall potential…

This suggests that the government sees the need for *'rebalancing'* without necessarily being in a position to be able to, or want to, define what a balanced economy looks like in any sectoral or spatial detail. However, clearly the view is that persistent imbalances need to be addressed because they restrict the growth and development of the economy and (in terms of spatial '*rebalancing'*) represent the under-utilisation of assets across nations, regions and localities. ***'Rebalancing'* is therefore a legitimate concern to ensure that the potential for growth and development is maximised.**

2.7 Defining sectoral *'rebalancing'*

In terms of sectors, there is some consensus on the need for diversification of the UK economic base, but there is considerable debate over which direction the *'rebalancing'* process should take.

BIS argue that the economy needs to shift from non-traded to tradeable goods and services, and from financial services towards manufacturing and the production of 'real goods and services', with the expectation that this will contribute to current account balance *and* GVA growth. A shift towards knowledge and innovation intensive activities is referred to as 'industrial upgrading' or 'reindustrialisation' by some (Chowdhury, 2009; CEPR, 2010). In some countries, such as France, the need for this kind of sectoral shift has been embedded in policy aspirations. For example, the French government has set an explicit growth target of 25 per cent for manufacturing over the next five years (NESTA, 2010). Other countries prioritise particular sectors (e.g. green energy in Germany, and telecoms in Finland and Sweden) but few have set such explicit targets as France.

That said, some commentators argue that such shifts and reversals of trend are unlikely to be achieved at the scale required. For example, an article by Groom for the Financial Times (2010) quotes Tim Leunig's view (LSE) that "the idea that Britain is going to turn round a global secular trend in manufacturing employment rates is just not credible". Others, like Patrick Minford of Cardiff Business School, argue that contemplating such a shift would be to deny the UK's comparative advantage, which lies primarily in services (ibid).

BIS (2010 l) and others, such as McKinsey (2010b), Oxford Economics (2009), and IPPR (2009), argue that the economy should not become over-reliant on a narrow sector base (whatever sector(s) these might be) because that makes the economy more vulnerable to the shocks and uncertainties of the globalised economy. Rather, the argument is made that places should diversify into 'productive, broad-based and resilient' economies (McKinsey, 2010b). Even in countries that some commentators perceive to have better balance (such as in Finland and Germany, where the share of manufacturing jobs is considerably higher than the UK), there remain concerns about the vulnerability of economies which are significantly dependent on any one sector or employer.

A further strand in the argument about sectoral balance is that certain segments of the economic base matter more than others from a growth perspective, an argument which is made in some academic studies and embodied in the policies of some overseas governments. This relates back to debates in the economic literature about the role of technology in the growth of advanced economies (e.g. NESTA, 2010), and the potential

that some sectors have for generating innovations and disseminating them through the rest of the economy. The sectors often identified as playing this role are those that are high skilled in content and R&D/innovation intensive, operating in competitive conditions with an influence that percolates through the economy, typically through supply chains. They are usually seen to be associated with Information Technology and other enabling technologies (such as materials and life sciences).

In summary, there appear to be two particular arguments that suggest that sectoral balance matters, even in an economy with fully utilised resources. The first is that a highly specialised sectoral economy is less likely to be resilient to shocks, and the second is that an advanced economy that has specialised in sectors that do not generate much by way of innovation that benefits other sectors is likely to have constrained its longer term growth potential.

Cutting across both of the arguments above, some commentators (e.g. McKinsey, 2010c) believe that, regardless of the sectoral balance, **what really matters is the quality of resource that is committed to the workplace, and its management in whichever sector they happen to be located**. This is linked to the argument for *'rebalancing'* the economy from low to high value functions, products and services in order to maximise the utilisation of skills and improve the productivity of the workforce, without specifying a preference in sectoral terms. The EC (2008b) emphasises the need to restructure the workforce in qualitative terms (i.e. skills and qualifications required) and quantitative terms (the number of jobs) to remain competitive, particularly in higher-skilled activities where the EU has a comparative advantage. The key imperative from the EC's view is the need to anticipate and manage change, especially in the capability and skills of the workforce, in order to limit any negative effects of sectoral restructuring.

2.8 Defining public-private '*rebalancing'*

The debate on *'rebalancing'* between public and private sectors is more clear cut. This predominantly relates to the redistribution of jobs between public and private sectors, i.e. expanding private sector job opportunities and a moving away from over-reliance on the public sector for job creation. This has been the focus of recent work by the Centre for Cities (2010c), which reflects on how private sector employment generation varies greatly across England, and some cities are now much better placed to create private sector jobs than others.

2.9 Defining spatial *'rebalancing'*

In terms of spatial '*rebalancing'*, addressing regional disparities, gaps, inequality, and uneven development in issues such as GVA growth, GVA per head, accessing economic opportunities and the quantity and quality of employment are now rearticulated as matters of 'balance'. However there is some difference in terminology between:

- *redistributing growth*, inferring a shift from one place to another, for example the World Bank refers to the spatial distribution of growth;
- *convergence*, BIS talks about convergence in productivity and employment levels between regions (and convergence in GVA per head under the previous government), and the EC refers to convergence to reduce the gaps in GDP per head, employment and unemployment rates;
- *raising the performance of particular places to address issues of underutilisation of economic potential and resources* compared to the productive capacity of the economy, and enabling all regions to realise their potential according to the EC, OECD and BIS (whether this results in convergence or not).

The concern about the asset underutilisation consequences of spatial imbalance appears to be shared across countries, although, as above, not always described in these terms. Spatial policies are increasingly focused on growth, competitiveness and balanced development, rather than redistribution (OECD, 2010d). Some countries have a constitutional commitment to territorial balance. For example, Germany has a constitutional commitment to ensure the 'uniformity of living standards' on the basis that improving the performance of weaker regions will benefit the national economy, and so ensures that macroeconomic conditions, policies and specific micro level assistance are conducive to this aim. In Korea, the Fourth Territorial Plan (2000–2020) refers explicitly to the objective of balanced territory as a basic goal, together with an open territory, sustainable territory and reunified territory (see Case Study in Volume 2), and in Italy, the aim of socio-economic '*rebalancing'* has been an explicit objective of the Italian Constitution since 1947 (OECD, 2010d). Others have developed policies that improve regional balance in terms of social and economic development, such as Ireland, Mexico, Finland, and Poland).

Overall, there appears to be some shift in thinking from spatial redistribution and convergence towards overall competitiveness and resource utilisation, and the need to raise the performance of *all* places. The EC, for example, argues that targets should not be to rebalance, but to provide the framework and infrastructure to support the competitiveness of industry and support growth and jobs, and that *'rebalancing'* will occur as a consequence of policies to improve competitiveness. Similarly, the OECD (2010d) argues that competitiveness and equity is the new paradigm of regional policy, with a focus on "tapping underutilised regional potential" through proactive regional programmes.

2.10 Drivers and causes of the '*rebalancing'* challenge

There is general agreement across the literature that the main drivers of apparent **sectoral imbalance** have been globalisation, specialisation, deindustrialisation, off-shoring, and technological change which has resulted in a shift from manufacturing towards services and a knowledge-based economy[10]. Free trade and increased globalisation require nations to adjust to their areas of comparative advantage. However, whether places can do so at the same time as maintaining full utilisation of resources and maximising growth potential is the real issue. The skills and flexibility of the labour market influence whether places are able to adapt. Failure to do this may manifest itself in the form of imbalances.

The World Bank (2009) highlights the importance of specialisation linked to globalisation and falling transport costs. As well as contributing to spatial agglomeration, falling transport costs (allowing for easier trade and flow of goods and services) have meant that there has been increased specialisation in particular activities within spatial agglomerations.

BIS (2010c) argues that globalisation has been skills-biased so new technologies have required higher proportions of skilled rather than unskilled workers, and this has led to concerns of a potential 'hollowing out' of the UK workforce as the proportion of medium skills jobs in the economy declines. Universities UK argues that, from a skills perspective, universities have not responded sufficiently to the skills requirements of employers, prepared students for a rapidly developing and changing economy, and have focused research strategy on only a few subject areas (i.e. having too simplistic a divide between science, technology, engineering and mathematics (STEM) and other subjects) rather than having a breadth of knowledge that will be needed to allow for future '*rebalancing'*.

[10] Examples of such literature includes recent economic growth documents produced by BIS (2010c, 2010j, 2010k), other government departments such as CLG (2008), the European Commission (2008b) and wider research organisations including JRF (2010), Centre for Cities (2010c) and the Smith Institute (2009)..

An inability to create a culture of innovation is also cited as a key driver of under-performance in some areas (IPPR, 2009).

A key reason for the lack of **private sector activity** in some places is considered to be inadequate qualifications and skills, and the tendency for the private sector to be attracted to areas where there is a strong workforce. According to the Centre for Cities (2010c, p.12) "skilled workers tend to sort themselves across an economy according to where the best job opportunities are being generated" and this sorting has resulted in the share of those educated to degree level being concentrated in London and the South East. Furthermore, the lack of private sector jobs is a self-perpetuating problem because the private sector will continue to invest where it can secure the best return on investment, and will locate where there is already a strong private sector workforce (ibid). There are also strands in the literature that argue that the role of the public sector in creating jobs in lagging regions has crowded out the private sector leading to further imbalance. Again, this emphasises the close links between public/private and spatial *'rebalancing'* challenges, and the tensions and trade-offs between achieving different types of balance. Whilst a shift from the public to private sector might be regarded as 'optimal', due to forces of agglomeration, this is likely to have negative consequences for spatial balance in the UK.

The adequacy or otherwise of the responses to globalisation and technological progress, and the implications for sectors, whose distribution varies across the UK, is also a key driver of **spatial imbalances**. BIS (2010j) argues that London and the surrounding regions have disproportionately gained from globalisation and technological processes, and benefit from its better international connectivity and more skilled workforce, as might be expected given London's status as a world city. As a result, sectoral composition has determined the performance of different places, highlighting the inherent inter-relatedness of sectoral and spatial imbalances. The Department for Communities and Local Government (CLG, 2008) also argues that changes in economic circumstances of an area, such as restructuring away from traditional industries, results in the more mobile moving away and others become trapped, leading to a concentration of deprivation in the area.

Widening spatial imbalances in economic performance are also attributed to faster productivity growth in well-performing areas. While differences in employment rates across the country have been declining, productivity differences are growing strongly, with London in particular seeing strong productivity growth (linked partly to the types of functions undertaken in the capital, and the benefits of agglomeration). **Skills disparities are a key factor in explaining productivity differences across regions** and, according to the Spatial Economics Research Centre, the skills composition of the workforce

explains more than half, and in some cases much more than half, of the apparent differences in wage disparities (Overman *et al*, 2010).

2.11 Summary

The data analysis above shows that imbalance between sectors (including public-private) and places is significant and not new. At the minimum, it has been around for a decade, and at the extreme, 140 years. The nature of London as a world city means its performance is quite atypical for the UK, and so makes the national *'rebalancing'* job yet harder. Furthermore, the observed shifts in macroeconomic, sectoral, private-public and spatial balance can be compounding and conflicting. The UK's diminishing reliance on net exports and business investment for growth can be attributed in part to the long-term decline in the share of manufacturing, and this itself has exacerbated spatial disparities in growth. At the same time, the growing importance of the public sector which some consider has contributed to sectoral imbalance has also helped to offset spatial disparities in employment growth.

Across the literature, the concept of '*rebalancing'* is defined in many ways. At the micro level, there is little consensus on what *'rebalancing'* means and the term has become a metaphor for the preferred direction of travel towards 'better balance'. In terms of sectors, there is considerable debate over the direction in which the '*rebalancing'* process should move: to high-value manufacturing and away from an over-dependence on financial services, to sectors that offer competitive advantage or most growth potential, or to a more diversified, broad economic base to ensure the economy is resilient to shocks. For some, the most important aspect of sectoral *'rebalancing'* is shifting from low to high value activities, and ensuring that a high quality, skilled workforce is available to do so. In terms of spatial '*rebalancing'*, the focus is increasingly on the need to improve the competitiveness, performance and resource utilisation of *all* places. For both sectoral and spatial '*rebalancing'*, globalisation and technological advances, and the ability of specific sectors and places to respond, which is in part linked to skills and labour market flexibility, have been key drivers of growing imbalance in the UK.

3 '*Rebalancing'*: The rationales for state intervention

3.1 Introduction

In the previous section, the scope and scale of the '*rebalancing'* challenge facing the UK was described, together with the qualitative arguments evidenced in the literature as to why, and how, imbalance presents itself. Against this background, this section examines the evidence of the rationales for *'rebalancing'* action by the state, drawing on both the UK and international experience highlighted by the study's literature review and case studies.

3.2 Rationales for *'rebalancing'* interventions

It is important to situate the rationales for *'rebalancing'* interventions in the context of theories of economic growth. Economic growth theory is not discussed in detail here; analysis is restricted to consider how key drivers of economic growth have affected political thinking, and how they may influence approaches to sectoral and spatial balance.

3.3 Underpinning theories of growth

There are three main theories of economic growth, against which any discussion of the rationales for state intervention to 'rebalance' the economy need to be set:

- The first is ***neoclassical growth theory***. As more recently summarised by BIS (2010j), this theory argues that there will over time be convergence in regional economic performance, assuming that markets operate efficiently and that resources and technology remain mobile. People will move to areas with high capital and high productivity in order to receive higher wages; firms on the other hand will move to low capital and low cost places in order to receive a higher return on their capital investment. The theory anticipates that, with the free movement of capital and people and perfect information, productivity across places will converge as supply is brought into line with demand in different parts of the economy. Persistent differences in performance are attributed to failures in the market, which may provide a case for state intervention.

- Counterpoised to neoclassical growth theory, which was popularised in the 1970s and 1980s, ***endogenous growth theory*****,** alternatively argues that growth depends on the adaptive capacity and productivity of an economy. This in turn depends to a large extent on the skills and quality of the workforce, the propensity of firms to innovate, the capability of firms and workers to absorb new technologies and local knowledge spillovers (as a positive externality). Places that possess these capacities can establish 'first mover' advantage, with the associated benefits for local productivity and economic growth. Under this theory, it is assumed that regions will diverge progressively rather than converge, as factors such as highly skilled workers and innovation are unevenly distributed across spaces, and places with these assets are more likely to attract further skills and capital (Simmie and Carpenter, 2008; Roberts and Setterfield, 2007).
- A further strand of economic theory more recently developed is that of ***New Economic Geography***. This acknowledges that spatial differences will persist even under neoclassical assumptions because businesses and people will locate in particular places of high productivity so that they benefit from, for example, thick labour markets, easier access to inputs and suppliers, and knowledge sources and sharing (BIS, 2010j). Technically, these benefits are known as agglomeration externalities, and themselves can drive further agglomeration. Consequential factors, such as congestion, or higher house prices, may act as constraints to these effects, unless they can be overcome through, for instance, efficient transport networks or mixed housing markets.

The stances that the state or public sector agencies take to these differing theories of growth play an important role in shaping what they do in terms of '*rebalancing'*. Taking the debate outside the UK for example, the European Union's view has historically been focused on regional redistribution and the key need to tackle market failures that prevent economic growth in all places, aligned with neoclassical thinking. This found its form in the deployment of Structural Funds and Community Initiatives. Through its access to European Regional Development Fund (ERDF) and European Social Fund (ESF) resources, the UK's lagging regions have benefitted significantly in financial terms. More recently, the stance has changed to a policy of encouraging economic growth in all regions.

By contrast, the World Bank (2009) view of spatial disparities in economic activity is based on the theory of new economic geography, with unbalanced growth an inevitable consequence of successful economic development because as economies grow, production becomes more spatially concentrated through agglomeration effects. This approach is consistent with the development of growth centres in the UK, with the development of the 'mega region' based around London, and centres such as Manchester, Leeds and Glasgow benefiting from agglomeration effects. In the specific context of how skills relate to spatial concentrations, it is argued by Centre for Cities (2010c) that higher skilled workers tend to locate according to where the best job opportunities are being generated, resulting in differences in skills levels being embedded across places.

3.4 Market and other failures

The failures in the operation of markets and/or the extent to which other elements of the state system do not effectively coordinate their policies and interventions are vital in framing the justification for intervention by the state. In the UK context, the current guidance (as per HM Treasury's Green Book) is that the state has a potential role to intervene where the market does not, on its own, generate the most efficient outcome (i.e. as a result of market failures), or the outcome is not desirable (in particular because of equity considerations) and where the state can intervene cost-effectively and without introducing adverse distortions elsewhere.

Based on the economic growth theories outlined above, addressing market failures is critical in achieving spatial *'rebalancing'* under the neoclassical theory. In the case of endogenous growth theory and the new economic geography, addressing market failures could be relevant if these are preventing economic growth. However, this may well apply to high performing places or dominant sectors, and so may not necessarily lead to greater balance. Given that endogenous growth theory and the new economic geography imply divergence (rather than convergence), the pursuit of '*rebalancing'* interventions could still be made on the grounds of equity arguments and/or where it was associated with major and persistent underutilisation of resources.

BIS (2010j) describes the rationale for encouraging economic growth, though not specifically '*rebalancing'*, using the standard typology of market failures and particularly emphasises that intervention by the public sector should focus on activities the market will not do by itself. The resulting market rationales are based on standard microeconomic theory, which can apply in the UK or internationally, and include:

- public and club 'goods' which will be under supplied by the market because of the difficulties private sector investors have in appropriating the benefits;

- externality arguments, for example government funding for basic research, infrastructure and skills;
- information asymmetries, for example between borrowers and lenders, which could justify action on access to finance;
- risks that are unacceptably high to individuals (which may justify regulation) or risk aversion/credit constraints on employers (justifying funding for skills).

The BIS report also refers to the importance of creating a favourable business environment through competitive taxes and a culture of enterprise. Equity arguments are emphasised in other literature, for example, with reference to regional policy interventions under the previous UK government (BERR, 2009b), along with efficiency arguments. The shift in the rhetoric in the UK is interesting, with both efficiency and equity arguments highlighted under the previous government giving way to more emphasis on efficiency arguments under the new coalition government. Equity arguments are implicit in some documents and announcements under the new UK government however; for example, policy documents state that all businesses and places should be able to realise their potential with government wanting to "foster a thriving and more balanced economy so that no region or community gets left behind" (Cabinet Office, 2010, p.1). Internationally, the OECD (2010a) highlights the shift in attitudes from *regional redistribution* in the 1980s to economic growth in all regions. Coutts *et al.* (2007) particularly highlight an equity-based argument for government action on '*rebalancing'*, to which we return below.

A fundamental point in considering the rationale is the extent to which state intervention to address one set of problems causes distortions and has potential adverse effects elsewhere, the so-called 'unintended consequences' effect. The basis for state intervention is often related to the concern about significant and persistent underutilisation of resources. The key question that follows is whether action by government can make the necessary difference at all and without distorting resource allocation and use elsewhere.

3.5 Approaches to spatial '*rebalancing'*

Reflecting the point made earlier about the ways in which different theories of growth favour particular standpoints, it is interesting to observe from the literature, and the international case studies, how these stances are drawn through into approaches to spatial '*rebalancing'*. Taking the evidence as a whole, three standpoints are evident:

- The World Bank (2009) argues that, because of agglomeration effects and specialisation, state-led attempts at spatial *'rebalancing'* of economic activity are likely to be ineffective. In the UK, therefore, it is perhaps unsurprising that Regional Development Agencies (RDAs) could not close the gap between the richest and poorest regions. The World Bank indicates that the rationale for intervention is very much around economic integration that addresses spatial disparities in *quality of life*, not spatial disparities in *economic activity*. This provides a case for improving connectivity to dynamic areas for the purpose of access to markets and to opportunities, and also for infrastructures and/or incentives that help relocation to dynamic areas. This rationale is echoed by the Centre for Cities (2010c) which indicates that government can have little influence on spatial 'rebalancing', in particular in the context of private sector growth. As a result, the argument is made for market-based spatial policy that can further enhance private sector-led growth in those cities that are the strongest performers. BIS (2010a) also acknowledges that there are substantial limits to achieving geographical balance, partly because of agglomeration forces.

- The second standpoint is represented by the EU and OECD (Barca, 2009; OECD, 2010a) which argues that spatial policy should be about growth in all regions, in order to maximise their potential. Implicitly this means an objective based around addressing disparities in economic activity. The agenda set here is, however, very much about *regional growth* (and efficiency arguments within regions), not *regional redistribution*, which was favoured as the key argument until the 1980s (OECD, 2010a). Recent presentations made by the OECD (see OECD, 2007a and 2010b) particularly highlight wealth creation, the role of innovation, and upgrading of regional assets as key imperatives. In many ways, these arguments are not dissimilar from the rationales underpinning some RDA activities which focussed on capitalising on underutilised regional strengths and assets, especially innovation assets, and also interventions identified in the international case studies on Finland and Sweden. This implicitly may mean concentrating resources to support particular places, which may mean higher performing places if they have the existing assets and strengths, where agglomeration benefits can be achieved and leveraged.

- The third view suggests that the public sector does have a role in spatial '*rebalancing'*, in particular from an equity perspective. This argument recognises that, like the first perspective, the market does not bring about private sector-led economic growth in certain places. As a result, the public sector actually has a role in job creation (i.e. by creating public sector jobs) in

these lagging places in order to make use of underutilised labour. Coutts *et al.* (2007), Green (2009) and the Centre for Cities (2010b, 2010c) all highlight the role that public sector job creation has had since the late 1990s in alleviating increasing regional disparities in the UK, with the first of these authors indicating that this presents a case for an important role for the state. In Denmark and Germany, the public sector is identified as having a clear role in job creation (as well as in active labour market policies), in particular as this often creates jobs for lower skilled workers and there is an incentive for the state to then help increase skill levels (Martin and Thelen, 2007).

It seems that all three of these views may *start* from the new economic geography perspective. However, the *conclusion* on the role for the state in *'rebalancing*' is very different, with the World Bank view indicating that spatial '*rebalancing'*, as we have defined it, would be ineffective. The EU and OECD view suggests that growth should still be an objective in all regions, though this may mean focusing on those places or assets within regions with the most potential. The final view implies the public sector should step in where the market will not create sufficient jobs.

The current government's position appears to draw on elements from these different views, whilst not aligning entirely with any one of them. On the one hand BIS (2010a) accepts that there are limits to what can be achieved in terms of spatial '*rebalancing'* of economic activity, agreeing to some extent with the first view, but on the other hand, as noted in Section 2, The Plan for Growth sets an objective for *'*balanced growth that is more evenly shared across the country and between industries*'* (HM Treasury and BIS, 2011). This objective is perhaps most clearly aligned with the second view.

Similarly, the policy instruments announced so far by the coalition government to help bring about more balanced growth vary in terms of their alignment with the three views set out above. For example, the creation of Enterprise Zones focuses on areas with genuine economic opportunity to derive benefits for the wider economic area (CLG, 2011) possibly with a view, though not explicitly stated, to building on existing assets and seeking to bring about agglomeration benefits. However, the fundamental rationale for Enterprise Zones is that the costs of doing business are too high in a particular area and require subsidy, which may be the type of intervention that the World Bank would argue to be ineffective. Only time will tell as to the balance of Enterprise Zone locations and the way in which these locations can be used to leverage agglomeration effects. More consistent with the second view cited above are other policies set out in HM Treasury and BIS (2011), such as the investment in infrastructure (e.g. various investments in the rail infrastructure) and Technology and Innovation Centres (TICs). Whilst TICs are not cited under the ambition for more balanced growth, the first of these, on Advanced

Manufacturing, ought to help capitalise on innovation assets in regions outside of London and the South East.

The international case studies provide some further insights around these debates. The rationale in Sweden, for instance, has followed the transition signalled by OECD (2010a), with regional policy originally focused on a distributional rationale, but more latterly on growth in all regions. In Germany, the aim of regional policy is similar though leaning more to distributional arguments, specifically to help reduce the regional disadvantages faced by structurally weak regions. In South Korea, there is also an objective for balanced growth because of the desire to increase competitiveness of regions outside of the capital region and the fact that the capital region is on the border with North Korea, with associated worries of a military attack. In the Netherlands, it is interesting that the national policy is to focus explicitly on those areas of growth potential, aligning most closely with the World Bank view and agglomeration arguments. The Northern region in the Netherlands has resisted this (given that it is not a growth centre) and created its own policy for economic growth, seeking funding and support from other sources such as the European Union.

The debate on spatial *'rebalancing'* is pertinent to public-private sector '*rebalancing'*. Based on the arguments made in relation to spatial '*rebalancing'*, it would seem that the rationale for private sector growth exists mainly in already high performing places, in particular leading regions of the UK. The third view on the spatial *'rebalancing'* debate actually implies that there is a rationale for public sector job creation, or at least retention, in lagging places.

3.6 Spatial levels for intervention

A related issue to the wider rationale for spatial *'rebalancing'* is the geographical level at which policy is undertaken. The then Department for Business, Enterprise and Regulatory Reform (BERR, 2009b) indicated that regions were the right level for intervention:

> The rationale underpinning the establishment of the RDAs was that account needed to be taken of variations in regional and sub-regional economies when developing and delivering some aspects of economic policy. In particular, the RDAs were created to enable market failures and other impediments to better economic performance to be tackled at the appropriate spatial level. (BERR, 2009, p.4)

Current UK government policy identifies that centralised decision-making can create bottlenecks, but regions are unnatural geographies. A policy of devolving to the local level has therefore been adopted as, it is argued, this more appropriately reflects the operation of the relevant markets (BIS, 2010j). This has included 'City Regions' in the past (for example, in 2009 the Labour Government announced Greater Manchester and Leeds as pilot statutory city regions, which would receive delegated powers from central government) and more recently Local Enterprise Partnerships (LEPs), which the coalition government envisages will reflect functional economic geographies.

Whilst the international evidence needs to be treated with caution because of the differences in scale and geography to the UK, radically different approaches have been taken. Of the case studies, Germany is perhaps most relevant in these terms but has a much more federal model to begin with. In Germany, the 16 Lander have a key role in regional policy. Others, such as Sweden and Korea, have steadily recognised the role of regions, especially in the context of innovation systems and wider regional attractiveness. Sweden, historically, has had a weak regional tier with national and municipal tiers dominating. It has recently introduced pilot regional initiatives to support regional economic growth. In the case of the Netherlands, spatial policy is nationally driven, though a set of Northern provinces have established their own sub-national structure for economic development in their own geography. This aligns more with the attempt to reflect the market and natural geographies, and is notable given the complete absence of national politics in its establishment. In many ways therefore, the downplaying of the regional tier in England at least, runs counter to past practice in other countries.

It is important to mention a third spatial level, namely the pan-regional dimension. The OECD (2010b) indicates the value in bringing northern cities in the UK into a cohesive economic unit because this can aid collaboration between different types of partner and also help to build a critical mass. Through the Northern Way, which was in operation from 2004 to 2011, England's northern regions have developed considerable experience of working through innovation, strategic transport and energy as policy areas functionally operating at a supra-regional level.

In practice, the geography of policy areas and appropriate structures is multi-layered. For labour markets, the region is too big a scale and a local geography is more appropriate. For sector-based policies, for example the visitor economy, the region may be a more appropriate geography. For yet others, such as strategic transport infrastructure and supply chains and innovation, the most appropriate geography is pan-regional or national. Therefore, it is important to retain flexibility on the appropriate spatial level with an emphasis on functional economic relationships, rather than inherited constructs dictated by administrative or institutional boundaries whether regional or local. This does have

some important implications for the new Local Enterprise Partnerships, which tend to be based around local authority and county level administrative geographies. The same argument would apply to considering the appropriate sectoral level for intervention, as in some cases the relevant functional relationships may extend across supply chains. It is to the question of sectoral balance that we now turn.

3.7 Approaches to sectoral '*rebalancing*'

Various arguments are evident from the study's literature review and case studies in support of influencing the sectoral structure of an economy, with a balance between generic support (e.g. for start-ups and access to finance) and support for specific sectors. Objectives of such support include:

- Ensuring a diverse economic base, including avoiding undue reliance on one or two sectors such as financial services (NESTA, 2010), with recognition that green sectors are particularly important (The Economist, 2010b). For example, the coalition government's Strategy for Sustainable Growth (BIS, 2010k) set out aims to ensure that all sectors are performing to their maximum capacity and to aid the transition to a green economy. More recently, The Plan for Growth highlights the business opportunities in tackling environmental challenges in the UK and abroad with the potential of also attracting inward investment (HM Treasury and BIS, 2011).
- Helping to restructure struggling sectors towards more appropriate futures (European Commission, 2010a) or restructuring more generally to a technology-based future (OECD, 2009c; NESTA, 2010), which will require the development and use of STEM (science, technology, engineering and mathematics) skills in particular (Work Foundation, 2010). For example, the previous government's New Industry, New Jobs policy (HM Government, 2009) focused on encouraging commercially successful innovation science and technology within industry, and the importance of strengthening STEM skills (especially in graduates) to enable this.
- Supporting manufacturing as a real wealth creator or because it is strategically important (ERA Foundation, 2010; Policy Exchange, 2010).

Some commentators argue that there is a need for interventions that will lead to an improved net trade balance (Wolf, 2010; Martin, 2010a), and that this requires a shift in activity from the non-traded to the traded sector. Wolf (2010) in particular identifies nurturing manufacturing on these grounds. The Plan for Growth (HM Treasury and BIS, 2011) particularly highlights the role of the traded sector, contributing simultaneously to more balanced growth between industries and an improved net trade balance. Whilst in

BIS (2010k), there is reference to the Office for Budgetary Responsibility (OBR) expecting that the economy will rebalance away from consumption towards investment and net exports naturally, the Plan for Growth outlines a series of government actions to help support and accelerate the process, e.g. through increased exports (HM Treasury and BIS, 2011).

UK policy on sectoral '*rebalancing'* has, since the recent recession, emphasised the importance of removing barriers for businesses, investing in infrastructure, growth of a range of sectors, capitalising on the green economy and encouraging export potential. All of these are cited in both New Industry New Jobs (HM Government, 2009) and the Plan for Growth (HM Treasury and BIS, 2011). Indeed the identification of specific sectors in both of these strategies is almost identical: advanced manufacturing; healthcare and life sciences; digital and creative industries; professional and business services; and construction/engineering construction. The latter Plan for Growth also cites the retail, tourism and space sectors.

In addition, some proponents of sectoral '*rebalancing'*, and of manufacturing more specifically, suggest that this may aid spatial '*rebalancing'*. This is presumably because sectors such as manufacturing might be potentially important economic drivers in some lagging regions with an industrial heritage both in terms of their skills bases and supply chain infrastructure.

The arguments proposed imply three broad grounds for sectoral '*rebalancing'*:

- the market does not seem to create a diverse economic base itself;
- certain sectors require support to upgrade to retain competitiveness and overcome path dependency issues;
- it is important to other objectives, such as developing the green economy, and contributing to net trade balances and spatial '*rebalancing'*.

Referring back to the original drivers of economic growth and the arguments about specialisation, it may well be expected that the market would lead to concentration in particular sectors. Therefore, the rationales for supporting particular sectors, as opposed to supporting an environment for a range of sectors to become competitive, need to be well grounded and evidenced. Indeed, sectoral balance might imply that economies could not specialise in their more productive industries, as implied by Ricardo's theory of comparative advantage (Scitovsky, 1959). Dutt (1989) suggests that sectoral linkages complicate this matter however. He suggests that more developed countries have comparative advantage in the production of goods and services that have more potential

for generating technological change due to learning. He indicates that these may have spin-off effects on other sectors as well.

There are some potential question marks on the extent to which there is a rationale for government intervention on the net trade balance (where the OBR suggests this may occur naturally in any case), and also on the extent to which sectoral *'rebalancing'* might be consistent with spatial '*rebalancing'*. We return to this latter point in Section 6 of this report, in which different scenarios are modelled.

3.8 Summary

Across the literature reviewed and case studies produced for this study, there is considerable debate on the rationale for state intervention in sectoral and/or spatial '*rebalancing'*, depending on the commentator's theoretical perspective. Over time, the argument for state intervention has moved from neoclassical theories, whereby convergence will occur if market failures that prevent the efficient operation of the market are removed, through to new economic geography and agglomeration theories, such as those advocated by the World Bank, which suggest that unbalanced growth is a consequence of economic growth and development.

Over time, the rationale for spatial intervention has shifted from one of regional redistribution to one that is based on addressing underutilisation of resources and improving the competitiveness of *all* places, including those that already perform well. Whilst this is consistent with seeking to 'go with the grain' of the market, policy responses also reflect the need to be seen to do something to address disparities in economic activity. The spatial level at which policy is undertaken varies, from the level of local geographies (such as LEPs in the UK), through to the regional level in many of the international case study areas, and up to pan-regional levels (for example, The Northern Way in England). In practice, functional geographies are multi-layered, and so the appropriate geography will depend on the issue and policy area.

The rationale for sectoral *'rebalancing'* focuses on ensuring an economy has a diverse base, helping struggling sectors to more productive futures, and supporting specific sectors (such as manufacturing) because of their strategic importance as 'wealth creators'. Intervening to encourage sectoral *' rebalancing'* is also justified on the basis that it helps to rebalance the economy at a macro level, for example, through developing tradable and exportable goods/services that will contribute to the net trade balance, and reduce the vulnerability of the economy to the shocks and uncertainties of the globalised economy. Furthermore, there is also an equity argument that suggests some elements of sectoral *'rebalancing'* may assist in spatial '*rebalancing'*, particularly in places that suffer from path dependency issues.

4 Practical types of '*rebalancing*' actions

4.1 Introduction

In the previous section, the different stances that authorities and agencies take to '*rebalancing'* issues were discussed. Against such a background, this section sets out the range, type and reach of '*rebalancing'* actions that the literature review and international case studies have yielded, both in the UK and abroad. The emphasis of the section is on providing a description of the breadth of activity and is a precursor to a more reflective discussion as to 'what works' (or does not) in the next section.

The presentation of material in this section is assisted by a typology of interventions, which has been specifically developed for this research.

4.2 Headline observations on the population of *'rebalancing'* actions

There has been a rich variety of policies, specific interventions and complementary packages and programmes that have been implemented over the years in the UK and abroad to address issues of sectoral and/or spatial imbalance, even though most were not described as '*rebalancing* interventions' at the time they were introduced. These actions range from broad reach, generic activities, for example those pursued by the RDAs (BIS, 2009a), to more specifically targeted interventions such as tightly-focused accelerator or mentoring initiatives for young entrepreneurs or firms with international potential (NESTA, 2010). The entry points for intervention and the role of the state also differ, from the direct role of the public sector in creating jobs in lagging regions through to activities where employers take a direct and leading role in addressing barriers to the skills of their own workers.

Not only is the range of types of action significant, but the **timescales and geographical scales for interventions are also highly varied**. Some actions adopt a long-term approach. For example, in Germany the key emphasis of the governance of intervention has been on a medium-term funding arrangement of five to 10 years; in Finland, education to enhance technological change has been the focus of government since the 1960s and 1970s; and long-term planning horizons of up to 40 years exist in Korea and elsewhere in Asia. Other interventions are shorter-term such as City Challenge Teams which operated for around five years across the UK in the 1990s, and more recently the Regional Growth Fund which will provide funding over the next three year period to aid public to private sector '*rebalancing'*.

4.3 Approaches to '*rebalancing*' over time

The approaches taken to address sectoral and spatial imbalances have also evolved over time. For example, sector policies in the 1960s and 1970s (in the UK and elsewhere in Europe) tended to focus on industrial activism, selective interventions for specific sectors (such as aerospace, shipbuilding and automotives in the UK), 'picking winners', and investment subsidies, especially to attract Foreign Direct Investment (FDI). In terms of spatial '*rebalancing'*, until around the 1980s, many governments across the EU heavily targeted aid at regions designated as 'problem' or 'lagging' areas[11]. This often involved offering subsidies and state aid to compensate firms for the locational disadvantages of such regions, and/or to help areas that had suffered from economic shocks, such as industrial decline (OECD, 2010d).

However, programme-based and governance-focused approaches are now becoming mainstreamed in spatial policy, with measures to promote the conditions for growth and competitiveness of domestic firms through a combination of hard and soft measures to improve enterprise, innovation, education and training, and to encourage networks and clustering. The focus is increasingly on enabling the private sector to drive growth, and encouraging growth based on regional assets (linked to the concept of endogenous growth). This is emerging strongly in current UK policy, for example through the Regional Growth Fund, expansion of apprenticeships and The Work Programme, and proposals to expand University Technical Colleges through partnerships between universities, colleges and businesses. According to the OECD (ibid), these types of policies have also become increasingly favoured in other countries such as France, the Netherlands, Sweden, Finland and Korea.

There has also been a move towards place-based approaches to intervention, especially within the EU (Barca, 2009) that are sensitive to the peculiarities of places and their regions (with knock on implications for multi-governance and multi-sectoral approaches) and interventions that are better adapted to the requirements of different regions (OECD, 2010d). Examples of such approaches include Øresund Science Region, Centres of Expertise in Finland, clusters in Germany and growth poles in France.

[11] Although targeted aid at 'problem' or' lagging' areas remain significant in some countries such as Germany and Italy according to the OECD, 2010d.

4.4 Relevant policy areas

The literature demonstrates how the **actions implemented to address '*rebalancing'* cover an extremely broad spread of policy areas, including human capital, skills and education, transport and infrastructure, enterprise and business development, innovation and R&D, and regulation.** In terms of infrastructure policy, '*rebalancing'* interventions include investments in strategic transport infrastructure, R&D facilities and other physical innovation infrastructures such as science parks and industrial complexes. Interventions also cover business enterprise and growth policy, which are designed to encourage business development in specific sectors/places or across all areas, such as the UK's Enterprise Investment Scheme and Early Growth Funds, the Phoenix Fund and the Coalfields Programme. Innovation activities include the development of 'innovation clusters' (e.g. the Peaks approach in the Netherlands), encouraging collaboration between Higher Education Institutions (HEIs) and businesses (e.g. Centres of Expertise in Finland) and innovation funds to encourage innovation in specific sectors (e.g. Germany's Hydrogen and Fuel Cell Technology Innovation Programme).

Skills and employment initiatives are an important part of the 'intervention mix' and very much a critical part of the long-term *'rebalancing'* process. There have been a range of skills and employment-specific interventions in the UK and abroad that have been designed to address:

- the causes of imbalance, for example to raise skills levels, as part of a broader programme to create the conditions for growth to address spatial imbalances;
- the consequences of imbalance, for example the public sector as a job-creator in areas where the private sector under-performs;
- the consequences of the sectoral 'rebalancing' process, for example, in helping people to adapt to changing skills or occupational requirements as the sectoral structure of an economy changes.

Overlaying this, there is a role for human capital policy in ensuring that cultures and attitudes are supportive of and enable '*rebalancing'*. Where they are not, experience suggests this can be a major barrier to the '*rebalancing'* process as evidenced by the case of Daegu in Korea where attempts to create a new design cluster failed because the indigenous textile base did not buy into the policy approach.

Even within the sectoral *'rebalancing'* field, there is a wide array of different types of skills interventions that have been adopted to manage sectoral skills transfer issues, either in response to the collapse of specific sectors or in anticipation of changing sectoral needs. Examples highlighted in the literature include the RECHAR and RESIDER European programmes design to assist in the restructuring of areas previously dependent upon coal

mining and steel industries, through to more proactive Labour Market Boards in Sweden which have pursued policies to train people in the appropriate skills for the types of jobs that are forecast to grow.

The role of the public sector in managing the skills transfer process either in sectoral or spatial *'rebalancing'* varies. 'Lighter touch' government interventions include establishing employer-led sector skills councils in New Zealand and the Netherlands, and flexicurity policies in Finland and Sweden, and indirect interventions that aid labour market mobility in Germany. The public sector has also played a role in creating conditions for growth in the delivery of hard and soft infrastructures, such as the provision of educational infrastructures (e.g. building new schools and universities in Germany), skills and training support through programmes (such as Train to Gain in the UK) and encouraging 'social dialogue' between employers and employees. There is also evidence amongst the literature reviewed for this study of where the public sector has played a more interventionist role in skills and employment issues, for example by relocating government functions to lagging areas in order to create jobs (e.g. Sweden, Korea).

Furthermore, the way in which the skills transfer issue has been managed has also evolved over time. For example, Martin and Thelen (2007) argue that training institutions that served industrial sectors do not function as well for services, and that labour tends to be more fragmented in service sectors making collective agreements on career and development paths much more fragmented (with implications that follow in terms of the types of interventions that are suitable).

4.5 Towards an organising typology for '*rebalancing*' interventions

In order to organise and characterise the wide variety of interventions that our literature review and international case studies have identified, a simple and pragmatic typology has been developed to help frame the analysis. It provides a way of characterising the interventions to facilitate the identification of systematic differences between the interventions over time in different contexts, and in terms of their relative success and failure, which is the focus of the next section of the report. The typology potentially also provides **a useful organising framework to help understand the types of interventions, and combinations of interventions, that might be most effective to address sectoral and/or spatial *'rebalancing'* challenges.**

The literature itself contains a wider variety of frameworks for categorising state interventions, and these have been drawn on to develop the typology set out below, in particular, the report by Barca to the European Commission (2009). This work contrasts two paradigms of policy intervention:

- a **'traditional spatial paradigm'**, where the government seeks to deal with market failures and equity issues as the rationale for intervention, aiming to compensate for locational disadvantage, intervening through existing administrative units with spatially focused support, and placing an emphasis on advice, subsidies and state aids.
- the **'new spatial paradigm'**, which places less emphasis on market failures and more on public goods and internalising externalities as the rationale, aiming to tap underutilised potential across functional economic areas, and focusing interventions on creating conditions (especially human and hard capital) for growth.

The typology developed for this study seeks to incorporate Barca's 'new paradigm', and seeks to move it on through two other pieces of work. The first piece of work is by McKinsey (2010c) which differentiates between the role of the state, from setting the ground rules and promoting the efficient operation of the market, through to creating conditions for growth and tilting the playing field or playing the role of principal actor. The second is a framework developed by Campagni (2008), which reflects the degree to which outcomes of an intervention are tangible and intangible, set against the extent of competition and rivalry involved in the intervention.

The resulting typology is presented in Table 4.1 below. Its development is explained more fully in Appendix A to this Main Report. The typology has two axes:

- The vertical axis sets **out the extent and nature of the state's interventions in '*rebalancing*'**, and depends on the perceived rationale for intervention (and associated views on the role of the public sector), drawing on the work developed by McKinsey (2010c). As we move down this axis, the intensity of state intervention increases.
- The horizontal axis follows Campagni (2008) in distinguishing between the **tangible outcomes from an intervention** (i.e. the development of land, buildings, plant and machinery) **and the intangible** (i.e. outcomes which are less concrete, more subtle and relate to changing behaviour and practices rather than the development of physical assets), and those which are a combination of the two (e.g. the generation of intellectual property as embedded in prototypes).

Table 4.1 An organising typology for '*rebalancing'* interventions

	Tangible	Mixed	Intangible
Setting the ground rules and direction/ promoting the efficient operation of the market	**1**	**2**	**3**
Building enablers and conditions for growth	**4**	**5**	**6**
Tilting the playing field, playing the role of principal actor/agent	**7**	**8**	**9**

To organise the myriad '*rebalancing'* actions and interventions identified in the literature and the international case studies, we have sought to map them onto the nine cells of the organising typology above. In practice some interventions neatly fit into one cell of the typology, whereas others (especially place-based interventions) tend to cut across more than one cell. Some interventions are specifically designed to address sectoral *or* spatial *'rebalancing'* challenges, but many address both.

Table 4.2 below summarises the types of actions employed in the UK and abroad to address sectoral and/or spatial *'rebalancing'*, allocated to each cell of the typology. Actions to address sectoral and spatial *'rebalancing'* issues appear in all cells given their wide ranging natures. It is important to note that many of the actions that aim to create the conditions for growth are complementary and in practice are delivered in parallel (such as infrastructure, innovation, skills and networking), particularly where the rationale for intervention is based around raising the competitiveness of all places. More details on specific interventions are available in the full case studies in the Volume 2 report and supplementary tables in Appendix A. Section 5 provides more details on what has worked to date (or not).

Table 4.2: Summary of types of actions employed to address sectoral and/or spatial '*rebalancing*'

Description	Rationale for action
Cell 1 - Setting the ground rules – tangible actions	
Under this type of action, the primary purpose of government intervention is to encourage the private sector to invest. However, it is important to note that such interventions are often part of a wider package of actions where the public sector is involved in investing in infrastructure and/or developing skills and innovation. Examples include: • Øresund Science Region is highlighted in the literature as an example of where the government has set the 'ground rules' but where the private sector has taken a leading role. This is a trans-national technology-focused collaboration between southern Sweden and eastern Denmark across an area with significant autonomy. The overarching objective at a national level was to achieve economic growth in all regions by creating well-functioning and sustainable labour market regions, with a good level of services in all parts of the country. • Enterprise Zones also fall under this category, which were introduced in the UK in the 1980s, with the purpose of encouraging investment in tangible assets in specific areas by removing or reducing taxes in local areas to stimulate property development and industrial/commercial investment. Enterprise Zones have also been implemented in the US and France (Centre for Cities, 2011), and have recently been re-introduced in the UK as part of the government's Plan for Growth (HM Treasury and BIS, 2011). • In East Asia, the focus of government has been on regional innovation policy and regional innovation networks, and regional clusters of Small and Medium Sized Enterprises (SMEs) in	• These types of interventions are designed to remove barriers faced by businesses and address any market failures to enable businesses to thrive. By encouraging the private sector to invest (for example in R&D), it is envisaged that this would generate positive and significant spillover effects. • The rationale for intervention also relates to capitalising on underutilised regional strengths and assets.

Description	Rationale for action
technology intensive sectors (which generally falls under the 'building enablers' cells) but since the 1980s the major actor and lead in R&D and innovation has shifted from government to private firms (World Bank, 2009) These types of actions tend to address both spatial and sectoral '*rebalancing'*.	
Cell 2 - Setting the ground rules – mixed actions	
Government (or a government-funded body) plays a co-ordination role to aid '*rebalancing'*, for example in: • Creating the ground rules to facilitate co-operation and interaction between firms and other organisations, e.g. HEIs and businesses. Finland's Centres of Expertise are an example of this (although there are other supportive policies that feature under 'building enablers/conditions for growth' that run alongside the government's co-ordination role here), as are some of England's RDA science, R&D and innovation interventions that focused specifically on encouraging collaboration between HEIs and businesses and the commercialisation of HEI Intellectual Property (IP). • Creating the ground rules for active labour market policies, for example, by giving local or regional entities (both public and private) the capacity to influence skills and training policies. An example where the private sector plays an important role in '*rebalancing'* is the Netherlands' employer-led vocational education system, where employers identify skills required for their sector and communicates this directly to Knowledge Centres, which subsequently inform regional colleges who in turn develop their curriculum directly in response to employer needs. In return, employers provide workplace-based training. New Zealand has also implemented strongly employer-led Sector Skills Councils, which have been	There has been some shift in the rationale and policy context underpinning these types of interventions from one largely characterised by a distributional rationale, i.e. providing aid to historically peripheral and weaker regions, to one focussed on economic growth in all places and addressing the excessive reliance of economies on one sector. The interventions are also linked to market failures, especially in terms of co-ordination and information failures between HEIs and business.

Description	Rationale for action
directly in control of substantial funding for training. The UK also has networks of business-led Sector Skills Councils and National Skills Academies. • Establishing fiscal policies and regulation that stimulate growth in particular areas (e.g. growth areas, lagging regions), sectors (e.g. manufacturing) or outcomes (e.g. reduction in carbon footprints and the more efficient use of energy). Some of these actions focus on sectoral '*rebalancing'* (such as Sector Skills Councils or employer-led vocational systems), whereas others have a predominantly spatial focus (e.g. fiscal policies to stimulate growth in lagging areas, or actions to facilitate co-operation between partners in specific places).	
Cell 3 – Setting the ground rules – intangible actions	
Intangible actions that set the ground rules and promote the efficient operation of the market include the following types of interventions: • Creation of legal/policy frameworks to facilitate labour market adjustments and designing employment and housing benefits to promote mobility. Interventions to encourage labour market mobility also include changing land planning rules (i.e. liberalising land use) and reducing real estate transaction costs. • Establishment of a business-friendly regulatory environment that facilitates economic growth and competitiveness, including protection of IP rights, financial regulation, exchange rates and the promotion of exports/production of tradable goods, taxation. • Provision of clear and efficient governance mechanisms to enable horizontal co-operation	The overarching rationales for these types of interventions focus on overcoming market failures (which mean the cost of doing business in some areas is too high) and bottlenecks to enable the efficient operation of markets/allocation of resources, encouraging long-term investment by business via a favourable business environment (for example, through competitive taxes) and generally enabling businesses to be competitive.

Description	Rationale for action
between ministries, support for regional or local institutions and promotion of pan-regional coordination. Some actions are focused on 'rebalancing' growth spatially (such as the Northern Way), but others focus on sectoral '*rebalancing'* to aid economic growth (wherever growth might be).	
Cell 4 – Enablers and conditions for growth – tangible actions	
The most prominent tangible actions to create conditions for growth are as follows: • Transport actions, which includes investing in new transport infrastructures (including those to allow for mobility of people and those in lagging areas to connect to high performing places) and addressing congestion costs. • Educational infrastructures, R&D facilities and other physical innovation infrastructures. • Business and science parks, industrial complexes. • Housing, including social housing provision and building housing to enable labour market mobility or spatial '*rebalancing'*. • Bringing land back into use, for example through remediation, and public realm investments. These types of actions tend to simultaneously address both spatial and sectoral '*rebalancing'*.	The overarching rationales for these actions are: to improve competitiveness and utilisation of resources; to address the failure of the market to invest (due to risk/high sunk costs, public goods arguments); the need to reduce negative externalities (e.g. congestion) or the opportunity to realise positive externalities (e.g. reducing journey times so more time for productive work). Whether these actions are implemented in a country depends on whether governments accept the agglomeration argument, and therefore invest in growth areas to enable agglomeration alongside investment elsewhere, or support equity imperatives, and therefore focus investment in lagging or peripheral regions (e.g. Denmark, Finland, Norway, and France).

Description	Rationale for action
Cell 5 – Enablers and conditions for growth – mixed actions	
Mixed actions to create the conditions for growth have addressed both sectoral and spatial *'rebalancing'* (and many are designed to address both). These include: • Science, R&D and innovation actions, which have re-invigorated the idea of clusters and growth poles and according to the OECD (2010d) have been expected to endogenously develop their hinterland in places such as France, Hungary, Portugal. • Raising skills and the provision of education and training to ensure the availability of high quality human capital, which include actions to integrate those outside of the labour market and lifelong learning. • Business development and enterprise support, aiming to stimulate business creation and business growth. Clusters and 'the regional innovation approach' incorporate all three types of actions above, and are strongly linked to building co-operation and sharing knowledge between firms, especially SMEs (see below for intangible actions to enable growth). Many of the current UK government's proposals fall under this type of *'rebalancing'* action, which include measures for better business support and improving access to diverse sources of finance, the establishment of growth hubs in cooperation with technology and innovation centres, and investment in skills apprenticeships. These types of actions address both spatial and sectoral '*rebalancing'*.	These types of actions focus on promoting growth in all regions (rather than redistributing growth), reducing disparities in economic activity, exploiting the potential of endogenous assets and local networks, encouraging spillover effects from innovation, and removing obstacles to growth, adaptability and competitiveness. Market failure arguments also come into play, for example, in the business support and the under-investment by employers in skills (such as information failures, externalities, and credit constraints/risk aversion), as do equity rationales (for example, enhancing social inclusion by improving skills).

Description	Rationale for action
Cell 6- Enablers and conditions for growth – intangible actions	
Intangible actions designed to build the conditions for growth tend to focus on developing co-operative networks and building relationships and social capital at different spatial scales (including the local, city-regional, cluster, (pan) regional, national and international level). These actions often work hand-in-hand with the more tangible interventions to enable growth (such as business development, skills and innovation) and represent a step towards an approach where actors co-operate in order to rebalance an economy without public sector intervention. Such actions focus on four areas: • strong networking and collaboration between firms in the industry and with public research institutes both nationally and internationally. • mentoring networks, particularly business networks. • local capacity building. • social dialogue, which refers to the co-operation between employers and employees on restructuring in order to anticipate and manage change, identify future skills needs, influence national/regional policy that is aimed at the development of that sector (EC, 2008). These types of actions tend to simultaneously address both spatial and sectoral '*rebalancing'*.	Again, the rationale for these actions focuses on exploiting the potential of endogenous assets and local networks, encouraging spillover effects and positive externalities resulting from networking. Market failures also form part of the argument, and the need to address information failures and co-ordination failures.
Cell 7 – Tilting the playing field – tangible actions	
At the interventionist end of the spectrum, there are examples where the public sector has sought directly to support specific sectors, businesses and spatial areas. This was particularly prominent between the 1960s and 1980s in the UK, but also features in more recent policy in the UK (to a lesser extent) and in countries such as Korea, Finland, Sweden, Italy and Germany. Broadly,	The main rationale for such interventions is one of overcoming market failure, particularly the private sector's reluctance to invest where there is little information on which to base a risk

Description	Rationale for action
tangible interventions where the public sector plays the role of principal actor can be seen in the following types of interventions: • Direct subsidies and incentives to firms to influence industrial location decisions (of FDI and inward investment) and compensate temporarily for location disadvantages in lagging regions and areas of high unemployment. • Creating place-specific, state-subsidised bodies to stimulate urban development and revitalise derelict areas. • Relocation of government functions, HEI functions or government owned industries to lagging regions, mainly to create employment and utilise skills, but also to stimulate supply chain/procurement opportunities. The majority of these interventions are designed to address sectoral and spatial *'rebalancing'* issues simultaneously, and are supported by other interventions that fall into other cells in the typology (such as 'picking winners', discussed below).	assessment (e.g. the degree of site contamination) and where there are opportunities for positive externalities and spillover effects of encouraging inward investment or relocating government functions. As noted above under the neoclassical growth approach, addressing these market failures is designed to lead to convergence in regional performance.
Cell 8 – Tilting the playing field – mixed actions	
'Mixed' actions where the public sector tilt the playing field to encourage *'rebalancing'* generally cover two types of intervention: • Programmes designed to encourage the restructuring of economies away from specific sectors, such as the EU's RECHAR, RESIDER, KONVER, RETEX programmes. They therefore cut across both sectoral and spatial '*rebalancing'* objectives. • Industrial policies that favour particular sectors to aid the *'rebalancing'* process, ranging from	The rationale for the interventions to restructure economies centre around the far-reaching impacts of restructuring 'which people, companies, sectors and regions should not be left to deal with alone' (EU, 2008). The rationale for targeting specific sectors with support is to develop specific sectors regarded to

Description	Rationale for action
encouraging investment and innovation in specific sectors (such as green technology) to explicitly picking of winning sectors and businesses, which was prominent in the UK in the 1960s and 1970s. These tend to be sector (rather than place) specific interventions, designed to assist with sectoral '*rebalancing'*. These actions focus on sectoral, spatial or both types of '*rebalancing'*.	be of strategic importance or to unlock competitive advantage in global markets. According to BIS (2010d), competing in overseas markets will attract inward investment and lead to further growth. Equity arguments are also at play since governments are under pressure to reduce unemployment and stimulate growth, so 'supporting chosen industries is seen a way of saving jobs and helping local firms fight foreign competitors' (The Economist, 2010b).
Cell 9 – Tilting the playing field – intangible actions	
The protection or promotion of specific sectors (through subsidies and/or trade protection) has been adopted in the UK and elsewhere historically, either defensively (as in the case of some traditional sectors such as coal and steel) or to promote infant industries (as in the case of some renewable energy sources). A recent example is provided by the UK's creative industries sector. Here, the sector was protected in order to allow UK production to survive, and the film industry in particular has depended heavily on selective interventions to protect a share of the home market for UK based film production. Different policy instruments have been used over time to protect the sector, including quotas, levies and tax credits. There are examples of protectionism elsewhere, although many of these policies are thought to distort the market and reduce competitiveness (The Economist, 2010b). These actions focus predominantly on sectoral '*rebalancing'*.	The main rationale for the interventions to promote infant industries is that new growth sectors may struggle to compete, but once established could provide a source of competitive advantage and therefore help to rebalance the economy sectorally, and in terms of its trade balance.

4.6 Summary

The typology of interventions was designed to provide a useful framework to help policy makers better understand the different types of interventions that might be implemented to address the *'rebalancing'* challenge, with varying degrees of state intervention and a range of tangible and intangible outcomes resulting from the intervention.

The literature demonstrates a wide variety of policies, interventions and actions that have been implemented in the UK and abroad to address sectoral and spatial '*rebalancing'* challenges, although most were not described as '*rebalancing'* interventions at the time they were introduced. Interventions cover an extremely broad spread of policy areas, including human capital, skills and education, transport and infrastructure, enterprise and business development, innovation and R&D, and regulation, which demonstrates how addressing '*rebalancing'* challenges requires the contribution of interventions that cut across many policy areas. Furthermore, in practice, many of the interventions are part of 'packages' that cut across more than one policy area and more than one cell in the typology.

Skills and employment initiatives have played an important part of the intervention mix to address the causes and consequences of imbalance, and enable the *'rebalancing'* process. The evidence points to a range of examples in the UK and abroad of interventions that have been implemented to help manage the *'rebalancing'* process, where the level of state intervention varies from setting the playing field by establishing employer-led skills bodies, through to creating the conditions for growth via hard and soft education and training infrastructures, and more interventionist approaches where governments have re-located functions to lagging areas to create employment opportunities.

There also appears to be a shift over time in the UK from interventions primarily focused on generating tangible assets (bottom left of the typology matrix) towards interventions that build enablers, create conditions for growth and set the ground rules, especially those which are less tangible, such as encouraging networks and setting broad national strategies (top right of the typology matrix). The government's recently published Plan for Growth (HM Treasury and BIS, 2011) also demonstrates this shift, with proposed interventions that focus on enabling growth (for example, through mixed interventions such as the Regional Growth Fund, ensuring finance for business start-ups and growth, and supporting apprenticeships) and setting the ground rules, for example, through re-introducing Enterprise Zones, simplifying tax systems and removing regulatory barriers to growth, creating incentives such as the Green Investment Bank, and reforming the land planning system.

5 Towards a '*rebalanced'* future – what works?

5.1 Introduction

The previous section set out a typology to organise the variety of interventions yielded by the literature review and case studies, and outlined the types of actions that feature in each of the typology's cells. This section will now use the typology to focus on what has worked (well or otherwise) in terms of '*rebalancing*' actions and, as a consequence, what the lessons are for skills and other policy makers. This section seeks to provide practical and applied suggestions by looking at the actions allocated to each of the typology's cells (noting that many interventions cut across more than one cell) using the following policy areas as thematic filters:

- Human capital and labour markets.
- Business creation and development.
- Science, innovation and knowledge.
- Land use, transport and infrastructure.
- Fiscal and regulatory regimes.
- Governance.

It is important to stress that these six policy themes are not in any way definitive. Rather, they are lenses through which to examine the types of interventions in order to build up a broader picture of what works in terms of '*rebalancing'* the economy. Each of these policy themes is presented sequentially below, with a summary of learning messages at the end of each theme, and the section overall.

5.2 Human capital and labour markets

Human capital and labour market interventions identified in the literature feature in six of the nine cells of the typology. Exemplar interventions in each of these cells are identified in Table 5.1 below (although in practice, some interventions span two or more cells). At the outset a significant finding to note is the relative lack of emphasis in the policy literature reviewed on the role of employers in enhancing utilisation and development of skills to boost productivity (with the exception of work by the UK Commission on high performance working).

Table 5.1 Summary of human capital and labour market actions

	Tangible	Mixed	Intangible
Setting the ground rules and direction/ promoting the efficient operation of the market	1	• **Active labour market policies**. e.g. Netherlands' employer led vocational education system. • **Sector Skills Councils**; New Zealand's employer led sector skills councils; sector skills councils in the UK. 2	• **Legal and policy frameworks to facilitate labour market adjustments** e.g. flexicurity in Sweden and Finland; reducing real estate transaction costs; designing employment and housing benefits to promote mobility in Germany and Sweden • **Labour market deregulation** 3
Building enablers and conditions for growth	• **Investment in educational infrastructures** e.g. new secondary schools and universities in Germany • **English Coalfields programme's** human capital elements 4	• **Skills, education and training** to ensure high quality human capital e.g. for the UK's creative and pharmaceutical industries; European Globalisation Adjustment Fund, European Cohesion Policy; Labour Market Boards in Sweden; Malaysia's Human Resources Fund; Train to Gain and Skills Accounts in the UK; Action Zones in peripheral North Norway, linking skills, business environment, infrastructure and skills offers • Actions to **integrate unemployed people** e.g. ESF • **Lifelong learning**, part of the Lisbon Strategy 5	• **Social dialogue** between employers/employees 6
Tilting the playing field, playing the role of principal actor/agent	• **Relocation of government owned industries** e.g. construction of new Air Force base in north of Sweden • **Creation of public sector jobs** in lagging regions e.g. UK 7	8	9

In the following paragraphs, we take each row of the typology matrix, and then each cell within it to highlight some of the types of interventions that have worked well (or less well) and why in achieving sectoral/spatial '*rebalancing*'.

5.2.1 Human capital: Setting the ground rules

1	2	3
4	5	6
7	8	9

Cell 2 includes a broad mix of actions relating to the labour market, for instance by giving regional, local or sectoral bodies the capacity to influence skills and learning policies, both spatially and sectorally. The networks of business-led Sector Skills Councils and National Skills Academies represent such interventions. The recent Plan for Growth outlined how Cogent, one of the UK Sector Skills

Councils, will support the supply of skilled labour to the life sciences sector (a key growth sector) by bringing employers and educators together to help ensure that biology training meets employer needs (HM Treasury and BIS, 2011). More generally, sectoral, regional and local bodies have been active in policies designed to:

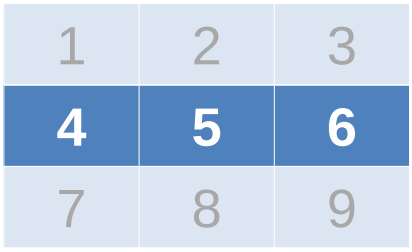
- develop workforce skills to increase the supply of skilled workers, for instance by focusing on demand led training programmes and skills for particular sectors;
- match people to jobs to improve the alignment between the supply and demand of workers and by helping marginalised workers to access opportunities for skills development, particularly in the context of sectoral '*rebalancing'*;
- support the development of educational infrastructure, often as part of a funding package to help an existing educational institution to develop facilities. These can assist sectoral '*rebalancing'*, or spatial '*rebalancing'* to improve the economic potential of resources. Analyses of the impact of RDA spending (Price Waterhouse Coopers, 2009) indicate that interventions supporting development of the educational infrastructure and hybrid people/skills interventions have amongst the highest returns, with returns to regional GVA (allowing for persistence effects) of £5.2 and £4.1, respectively, for every £1 spent.

Cell 3 comprises the design of *ground rules* with intangible outcomes. These can help create a legal and policy framework that facilitates labour market adjustments. Flexicurity is an example. It is an attempt to combine flexibility with security in the labour market. It marks a change in emphasis from job security to employment security through comprehensive lifelong learning strategies, effective active labour market policies, and adequate and sustainable social security systems. It is important in that it places emphasis on skills development to sustain and progress in employment, rather than focusing exclusively on getting into employment. An example of flexicurity policy from Sweden is the Career Transitions Agreements, designed to support workers made redundant by providing counselling, careers guidance, education and training. Survey evidence suggests that these have benefitted the individuals concerned. Likewise, in Finland, a similar concept of 'change security' was adopted which provided redundant workers with financial security during the period of transition from one job or sector to another and which aimed to increase cooperation between employers, employees and public authorities to support a quick return to work for those made redundant through sectoral restructuring (European Commission, 2008b).

Another important example of setting the ground rules relates to the treatment of benefits and mobility. There is widespread use of active labour market policies to tackle unemployment and imposition of requirements for geographical mobility (in terms of commuting to work) on unemployment benefit receipt. With the introduction of the Work

Programme and of 'payment by results', it will be in the interests of providers to develop relationships with local partners in skills and employment, transport, health and other policy domains, to help those out of the labour market to access employment. Evidence on the extent to which active labour market policies and benefit requirements encourage geographical mobility is mixed; although with job search and mobility support (through transport initiatives) mobility can be enhanced (OECD, 2005a). There have also been policies to encourage longer distance mobility through residential mobility. In the UK, attempts have been made to make it easier for tenants in the social rented sector to move by centralising information about housing and job opportunities, but these tend to have been small scale and are hampered by pressures on housing stock in more economically buoyant areas (ibid).

5.2.2 Human capital: Building enablers



Cell 4 includes tangible enablers such as measures targeting lagging regions, including coalfields and older industrial areas, in order to restructure the economy by building on accumulated competencies and promoting new business growth. It also includes approaches encompassing a general approach of investment in more and better human capital, adapted to business needs. In the UK, one example of the former has been the English Coalfields programme, which focused primarily on physical renewal, but which also involved human capital development and the promotion of enterprise and business growth, underpinned with venture capital. These human capital elements became more prominent, once their neglect was recognised. Likewise, investing in human capital has been part of a package of interventions in the Ruhr in Germany which also included support for research- and technology-based businesses and tax subsidies to promote inward investment. There, the investment in human capital has been substantial, including investment in new secondary schools and a fundamental expansion of the higher education system with a focus on applied sciences (i.e. STEM subjects). The evidence suggests that these interventions have played a role in providing skills to facilitate restructuring towards higher value added sectors.

In the UK, the current government budget outlines several interventions for skill enhancement. Of particular relevance to this theme is the expansion of University Technical Colleges, with the aim of creating 24 new institutions by 2014. Together with the continued growth of the UK Higher Education System that has been witnessed in recent years, this is likely to have a significant impact on the provision of STEM skills. The key issue is guaranteeing that the implementation of these policies links and integrates the supply of skills with the demand from businesses.

Cell 5 encompasses a raft of actions, including programmes for low skilled people, investments in lifelong learning, programmes to enhance intermediate skills, programmes to maximise the contribution of highly skilled people, and measures to enhance the flexibility of labour markets. The rationale for improving skills is to enhance social inclusion and to achieve sustainable growth and consistent competitive advantage (BIS, 2010c). Lifelong learning is recognised as key to helping economies deal with restructuring and respond to change and there is growing emphasis on making good information, advice and guidance a component of lifelong learning.

The European Social Fund is a key vehicle for helping those groups with poor skills and there is evidence that it has helped boost employment rates for older people and for women (European Commission, 2008b). At the intermediate skills level, there is increased funding in England for apprenticeships, with the aim of increasing numbers and reshaping provision to focus more on the technician level. In Germany, the long-established 'dual system' helps provide a strong base of technicians, through the integration of theoretical learning in vocational schools and practical workplace training. As a consequence, young people develop workplace skills before they leave school, with the state and the private sector involved. It aims to enable people to draw on theory and experience to solve a range of actual problems, and to develop the abilities to think analytically and creatively. The design and delivery of the policy are supported by social partners and employers and the system is well-resourced combining public and private funding (Hoeckel and Schwartz, 2010). The international case studies point to success in active policies to train people in the appropriate skills for the types of jobs forecast to grow. This is the case in Sweden, where Labour Market Boards, which are funded nationally but which operate regionally and locally, pursue such policies.

Cell 6 comprises *intangible enablers*, which are policies concerned with strategic coordination between different organisations (including both public and private) to achieve better skills provision, enhanced labour mobility and higher employment rates. The evidence suggests that skills development and investment in training need to be shared between employers, individuals and government. Evidence from the European Commission (2008b) indicates that social dialogue (i.e. consultation between employers and employees, and between social partners representing management and labour) can yield successful outcomes when faced with challenges of sectoral restructuring. There are examples from diverse sectors, including electricity, shipbuilding, the furniture industry, civil aviation, hotels and catering, of social partners identifying best practice and developing tools to anticipate and manage change. Underlining the importance of partnership-based approaches in dealing with sectoral restructuring (including in specific geographical areas), the European Commission (ibid, p.121) concludes that 'multi-stakeholder approaches are essential in finding effective and sustainable solutions to economic change'.

Interventions to promote high-performance working practices are also of relevance here. They highlight the important role played by employers, and more specifically the leadership of managers, in job design, promoting ongoing learning and development, and establishing performance management systems and effective communication processes which promote better quality employment, with positive outcomes for overall productivity, business performance and employee well-being. The evidence suggests that the most meaningful 'bundles' of factors are context-specific (UK Commission, 2010).

An evaluation of options to stimulate employer investment in skills (UK Commission, 2010) suggests that levies can be successful but careful design is key to this, and individual rights to take-up training often have relatively low rates of take up. There is limited evidence on public procurement policies on training overall, although such policies may enable targeting on those groups least likely to receive training. Improving dialogue on training between employer and employee is, as noted above, identified as a potentially powerful means of stimulating investment and take-up of training, especially when incorporated as part of institutionalised collective bargaining. There is also positive evidence on the role of inter-employer networks, with the proviso that these need to have considerable support from employers operating in similar sectors and/or with similar interests.

Assessment of the training system in the UK in terms of lessons from international comparators (Ashton, 2006) indicates that the UK is hampered by complexity and change in systems of funding and qualification frameworks.

5.2.3 Human capital: Tilting the playing field

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7	**8**	**9**

Cell 7 encompasses interventions such as the creation of public sector jobs to help struggling areas and to reduce the jobs deficit (which is contrary to *'rebalancing'* from the public to the private sector), and policies to respond to demand from growth sectors.

Historically, one policy response to help disadvantaged people into work and to address jobs deficits in particular regions and cities has been to create public sector jobs. This includes for example, the large relocation of government agencies in South Korea from Seoul to a lagging region, although it is too soon to evaluate the effectiveness of this policy. A similar process occurred in the UK, as demonstrated by the fact that most growth in peripheral regions in the 21st century was achieved through public sector growth. Most of these jobs were not necessarily moved from London and the South East, but were instead created to deliver new services. Nevertheless considering the pattern of wealth creation in the UK, this process can be characterised as a form of regional redistribution of resources. It had a positive impact in stopping regional divergence, but according to the current government

projections it was unsustainable in the long-term. Also, while this has increased employment in parts of the north of England, private sector employment creation has continued to favour London and southern England (Centre for Cities, 2010c).

There are differences between governments in the extent to which they see a valid role for the public sector in providing employment to disadvantaged people to address spatial imbalances in employment. For instance, the Future Jobs Fund which paid employers to create six-month jobs, especially for young people or those in unemployment 'hot spots', has been discontinued by the coalition government, and more emphasis has been placed on investing in apprenticeships. The Plan for Growth published in March 2011 also made provision for additional work experience placements for young people. As noted above (in Cell 5), there has been greater success internationally where Labour Market Boards have focused attention on sectors where employment opportunities are likely to grow.

5.2.4 Human capital: Key lessons

- Skills play an important role in wider packages of interventions, and in facilitating sectoral '*rebalancing'*.
- Interventions supporting the development of educational infrastructure and hybrid people/skills interventions have provided some of the highest returns of any human capital and skills interventions.
- The expansion of higher education, including specific targeting of applied sciences in some regions, has provided skills of value to sectoral '*rebalancing'*.
- Intermediary organisations can play a useful role in working with employers and education and training providers to ensure employers' demands for skills are identified and met, particularly during the process of sectoral '*rebalancing'* but also in specific places to ensure that capacity of local economies is maximised.
- Skills development and investment in training to enable the '*rebalancing'* process need to be shared between employers, individuals and government. Multi-stakeholder approaches can help achieve better skills provision.
- A flexicurity approach, emphasising lifelong learning and skills for sustaining and progressing in work, can yield positive outcomes for individuals, and create sectoral and spatial resilience.
- Lifelong learning is important in helping to deal with sectoral *'rebalancing'* and in responding to sectoral change. Information, advice and guidance (IAG) is a crucial component of lifelong learning.

- There is international evidence for the success of labour market policies in helping to deal with restructuring and in responding to change, both sectorally and spatially, especially when targeted at sectors with prospects for growth. This suggests that anticipating skills change is crucial.
- Public sector expansion in lagging regions can provide an important contribution to employment growth in these areas, but there can be doubts about its sustainability.

5.3 Business creation and development

Business creation and the development of existing businesses has been a core focus of economic policy for many decades. It is, therefore, the most represented theme amongst the population of interventions mapped onto the typology, with identified interventions occurring in almost every cell, as illustrated below.

Table 5.2 Summary of business creation and development actions

	Tangible	Mixed	Intangible
Setting the ground rules and direction/ promoting the efficient operation of the market	• **Enterprise zones** • **Øresund science region** • **Private sector leadership and investment to support *'rebalancing'*** (e.g. by investing in R&D in East Asia) 1	2	3
Building enablers and conditions for growth	• **Business and science parks, industrial complexes** (discussed under the Science theme below) • **England's Coalfields programme** 4	• **Business development and enterprise support** to stimulate business creation and growth e.g. Manufacturing Advisory Services (MAS) in the UK, 'Seedcamp' in the UK; the UK's Enterprise Investment Scheme, Enterprise Management Scheme and Early Growth Funds; Coalfields programme; the Phoenix Fund 5	• **Strong networking and collaboration** between firms in the industry and with public research institutes nationally and internationally. • **Mentoring networks** (discussed under the Science theme below) 6

	Tangible	Mixed	Intangible
Tilting the playing field, playing the role of principal actor/agent	• **Direct subsidies and incentives to firms to influence industrial locations of FDI and inward investment** e.g. UK policy in the 1960s and 1970s, Regional Selective Assistance (RSA) and Selective Finance for Inequalities in England (SFIE) • **Launch investment** e.g. to attract/determine the location of investments in the UK civil aerospace industry • **Relocation of government functions** e.g. relocation of Government functions in Korea • **Government procurement** i.e. Government as the 'smart purchaser' 7	• Programmes designed to **encourage restructuring of economies away from specific sectors** e.g. the EU's RECHAR, RESIDER, KONVER, RETEX programmes • **Picking winners** e.g. identification of 'spearhead' sectors in the northern provinces of the Netherlands; targeted support for specific sectors such as renewable energies or carbon efficient automobiles in Germany; innovation in green goods and services in Munich and Korea; manufacturing in France; telecoms in Sweden and Finland; UK policy in the 1960s and 1970s 8	• Trade **protectionism** from global competition, e.g. in the UK film sector 9

5.3.1 Business: Setting the ground rules

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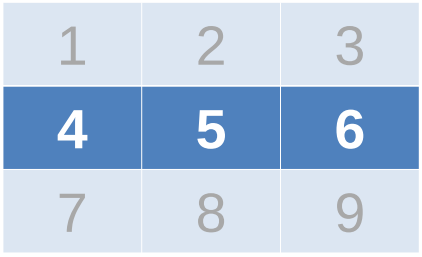
In Cell 1 are tangible measures that seek to set the ground rules and direct or promote the efficient operation of the market. The key UK intervention identified here is the creation of Enterprise Zones, which were introduced in the UK in the 1980s and offered a package of tax benefits and other incentives to firms that located within these areas. The policy has both a sectoral and a spatial emphasis, since it is aimed at manufacturing activities in specific parts of the country. Drawing on previous evaluation evidence, these policies had a limited impact on business creation for a number of reasons (Sissons and Brown, 2011): a high proportion of the jobs created (perhaps as high as 80%) were displaced from other areas and so the policies therefore did not deliver a net increase in employment; and their impacts tended to be shorter-term (around three years) and did little to change the long term economic prospects of the depressed areas in which they were located. They were also relatively expensive policies with a high cost attached to the new jobs created. They did, however, stimulate rapid investment from the private sector in the short term, but as argued by Sissons and Brown (2011), this momentum needs to be sustained. The reintroduction of Enterprise Zones by the current government will need to make sure that benefits are secured and sustainable, and care is taken to avoid some of the costs associated with this approach in the past.

5.3.2 Business: Building enablers



In *Cell 4*, there are a range of tangible spatially-directed measures targeting both lagging regions (such as old industrial or coal mining areas) and growth centres. The objective of the first is to restructure the local/regional economy by building on accumulated competencies and promoting new business growth, and to bring underutilised resources back into productive use. These measures are, as a result, expected to have an impact on spatial '*rebalancing'*. Nevertheless, success in this area is difficult, since the evidence from the UK and the case studies shows that the reversal of long-term regional decline is seldom achieved (Tomaney, 2009). The construction of science and business parks is covered under the Science theme below.

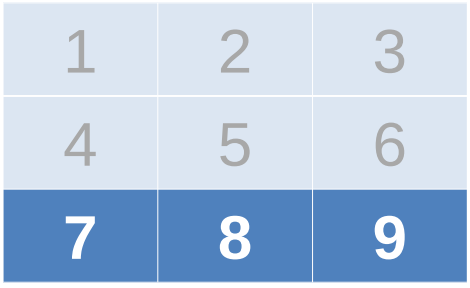
The *mixed* interventions in *Cell 5* emphasise the interaction between tangible investments and the intangible/soft links that emerge from agglomeration economies, and that generate knowledge externalities. Regarding the soft links, there are two distinct types.

- The spatial or sectoral intervention usually supported by regional or local authorities, such as the creation of platforms for business support. As our case studies in Germany (Munich region), Netherlands (Northern Provinces) or Sweden (Øresund region) demonstrate, these are most effective when delivered on a long-term basis by relatively autonomous administrations (see the Governance theme below for an example). They also benefit from an enabling social environment based on trust and opportunities for collaboration. However trust and collaboration tend to emerge from distinct sources: in countries such as Italy for instance, family and community are key institutions sustaining social cohesion, whereas in Northern Europe these soft links are mostly maintained through a close interaction between government, labour and the private sector (Hancké *et al.,* 2007). This indicates that any successful policy at this level must take into consideration the social structures and cultures underpinning relations between individuals and organisations in any given context.

- The second type is more generic, and forms part of a general trend towards better government and governance to support economic growth. Mixed interventions of this type also include the use of regional growth funds and other forms of financial aid to support targeted investments. The effectiveness of regional funds is a complicated issue. Using the example of cohesion policies, Barca (2009) argues that there are mixed results regarding the positive or negative impacts of regional transfers. Some programmes have been more effective than others but, in general, the trends towards growing inter-regional disparities have not been reversed. As a result, it is difficult to argue that they have a transformational impact, even if they might help ease the economic transformation of lagging regions.

Cell 6 contains *intangible* interventions for business creation and development, such as *investments in cluster renewal and development, better business support, promotion of trade, addressing capital market failures and investments in skills*. According to Barca (2009) econometric analyses of EU cohesion policies suggest that in the past there was an excessive investment in infrastructure, with ambiguous results. However the same studies indicate that investment in human capital has generally led to positive results, which highlights the importance and effectiveness of such policies. Barca (2009) also argued that success in any public policy is dependent on the existence and quality of strategic planning, the policy and institutional context, and the existence of administrative capacity. These factors are dependent on the adoption of medium-to-long term strategies, and they require an investment in the skills of the policy makers themselves, who must capable of learning from previous experience and of fine tuning policy instruments.

5.3.3 Business: Tilting the playing field



The interventions in *Cell 7* include targeted support for specific economic activities (e.g. renewable energies, carbon efficient automobiles), and the promotion of a de-concentration of Universities. Similar to interventions discussed earlier, success in such interventions depends on the existence of a whole package for investment, including a governance structure that remains stable over time, opportunities for testing and learning from past experience, and a combination of different types of investment (such as physical infrastructure, human capital or business support). Failure of such interventions tends to arise from decisions that are not supported by careful planning and a refinement of policy instruments. They also tend to fail when the political decision to invest is not backed up by a sufficient amount of resources, as was the case with the failed attempts at decentralisation highlighted in the South Korea case study.

Cell 7 also includes interventions designed to *influence business location decisions* through incentives and subsidies, and the *shifting of resources towards particular sectors, regions or outcomes*. These interventions further subdivide:

- The first type of intervention (influencing business locations) is similar to the creation of Enterprise Zones and therefore the challenges are the same: firms might be convinced to locate in new areas, but this does not automatically lead to a net creation of jobs. A different approach is represented by the attraction of FDI. This type of intervention can be very successful in prompting economic growth, generating technology and knowledge effects and increasing the number of jobs available, as seen by the cases of both China and Ireland over the last few decades. They do, however, have two potential drawbacks (Pike *et al*., 2006). The first is that countries or regions receiving the investment may become branch-plant economies, where the existence of big production units does not generate high levels of spillover effects that trickle down to the local economy because their value chains are located elsewhere. A second problem is the lack of control over location decisions which means that, in the long-term, local, regional or national authorities have very little capacity to prevent the closure of these production units. Northern Ireland, Wales and Scotland have suffered from these effects over the past decade.
- The second type of intervention, shifting of resources, can be very successful if it allows current growth centres (both on a regional and sectoral level) to achieve their full potential. This was the case in most of our case studies, where pivotal government investments have led to the growth of particular sectors and places where the country had a comparative advantage. It can however fail to achieve its proposed outcomes, particularly when government authorities attempt to create economic sectors in places where there are no accumulated skills or expertise (Tomaney, 2009).

Cell 8 includes interventions that explicitly 'pick winners', which has demonstrated varying levels of success in different countries and contexts. For example, Germany has placed an emphasis on shipbuilding, despite market forces, through very extensive dock investment, but this generally appears to have been unsuccessful; as have attempts to create a new fashion and design cluster in Daegu in Korea, which fell foul of the indigenous textile base (Hassink, 2005). Picking winners also featured strongly in UK policy in the 1970s, through selective industrial policies. However, these have been heavily criticised for providing disproportionate support to sunset rather than sunrise industries a tendency to 'cushion sleepy management' and reflecting a lack of political will to 'eliminate productive inefficiency' (BIS, 2010m). By contrast, East Asia has a long and focused emphasis on strategic industries, successfully managing over time the shift from labour- to technology-intensive

industries, with export-orientated industrialisation a major element of the strategy (Huang and Bocchi, 2009). Also, Sweden and Finland have effectively 'picked winners' in focusing on the telecoms sector, which has generally been a success although there is now concern, especially in Finland, around over-dependence on the sector, and specifically on one firm, Nokia. What is clear from this evidence is that these types of interventions must build on pre-existing strengths rather than transplanting sectors to areas where there is no previous history of related activities, and having the local community (employees and businesses) on board is critical.

Finally, *Cell 9* refers to protectionism, and gives the example of the UK's film industry. These types of measures also exist for other sectors, such as agriculture, although they did not feature in the literature reviewed. It is usually acknowledged by economists that protection from competition has negative long-term impacts in productivity growth and innovation, even if in the short-term it might facilitate growth. The British film industry has been successful at achieving growth by attracting foreign investment in the short-term, but the question is whether the industry can survive in the long-term, particularly if it suffers more intense competition from other markets.

Table 5.3 '*Rebalancing*' the economy: The case of the UK's offshore wind sector

'*Rebalancing'* the economy: The case of the UK's offshore wind sector

The UK's offshore wind sector potentially provides an example of sectoral (and potentially spatial) '*rebalancing'* in practice, and is relevant to the Business and Human Capital themes in this section of the report.

The Context

The UK economy is de-carbonising. The recent electricity market reform consultation paper highlighted that around 30 per cent of the UK's electricity needs to be provided by renewable sources by 2020 (principally onshore and offshore wind), up from seven per cent currently. With project roll-out beginning to gather pace, the UK currently represents the largest global market for offshore wind. Offshore wind in the UK is currently a nascent sector, and in international terms 'a follower with increasing momentum'. Between 2007 and 2010, the sector quadrupled in employment terms to just over 3,000 jobs.

The Opportunity

There are a range of employment forecasts in the current literature, with more due to be published later in 2011. Based on the existing forecasts, the upper end of employment growth forecasts are for around 40,000 jobs in the five stages of the supply chain for offshore wind by 2020. A significant amount of this growth is expected to take place from around 2015 onwards. A large proportion of jobs are expected to be in higher level occupations requiring degree level qualifications. In addition, a significant number of technicians (NQF Level 3) will be required. The location of jobs is dependent on a number of factors, including access to facilities such as ports and the location of existing industry suited to supplying offshore wind. Indicative mapping suggests the potential for clusters of activity in the following areas: the east coast of Scotland, the Glasgow-Edinburgh belt, the North of England (notably around Leeds, Sheffield, Manchester, Hull and Humber, Cumbria and parts of the North East), the Midlands (especially around Birmingham) and the South West and South Wales. The sector offers some potential for employment of former public sector workers from the armed forces (where state action as an employer may be desirable) as well as contributing to net trade balance as a result of import substitution and the

potential for export to international markets.

The enablers of 'rebalancing'

A key issue highlighted is the need for government to give certainty in the regulatory and pricing framework affecting offshore wind, as this will feed into improved confidence in terms of investments, workforce planning and skills. The state could also intervene through investment in physical and softer infrastructure, such as ports and other facilities (including for research and development) and supply chain initiatives. This will help to give confidence to the sector, highlight the opportunities to UK businesses and attract foreign investment. The skills requirements are characterised as using 'old skills' in 'new ways'. As a result, a major emphasis will be on recruiting individuals from other sectors (in particular from manufacturing and engineering) and topping up existing skills, including addressing specific offshore skill requirements such as survival training.

Issues

There are major challenges in terms of uncertainty and timing for the recruitment, training and induction of new staff. High levels of absorption of recruits are expected to be needed from around 2015. There is also an issue in terms of how many apprentices employers might need and the long lead times of training these. Government can help address this through introducing more flexible criteria in relation to apprenticeships. Coordinated action sectorally and spatially has been identified as being important to ensuring opportunities are capitalised on. However, whilst the devolved administrations are in a position to do this and have already made progress, the state of flux in sub-national arrangements in England presents a challenge. There is a risk that if the UK workforce cannot respond to up-skilling requirements and/or cannot be attracted to the sector in sufficient numbers, then opportunities will be lost to international (in particular European) labour and businesses.

Source: Dickinson et al. (2011)

5.3.4 Business: Key lessons

- Reversal of long term regional and sectoral economic decline is difficult to achieve. It is most likely to happen through long-term, contextual policy making, delivered by organisations that have built capacity over time.
- Investments in growth centres can achieve very positive results and may contribute to greater sectoral balance, even if they do not solve spatial disparities.
- Investment in human capital and skills is a key component of the '*rebalancing'* process.
- Good results in skills development are achieved when there is an alignment between skills provision and demand from business at the local and sectoral levels. This area of intervention also benefits from the existence of a varied set of institutions delivering different types of qualifications.

5.4 Science, innovation and knowledge

Science and innovation have been at the forefront of national and regional policy making in recent years. For that reason, a large number of interventions have been identified from the study's literature, covering seven of the nine cells of the typology.

Table 5.4 Summary of science, innovation and knowledge actions

	Tangible	Mixed	Intangible
Setting the ground rules and direction/ promoting the efficient operation of the market	• **Øresund science region** 1	• **Facilitation of co-operation and interaction between firms and other organisations**. e.g. England's RDA science, R&D and innovation interventions to increase collaboration between HEIs and businesses; Finland's Centres of Expertise, Øresund science region 2	• **Business friendly regulatory environments** e.g. protection of IP rights (e.g. in the UK Life Sciences sector), financial regulation, taxation and exchange rates • **Øresund science region, Finland's Centres of Expertise** 3
Building enablers and conditions for growth	• **Investment in R&D facilities and other physical innovation infrastructures** e.g. RDA programmes • **Science and Business Parks, industrial complexes** e.g. in Belgium, Netherlands, East Asia, Korea, and via Regional Development Agency activity in England 4	• **Science, R&D and innovation support** e.g. Korea; Swedish innovation policies such as VINNOVA, the Swedish Research Council • **Clusters and growth poles**, including regional innovation clusters e.g. Peaks approach in Netherlands, Centres of Expertise in Finland; competitive poles in France; cluster approach in Germany; Sweden's NUTEK Agency, Øresund 5	• **Mentoring networks,** particularly business networks e.g. Business Volunteer Mentoring Association (part of the Phoenix Fund), Creative Business Network in the UK, Danish Gazelles, Finland's Centres of Expertise, Øresund science region 6
Tilting the playing field, playing the role of principal actor/agent	• **Relocation of HEI functions** e.g. deconcentration of HEIs in Sweden and Finland • **Targeted support for specific sectors** 7	8	9

5.4.1 Science and innovation: Setting the ground rules

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Cell 1 includes tangible measures that set the ground rules, and that direct or promote the efficient operation of the market. The creation of the Øresund Science Region, a collaboration between southern Sweden and eastern Denmark fits into this category. This type of measure is concerned with creating the conditions that allow organisations, both public and private, to generate an environment conducive to science and innovation collaboration. It is a tangible example because there is a specific outcome (the

creation of a cross-national region) that is likely to have an impact on the area's economic performance.

In *Cell 2* are *mixed* interventions that *create the ground rules that facilitate cooperation and interaction between firms and other organisations such as the creation of regional policy networks involving businesses, higher education institutions and research organisations*. Regional innovation systems fall into this category, including those created by the RDAs in the UK. These are classified as mixed interventions because they include the creation of organisations but also an investment in intangible factors such as networking and the generation of knowledge externalities.

Cell 3 refers to the intangible elements of these interventions. Their broad objective is the *promotion of networking and closer interactions between firms, HE and other organisations with the aim of stimulating innovation*. The Cell includes some of the interventions mentioned in Cells 1 and 2, plus the creation of Centres of Expertise in Finland, but the focus here is on the intangible elements of science and innovation: networks and collaboration between private, semi-private and public organisations. As demonstrated by the fact that the Øresund Science Region is in all three Cells of this row, a regional or local policy that aims to stimulate science and innovation is likely to comprise tangible, mixed and intangible elements. The reason for this is that research has shown that innovation and science benefit from the existence of organisations with the capacity to produce and exploit knowledge, but also from the existence of a social environment conducive to the exchange of ideas, entrepreneurialism and experimentation (OECD, 2010f).

Two examples of regional innovation systems that span the 'Setting the Ground Rules' row are the Øresund Science Region mentioned above and the Assembly of the Northern Netherlands Provinces. Both interventions have had a positive effect on their respective local economies and, in particular, integrated regional innovation systems have played an important role in developing the capacity to support entrepreneurialism and business development (Lundquist and Trippl 2009; SNN, 2011; Dühr, 2009). Examples such as these have also been central in EU policy for spatial development. The pre-requisites for their success were that:

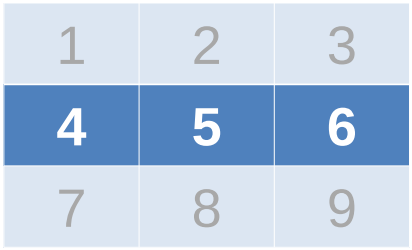
- they exist within a national governance system where local and regional authorities have considerable autonomy from central government. Therefore there are ample opportunities for developing an effective bottom-up approach that responds in a flexible way to the needs of the local economic, scientific and research base;

- they build on accumulated competencies in their economic and research base. In both these regions, there is a strong presence of higher education institutions which can be geared towards serving the needs of businesses and can be integrated into public-private networks;
- they are the product of medium to long-term political relationships that are allowed to remain over time as a result of their autonomy from central government. The Øresund Science Region is more than 10 years old, and grew out of political networks that date back to the early 1990s. The Northern Assembly was created in 1994 and has already passed through several stages of planning and implementation that allowed it to accumulate capacity and learn from previous experiences.

Both these examples have influenced the thinking behind the creation of RDAs in the UK. However, the latter differed in important ways:

- RDAs did not emerge organically out of local and regional links and were instead designed largely from above;
- RDAs remained dependent on state funding and decision making, and therefore lacked the autonomy to pursue fully their own agendas;
- RDAs would have likely benefited from a more stable and long term existence, since it would have allowed them to build capacity and improve their policy delivery.

5.4.2 Science and innovation: Building enablers



In *Cell 4*, the actions comprise targeted investments in physical infrastructures such as industrial estates and science parks, investments in human capital and support for research and technology-based businesses, and the use of both fiscal transfers (such as the European structural funds) and tax breaks to promote business investment. The recent announcement by the UK government in the Plan for Growth that it would increase tax credits for SME investment in R&D fits into this category. The objective of these measures is to create the conditions that allow firms and other organisations to generate and absorb the knowledge necessary to innovate and grow.

Research cited by the OECD (2010f) indicates that investment in physical infrastructure tends to have a limited impact on innovation capacity. For example, the proliferation of science and technology parks in the 1990s and early 2000s in developed and developing countries has tended to deliver results below expectations. This was particularly the case

when the new technology-based sectors did not have any relation with previous local economic specialisations. Investment in research organisations has also often delivered limited results, particularly when these are not integrated into a wider governance structure that can create the links between these organisations and the private sector. In some cases, these organisations end up serving the economic base elsewhere, where there are entrepreneurs and businesses with the skills to take advantage of the knowledge being generated.

Another important dimension of these interventions is the provision of tax credits and other incentives to stimulate R&D. The evidence reviewed identified limits to the effectiveness of R&D tax incentives. Firstly, R&D tax credits do not recognise the importance of 'hidden innovation' in several sectors that contribute significantly to employment in the UK (NESTA, 2007). 'Hidden innovation' occurs when new ideas are explored and implemented as part of the productive process, and not as a separate activity that can be measured as R&D investment. Therefore, a significant amount of firms are likely to find it difficult to claim tax credits, even if they are innovative. A second problem is that tax credits do not deal with the lack of capacity in less competitive SMEs, and instead privilege those that are already innovative. They therefore do not deal with long-term issues of increasing innovation capacity, even if in the short-term they might have a significant impact in supporting some SMEs.

Cell 5 refers to *mixed* interventions that *combine both an investment in physical or organisation infrastructures, but also the more intangible elements of human capital and R&D potential*. It includes actions such as creating world-class research departments at elite universities, the provision of highly trained workers, an increase or protection of R&D spending, and the identification of sectors or regions with growth potential that should receive targeted support. An example of such an intervention is the recently announced Technology and Innovation Centres in high value manufacturing that is part of the UK government's current growth strategy. Its objective is to integrate the activities of a number of existing research centres in Rotherham, Coventry, Strathclyde, Sedgefield, Redcar and Bristol.

Cell 5 also includes science and innovation clusters or growth poles. An example here is the concept of Centres of Expertise in Finland, which are summarised in the Table below. Please turn to Volume 2 for the full case study report.

Table 5.5 Centres of Expertise in Finland

Centres of Expertise in Finland

Following an economic crisis and major fiscal consolidation in the early 1990s, Finland made a strong recovery and successfully 'rebalanced' the economy at a macro level (led by growth in exports) and saw rapid growth in the share of GVA generated by manufacturing, specifically, high value added, innovative manufacturing.

Alongside the fiscal consolidation of the early 1990s, the Finnish government introduced supplementary long-term measures to improve the competitiveness of Finland's economy. This included creating Centres of Expertise geared towards technological innovation and specialist clusters, which built upon Finland's strong engineering inheritance. The Centres of Expertise aimed to enhance collaboration between businesses, research institutes, universities and polytechnics and other partners, encourage SME growth and the commercialisation of innovation, and increase exports. Centres of Expertise were self-selected regional hubs, received relatively small funding incentives from central government (despite the Centres having high status in Finland's innovation policy) and employed science parks as operational platforms. The Centres generated public-private project collaborations, which focused on the diversification and renewal of the industrial structure within each region.

Evaluation evidence of the eight Centres of Expertise active between 1994 and 1998 shows that the programme resulted in the creation of around 8,000 new jobs, contributed to the renewal of 7,000 jobs, established 290 new high-technology enterprises and attracted 130 businesses to areas in which Centre of Expertise are located (Hamalainen *et al.*, 2000). Following expansion of the programme to smaller regional centres between 1999 and 2005, the Centres of Expertise created an additional 12,000 knowledge intensive jobs, safeguarded a further 23,000 jobs, set up 1,100 new high technology businesses and trained 90,000 people (IRE, 2011). The programme has encouraged businesses to export, enabled close working between educational institutions and business (to ensure skills met the changing needs of businesses) and successfully directed limited resources towards exploiting regional strengths and opportunities. Creating a decentralised network of HEIs in regions and having skilled resources available has been an important factor in the success of Centres of Expertise.

Other key factors that contributed to the success of '*rebalancing'* the economy following the economic crisis were as follows:

- Policies were consistent over the long-term and focused on creating the conditions for growth at the micro level.
- High educational achievement, especially in subjects that enabled technological change, had been a priority for three decades preceding the economy's '*rebalancing'* period. Consequently, Finland had a strong platform to build on.
- During fiscal consolidation, the government protected spend on R&D and tertiary education, introduced polytechnics and apprenticeships, and quickly increased the number of HEI places in response to skills shortages in growing sectors.

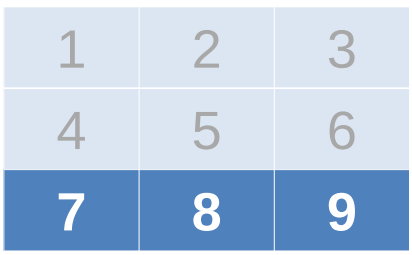
Cell 6 refers to the intangible elements that allow regions to grow. The emphasis of these interventions is similar to those in *Cell 3* and is about *investing in the immaterial elements that constitute an innovation system, such as networking and inter-firm linkages*. However, in this case policies aim to stimulate these elements in a proactive fashion, rather than just

creating the conditions that allow them to develop of their own right. Interventions include: the introduction of new economic actors into an innovation system (for example research institutes or design schools); active promotion of innovation networks and platforms, that might include public organisations, in order to generate the positive externalities that are typical in clusters; and promoting the creation of centres of expertise, that lead to regional specialisations, innovation networks, and interactions between research organisations and businesses.

Investments targeting human capital and soft infrastructures in the context of science, innovation and knowledge, have had some positive results, although their impact has varied from context to context. According to the OECD (2010f), skills development is the most effective form of investment, although as with science parks, it needs to be integrated with the grain of the local economic base. Skills development also benefits from the existence of a varied set of institutions offering both highly qualified scientists and technical courses for medium skilled workers.

The focus on the soft features of innovation and science (networks, entrepreneurialism) has had more mixed results (Tödtling and Trippl, 2005). These policies are less effective when they are implemented without the appropriate resources to fund and build capacity in the different organisations that comprise the local or regional innovation system. Such networks can also be appropriated by rent-seekers who are mostly concerned with maintaining their position within the economic or political system, which might lead to a situation of lock-in and negative path dependency. These policies have also underdelivered when they have not paid sufficient attention to local specificities and have instead attempted to implement one-size-fits-all approaches. This was the case with the Silicon-Valley replicas that emerged in many parts of the world (Hospers, 2006) and tried to imitate the socio-economic conditions that underpinned the success of the Californian region. As Tödtling and Trippl (2005) explain, different regions will manifest different strengths and shortcomings, depending on their economic structure, urban-rural composition, and governance traditions. In order to intervene at this level it is, therefore, necessary to identify the specific conditions that sustain or hinder networking and entrepreneurship in particular places.

5.4.3 Science and innovation: Tilting the playing field



In *Cell 7* are the *tangible interventions* that *tilt the playing field*, or where the government *plays the role of the principal agent*. Interventions include targeted support for specific areas (such as renewable energies or carbon efficient automobiles), and more specific actions like the deconcentration of university clusters. Interventions such as

these are created to steer the progress of innovation and science production in a certain direction that might have sectoral and/or regional impacts. For example, in Finland the deconcentration of universities has played an important role in providing the skills and knowledge required at the Centres of Expertise as noted above. The objective has been to generate critical mass in different parts of the country that can help businesses and labour markets in generating the necessary skills and R&D to support innovation, and has generally been successful.

5.4.4 Science and innovation: Key lessons

- Developing innovation capacity in lagging regions requires a long-term strategy of reconversion of traditional sectors and developing new areas of activity in related activities.
- The existence of strong research centres (namely higher education institutions) is a crucial asset, although their skill provision and research output might need to be realigned along the needs of the local/regional economy.
- Integrated approaches are the most effective. They involve the private and public sectors, the provision of appropriate skills, the creation of platforms for collaboration between businesses and other organisations, and a stable political environment that can sustain the long-term delivery of infrastructure and other public goods.

5.5 Land use, transport and infrastructure

There is a relatively long history of land use, transport and infrastructure interventions having been used either on their own, or in tandem with other interventions, to stimulate growth and to help address spatial and/or sectoral '*rebalancing'*. In general, the study's literature suggests that there has been a general shift away from a narrow focus primarily on large scale physical infrastructure interventions towards interventions that are broader in scope, incorporating socio-economic elements relating to education and employment. Moreover, there has been a trend towards more targeted interventions, aimed at fostering regional potential and capabilities (OECD, 2010d). In part, at least, this direction of change reflects the experience of success and failure of different interventions.

Land use, transportation and infrastructure actions are found in four of the nine cells of the typology.

Table 5.6 Summary of Land Use, Transport and Infrastructure actions

	Tangible	Mixed	Intangible
Setting the ground rules and direction/ promoting the efficient operation of the market	1	2	• Liberalising **planning rules** to enable agglomeration or promoting house-building to create new centres of growth (e.g. Korea) 3
Building enablers and conditions for growth	• **Transport actions** e.g. investment in strategic transport infrastructures in Germany; investment in transport to promote economic development in large countries such as Canada, Australia, Nordic Countries; addressing congestion in London • **Business and science parks, industrial complexes** e.g. in Belgium, Netherlands, East Asia, Korea, and via RDA activity in England • **Housing construction**, including social housing provision in Germany • **Land remediation, public realm investments** e.g. RDA investments to enable redevelopment, English Coalfields programme 4	5	6
Tilting the playing field, playing the role of principal actor/agent	• **Creating place-specific, state subsidised bodies to stimulate urban development and revitalise derelict areas** e.g. Urban Development Corporations (1980s-1990s); City Challenge programme (1990s) 7	• **Planning decisions** that favour specific sectors/places for physical development 8	9

5.5.1 Infrastructure: Setting the ground rules

1	2	3
4	5	6
7	8	9

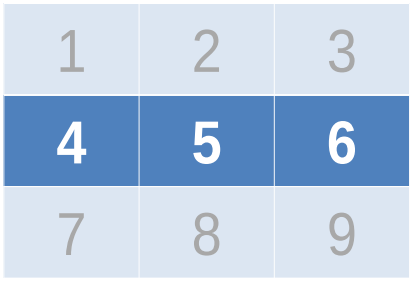
As shown in *Cell 3*, actions here include land use and planning regulations to encourage investment in specific areas. In the UK, Industrial Development Certificates represented a negative control over the location of industry, designed to shift industrial expansion away from congested areas in London to Development Areas by requiring anyone wishing to construct an industrial building over a certain size to obtain an Industrial Development Certificate from the Board of Trade before doing so. Evidence suggests that if it came to a choice between granting a certificate for expansion in London and such expansion not taking place, then a Certificate would be granted. Moreover, loopholes in the legislation allowed the conversion of smaller structures into a single factory, and conversion of land use types from non-industrial to industrial. While Industrial

Development Certificate policy had some effect upon the location of industry, it had limited impact on spatial imbalances in unemployment rates (Miernyk, 1969). This suggests that policies exerting negative control in some areas are limited in the extent to which they necessarily encourage growth elsewhere.

The planning system has been identified as a focus of attention in the March 2011 Plan for Growth (HM Treasury and BIS, 2011). The aim of coalition government initiatives is to reform the planning system so that it promotes economic growth and jobs. Amongst the measures announced is a new presumption in favour of sustainable development, and a streamlining of planning guidelines and consents to speed up the decision-making process. The idea is to increase available land supply, for both commercial and residential uses.

Cell 3 also includes *providing appropriate infrastructures to sustain growth centres*. It is salient to note that some of the most successful interventions have been those providing appropriate infrastructures to sustain growth centres and support them in achieving agglomeration advantages for business (BIS, 2010m). At the local level, the UK government is keen to create a framework of incentives for local authorities to help them to deliver sustainable economic development through additional investment locally by introducing new borrowing powers to enable them to take a more active role.

5.5.2 Infrastructure: Building enablers



Cell 4 includes *interventions concerned with identifying strategic areas for infrastructure investment*. In Korea, for example, the first territorial plan (1972-1981) was concerned with the construction of key basic infrastructure and improvements to the living environment. The second territorial plan (1981-1992) included construction and expansion of the transport infrastructure. Investment in high speed rail, the mass transit system, maritime and aviation infrastructure stimulated economic development. It was only later that the emphasis shifted towards quality of life and enhancing competitiveness (see Korea case study for further details). Korea is exceptional in terms of its speed of industrialisation and change, but a similar trend away from a specific focus on physical infrastructure towards a more general concern with social improvements is evident at a more localised scale in city planning in the Netherlands and Germany (Leuing and Swaffield, 2008).

Cell 4 also includes *investment in physical infrastructure as a tool to enable further growth and address congestion in growth areas and/or to develop poorer regions*. Reference is made in *Cell 3* actions to the importance of infrastructure to sustain growth. In the case of London, investment in enhancing integration of the transport infrastructure so as to reduce

congestion (Centre for Cities, 2010c) and enhance the development of the city as a business hub has been important in sustaining the agglomeration economies that are important for the financial service sector (BIS, 2010m). This highlights the fact that infrastructure plays a key role in supporting agglomeration. Plans for a second high speed railway in the UK (HS2 from London to the Midlands and the north) is designed to enhance connectivity and so stimulate economic development, while at regional and inter-regional scales investment announced in March 2011 for rail projects such as a new train link between Manchester Piccadilly and Victoria stations are designed to alleviate bottlenecks in the transport system and reduce journey times.

There is a long history of investment in physical infrastructure in poorer regions, or regions experiencing the demise of traditional sectors. In the Ruhr in Germany, there was huge investment in physical infrastructure to provide foundations for sectoral restructuring away from coal and steel. Crucial here, as in coalfields in the UK, was addressing physical degradation of the landscape as a foundation for bringing land back into use and stimulating regeneration, including the development of business parks, which helped in attracting and growing alternative employment. In the case of the Ruhr, an added bonus has been the opportunity to showcase the transformation that has been achieved as part of the Ruhr 2010 European Capital of Culture. In those parts of England which were also previously dependent on coal and steel, there has been an emphasis on addressing physical degradation and investment in infrastructure. Evidence from the RDA evaluation (Price Waterhouse Coopers, 2009) indicates that relatively high returns from investment can be expected from cross-cutting regeneration interventions including a physical infrastructure component. Public realm interventions have lower returns on investment at the outset, but are likely to build and so improve over time.

Cell 4 also encompasses *investment in public services and accessibility, including construction of housing*. The experience of the Netherlands points to success in investing in upgrading the physical environment, especially in relation to housing and transport. There has been particular emphasis on matching labour market access to public transport and infrastructure at city level (Leuing and Swaffield, 2008) so such interventions fit into Cell 5 (mixed interventions) of the typology as well. This suggests that investment in public transport can help facilitate access to employment opportunities. At local level there is scope for employers to work with the public employment service and transport providers to help encourage worker mobility and enhance awareness of services available. In England outside London, Merseytravel (in Merseyside) and Centro (in the metropolitan West Midlands) have strong track records in this regard (PTEG, 2010).

Whilst transport matters in facilitating access to employment, the housing market also plays an important role. Inter-regional house price differentials can discourage mobility for owner-

occupiers, and spatial mobility (except at the very local level) is limited amongst tenants in the social rented sector. While attempts to centralise information about social housing and job opportunities are helpful in fostering mobility, the shortage of housing in some areas is an obstacle to mobility. Except in Germany, the tendency across most OECD countries has been to neglect investment in social housing.

In Germany (in both the Ruhr and in Munich) targeted investments in strategic transport and in science parks and higher education facilities have taken place alongside investments to help foster innovation and particular sectors in human capital and innovation policy with some success. This illustrates the value of intervention 'packages' across policy themes. As noted elsewhere, strong governance structures at city region and state level have been important here in setting the framework for such investments.

5.5.3 Infrastructure: Tilting the playing field

1	2	3
4	5	6
7	**8**	**9**

Cell 7 incorporates interventions concerned with s*timulating urban regeneration to revitalise derelict areas and modernisation of transport systems*. In general, there is some similarity here with the policy initiatives outlined in *Cell 4*. Urban Development Corporations are an example of this type of intervention as part of the emphasis was on enabling expansion of business into more modern premises, and in Sheffield and Tyne/Wear there was some success in this regard. Likewise, City Challenge and the New Deal for Communities sought to support the regeneration of disadvantaged areas through locally devised and time limited plans. Improvements to the physical environment took place alongside interventions to stimulate an enterprise culture. In the case of New Deal for Communities, the evidence suggests that, among comparator areas, improvements to housing and the physical environment are easier to achieve than improvements in education (Batty *et al*., 2010).

Cell 8 includes *planning decisions and actions that favour particular areas or sectors*. The Netherlands has been relatively successful in sustaining the key economic growth centres in the centre of the country, such as Schipol airport and the port of Rotterdam, as investment is explicitly favoured towards these areas in the spatial strategy (see the Netherlands case study for further details). The UK renewable energy sector, and more specifically wind energy, is also an example where green energy is prioritised. Please Table 5.3 for further information on the UK offshore wind sector.

5.5.4 Infrastructure: Key lessons

- In some areas, investment in physical infrastructure is a necessary precursor to sectoral '*rebalancing'*.
- In general, there are benefits from making investments in physical infrastructure to support policy interventions in other domains (i.e. from broad policy approaches).
- Investment in public transport infrastructure can assist people in accessing employment opportunities, so assisting both spatial and sectoral '*rebalancing'*.
- There have been successful interventions to sustain comparative advantage and strategically important sectors in growth areas (i.e. supporting growth, but countering sectoral and spatial *'rebalancing'* objectives).
- It is easier to sustain existing growth through land use, transport and planning interventions than to encourage balanced growth.

5.6 Fiscal and regulatory regimes

Interventions relating to fiscal and regulatory policy are sometimes features of mixed and intangible interventions. Such interventions are less prominent than those relating to science and innovation, business creation and development, and human capital and the labour market. The interventions the literature and case studies have highlighted all fall under 'promoting the efficient operation of the market' row of the typology.

Table 5.7 Summary of Fiscal and Regulatory actions

	Tangible	Mixed	Intangible
Setting the ground rules and direction/ promoting the efficient operation of the market	1	• **Fiscal transfer policies** such as subsidy schemes that stimulate growth in particular sectors/places e.g. Green Investment Bank in the UK • Tax allowances for investment and R&D • Business friendly environments, such as National Insurance Tax Breaks for employers in lagging regions in the UK 2	• **Legal and policy frameworks to facilitate labour market adjustments** e.g. flexicurity in Sweden and Finland; reducing real estate transaction costs; designing employment and housing benefits to promote mobility in Germany and Sweden • **Labour market deregulation** • Liberalising **planning rules** to enable agglomeration or promoting house-building to create new centres of growth (e.g. Korea) • **Business friendly regulatory environments** e.g. protection of IP rights (e.g.the UK Life Sciences sector), financial regulation, taxation and exchange rates • **Currency depreciation** to aide export growth (e.g. Finland, Korea) • **Regulation** such as carbon pricing 3
Building enablers and conditions for growth	4	5	6
Tilting the playing field, playing the role of principal actor/agent	7	8	9

5.6.1 Fiscal and regulatory: Setting the ground rules

1	2	3
4	5	6
7	8	9

Cell 2 includes a range of actions intended to promote the efficient operation of the market. As well as macro policies to achieve economic stability, measures here might be designed to set up a business friendly regulatory environment (such as National Insurance breaks for employers in certain lagging regions), the adoption of fiscal transfer policies that stimulate growth in particular regions or sectors, and more focused fiscal policies and regulations which aim to achieve similar objectives or specific outcomes (such as more efficient energy use). It has been argued on the basis of past experience that a more sophisticated policy is needed than primarily macro adjustments (Claessens *et al*., 2010). On the other hand, tax breaks and subsidies may complicate the tax system and distort incentives (The Economist, 2010a). The implication is that clarity in the tax system, and streamlined regulation, are desirable.

There is considerable interest internationally in fiscal incentives to promote investment in certain sectors, such as manufacturing and green technology where the Green Investment Bank announced in the March 2011 Budget is a case in point. As yet, there is no strong evidence on the success of measures to promote green technology. Subsidy schemes can build up huge liabilities if not carefully thought through, as in the case of a fixed price subsidy scheme for solar energy in Spain where the government picked up the extra cost to consumers and placed no cap on the number of plants that could claim subsidies (The Economist, 2010b; Agosti and Padilla, 2010). More generally, there is a danger that subsidy regimes focused on particular sectors can distort the market and reduce competitiveness of those receiving subsidies (Frondel *et al*., 2010). A more effective approach is likely to involve using pricing mechanisms (e.g. setting a carbon price) to stimulate demand for certain types of products and services and then leaving individual products to emerge from the market (The Economist, 2010b).

The objective in *Cell 3* is to set up a regulatory environment that facilitates economic growth and competitiveness, including the protection of intellectual property rights, financial regulation, promotion of exports and reduced real estate transaction costs. In the UK, a well-established intellectual property rights regime has been identified as giving the life sciences a comparative advantage (BIS, 2010m). Similarly, the UK regulatory environment has been identified as a contributory factor to the growth of financial services in London in the 1980s. That said, the fact that there was already a strong agglomeration on which to build, and that the more general policy environment favoured globalisation and deregulation were also contributory.

These examples illustrate how a positive regulatory environment can allow already strong sectors to flourish. In a more challenging context, the example of Finland above (see Table 5.5) shows how a strategy of fiscal consolidation in response to economic crisis in the mid 1990s, while protecting and increasing spending in R&D and maintaining spending on tertiary education, has yielded long-term benefits for the economy by building and developing fundamental strengths in the knowledge base. Supplementary measures to improve the competitiveness of Finland's economy involved a greater emphasis on microeconomic policies to create conditions for growth, by prioritising skills and entrepreneurship interventions.

5.6.2 Fiscal and regulatory: Key lessons

- Subsidies may not be successful in the long-term because they distort incentives and suppress competitiveness.
- Pricing mechanisms may have some success in stimulating demand for certain types of products and services.

- For longer-term success a strategy of fiscal consolidation needs to be accompanied by investment in R&D and skills to provide a foundation for growth.
- Fiscal and regulatory policies can play some role, albeit generally indirect, in fostering employment and in the development of skills in particular sectors and places.
- A favourable regulatory environment can help foster success where other conditions are conducive to growth.

5.7 Governance

Governance is the final theme that has been used to understand what works in terms of practical '*rebalancing'*. The role of governance systems and regional policy is central to almost all interventions aimed at *'rebalancing'* national economies. At the same time, the impacts of governance and regional policy on economic growth are hotly contested and difficult to demonstrate conclusively. In that respect, governance and regional policy might be said to be an inherently intangible intervention, focused on coordination and mobilisation of actors and resources. Moreover, in England, many interventions that in other countries would be initiatives of sub-national jurisdictions tend to be enacted by central government. In this regard, regions with high levels of political autonomy are able to be early movers in new industries by creating distinctive regulatory regimes. For instance, the State of California has become a national and world leader in the generation of green jobs and at least part of the story has been attributed to regulatory interventions, notably the California Global Warming Solutions Act (AB 32) signed into law by Governor Schwarzenegger in 2006, although the direct effects are difficult to prove.

Table 5.8 Summary of Governance actions

	Tangible	Mixed	Intangible
Setting the ground rules and direction/ promoting the efficient operation of the market	1	2	• **Provision of clear and efficient governance mechanisms** to enable horizontal co-operation between Ministries in Finland and Korea; support for pan-regional co-ordination such as The Northern Way; enable vertical co-ordination (e.g. Denmark's Regional Growth Forum) • **Regional Governance** to establish guidelines for investment priorities, manage co-ordination mechanisms e.g. Swedish Growth Agreements, Northern Netherlands Assembly 3

	Tangible	Mixed	Intangible
Building enablers and conditions for growth	• Role of regional institutions in co-ordinating programmes • Property elements of programmes such as RECHAR, RESIDER, KONVER, RETEX 4	• Local partnerships as governance structures e.g. LEPs and SRB 5	• **Local capacity building and cohesion** e.g. coalfields programme; ESF, ERDF and Cohesion Funds 6
Tilting the playing field, playing the role of principal actor/agent	• RDAs as governance structures 7	• Subsidies and incentives to influence the location of businesses 8	• Informal/semi-formal governance arrangements for city regions 9

5.7.1 Governance: Setting the ground rules

1	2	3
4	5	6
7	8	9

Cell 3 contains intangible interventions of a regulatory type. Regional governance systems typically provide an overarching framework for regional development policies, establishing guidelines for investment priorities, managing co-ordination mechanisms and dealing with challenging cross-thematic issues that remote central governments find difficult to address. Emerging city region structures, in cooperation with Lander governments, appear to have played this role effectively in Germany. The regional tier has also proven to be useful for achieving horizontal cooperation between ministries as demonstrated by the Swedish Regional Growth Agreements which align the investment priorities of central, regional and local government, and in the Netherlands where a Northern Netherlands Assembly has been created which represents regional interests at national and European levels (see Table 5.9). Governments can also play a national role in framing policies for sectors of national importance, such as the South Korean government's standard setting policies aimed at stimulating the development of world class IT industry, which can be said to have been successful to date. Pan-regional initiatives, such as England's Northern Way initiative illustrate the advantages of co-operation and co-ordination between places, especially on policy areas such as innovation, strategic transport and energy which all span administrative regions.

Table 5.9 The 'rebalancing' experience in the Netherlands

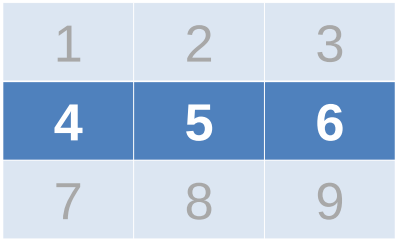
The '*rebalancing*' experience in the Netherlands

According to Alexander (2009, p.383), municipalities in the Netherlands tend to resist "the national policy of 'concentrated deconcentration' because they want to grow, whether they are in a selected growth centre or not". This explains why, in 1992, the provinces of Drenthe, Fryslân and Groningen decided to create the Northern Netherlands Assembly (SNN), with the aims of defining a common strategy, developing a regional policy and defending their interests at the national and European levels (2005, 2011). Their first strategy, 'The Northern Compass' was approved in 1998, with a successor strategy covering the period from 2007 to 2013. The dates of the latter strategy are aligned with the current funding package from the European Union.

Since its creation, a prime concern of the SNN has been reinforcing its core zones, around the cities of Groningen-Assen, Leeuwarden and Emmen, by emphasising the quality of urban infrastructure and the services provided, and by protecting of the countryside as an important natural asset. The Assembly has also emphasised the role of this region in providing transport links between the Western cities and North-eastern Europe.

In its current 2007-2013 strategy, the Northern Assembly identifies three areas for regional policy intervention: investment in innovation and the development of a knowledge economy; developing a competitive and liveable environment in its urban centres; and strengthening the countryside. The first area has been developed through the identification of three key areas: Energy Valley, Water Alliance, and Astron/Lofar. The latter is based around an existing centre of astronomy competence and new projects that are being created. All these are areas in which the region already has some acquired competencies, and they break down into a range of 'spearhead sectors': agribusiness, chemistry, commercial care for elderly people, life sciences, IT, shipbuilding and tourism.

5.7.2 Governance: Building enablers



Cell 4 is concerned with tangible interventions aimed at enabling the conditions for growth. In general terms regional policies have recently moved towards the aim of exploiting the potential of endogenous assets and local networks and, instead of reacting to existing problems, regional policies have become more pro-active and forward-looking. Most regional policies are no longer solely preoccupied with the challenges facing declining regions, but with growth potential based on regional assets across all regions as well. The OECD describes this as the 'new paradigm' of regional policy and strongly emphasises the role regional institutions as coordinators and animators of these activities. The creation of the English RDAs was influenced in part by early thinking on this.

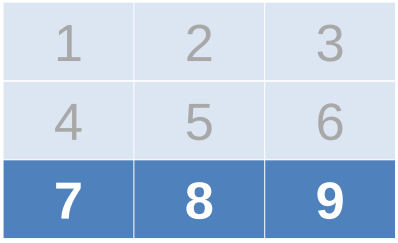
The ‘new paradigm’ is arguably codification and iteration of insights gained from ‘best practice’ interventions enacted through the European Structural Funds and Cohesion Funds which were intended to establish new growth trajectories in lagging regions. Community initiatives such as RECHAR (for coal dependent regions) RESIDER (for steel dependent regions) KONVER (for defence dependent industry regions) and RETEX (for clothing and textile dependent regions) supported a range of intervention such as the conversion of buildings, support for new economic activities, promoting tourism, organisations supporting regional development, support for training and employment, interest subsidies on loans for small businesses, economic diversification, advisory services, networking and partnership schemes, business audits, training for employees made redundant.

Cell 5 concerns *mixed interventions aimed at enabling growth.* These might include the centrally promoted local partnerships that have been introduced in the UK, such as City Challenge, Single Regeneration Budget and, latterly, Local Economic Partnerships. Interventions by regional authorities vary considerably reflecting the level of jurisdictional authority, but might include the science and innovation policies enacted by the cross-border Øresund Science Region, involving Swedish and Danish policy makers and private sector actors which has promoted heavy investments in higher education and the science, which appear to have underpinned the region’s designation as one of Europe’s top knowledge regions. Such interventions are replicated by regions across Europe through the trend toward the creation of Regional Innovations Systems, involving significant, if diverse, investments in human capital.

Cell 6 is concerned with *intangible interventions aimed at enabling the conditions for growth*. The EU’s regional policy, enacted through Structural Funds, emphasises the importance of integrated, placed-based approaches that seek to mix soft and hard forms of policy intervention in systems of multi-level governance. These approaches are seen as crucial to the identification, assessment, and exploitation of local assets with growth potential, especially those relating to skills and innovation capacity. This mixed approach is also endorsed in recent work by the OECD, which suggests that regions with diverse spatial and sectoral characteristics are capable of growth based on well-founded strategies. The Swedish Regional Growth Agreements exemplify this approach aimed at coordinating the activities of a range of public and private actors in the region including regional and central governments and their agencies, often including targeted investments in high level skills.

5.7.3 Governance: Tilting the playing field

Cell 7 is concerned with tangible interventions to tilt the playing field or adopt a principle-agent approach. The English RDAs could be seen as expression of this type of intervention.



At arm's length from government, the RDAs were charged with meeting central government targets. They have generally been regarded as having failed in their objectives but a more balanced assessment might acknowledge their contribution to urban regeneration in northern cities and to the emergence of new industries and new jobs. RDAs take many forms around the world and are typically accountable to regional rather than national authorities; their scope and remit varies considerable. However, the common trend is for them to lead integrated regional innovation strategies, often supporting key local sectors and clusters.

Cell 8 is concerned with *mixed interventions to tilt the playing field or play the role of a principle-agent.* The use of policies aimed at influencing industrial location decisions through the provision of subsidies and incentives (controls on investment in faster growing regions) were widely used until the 1980s. Reflecting the principles of what the OECD terms the 'old paradigm', it has often been forgotten that they were in some respects highly effective. In the UK lasting and productive investments, such as Nissan's plants at Sunderland, were the product of this type of intervention. The current approach in the Netherlands, in which the national spatial planning systems favours some sectors and regions, typically in ways that benefit the Randstad, might be said to reflect more the principles of the 'new paradigm'.

Governments can also play a national role in framing policies for sectors of national importance, such as the South Korean government's standard setting policies aimed at stimulating the development of world class IT industry, which can be said to have been successful to date.

Finally, *Cell 9* is concerned with *intangible interventions to tilt the playing field or play the role of a principle-agent.* The contribution of governance and regional policy interventions in relation to these criteria are the informal and semi-informal arrangements for the governance of city regions that are visible around the world and exemplified in the Ruhr and Munich. Pan regional cooperation networks such as The Northern Way and the Øresund (cross-border) region are informal or semi-formal mechanism for developing shared understandings and actions. Whilst the Øresund region continues to develop and progress, The Northern Way ceased formally on 31 March 2011 as a result of the abolition of the RDAs, the loss of the wider regional tier in the infrastructure of English economic development, and austerity in the public finances. The recently published evaluation of The Northern Way comments favourably on the economy, efficiency, and effectiveness of the initiative.

5.7.4 Governance: Key lessons

- In the majority of case studies and other examples cited in the literature, the regional level is often the chosen scale for of intervention for spatial '*rebalancing'*.
- The integration of different administrative scales (local, regional, pan-regional, national) is important for effective governance.
- The 'new paradigm' of regional governance is focused on taking advantage of underutilised resources, in contrast with the 'old paradigm', which put greater emphasis on redistribution.

5.8 Summary

The purpose of this section has been to provide an overview from the literature and case studies of the effectiveness of practical actions taken in the UK and abroad to '*rebalance*' places and sectors. As the various examples above show, these interventions are wide-ranging and extensive and many actions cut across policy 'themes' and 'types', even conflicting in places. This is one of the study's key findings; there is not a single, defined and clearly articulated solution to the '*rebalancing*' challenge. '*Rebalancing*' is multifaceted, variable over time, and not in any sense guaranteed.

That said, when reviewed as a whole the section does contain nine common findings which to a greater or lesser extent appear to be linked to successful '*rebalancing'* action. They are as follows:

- Long-term certainty and predictability in policy, governance and funding all matter. Continuous change in funding streams, qualifications, systems, governance structures and policy tends to confuse and disrupt the *'rebalancing'* process.
- Resourcing at an appropriate scale and in appropriate forms is important.
- Simplicity in enabling environments, such as tax incentives and regulations, helps; by contrast, complexity acts as a barrier to '*rebalancing'*.
- Interventions that go with the sectoral and/or cultural grain of places and sustain growth (e.g. to sustain advantages of agglomeration) tend to be more successful in '*rebalancing*' terms.
- 'Packages' of interventions (that cut across cells of the typology and the thematic areas) have better chances of success than single 'silo' actions. Integration of interventions matters, such as between housing and transport to enable agglomeration benefits. The modelling (in the next Chapter) highlights the conflicts inherent in '*rebalancing'*, and mixed interventions help, to some extent, mitigate against these trade-offs.

- Interventions that solely focus on bringing old assets into productive use or that add to capital accumulation tend not to be effective unless intangible assets are enhanced at the same time, for example by raising people's skills and aspirations and improving quality of life.
- Long-term investment in innovation in the widest sense, including human capital, is important.
- Autonomy at the 'right' spatial level is key, as is the city region, state/region and nation working co-operatively in co-ordinated and reinforcing ways. Social dialogue between employers, unions, workers and other organisations builds co-operation and co-ordination in ways of working across different spatial scales, but takes time for trust to build.
- Finally, context is critical. For example, 'picking winners' does not work everywhere all of the time, therefore interventions need to be tailored to each context.

6 Towards a rebalanced future – the economic feasibility

6.1 Introduction

In the previous section, specific actions to rebalance the economy were categorised and reviewed, and the lessons for policy makers were drawn out. In this section, we put the knowledge of these actions into a broader economic context, using an economic model to examine the likely implications for the UK of macroeconomic and sectoral microeconomic '*rebalancing'* actions. Three projections have been developed to explore the economic feasibility of '*rebalancing'*, and the results highlight the degree of challenge that '*rebalancing'* represents in terms of what would need to be done to achieve better macro and sectoral balance and, in particular, to address the remaining spatial disparities.

6.2 Explaining the projections analysis

Using its regional multi-sectoral economic model, MDM-E3[12], CE has projected the likely economic feasibility and consequences of policies designed to alter the balance of the UK economy. The nature and scale of the projections modelled has been informed by the review of literature and data. The review of literature and the case studies provided very limited evidence to inform the specific scale of preferred balance, and so by assessing past trends in UK balance alongside the literature, we have made informed assumptions as to what scale of balance to represent in the projections.

Three alternative projections through to 2020 are analysed, for which the key assumptions and outcomes are discussed below:

- **Reference Case** - a baseline forecast for the UK economy.
- **Dynamic Growth** - in which the UK benefits from a broad-based resurgence in export and innovation-led growth.
- Promoting sectors of **Comparative Advantage** - in which a selection of industry sectors achieve stronger output growth.

[12] See Appendix B.

6.3 Projection 1 - The Reference Case

The Reference Case paints a picture of a weak recovery of GDP growth in the medium term, but with some degree of macroeconomic *'rebalancing'* compared with the pattern of growth in the preceding ten years[13]:

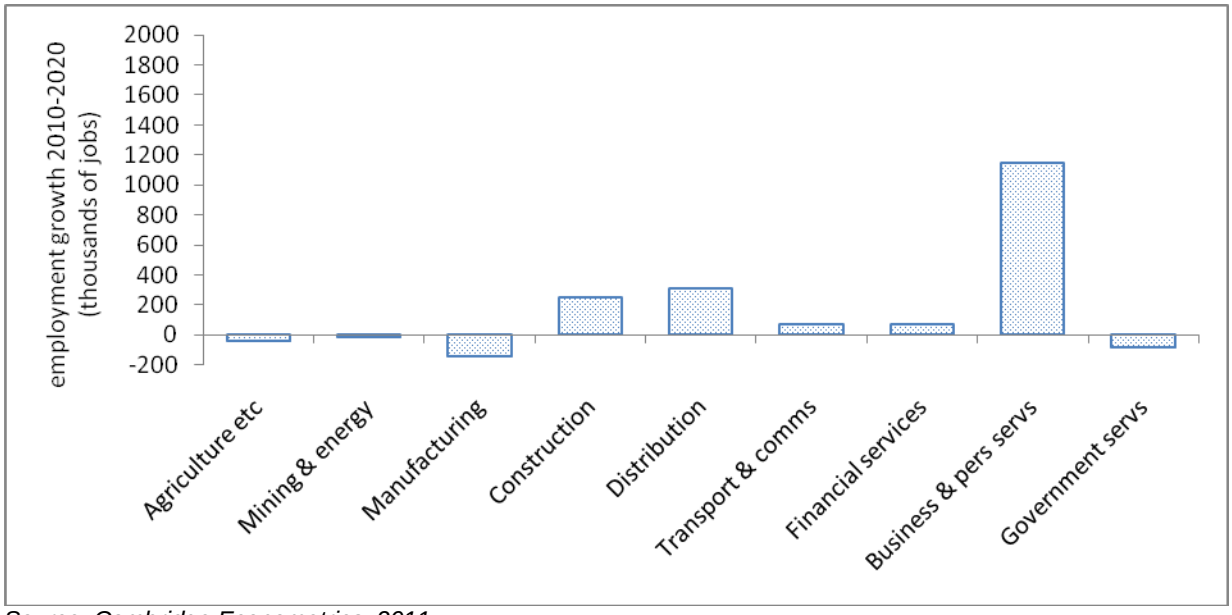
- GDP growth is forecast to average around 2 per cent pa to 2015, picking up to 2.5 per cent pa during 2015-20. Employment is forecast to grow on average by 0.5 per cent pa, generating 1.7 million jobs.
- The deficit on the fiscal balance will narrow from almost 10 per cent of GDP in 2010 to about 2 per cent by 2020.
- The contribution to growth of government spending will become negative. Government consumption is expected to shave -0.4 percentage points (pp) off GDP growth during 2010-15, compared with the positive contribution of 0.5pp that it made during 2000-07[14].
- Net trade (the difference between exports and imports) will make a positive contribution to GDP growth. Net trade is expected to contribute 0.4pp pa to GDP growth during 2010-15 compared with a negative contribution of -0.4pp during 2000-07.
- The improvement in the trade performance will be reflected in a gradual and modest narrowing of the balance of payments deficit. The deficit on the current account averaged -2.25 per cent of GDP during 2000-07; it is forecast to narrow to 1-1.5 per cent of GDP by 2015.
- The growth of business investment will recover modestly compared to previous recoveries and government investment will be cut. Overall investment will contribute around 0.6pp to GDP growth 2010-15, a similar contribution to that made during 2000-07.
- The outlook over the next five years is one of subdued consumer spending as households rebuild savings. Since falling to a low of only 1.5 per cent in 2008, the saving ratio has risen sharply and is forecast to remain around 4.5-5 per cent. Household spending's contribution to GDP growth is forecast to moderate to around 1.1pp of GDP compared with 1.7pp during 2000-07.

[13] CE's Reference Case differs to the forecasts of OBR, but it is similar in that OBR (March 2011) judges that "the composition of the recovery we forecast is broadly as we expected in the November Outlook" when (November 2010) their "expectation [was] for the economy to rebalance away from consumption and towards investment and net exports".
[14] CE exclude the period of recession 2008-09.

6.3.1 Reference Case results

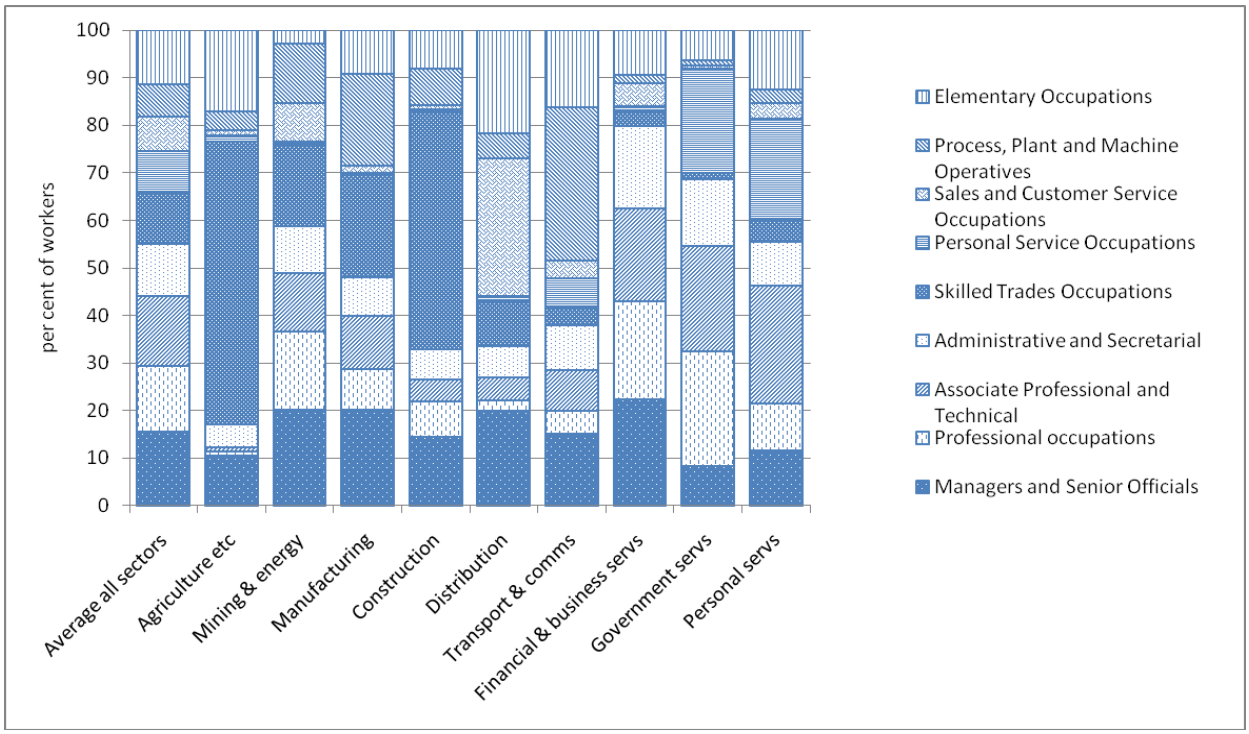
When the sectoral and spatial results are analysed, the Reference Case illustrates that **this extent of macroeconomic *'rebalancing'* will not be sufficient to 'improve' the sectoral and spatial balance of the UK economy by 2020.** The results for the Reference Case point to the continuation of trends in the previous patterns of imbalance.

Figure 6.1 Reference Case employment growth 2010-2020 by broad sector (thousands)



Source: Cambridge Econometrics, 2011

Figure 6.2 Occupational structure of employment by broad sector, 2009



Source: LFS/IER, 2011

6.3.2 Sectoral balance

- Financial services are expected to account for a larger share of output in 2020 than in 2010, but the share of jobs will not change.
- **The key growth sector for jobs will be business & personal services** (see Figure 6.1) which is forecast to increase its shares of jobs and output.
- **The sectors for output growth will be distribution and transport & communications**, but, like financial services, these sectors are not expected to increase their shares of jobs.
- **The improvement in trade performance is forecast to halt the long-term decline in manufacturing's share of output**. Even so, manufacturing's share of output in 2020 is forecast to remain a little lower than it was in 2007, before the recession started, and its share of jobs is expected to fall.
- The cut-backs in government consumption will shrink the public sector's shares of output and jobs.

6.3.3 Spatial balance

- Faster than UK-average growth is forecast to persist in London, the South East, the East of England and the South West, further boosting these regions existing shares of UK output and jobs (See Figure 6.3 below).

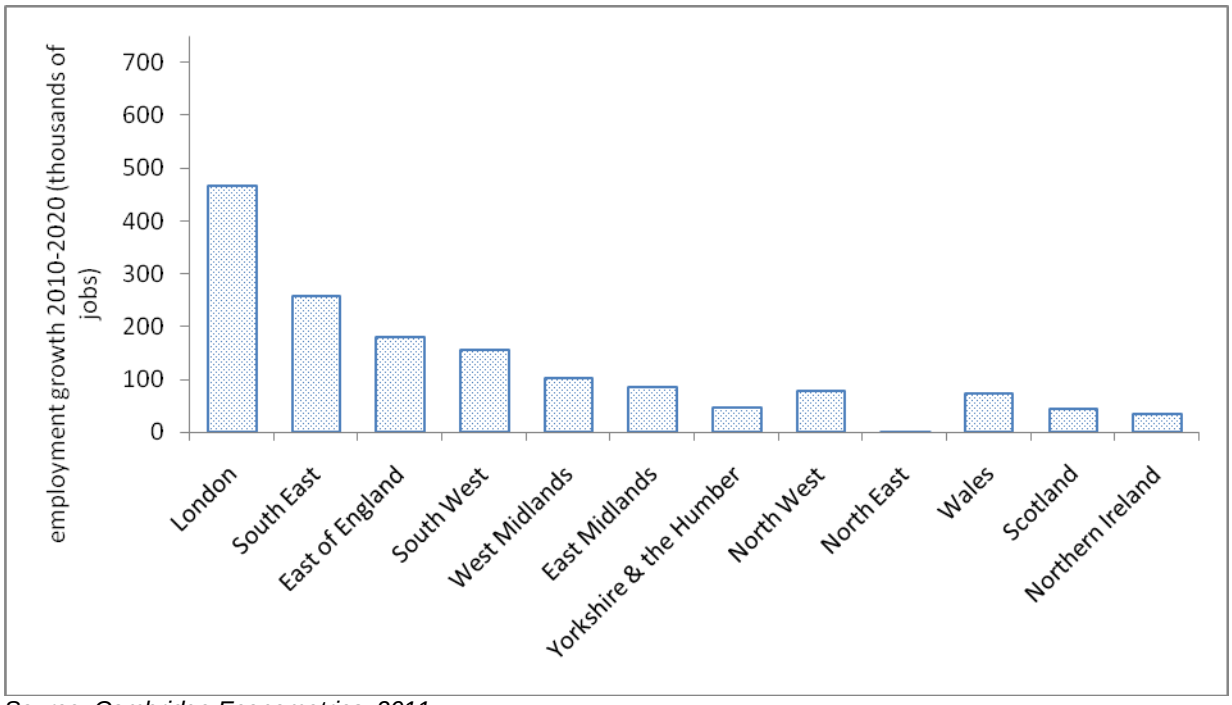
6.3.4 Employment and skills

The outcomes for employment and skills will be driven by the pattern of sectoral output and productivity growth (see Figure 6.1) and the occupational structures of those sectors (see Figure 6.2). The projections suggest that **the largest growth of jobs will be accounted for by managerial and professional, and personal, sales & customer services occupations**:

- In business & personal services, the 1.1 million jobs expected to be generated comprise a relatively large proportion of higher-level occupations (amongst professional services) but also a large proportion of lower-level occupations such as personal service occupations and (amongst supporting business services) administrative & secretarial occupations.
- The 310,000 jobs projected to be generated in distribution comprise a large proportion of sales & customer services occupations.
- Construction jobs are forecast to increase by 251,000 and these comprise a large proportion of skilled trade occupations.

- The number of manufacturing jobs is expected to fall by 142,000; these jobs comprise a large proportion of skilled trades and process, plant & machine operatives occupations.
- In government services, 85,000 jobs are forecast to be lost during 2010-2020; these jobs comprise a large proportion of managers & senior officials, professional, associate professional & technical and personal services occupations.
- Figure 6.3 shows that the largest numbers of jobs are forecast to be generated in those regions in which output is projected to grow the fastest, namely, London, the South East, the East of England and the South West.

Figure 6.3 Reference Case employment growth 2010-2020 by UK regions (thousands)



Source: Cambridge Econometrics, 2011

6.4 Projection 2 - Dynamic Growth

In the Dynamic Growth projection, we assume that successful '*rebalancing*' interventions are implemented to achieve a broad-based resurgence in export and innovation-led growth, reflecting recent thinking by central government. Table 6.1 summarises the evidence that has informed the design of the projections, the assumed nature and scale of change represented in the projections, and the key results.

Table 6.1 Projection 2 - The nature and scale of Dynamic Growth

Findings of the evidence review	
UK economy currently vulnerable because of financial imbalances: • Households and the corporate sector financial surpluses • Persistent current account deficit • Large government deficit Current account deficit of larger than 4-5 per cent is considered to be unsustainable (Coutts *et al.*, 2010) Surplus of corporate sector is 'abnormally' high (Martin, 2010a) 'Unsustainable' recent developments: government spending second most important driver of growth 2000-07; household saving ratio 2008 lowest since 1950s; household debt >100 per cent of GDP; business investment has been particularly low; net trade dragged down GDP growth 2000-07; government structural deficit highest in OECD (BIS, 2010k). Preferred pattern of growth – stronger export and investment growth but would be optimistic to think that investment share of GDP could rise by as much as 5 percentage points (pp) (Wolf, 2010).	
Assumptions for modelling projection 2	
Investment	Stronger than reference growth of investment Average growth of +1.5 pp pa (compared to Reference Case) over 2010-20
Exports	Stronger than reference growth of exports Average growth of +1.75 pp pa (compared to Reference Case) over 2010-20
Policies	The same fiscal and monetary policies as in Reference Case
Headline results	
GDP growth	Faster than Reference Case GDP growth Average growth of +0.75-1pp pa (compared to Reference Case) over 2010-20
Households	Stronger than Reference Case rebuilding of the saving ratio Saving ratio +1.5 pp (compared to Reference Case) by 2020
Government	Stronger than Reference Case narrowing of the public deficit Public Sector Net Cash Requirement as per cent of GDP -3.5 pp (compared to Reference Case) by 2020
Trade	Improved balance of payments Balance of payment as per cent of GDP +4.25 pp (compared to Reference Case) by 2020
Employment	Faster than Reference Case employment growth Average increase of +159 thousand pa (compared to Reference Case) over 2010-20 Average growth of +0.5 pp pa (compared to Reference Case) over 2010-20

We assume that interventions such as those to 'support universities, science and research in building a strong, innovative economy', to 'stimulate exports and inward investment' and 'to encourage investment and exports as a route to a more balanced economy' are successful in achieving stronger growth of economy-wide investment and exports (BIS, 2010a; HM Treasury and BIS, 2011). Export growth of 8 per cent pa for 2010-15 and around 6 per cent pa for 2015-20 is assumed: this growth is around 1.75 pp pa faster than in the Reference Case and of a rate comparable to that achieved during the mid to late 1990s (following the deprecation of sterling in 1992). Investment growth for 2010-20 is assumed to pick up to around 5.5 per cent pa, 1.5pp pa faster than the Reference Case, but still more modest than the growth achieved during the late 1990s.

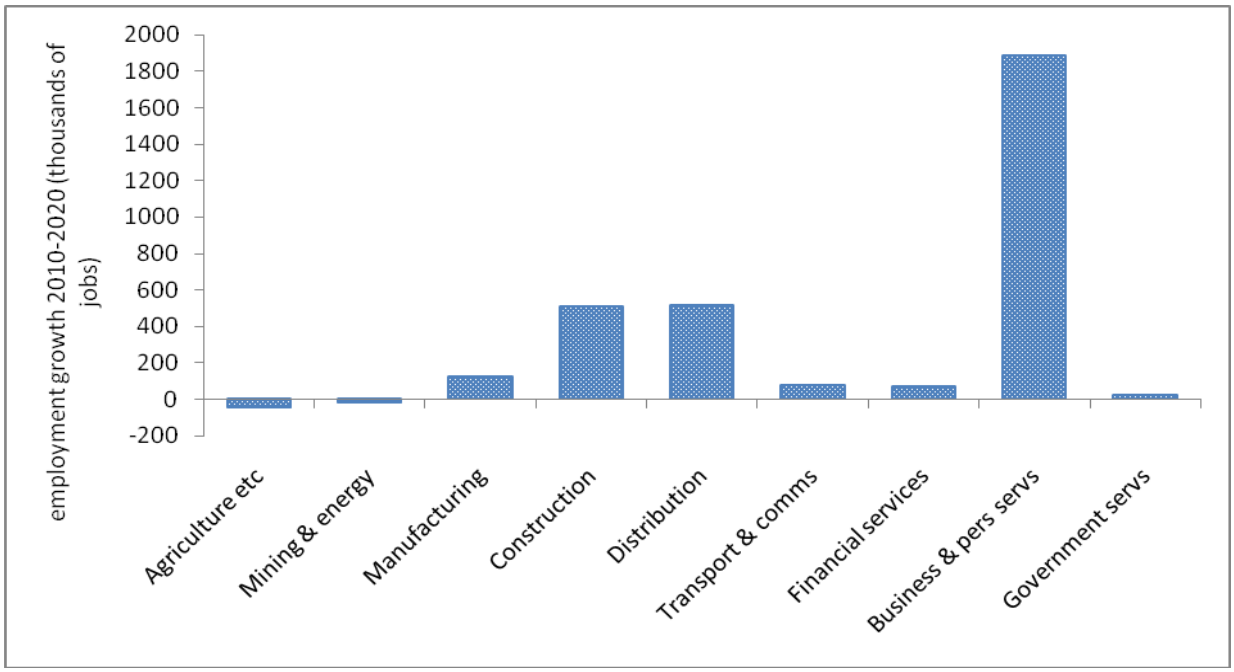
In the Dynamic Growth projection, overall GDP growth 2010-20 is boosted to 3 per cent pa, 0.75-1pp faster than in the Reference Case. Employment growth of 1 per cent (332,000 jobs) pa is achieved, compared with 0.5 per cent (173,000 jobs) pa in the Reference Case. **The economy shifts towards greater macroeconomic balance than the Reference Case** (see Table 6.1).

On this basis, the **sectoral balance** of the economy is projected to change as follows (see Figures 6.4 and 6.5):

- The long-term decline in manufacturing's share of output is projected to be turned around: it is expected to rise from 11.7 per cent in 2010 to 13.6 per cent in 2020, a share last seen in the early 2000s. In order to achieve this turnaround, manufacturing output would need to grow at a sustained rate of 4.75-5 per cent pa, around 1.5pp faster than GDP growth (and 3 per cent pa faster than in the Reference Case). This would be a radical turnaround in the performance of UK manufacturing, growth of which has exceeded GDP growth in only a handful of years during the last four decades. Even if such output growth were achieved, it would not be sufficient to halt the decline in manufacturing's share of jobs because productivity growth in manufacturing is relatively fast; manufacturing employment is forecast to increase modestly (see Figure 6.4) but this is a radical departure from the preceding long-term decline.
- The assumed boost to export and innovation-led growth stimulates activity in the rest of the private sector, so that output growth (excluding manufacturing) picks up by around 1-1.5 per cent pa (compared with the Reference Case). The output and employment shares of the other broad private sectors remain similar to those projected by the Reference Case. Employment growth is boosted most in construction, distribution and business and personal services.

- We assume that the growth of government spending will be the same as in the Reference Case, but overall GDP growth is faster, so the shares of government services output and employment are forecast to be smaller by 2020 than in the Reference Case.

Figure 6.4 Dynamic Growth Projection - employment growth 2010-2020 by broad sector (thousands)



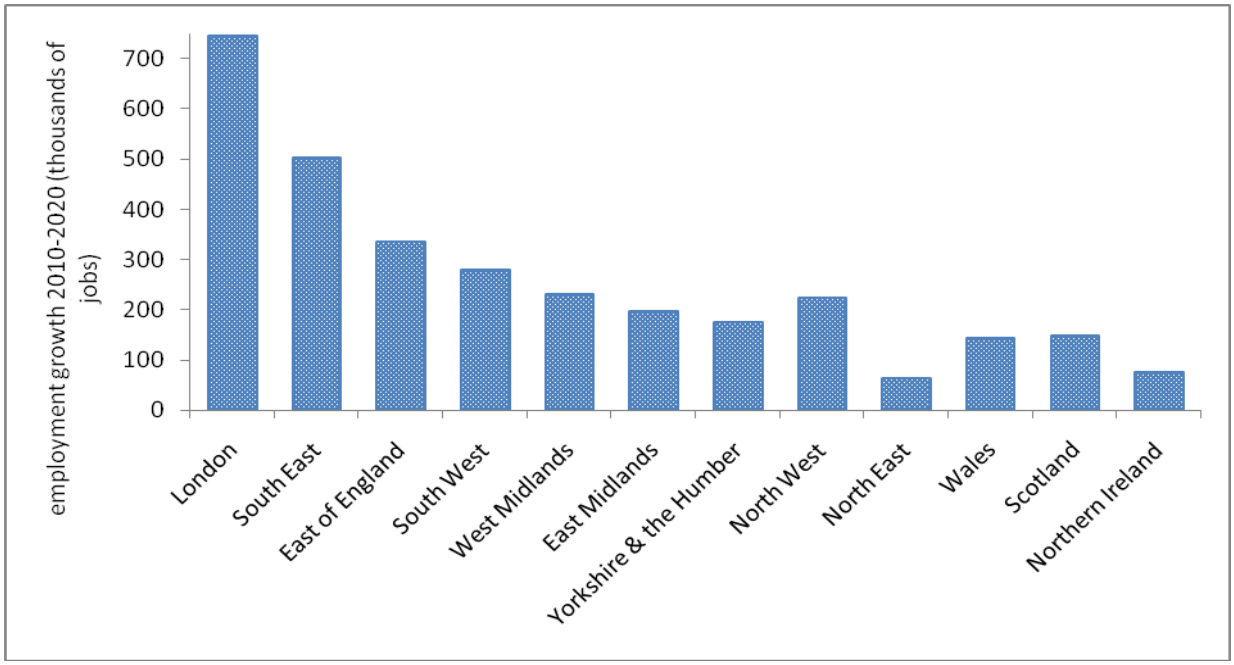
Source: Cambridge Econometrics, 2011

The outcomes for the nations and regions of the UK are determined principally by their sector specialisations. In the Dynamic Growth projections, compared with the Reference Case manufacturing growth is boosted most, followed by growth of other private sectors, and relative to overall GDP growth, the growth of government services lags further behind. The key implications are as follows:

- **Output and employment growth** (see Figure 6.5) **are boosted in all the regions**. Compared with the Reference Case the largest gains in jobs are in London and the South East, but also the East of England and the North West. Nonetheless, the changes in the spatial shares of output and of employment are marginal compared with the Reference Case.
- The East Midlands and the North West, regions which have a relatively high share of manufacturing, see a small increase in their shares of UK output but fail to make gains in their shares of employment (because manufacturing growth generates relative few jobs).

- Although **Scotland and Northern Ireland** also have relatively large shares of manufacturing output, government services also account for a relatively large share and so these regions' shares of total output (and employment) are projected to be lower than in the Reference Case.
- **London's share of UK output (by 2020) falls slightly compared to the Reference Case**; the shares of the South East, East of England and South West increase marginally.

Figure 6.5 Dynamic Growth Projection - employment growth 2010-2020 by region (thousands)



Source: Cambridge Econometrics, 2011

The Dynamic Growth projection illustrates the outcomes for a broad-based resurgence in export and innovation-led growth. The assumed boost to overall export growth is unlikely to be sustained over the coming years given the weakness of demand in many of the UK's key trading partners. If such **export and innovation-led growth were to be achieved it would contribute to a greater degree of macroeconomic '*rebalancing*'**. It would also halt the long-term decline in manufacturing's share of output and the level of manufacturing employment. This would be a **radical turnaround in the performance of UK manufacturing, but still insufficient to halt the decline in manufacturing's share of jobs because productivity growth in manufacturing is relatively fast**.

Those sectors in which **employment growth** (in terms of the number of jobs generated) is boosted most compared to the Reference Case are manufacturing, construction, distribution and business and personal services. **Dynamic Growth would therefore likely further boost the numbers employed in sales & customer services, personal services, elementary, managerial and professional occupations, and to a lesser extent skilled trades, and process, plant & machine operatives occupations.**

Shifts in spatial balance take time to achieve given the nature of imbalance at the starting point. **Even the considerable scale of macroeconomic and sectoral *'rebalancing'* achieved in the Dynamic Growth projection is sufficient to contribute to only marginal shifts in spatial balance in the period to 2020**.

6.5 Projection 3 – Comparative Advantage

Whilst recognising the need to achieve a diverse and broad-based sectoral mix, current policy states a commitment to promote competitiveness in areas of comparative advantage (BIS, 2010a; BIS, 2011). In this third projection, the Comparative Advantage Projection, we boost demand (through exports and investment) of specific activities in which the UK is considered to have comparative advantage, e.g. digital & creative and low carbon activities, tradable services and advanced manufacturing (see Table 6.2). Output growth of the targeted industries is boosted from 4 per cent pa 2010-20 in the Reference Case to 4.75 per cent pa. Note that the targeted industries typically see faster than average productivity growth; in the Reference Case employment growth is forecast to average 1 per cent (102,000 jobs) pa for 2010-20. In response to faster output growth in the comparative advantage projections, this is boosted to 1.3 per cent (132,000 jobs) pa growth.

Table 6.2 Projection 3 - The nature and scale of promoting sectors of comparative advantage

Findings of the literature review	
References to achieving a 'mixed', 'diversified' and 'broad-based' economy, with a wide variety of industries. The past shift to services reflects the UK's comparative advantage in this area (NESTA, 2010) • Promote evenly shared economic opportunities and support growth and a low-carbon economy (BIS, 2010a) • Promote competitiveness in areas of comparative advantage (BIS and Government Office for Science, 2010; HM Treasury and BIS, 2011) • Boost enterprise and make this the decade of the entrepreneur; stimulate exports and inward investment (BIS, 2010a)	
Assumptions for modelling projection 3	
Targeted industries[15]	Printing & Publishing; Pharmaceuticals; Mechanical Engineering; Electronics; Electrical Engineering & Instruments; Motor Vehicles; Other Transport Equipment; Manufacturing not elsewhere specified; Electricity; Construction; Banking & Finance; Insurance; Computing Services; Professional Services; Miscellaneous Services

[15] These industries are those distinguished in CE's MDM-E3 industry classification. For the SIC definitions of the MDM-E3 industries, and the mapping of comparative advantage activities to these industries, see *MDM Industry Classification* in Appendix D.

Increase demand	Stronger than reference growth of export and investment demand for the targeted industries.
Headline results	
GDP growth	Faster than Reference Case GDP growth Average growth of +0.5pp pa (compared to Reference Case) over 2010-20
Households	Stronger than Reference Case rebuilding of the saving ratio Saving ratio +0.5 pp (compared to Reference Case) by 2020
Government	Stronger than Reference Case narrowing of the public deficit PSNCR as per cent of GDP -1.5 pp (compared to Reference Case) by 2020
Trade	Improved balance of payments Balance of payment as per cent of GDP +2.25 pp (compared to Reference Case) by 2020
Employment	Faster than Reference Case employment growth Average increase of +54 thousand pa (compared to Reference Case) over 2010-20 Average growth of +0.25 pp pa (compared to Reference Case) over 2010-20
Results for targeted industries	
Output	Average GVA growth of +0.75 pp pa (compared to Reference Case) over 2010-20
Employment	Average increase of +30 thousand pa (compared to Reference Case) over 2010-20

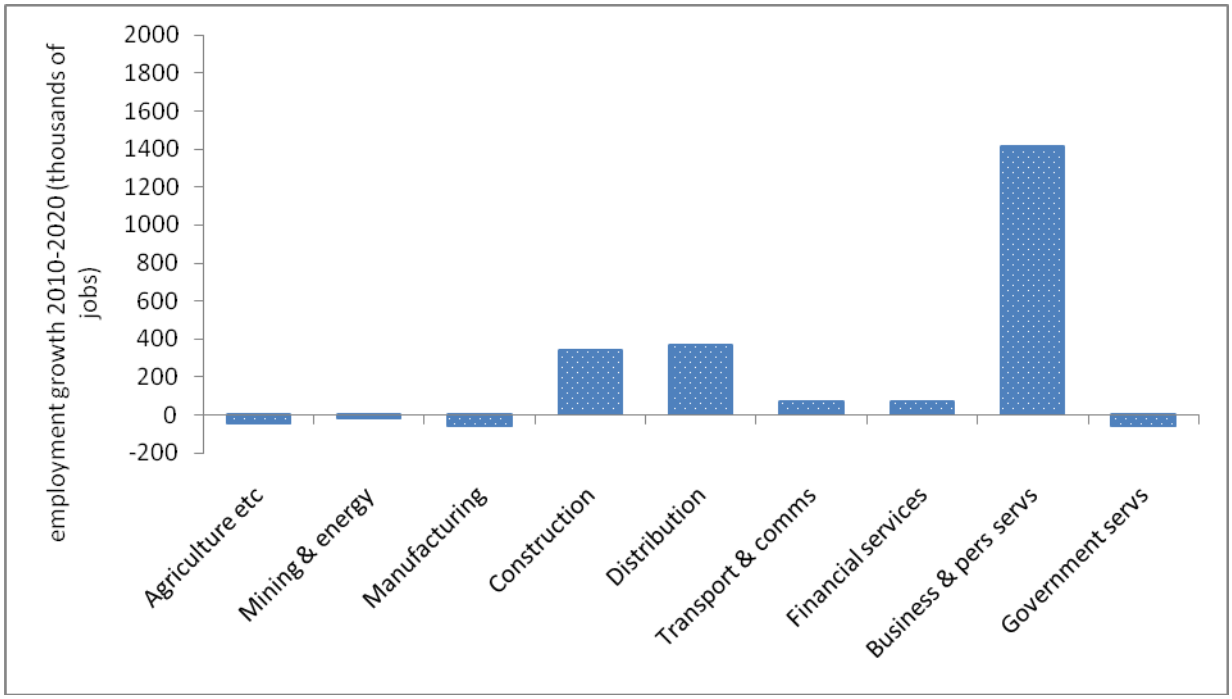
Overall GDP growth 2010-20 is boosted to 2.5 per cent pa, 0.5 pp faster than in the Reference Case and slower than in the case of dynamic growth. Employment growth of 0.7 per cent (227,000 jobs) pa is achieved, compared with 0.5 per cent (173,000) pa in the Reference Case. The **economy shifts towards greater macroeconomic balance** than the Reference Case, but less so than in the case of Dynamic Growth (see Table 6.2).

Under this third projection, the sectoral balance of the economy is projected to change as follows:

- Compared to the Reference Case, the share of manufacturing output in 2020 is slightly higher because of the boost to advanced manufacturing sectors. **The share of manufacturing employment is marginally higher, but manufacturing employment is forecast to decline** (see Figure 6.6).

- The **shares of financial, business & personal services output are projected to be larger** than in the Reference Case because these sectors include digital & creative, low carbon activities and tradable services that have been promoted. Business & personal services employment is boosted by the largest number of jobs compared to the Reference Case and their share of jobs is increased. Because of high productivity growth, financial services do not increase their share of jobs.
- As in the dynamic growth projections, the share of government services by 2020 is lower than in the Reference Case.

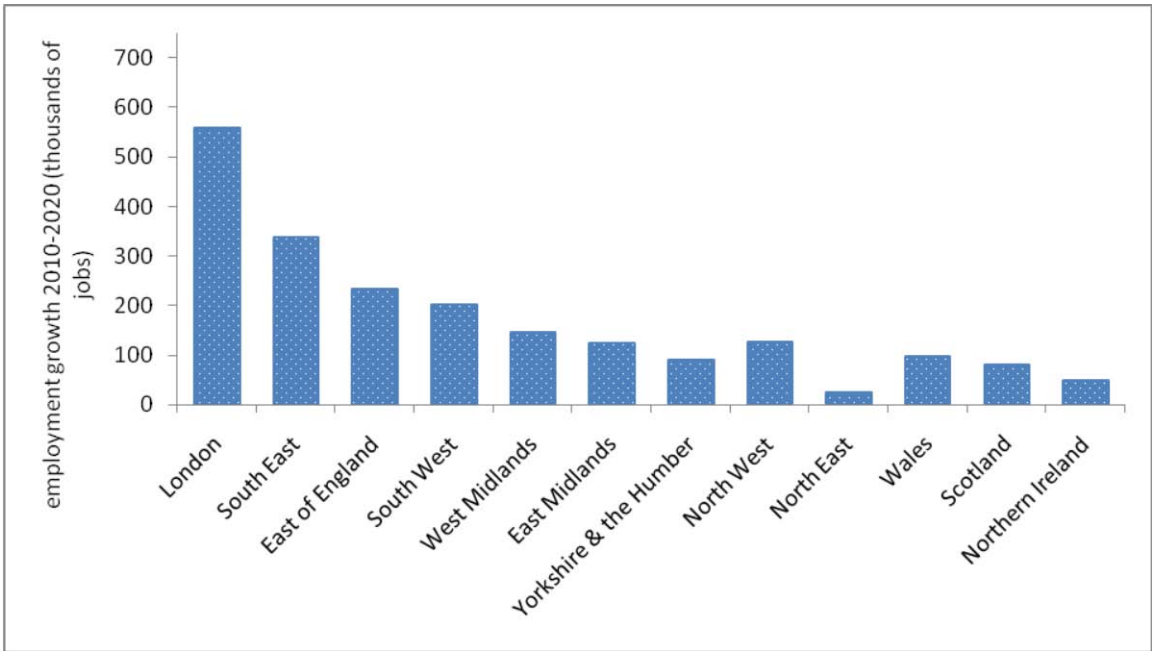
Figure 6.6 Comparative Advantage Projection - employment growth 2010-2020 by broad sector (thousands)



Source: Original analysis by Cambridge Econometrics for this project, 2011

London and the South East and, to a lesser extent, the East of England and the South West see larger than Reference Case increases in their share of output and employment by 2020, at the cost of the nations and other English regions. **The promotion of activities in which the UK has comparative advantage contributes to a further divergence of spatial balance**; those regions that have benefitted previously from relatively strong growth have done so because they have a concentration of sectors in which the UK has a comparative advantage. Figure 6.7 shows that the numbers of jobs will be boosted most (compared to Reference Case) in London and the South East.

Figure 6.7 Comparative Advantage Projection - employment growth 2010-2020 by UK nation/ region (thousands)



Source: Original analysis by Cambridge Econometrics for this project, 2011

6.6 Summary

The following Figures 6.8-6.9 plot broad sector shares of total output[16] and jobs in 2010 and, for each of the three sets of projections, in 2020. Figures 6.10 and 6.11 plot the regional shares of UK output and jobs.

The results for the **Reference Case** show some degree of macroeconomic '*rebalancing'* compared with the pattern of growth in the preceding ten years, but this extent of **macro-economic '*rebalancing'* will not be sufficient to 'improve' sectoral and spatial balance by 2020**. The results suggest that **skills demand will be further polarised**: the largest growth of jobs will be accounted for by managerial and professional, and personal, sales & customer services occupations.

The alternative projections (Dynamic Growth and Comparative Advantage) show what would need to be done to achieve better than Reference Case macro and sectoral balance, and the remaining spatial challenges that would need to be addressed.

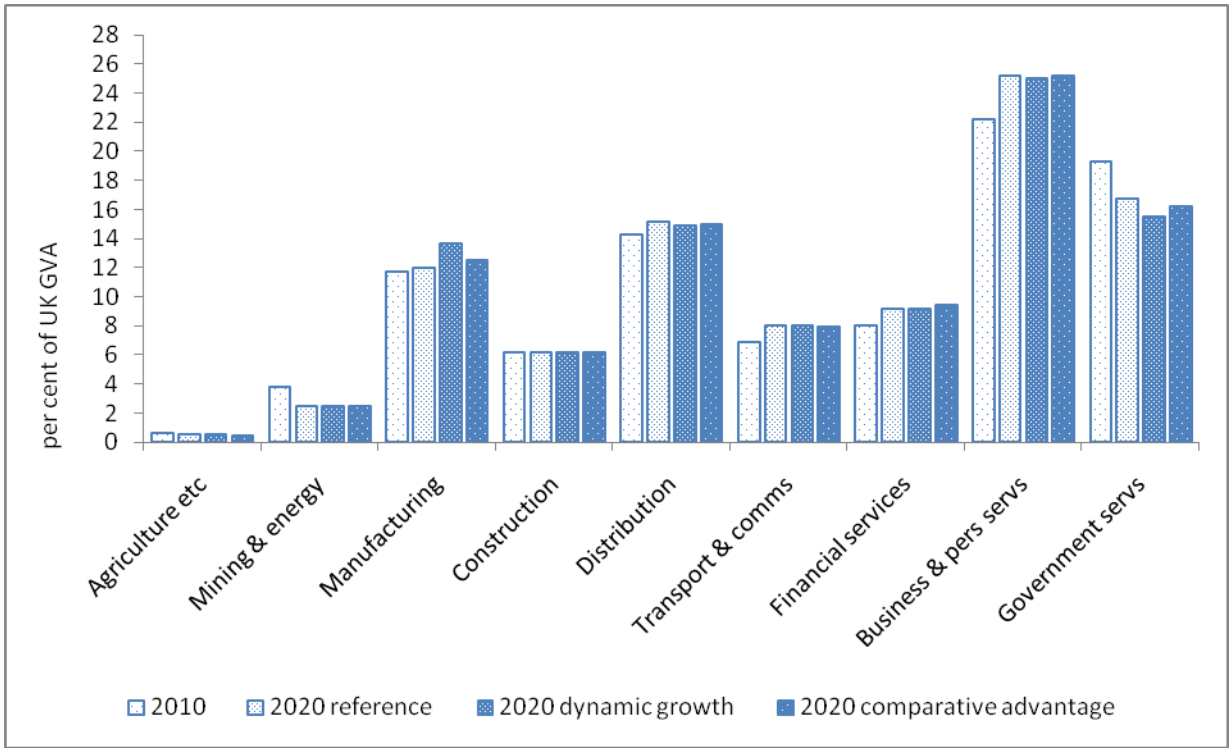
The analysis shows that **shifts in balance take time to achieve and that there can be tensions between macroeconomic, sectoral and spatial balance**.

[16] GVA is gross value added output.

Interventions to improve macroeconomic balance (by transferring the UK's dependence on growth away from household and public spending towards exports and innovation, improving the current account and public deficits) can bring about shifts in the sectoral balance of the economy. However, even with the current competitive advantage of relatively weak sterling, **the UK's ability to boost exports sufficiently to achieve such shifts will be hindered in the coming years by the expected weakness of demand in our key export markets**.

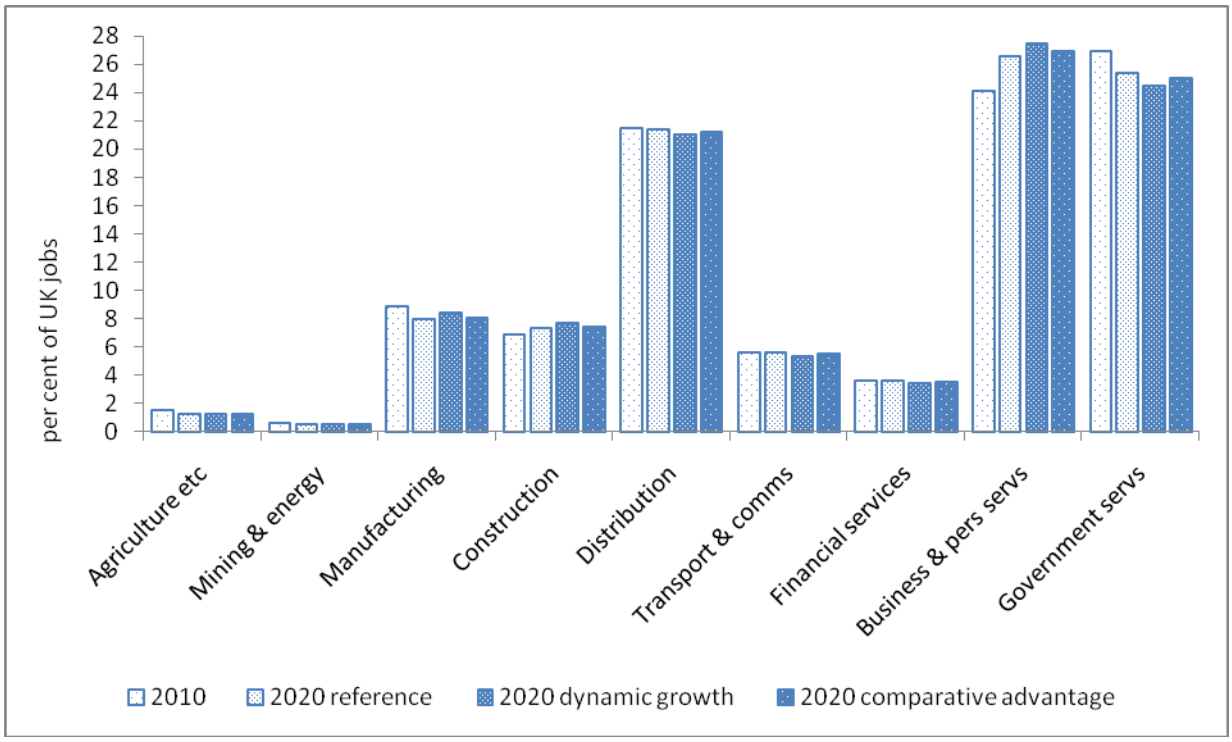
If **export and innovation-led growth**, and the associated shifts in the sectoral balance, can be achieved it **would likely further boost the numbers employed in sales & customer services, personal services, and elementary, managerial and professional occupations**. Associated with technological and innovation-led growth will be a requirement for specific STEM skills. In addition, many of the successful interventions summarised in the previous section involve strategic coordination between different organisations, investment in innovation and skills, and effective and creative decision-making, all of which **will require strong management and leadership skills**.

Figure 6.8 Broad sector shares of UK GVA



Source: Original analysis by Cambridge Econometrics for this project, 2011

Figure 6.9 Broad sector shares of UK jobs



Source: Original analysis by Cambridge Econometrics for this project, 2011

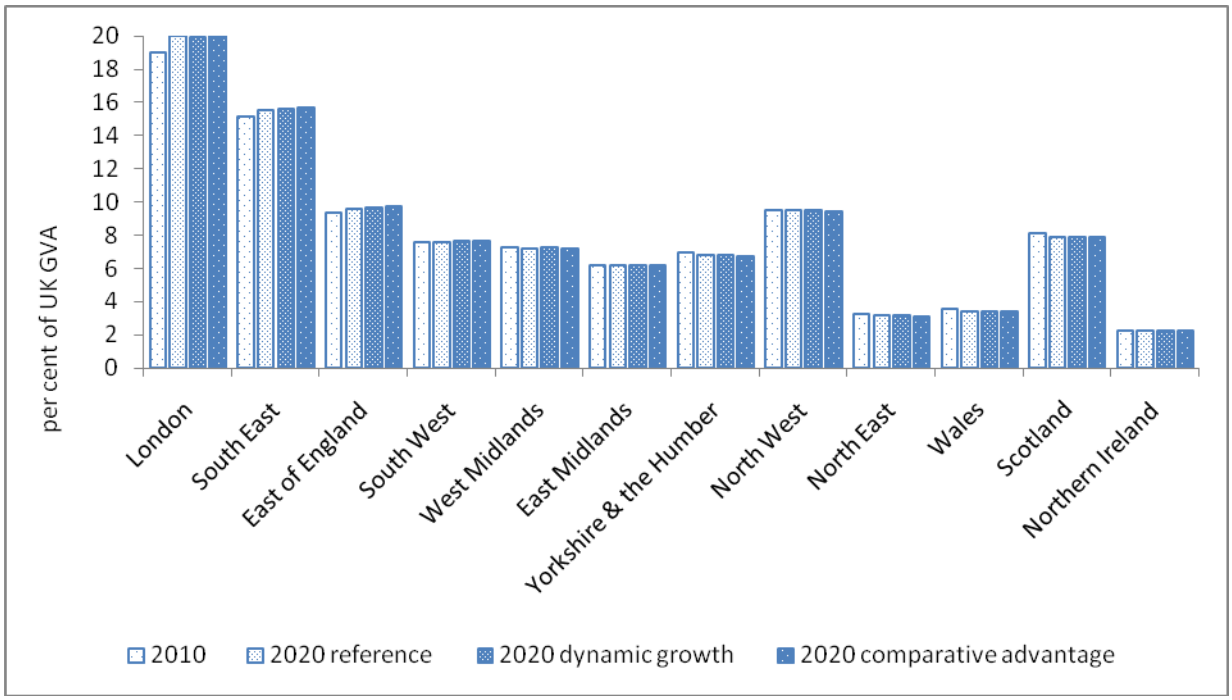
Even if significant shifts in macro and sectoral balance can be achieved, the impact on spatial balance will tend to be smaller because of the existing nature of balance in the UK. London and the South East already account for one-third of UK output; in order to 'catch up', the other nations and regions would need to achieve considerably faster than average growth sustained over a long period of time[17].

Moreover, **favourable shifts in macroeconomic and sectoral balance can exacerbate existing spatial disparities.** For example, the forecast cuts in public sector employment (to reduce the public deficit) will hit regions and nations with relatively high concentrations of public services, some of which are already less prosperous areas.

If policies to promote the UK's sectors of comparative advantage are successfully pursued, these will likely benefit macroeconomic balance, but potentially exacerbate sectoral and spatial disparities. Successful regions tend to have a larger than average share of the comparative advantage sectors and so boosting growth in these sectors will tend to further widen spatial disparities. Several comparative advantage sectors (such as financial services, advanced manufacturing) comprise relatively large proportions of professional and skilled occupations but they also have relatively high productivity and so their higher output growth does not create many jobs.

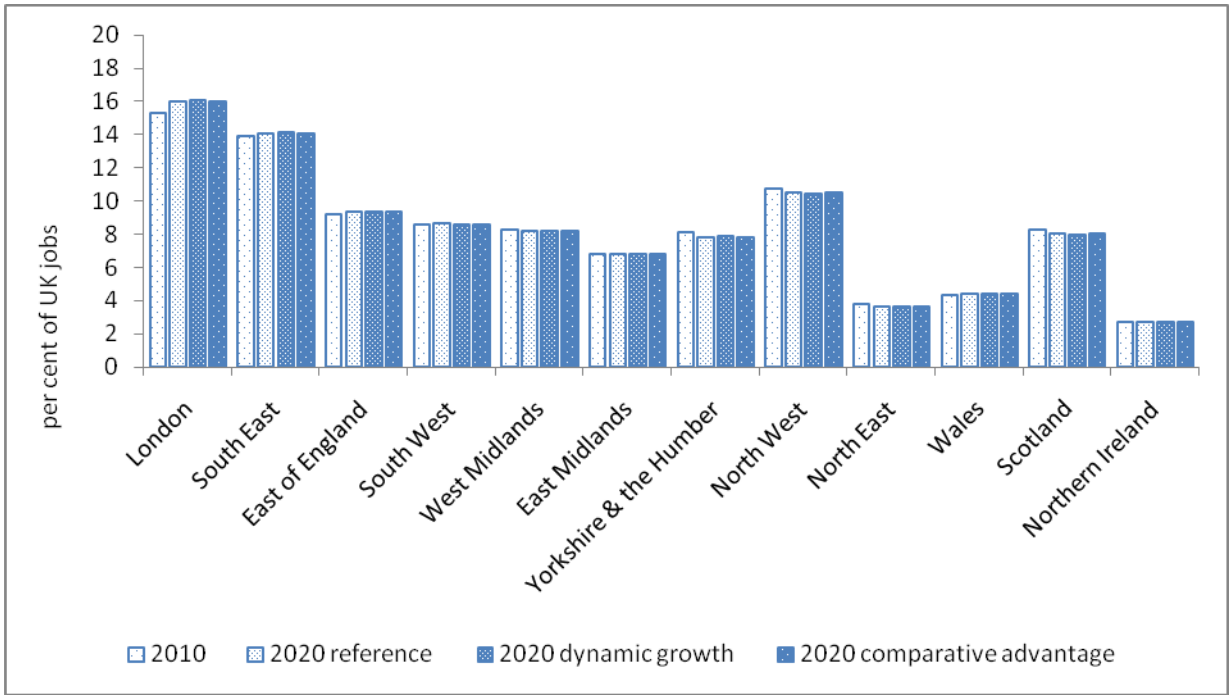
[17] If output growth in London and the South East averaged just 1per cent pa over the next ten years, and all other regions and the nations sustained growth of 3per cent pa, then London and the South East's share of UK output would shrink from 34 per cent in 2010 to 30 per cent by 2020. Overall UK growth would be 2.5 per cent pa.

Figure 6.10 National and regional shares of UK GVA



Source: Original analysis by Cambridge Econometrics for this project, 2011

Figure 6.11 National and regional shares of UK jobs



Source: Original analysis by Cambridge Econometrics for this project, 2011

7 Conclusions

What then in the light of the evidence, data, and modelling perspectives are the key messages emerging from the study? Recognising that the core purpose of this study is to provide evidence and analysis to help understand '*rebalancing'* objectives and actions, this closing section sets out the main conclusions. The material is organised under four broad headings:

- The nature and scale of the *'rebalancing'* challenge.
- The rationales for intervention and the types of interventions employed.
- Towards a future *'rebalancing* framework' for skills and other policy makers.
- Suggestions for further research.

7.1 Nature and scale of the *'rebalancing'* challenge

The term *'rebalancing'* has become used increasingly as a metaphor for a variety of important changes seen to be required in the UK economy relating to its sectoral structure, shifts from public to private sector activity, differences in economic performance across spatial areas, and/or the balance between economic, social and environmental considerations. The first conclusion of the study is that, even though the term is of recent origin and often used as a political imperative, ***'rebalancing'* matters in a substantive sense, notwithstanding that its perceived scope is both wide-ranging and open to broad interpretation.**

'Rebalancing' the economy is an important part of many policy agendas, but clarity is needed about **what the term '*rebalancing'* means in particular contexts**. The wide nature of the *'rebalancing'* challenge means that it is appropriate for policy makers to take 'integrating' approaches to *'rebalancing'* action in their policy fields and in links with adjacent fields. In the skills and employment arena, this might mean, for example, taking an holistic view of actions to address the issue of the general skills needed for trading overseas, as opposed to focusing narrowly on a specific tradeable sector.

The evidence also unambiguously shows, that **there is little common agreement on the detail of what an *'optimal balance'* might be in the sectoral and spatial sense,** and **there are very few examples of direct relevance to UK's governance and planning contexts where '*sustained rebalancing'* has been realised.** That said, the evidence reviewed suggests that it is legitimate to be concerned about the need for *'rebalancing'* even though it may not be possible, or even appropriate, to paint a detailed endpoint of what balance looks like at the microeconomic level. Indeed, the endpoint itself is a moving target.

For policy makers in general, this means acknowledging there is no 'silver bullet', and '*rebalancing'* objectives and actions need to be considered in process terms rather than as a well-defined endpoint.

There is a related and important definitional point here, namely that **microeconomic '*balance'* does not necessarily equal growth, and is not necessarily desirable in all contexts**. For example, achieving a balanced low-skills equilibrium of low value added, low skills and low wage employment, is not a desirable outcome.

Whilst there may be definitional issues about what constitutes microeconomic '*balance*', **the study's evidence and economic data confirm clearly that the *'rebalancing'* challenge, in all forms, is a long-standing one**. Sectoral change over the last 40 years or so has been driven by globalisation and resulting market and technological change, and this will continue to be the case. This has resulted in western economies shifting from manufacturing towards services/knowledge-based economies seeking to compete on content rather than price. Concerns about 'deindustrialisation' have been around for several years and, in the UK, have been strengthened by more recent specialisation on financial services and the lack of resilience that this was seen to provide to global shocks and uncertainty. Growing spatial imbalances reflect patterns of agglomeration, and have led over many decades to some places being significantly and persistently more vulnerable, and less capable of responding, to these sectoral shifts.

Consequently, the challenges of imbalance and *'rebalancing'* are widely experienced by the UK's competitors, and economies more generally worldwide. Decomposing GDP by its components of expenditure, the UK's broad balance is typical of several other large developed economies such as Canada, France, Italy, and further afield in New Zealand. Therefore, whilst the UK's '*rebalancing'* challenges are significant, they are not unusual internationally. Differences in productivity growth have also played a major role in the widening imbalances in economic performance, and skills disparities are a key factor in explaining national and regional productivity differences. In conclusion, whilst the label may be new, **the issue of *'rebalancing'* is not unique to the UK, and one in which skills and employment issues in particular are key elements.** This provides a strong general argument for interventions designed to assist *'rebalancing'*

There are significant tensions and trade-offs involved in addressing the *'rebalancing'* challenge, with potential negative feedback effects between the macro and microeconomic *'rebalancing'* dimensions. Interventions to support *'rebalancing'* on one dimension may have unintended adverse consequences for balance elsewhere. In particular, and drawing from the study's macro scenario projections, achieving macroeconomic balance at national level and shifting from the public to the private sector as

a source of employment is almost certain to lead to greater spatial imbalances. These have not always been articulated fully in recent UK policy debates. The Office of Budget Responsibility's forecasts expect private sector job growth to compensate for the loss of public jobs nationally. This will go some way to rectify the public-private sector imbalance at an aggregate level. But, at the sub-national levels at which most labour, skills, and enterprise markets work**, the private sector may well find it very difficult to compensate for lack of public sector job growth in areas where it has performed poorly in the past**. This potential negative feedback loop of macroeconomic action on the microeconomic context is a key issue for consideration in the design of any'*rebalancing'* interventions.

7.2 Rationales for intervention

Against this background, there is considerable debate in the literature reviewed for the study as to whether government can and should intervene with respect to *'rebalancing'* in a sectoral and spatial sense. This has clustered around the following issues:

- Deadweight public sector costs (expenditure that does not result in additional activity).
- The risks that such interventions are not sustainable without on-going support.
- Distortive effects cause by the allocation of resources and unintended adverse effects elsewhere and/or later.

These concerns are most obviously evident within a neoclassical growth framework, in which spatial and sectoral differences in productivity are expected to reduce if market forces are allowed to operate. These issues are also a concern within a theoretical framework based on more recent thinking about new economic or functional geographies, where spatial differences can be expected to persist long-term because of agglomeration economies. Over time, endogenous growth and new economic geographies theories have become more influential in economic development policy, which focus on improving the adaptive capacity, productivity and utilisation of resources in places and maximising positive externalities.

The evidence has shown that **the rationales for specific government intervention in support of *'rebalancing'* activity have generally moved towards the need to address the underutilisation of resources and improve the competitiveness of places, focusing on place-based growth rather than redistribution.**

7.3 What works?

Drawing from the study's review of the evidence, there are a number of factors which appear to be linked with *'rebalancing'* impact and 'success'. In headline terms, these are as follows:

- **'Packages' of interventions that span policy areas have better chances of success than single silo actions**. For example, interventions linking housing and transport are key to enabling agglomeration benefits in urban centres. Moreover, as the study's projections highlight, mixed interventions can help mitigate against the trade-offs and inherent tensions within '*rebalancing*'.. I**nterventions that go with the sectoral and/or cultural grain of places and are designed to sustain growth** also **tend to be the more successful.**

- **Certainty and predictability going forward matters**, especially where the public sector is working with the private sector and where the market needs to have confidence in the future direction of travel if it is to invest meaningfully, as it takes time to achieve shifts in balance (especially spatial). This was, for example, a key factor in the long-run success of industrialisation initiatives in Asia. **Continuous change in funding streams, qualifications, systems, governance structures, and policy tends to confuse and disrupt the *'rebalancing'* process.** Similarly, **simplicity in 'enabling' environments,** such as tax incentives and regulations**, helps *'rebalancing'***.

- **Autonomy at the 'right' spatial level is key,** along with local, city regional, regional and national actors working in co-ordinated and reinforcing ways. This is especially so in the wider European context. For example, the capacity and autonomy of regional institutions in Sweden and the Netherlands to take charge of developing their regional spaces appears to have been a very significant factor in *'rebalancing'* effects. Whilst stipulating what constitutes a 'region' is difficult and of limited value, it does seem to be the case that certain policy areas require a broader spatial perspective than the local area. This is because some of the infrastructural policy issues relating to *'rebalancing'* (e.g. innovation, strategic transport, energy planning, and supply chains) tend to operate at spatial footprints that extend beyond local and sub-regional boundaries. It is important that appropriate consideration is given to how these issues which may operate at larger geographies should be managed.

- **Capable and competent governance and oversight is key**. This not only provides the certainty and predictability referred to above, but the calibre of thinking and accountability for performance are important factors in driving *'rebalancing'* action forward. Linked to this, as the international case studies make clear, institutional context is a key consideration in considering what works where, and how. The international evidence provided by the literature shows that any significant role for the public sector (generally) works best when in **collaboration with the private sector**.

- **Dialogue between employers, unions, workers and other organisations builds co-operation** and co-ordination in ways of working across different spatial scales, and between organisations within sectors. This can yield successful outcomes when faced with challenges of sectoral restructuring, although it takes time for trust to build.
- **Investments targeting human capital and soft infrastructures have had positive results**, although their impact varies from context to context. According to the OECD (2010f), skills development is the most effective form of investment, although reflecting the point above it does need to be integrated with the local economic base. Skills development in particular also benefits from the existence of a varied set of institutions offering both highly qualified knowledge workers and provision for medium skilled workers. Employers, as both individual organisations and perhaps acting in employer networks, should be part of this institutional fabric and their products and business strategies more generally play a crucial role in shaping skills demand.

7.4 Role of employment and skills

Skills and employment initiatives are an important part of the 'intervention mix' and very much a critical part of the long-term *'rebalancing'* process. There have been a range of skills and employment-specific interventions in the UK and abroad that have been designed to address:

- the causes of imbalance, for example to raise skills levels, as part of a broader programme to create the conditions for growth to address spatial imbalances;
- the consequences of imbalance, for example the public sector as a job-creator in areas where the private sector under-performs;
- the consequences of the sectoral 'rebalancing' process, for example, in helping people to adapt to changing skills or occupational requirements as the sectoral structure of an economy changes.

Turning now to 'what works' in terms of employment and skills policy in '*rebalancing'* initiatives, the key messages are:

- Interventions supporting the development of the educational infrastructure and hybrid people and skills interventions have **provided some of the highest returns** of any human capital and skills interventions which have assisted in '*rebalancing'* economies sectorally and spatially in the UK and abroad.

- International evidence suggests that the **expansion of higher education**, including specific targeting of applied sciences in some regions, has provided skills of value to sector *'rebalancing'.*
- **Intermediary organisations** can play useful roles in working with employers and education and training providers to ensure employers' demand for skills are met.
- Skills development and investment in training needs to be **shared between employers, individuals, and government**. Multi-stakeholder approaches can help achieve better skills provision.
- '***Flexicurity'* approaches**, emphasising lifelong learning and the skills for sustaining and progressing in work, can yield positive outcomes for individuals and can assist in the '*rebalancing'* process between sectors (including potentially the public-private sector).
- **Lifelong learning** is important in helping to deal with sectoral *'rebalancing'* and in responding to sectoral change. Information, advice, and guidance (IAG) is a crucial component of lifelong learning.
- There is international evidence on the success of **labour market policies** in helping to deal with restructuring and in responding to change, both sectorally and spatially, especially when targeted at sectors with prospects for growth. This suggests that anticipating skills change is crucial.

7.5 Towards a future *'rebalancing'* framework

Drawing on the evidence as whole, **the key overall conclusion of our study is that sectoral and spatial imbalances matter where they constrain the ability of an economy to increase and realise its growth and development potential**. This can happen in a number of ways:

- Persistent spatial imbalances will be associated with unemployed and underutilised resources that could be used more productively.
- Sectoral imbalances can restrict growth if they cause underinvestment in technological opportunity and change, and constrain its dissemination throughout the wider economy (e.g. because of fractured supply chains, wider activity that gets in the way of open innovation).
- Spatial and sectoral imbalances can make an economy, at local, city-region, regional or national levels, less resilient to the increased shocks and uncertainties that come from globalisation, be this in the form of market or technology change.

Reviewing the data, **the unavoidable conclusion is that the UK has been, and is, an imbalanced economy in these three senses and that, therefore, *'rebalancing'* is a important concern of policy makers.** The long-standing nature of what we now call the *'rebalancing'* challenge re-emphasises this imperative. At the same time it should also be acknowledged that there is no widespread agreement as to what a balanced economy would look like in terms of the detail of its sectoral and spatial distribution of economic activity, and that in some senses '*imbalance'* is a natural state of affairs. Reducing the UK's dependence on financial services, on London and the South East and on the public sector as a source of employment and income have already been highlighted in policy as integral elements of the *'rebalancing'* process. So, too, will be increasing private sector investment in R&D and innovation, in skills development, and in overseas trade, as the Plan for Growth touches on.

But how this *'rebalancing'* will, or should, manifest itself in the changing patterns of economic activity, and to what extent, is very much less easy to specify, predict and plan. This is not just because of the uncertainties and idiosyncrasies at the microeconomic level but because **the government's macroeconomic *'rebalancing'* policies will influence the sectoral and spatial distribution of UK activity, as will the changes taking place in the global balances of trade and investment, and the relentlessly differentiating impacts of market and technology change**. Throughout this process, there is a challenging conflict between government's policy objectives and the likely outcomes of powerful market forces, especially in terms of spatial *'rebalancing'*, and a need for realism in what policy can achieve in this context.

Despite the uncertainties about the precise shape that sectoral and spatial *'rebalancing'* can or should take, **the evidence that we have drawn from UK and international experience tells us that appropriate government microeconomic interventions can contribute to this *'rebalancing'*** and help overcome the constraints that imbalance places on growth and development. However, the evidence also suggests the need for caution about what can be achieved by these means. Overall the evidence emphasises:

- The importance of working as far as possible with the grain of market forces to prompt the private sector to realise the full potential of *'rebalancing'.*
- The care that must be taken to avoid distortive effects which displace or crowd out other sectoral or spatial economic activity, especially private sector activity.
- The need to build on existing strengths and capacities at sectoral and spatial levels, acknowledging the importance of intangible assets, including knowledge networks and assets, place and business cultures, or wider clustering effects between principal actors including those in the skills and employment arena. As the case study on the *'rebalancing'* opportunity afforded by the Offshore Wind

sector in Section 5 highlights, this might mean using 'old skills' in 'new ways' in places with sectorally relevant antecedents.

- That combinations of interventions (particularly from mainstream service providers such as local authorities) are required to induce sustained changes in the behaviour and practice of people, businesses, and networks, but bearing in mind that relevant geographies are increasingly not co-terminus with administrative boundaries.
- The investments that are often required to improve access to markets, both in tangible (e.g. transport and housing) and intangible forms (e.g. supply chains and links between universities and businesses).

Given these points, and referring back to the typology of *'rebalancing'* interventions developed in this study, those actions interventions that are most likely to be effective in the above terms are those that fall above the line shown in Table 7.1. These interventions tend not to have high unit costs in terms of public expenditure, and hence would be consistent with the more austere environment for public spending, which can be anticipated for some time.

Table 7.1 Defining the focus of *'rebalancing'* interventions going forward

	Tangible	Mixed	Intangible
Setting the ground rules and direction / promoting the efficient operation of the market	**1**	**2**	**3**
Building enablers and conditions for growth	**4**	**5**	**6**
Tilting the playing field, playing the role of principal actor/agent	**7**	**8**	**9**

As well as the need for caution in implementing microeconomic *'rebalancing'* interventions, **it is important to be realistic about the extent of *'rebalancing'* that interventions might actually achieve, certainly over the short term.** In particular, no matter what success is achieved in macroeconomic and sectoral *'rebalancing'*, the addressing spatial imbalance is likely to prove a sustained long-term project. Significant shifts will be required to reverse imbalances in the geographical distribution of economic activity that have been caused by deep-seated historical legacies handed down from one generation to the next. Whatever the rationale, the long-term nature of such interventions will require the maintenance of

continuity and stability in governance and management arrangements, all highlighted above as critical factors in effective *'rebalancing'*.

Finally, the evidence to date suggests that spatial distribution policies designed to increase the demand for labour and capital in disadvantaged areas and to improve the quality of life infrastructure are necessary but not sufficient, and are likely to fail unless accompanied by policies to:

- enhance the willingness, capacity and networks of local people, businesses and other organisations (e.g. Higher Educational Institutions and the now emerging Technology and Innovation centres) to engage in growth and development;
- secure the further engagement of employers, both in their business development and recruitment activities, and in their in-company skills utilisation and development practices;
- improve transport and other less tangible means of accessing employment and other markets (e.g. housing);
- engage mainstream service providers (e.g. education, health, and housing) in giving priority to the people living in deprived areas to link to opportunities.

7.6 Suggestions for further research

In the course of its work, the study has assembled a wide body of evidence, both in terms of literature sources and case studies material, on which its findings and messages have been built. It has been possible only to present the core headlines of the literature review in particular in this report, and there is much valuable and insightful detail in the study's underpinning working papers and analyses.

In terms of 'new' research, **there are three areas where future work would be helpful, both to fill evidence gaps and to build understanding of '*rebalancing'* the economy:**

- Since the study's conclusion (i) reinforces the view that spatial imbalances are likely to remain, even where macroeconomic balance is restored and sectoral imbalances have been reduced and (ii) the arguments that such spatial imbalances need to be addressed are accepted (not by redistribution interventions, but by actions that strengthen the underutilised resource bases of places), then more evidence is needed on how this can be accomplished both effectively and cost-effectively. Linked to this, the research on the role, for example, of transport, housing and utilities planning (e.g. water, energy, waste) in bringing about '*rebalancing'* in a UK context is not well developed, so that these

considerations do not always enter into decision making about investments in infrastructure.

- In terms of sectors, in a '*rebalancing'* context some clearly matter more than others because of the innovation they can lever elsewhere in the economy. Research on this is, again, relatively limited and less than conclusive. Further research would be helpful to better understand the relative importance of growth sectors in this respect, and their ability to lever innovation through the wider economy.
- This study has found that skills and human capital interventions have an important role to play in the success of certain '*rebalancing'* interventions. There is limited evidence from the literature reviewed about the specific skills implications of '*rebalancing'* activity. Relating to the two points above, further research into how skills interventions can support spatial '*rebalancing'*, especially linked to investments in infrastructure, and also how skills interventions can support the development of sectors which are important for '*rebalancing'* would be valuable.

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Appendix A: Towards a typology of *'rebalancing'* interventions

Typology purpose

As highlighted in the main body of the report, there has been a wide variety of policies and interventions implemented over the years in the UK and abroad to address issues of sectoral and/or spatial imbalance even though most were not described as '*rebalancing'* interventions at the time they were introduced.

The first purpose of a typology was therefore to enable the wide variety of interventions reviewed by this study to be summarised. In addition, the typology also needed to characterise interventions in ways that would facilitate the identification of systematic differences between the interventions a) over time and in different political or national contexts and b) in terms of their relative success or failure.

Key features

The literature provides many examples of typology designs and these have been drawn on to develop the typology adopted for this study. What is clear from the literature is that there are many factors that could be taken into account in designing a typology and that the selection of the key factors has changed as our understanding of what makes interventions effective improves.

In particular, there has been a shift in recent times to what has been described as a new paradigm for thinking about policy interventions and the actions that flow from them. This has been emerging for a while but found most recent and full expression in the Barca report to the European Commission on its social cohesion policy (Barca, 2009). The contrast between the new and the traditional paradigm of policy intervention has been adapted in a summary form in the figure below.

Intervention features	Traditional spatial paradigm	New spatial paradigm
Rationale	Government seeks to deal with market failures and equity issues directly where they arise - sectorally, spatially	Less emphasis on dealing directly with failures; more emphasis on providing public goods, internalising externalities and addressing uncertainties
Objectives	Compensating for locational disadvantage	Tapping underutilised potential to build local capacities to choose and develop – e.g. through supply chains

Intervention features	Traditional spatial paradigm	New spatial paradigm
Unit of intervention	Administrative units – e.g. LAs, RDAs	Functional economic areas
Strategies	Spatially focused support	Integrated strategies including regulation as well as other incentives
Tools	Emphasis on advice and support provision, subsidies and state aids	Creating conditions, in particular human and hard capital infrastructure. Coordination between actors. Reduced emphasis on subsidies and more on incentives.
Actors	Central government and their agencies	Appropriate spatial or sectoral level through partnerships and engagement of private and voluntary sectors

The table also demonstrates the number of dimensions by which policy interventions might be characterised from their rationale and objectives to the intervention tools and actors. In addition, account needs to be given to the ways in which the target beneficiaries of interventions can be characterised.

Thus, the rationale for the new paradigm suggested by Barca is that local economies and communities, defined in terms of functional economic and social geographies, may have become locked in to path dependency. Areas may lack the capacity to innovate, they may lack the willingness to innovate and, even where they have both, it may not be sufficient to bring about change. But, according to Barca, there is a balance to be struck between subsidiarity (tailoring interventions to the relevant local context) and what he calls conditionality; the need for the intervention to break up local institutional traps and promote innovation.

This new paradigm was also reflected in novel ways of thinking about sectors of economic activity. McKinsey (2010) suggests that sectors can be organised into six groups according to their degree of tradeability and product differentiation: infrastructure, local services, business services, resource intensive sectors, manufacturing and R&D intensive manufacturing. A related line of argument in the literature is that sectors of the economy can be differentiated by the way they use and generate technological change with activity in some sectors being more likely to result in learning and spin-off effects for other sectors. These sectoral groupings can be subject to path dependency and, following the distinction that Barca draws between subsidiarity and conditionality in spatial interventions, there is a balance to be struck between tailoring interventions to specific sectoral circumstances and ensuring that they disrupt inherited institutional and innovative barriers within the sectors.

Final typology

Given these developments in the thinking about spatial and sectoral interventions, and their multi-dimensional complexities, it is difficult to develop a typology based on just a few dimensions. However, two such typologies have been proposed in recent literature that have sought to take on board the new paradigm.

The first was developed by Campagni in *Regional Competitiveness: Towards a Concept of Territorial Capital* (Campagni, 2008) and is summarised (in slightly modified form) in the figure below.

Degree of rivalry	**Private goods**	Private sector fixed capital	Private sector R&D and HEI links	Human capital
	Externalities and club goods	Supply chains, science parks	Cooperative networks	Relationship capital
	Public goods	Public sector infrastructure investments	Agglomeration economies	Social capital
		Tangible	**Mixed**	**Intangible**
		Degree of materiality		

The vertical axis of the matrix denotes the extent of competition and rivalry involved in the intervention. So, the provision of public goods represents the lowest degree of rivalry and provision of private 'goods' the highest. The horizontal axis reflects the degree to which the outcomes from the intervention are tangible (easily specified and measurable) and intangible. Territorial capital is represented according to Campagni by the shaded cross in the matrix, acknowledging the important role played by effective interventions in developing more intangible cooperative networks and social capital at local levels.

The second typology is drawn from McKinsey (2010), where the approach is developed in the context of sectors rather than spatial areas. McKinsey depicts the vertical axis in a way that is similar to Campagni in that it differentiates between the role of the public sector relative to the private sector. Whilst, Campagni describes this in terms of degrees of rivalry, McKinsey sees it in terms of the relative role and purpose of public sector intervention, as follows:

- Setting the ground rules, and strategic direction and promoting the efficient operation of the market - providing a framework of regulation and taxation within which the market is allowed to operate freely (e.g. a tax credit for investment).

- Building enablers and the conditions for growth - investing in public goods or where supply of market goods and services involve substantial externalities - either by direct provision or funding of others to provide (e.g. provision of training or funding of business R&D).
- Tilting the playing field and/or playing the role of principal actor or agent - supporting or protecting certain market players by virtue of their sector and/or location and/or by who they happen to be (e.g. a specific firm) and/or providing the market goods and services itself (e.g. public ownership).

McKinsey then plots these categories of intervention against the six sectoral categories, suggesting for example that the public sector might be justified in tilting the playing field/acting as principal agent with regard to infrastructure sectors and building enabling conditions with regard to manufacturing.

For the purposes of this study, we have adopted a typology that combines the Campagni and McKinsey approach by joining the vertical axis from McKinsey and the horizontal axis from Campagni. The resultant typology, which has been used to frame the study's thinking, is as follows:

	Tangible	**Mixed**	**Intangible**
Setting the ground rules and strategic direction promoting the efficient operation of the market			
Building enablers and the conditions for growth			
Tilting the playing field/ playing the role of principal actor/agent			

This matrix distinguishes the different roles that can be played by the public sector and acknowledges that its influence can take an intangible form that can often be as powerful as its more tangible manifestations. The matrix can be populated by different types of intervention.

Examples of 'rebalancing' interventions

The Section below provides more detailed descriptions of actions from the literature reviewed for this study which could not be summarised in the main report. This includes six of the nine cells of the typology matrix. However, three cells have been covered sufficiently in the main report and therefore we do not provide additional material here.

Table B.1 Setting the ground rules – intangible actions

Examples
• Flexicurity – in order to achieve objectives of the Lisbon Strategy new forms of flexibility and security around the labour market are needed which are mutually supportive. Emphasis needs to change from job security to employment security, flexible and reliable contractual arrangements, comprehensive lifelong learning (LLL) strategies, effective active labour market policies (ALMP), and modern, adequate, and sustainable social security systems. In Sweden, flexicurity policy involved Career Transition Agreements to support workers who are made redundant by providing counselling, career guidance, education and training and business start-up advice. In Finland, the government introduced the concept of 'change security' which provided redundant workers with greater financial security during the transition period and aimed to increase cooperation between employers, employees and labour authorities to support a quick return to work.
• Well established intellectual property (IP) rights systems have been established to support the UK's Life Sciences sector.
• In the Netherlands, a tax refund of 15 per cent of a trainee's wage is available for employers which have their workplaces accredited by the sector council.
• Planning rules that influence a city size to encourage external economies of scale/agglomeration. This has been important in the development of the UK's financial and creative sectors.
• Labour market deregulation has been adopted in New Zealand, although this reduced productivity by increasing job insecurity and reducing morale.

- According to the OECD, the role of the central government is increasingly important for providing an overarching and co-ordinating framework for regional development policies. Examples include: creating the Ministry of Employment and Economy in Finland, merging the units for regional development from the Ministries of Trade and Industry, Labour, and the Interior; the Comprehensive National Territorial Plan in Korea which covers strategic planning and programming to co-ordinate diverse issues and interests across sectors; the Spatial Economic Policy Directorate of the Ministry of Economic Affairs in the Netherlands which provides planning and advisory support to help ensure policy coherence across sectors at the central level.

- Currency depreciation to aide export growth and therefore assisting in macro level rebalancing, e.g. Finland.

- Regulation e.g. carbon pricing.

- Attempts to encourage residential mobility have included making it easier for the social rented sector to move by centralising information about housing and job opportunities in the UK and the experience in Germany and Sweden of including requirements on geographic mobility as part of unemployment benefits eligibility criteria.

- Curbing rising prices in land and real estate, promoting construction of housing to create new cities, deregulation of land use policies, e.g. Korea.

- Korean government ‘provided’ favourable exchange rate to drive exports.

- Denmark’s Regional Growth Forum, which improved governance structure between levels of government and across sectors.

- Pan-regional / joint co-operation and co-ordination between places, e.g. Northern Way and city regions.

- Regional Economic Performance Public Service Agreements in England.

Source: Various

Table B.2 Building enablers/conditions for growth – tangible actions

Examples
• A wider German fiscal stimulus package which includes infrastructure investment in schools and roads. • In tandem with sectoral policies, the East Asian governments established several large industrial estates in lagging areas to create 'production agglomerations'. • The provision of targeted infrastructure in the form of industrial estates, science parks and technology centres has also been traditional in many countries (e.g. Belgium, the Netherlands). • Germany has invested heavily in strategic transport infrastructure, following the modernisation of transportation systems and upgrading derelict sites for new inward investment companies during the mid 1960s to mid 1970s. • Substantial investment in human resources through the foundation of 40 new secondary schools in the Ruhr in Germany and investment in five new universities (Dortmund, Bochum, Essen, Duisburg and Hagen), providing a fundamental expansion of the higher education system with a focus on applied sciences. • Early territorial plans in Korea which included investments in large industrial complexes/parks and transport infrastructure. • The work of England's RDAs included infrastructure on inward investment sites, development of physical innovation infrastructure, and the development of science parks (under their business development and competitiveness theme). The RDAs also engaged in bringing land lack into use (e.g. to enable redevelopment for offices, business parks, entertainment, leisure facilities, housing and other uses, and address contaminated land, fragmented land ownership/develop partnerships), improving the public realm (for example, improving build environment, streetscape, quality of physical infrastructure), and transport and community transport projects.

- The English Coalfields programme involved physical reclamation and renewal (alongside community capacity rebuilding and human capital development, and the promotion of enterprise and business growth).

- The provision of transport infrastructure to promote economic development has long been an important element of regional policy in countries characterised by long distances and difficult topologies such as Australia, Canada, Greece, Japan and the Nordic countries.

- Germany invested in social housing in 1990s in contrast to most countries.

Source: Various

Table B.3 Building enablers/conditions for growth – mixed actions

Examples
• Provision of elite research universities with world class departments in the key sciences, together with public funding for research has been an important aspect of UK government intervention in the pharmaceuticals industry. • Skills policies have played an important role in the development of the UK's creative sector. Businesses have benefitted from graduates of part-funded government courses in specialist videogames fields and broader STEM and Arts degrees. • Manufacturing Advisory Service in UK, which assists businesses to achieve improvements in productivity by overcoming limited access to affordable best practice information and advice. • Seedcamp, a technology accelerator vehicle created to 'jumpstart' the entrepreneurial community in the UK, where young entrepreneurs get advice and input from experienced mentors, and combine this with seed funding in exchange for equity. • British Library's Business and IP centre, launched in 2006 with £1m investment from LDA, was a source of information on IP, helping entrepreneurs to identify how novel their idea is, as well as market potential and competition base. The centre also offers training courses and meeting space.

- In the US, the rebirth of old industries is now organised around clusters of SMEs producing for high value added niche markets, which has been a product of investments in research and development and in the workforce.

- The Netherlands' Peaks approach, which promotes regional innovation clusters of national significance.

- Cluster policies, growth poles and similar instruments to build cooperation and share knowledge between firms, especially SMEs. Examples include Finland's Centres of Expertise, which focuses on regional specialisation, innovation networks, and collaboration between research/HE and businesses. Finland has also made a long-term commitment to education (especially in natural sciences/engineering), apprenticeships and on the job training, and increased HE places to address skills shortage in the country's priority sector. Competitive Poles have also been favoured in France, and Germany has placed an emphasis on a cluster-based approach designed to "make strengths stronger".

- In Norway, 'narrow' regional policy focuses on competitiveness factors such as entrepreneurship, innovation, competences and networks, while 'broad' regional policy focuses on public service provision and related accessibility.

- The European Social Fund is targeted at removing barriers to employment amongst unemployed and inactive people, particularly women, young people, older and low-skilled workers.

- Lifelong learning Policy, an element of the Lisbon Strategy, is designed to help economies deal with restructuring and respond to change through increasing the quality and availability of education and training in lagging regions. This promotes strong links between training and businesses so that training reflects labour market demand.

- European Globalisation Adjustment Fund helps those having to adjust to the consequences of globalisation, which supports active labour market policies.

- European Cohesion Policy supports a shift towards higher value added activities and more knowledge-based work through investments in business infrastructure and services and training, investments in R&D and innovation.

- UK programmes such as Enterprise Investment Scheme, the Enterprise Management Incentive and the Early Growth Funds provided financial support arrangements for start-ups.

- Investment in regional innovation systems that aim to build innovation capacity at the local level has been implemented in Korea.

- Labour Market Boards and Active labour market policies have been adopted in Sweden (funded nationally, but operating regionally and locally) which pursue active policies to train people in the appropriate skills for the types of jobs forecast to grow.

- Swedish innovation policies include VINNOVA (the Swedish Innovation Agency), the Swedish Research Council, incorporating humanities, social sciences, natural sciences and technology and medicine, the Swedish Defence Research Agency, with the remit of driving R&D as a way to encourage innovation, and NUTEK, the Swedish Business Development Agency, which aims to keep regulation simple and practical so that it encourages effective and efficient competition, but also has an important role in defining and progressing cluster programmes.

- Malaysia has focused education and training on higher levels of knowledge and entrepreneurial skills and technical and engineering education. The government has established two technical universities and community colleges to encourage lifelong learning and introduced a Human Resources Development Fund (HRDF) which provides subsidised training of workforce, funded by low skill, low wage industries to encourage employers to retrain workers.

- Øresund Science Region (as mentioned above).

- England's Coalfields Programme involves community capacity rebuilding and human capital development, and the promotion of enterprise and business growth (alongside physical reclamation and renewal, mentioned above).

- The Phoenix Fund which includes the Development Fund, the Challenge Fund and Loan Guarantees to help resource local Community Development Finance Initiatives.

- UK policies including 'Train to Gain' (government assisted firms to fund their training plans), Skills Accounts (where individuals have set amounts to 'spend' on training in the workplace), and the establishment of the National Apprenticeship Service.

Source: Various

Table B.4 Building enablers/conditions for growth – intangible actions

Examples
• The Business Volunteer Mentoring Association (BVMA) element of the Phoenix Fund which is a national network of volunteer mentors for pre- and early stage business start-ups.
• Creative Business Mentor Network was set up in the UK to nurture creative businesses in the TV production, advertising and digital media sectors with an appetite for growth. Companies benefit from one-to-one mentoring by some of the most successful business people in the sector. Experienced mentors share practical advice on overcoming challenges of growing businesses in the sector. Participation in the programme is free for mentees and the mentors are unpaid.
• Danish Gazelles programme was established in 2007 by Danish Agency for Science, Technology and Innovation to identify 40-50 start-ups or small enterprises with international growth potential, and help them reach it. Companies are teamed up with expert international mentors from the private sector, and take part in a series of training and development camps. These focus on particular aspects of growth strategies, from business model development to market testing, and creating international networks to monitor and adjust growth strategies over time.
• In Daegu, Korea, the Milano Project was introduced which aimed to promote new activities (fashion and design), and introduce new economic actors to the region such as research institutes, universities, design schools, and banks.
• In Finland, the government has helped to foster strong local links to the wireless industry to create favourable demand conditions.

- ESF, ERDF and cohesion funds aim to support economic and social cohesion during sectoral restructuring processes.
- Korea's fourth territorial plan (2000 – 2020) refers explicitly to the objective of balanced territory and includes investment in regional innovation systems that aim to build innovation capacity at the local level.
- Networks also form a key feature in Finland's Centres of Expertise and Øresund Science Region.
- Cross-border cooperation, including cultural connections and business links in the identified growth sectors, are an important feature of policy in the Netherlands.
- Pan-regional / joint co-operation and co-ordination between places – the Northern Way and city regions.

Source: Various

Table B.5 Tilting the playing field/playing role of principal actor – tangible actions

Examples
• Government as a 'smart purchaser' e.g. stimulating demand in lagging regions. • Expansion of public services and creation of public sector jobs e.g. historical experiences in UK since 1980s. • Investment subsidies to attract FDI and inward investment e.g. UK in the 1960s and 1970s; Germany, Finland and Italy today. • Regional Selective Assistance and Selective Finance for Investment in England from 2000 onwards, which provided financial assistance to establish new businesses, expand/modernise/rationalise a business, set up R&D facilities, enable businesses to take the next step from development to production. The size of the scheme in the regions is skewed towards lagging regions.

- Building government owned industries in lagging regions e.g. The Swedish government attempted to address the north-south imbalance by building a new Swedish Air Force in the north of the country, helping counteract the defence cuts seen in the area.
- Relocation of government functions to lagging regions e.g. Korea.
- Deconcentration of quasi-public functions e.g. deconcentration of university clusters in Sweden.
- Urban Development Corporations e.g. UK in the 1980s and 1990s.
- Provision of 'launch investment' to attract/determine the location of investments e.g. UK civil aerospace industry.
- Government subsidised sectors e.g. shipbuilding in Germany, and the associated government investment of more than DM 6 billion in the construction of new docks over a five year period.
- City Challenge in the UK in the 1990s, which was designed to attract outside investment, and create a climate of environmental quality and enterprise culture.

Source: Various

Table B.6 Tilting the playing field/playing role of principal actor – mixed actions

Examples
• The RECHAR programme, adopted in 1989 to support coal mining areas hit by the decline of the industry and the RESIDER programme supported areas where the steel industry had lost more than 1,000 jobs. In both programmes funding was available for conversion of buildings, support for new economic activities, promoting tourism, organisations supporting regional development, support for training and employment, interest subsidies on loans for small businesses.

- The KONVER programme supported regions where there had been a decline in the defence industry and RETEX supported areas dependent on textiles and clothing industries. Both supported economic diversification, advisory services, networking and partnership schemes, business audits, and training for employees made redundant.

- Germany has earmarked €500 million support for research programmes in new energies in the automobile industry (with a focus on electro-mobility) and another €500 million for the Hydrogen and Fuel Cell Technology Innovation Programme (launched in 2006).

- Within Germany's construction sector, from 2006 to 2009, a total of €5.6 billion of federal funding was destined for the energy-conserving refurbishment of the housing sector, including €200 million investments a year earmarked for the building refurbishment programme to reduce CO2 emissions.

- In the Northern provinces of the Netherlands, 'spearhead sectors' have been identified for targeted support, which include agribusiness, chemistry, commercial care for elderly people, life sciences, IT, shipbuilding and tourism (areas in which this region already has some acquired competencies).

- The UK's £750 million Strategic Investment Fund, which will focus investment in a range of growth sectors and areas of strength, such as advanced manufacturing, life sciences, low carbon energy, vehicles and construction, creative and digital industries.

- Munich's approach to 'picking winners', and greening the economy by promoting innovation in green goods and services.

- France launched a heavily interventionist policy in March 2010, aiming to increase manufacturing output by a quarter over five years. Prior to this, there are examples of the French government stepping in to preserve specific firms and sectors.

- The Swedish government encouraged the relocation of telecoms firms to the Northern periphery.

- Part of Korea's fourth territorial plan (2000 – 2020) refers explicitly to the objective of balanced territory, and achieving this through growth in green sectors. The government also attempted to create a new fashion and design cluster in Daegu (South Korea) to encourage a shift up the value chain for the existing textile sector.
- The British policy of 'picking winners' through selective industrial policies of the 1960s and 1970s.

Source: Various

Appendix B: Description of the MDM-E3 Model

Introduction

MDM-E3, the Multisectoral Dynamic Model of the UK economy, is maintained and developed by Cambridge Econometrics (CE) as a framework for generating forecasts and alternative scenarios, analysing changes in economic structure and assessing energy-environment-economy (E3) issues and other policies. MDM-E3 provides a one-model approach in which the detailed industry and regional analysis is consistent with the macroeconomic analysis: in MDM-E3, the key indicators are modelled separately for each industry sector, and for each region, yielding the results for the UK as a whole. MDM-E3 is one of a family of models which share the same framework, general design, methodology and supporting software; the scope of the E3ME model is European; that of E3MG is global.

MDM-E3 is highly disaggregated to analyse structure

To analyse structure, the E3 models disaggregate industries, commodities, and household and government expenditures, as well as foreign trade and investment, and the models incorporate an input-output framework to identify the inter-relationships between industry sectors. The E3 models combine the features of an annual short and medium-term sectoral model estimated by formal econometric methods with the detail and structure of input-output models, providing analysis of the movement of the long-term outcomes for key E3 indicators in response to economic developments and policy changes. The models are essentially dynamic simulation models estimated by econometric methods.

An essentially Keynesian logic determines output and employment

MDM-E3 retains an essentially Keynesian logic for determining final expenditure, output and employment. The principal difference, compared with purely macroeconomic models, is the level of disaggregation and the complete specification of the accounting relationships in supply and use tables required to model output by disaggregated industry.

Time-series econometric equations estimate behavioural relationships

The parameters of the behavioural relationships in MDM-E3 are estimated econometrically over time, within limits suggested by theory, rather than imposed from theory. The economy is represented as being in a continual state of dynamic adjustment, and the speed of adjustment to changes (in, for example, world conditions or UK policies) is based on empirical evidence. There is therefore no assumption that the economy is in equilibrium in any given year, or that there is any automatic tendency for the economy to return to full employment of resources.

In summary MDM-E3 provides:

- annual comprehensive forecasts to the year 2030
  - for industry output, prices, exports, imports and employment at an industry level
  - for household expenditure by 51 categories
  - for investment by 27 investing sectors
  - output, employment and aggregate components of expenditure for the nine Government Office Regions, Wales, Scotland and Northern Ireland
- projections of energy demand and emissions, by 25 fuel users and eight main fuel types (in all, 11 fuels are distinguished)
- full macro top-down and industrial bottom-up simulation analysis of the economy, allowing industrial factors to influence the macro picture
- an in-depth treatment of changes in the input-output structure of the economy over the forecast period to incorporate the effects of technological change, relative price movements and changes in the composition of each industry's output
- scenario analysis, to inform the investigation of alternative economic futures and the analysis of policy

Economy

The purpose of MDM-E3 is to abstract the underlying patterns of behaviour from the detail of economic life in the UK and represent them in the form of a key set of identities and equations. In a complex system, such as the UK economic system, the abstraction is very great. In any economic model the initiatives, responses and behaviour of millions of individuals are aggregated over geographical areas, institutions, periods of time and millions of heterogeneous goods and services into just a few thousand statistics of varying reliability. The aim of MDM-E3, then, is to best explain movements in the data and to predict future movements under given sets of assumptions.

A key contribution of the approach to modelling the UK economy in MDM-E3 is the level of disaggregation. The macroeconomic aggregates for GDP, household expenditure, fixed investment, exports, imports, etc are disaggregated as far as possible without compromising the available data.

One reason for disaggregation is simply that it is necessary to answer certain questions of economic interest. Some macroeconomic questions are intrinsically structural and if they are to be answered using a model then it must be disaggregated in some way. The

disaggregation of agents and products is crucial in trying to understanding the behavioural responses of heterogeneous agents as it reduces the bias encountered in estimating aggregate relationships.

The principal economic variables in MDM-E3 are:

- the final expenditure macroeconomic aggregates, disaggregated by product, together with their prices
- intermediate demand for products by industries, disaggregated by product and industry, and their prices
- value added, disaggregated by industries, and distinguishing operating surplus and compensation of employees
- employment, disaggregated by industries, and the associated average earnings
- taxes on incomes and production, disaggregated by tax type
- flows of income and spending between institutions sectors in the economy (households, companies, government, the rest of the world)

Some variables are also disaggregated by Government Office Region and Devolved Administrations. This applies particularly to value added, employment, wages, household incomes and final expenditures. Prices are not disaggregated by region, because of data limitations.

National accounts

A social accounting framework is essential in a large-scale disaggregated economic model. The early versions of MDM were based on the definitions and estimation of a Social Accounting Matrix (SAM) for the UK and its associated input-output tables and time-series data. The principles of SAM have been extended and elaborated in detail in the UN's revised System of National Accounts (SNA). Accordingly we now use the SNA for the accounting framework for the data and the model.

The national accounts provide a central framework for the presentation and measurement of the stocks and flows within the economy. This framework contains many key economic statistics including Gross Domestic Product (GDP) and gross value added (GVA) as well as information on, for example, saving and disposable income.

The national accounts framework makes sense of the complex activity in the economy by focusing on two main groupings: the participants of the economy and their transactions with one another.

Units are the individual households or legal entities, such as companies, which participate in the economy. These units are grouped into sectors, for example the Financial Corporations sector, the Government sector and the Household sector. The economic transactions between these units are also defined and grouped within the accounts. Examples of transactions include government expenditure, interest payments, capital expenditure and a company issuing shares.

The national accounts framework brings these units and transactions together to provide a simple and understandable description of production, income, consumption, accumulation and wealth. These accounts are constructed for the UK economy as a whole, as well as for the individual sectors in the Sector Accounts.

Since 1998 the National Accounts have been consistent with the European System of National Accounts 1995 (ESA95). The ESA95 is the European implementation of the International System of National Accounts 1993 (SNA93) developed by the UN to ensure a common framework and standards for national accounts, including input-output analyses, sector accounts and constant-price analyses. The ESA95 was developed to reflect the changing role of government, the increased importance of service industries and the increased diversity of financial instruments. It recognises the wider scope of capital formation, by using concepts such as intangible assets.

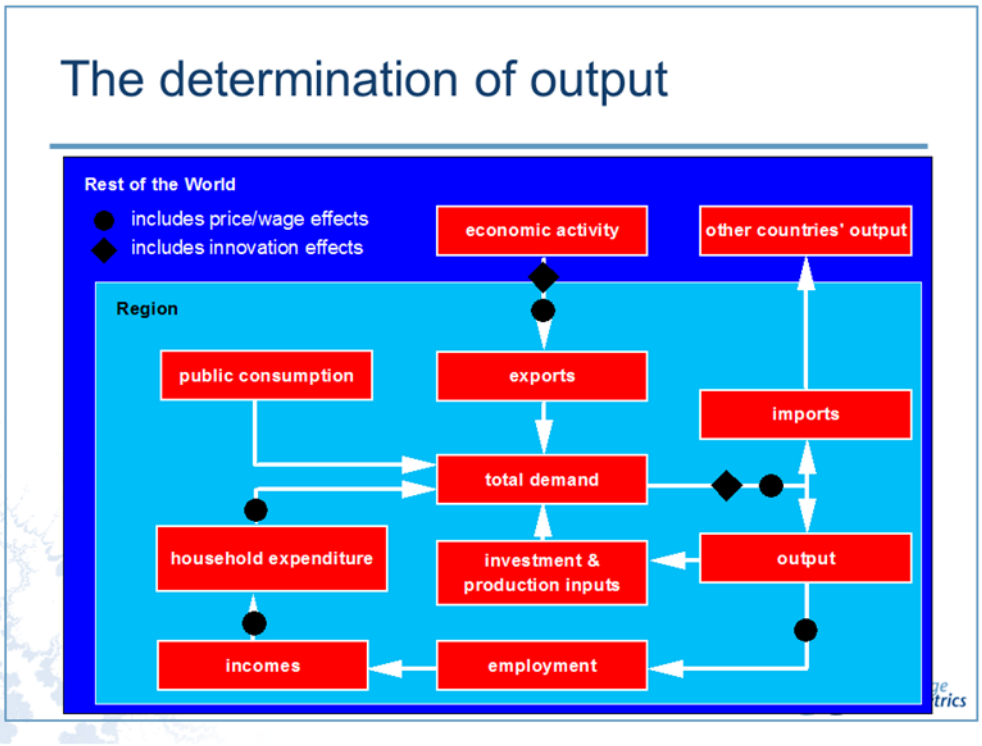
The determination of output

The determination of output in MDM-E3 can be divided into three main flows of economic dependence:

- **The output-investment loop** includes industrial demand for goods and services and runs from total demand to output and then to investment and back to total demand. Total demand for the gross output of goods and services is formed from industrial demand, household expenditure, government demand, investment (fixed domestic capital formation and stockbuilding) and exports. These totals are divided between imports and output depending on relative prices, levels of activity and utilisation of capacity.
- **The income loop**, industrial output generates employment and incomes, which boosts household expenditure, thereby adding to total demand. Changes in output

are used to determine changes in employment, along with changes in real wage costs (explained by price levels and conditions in the labour market), interest rates and energy costs.

- **The export loop** links the UK (regional) economy to the rest of the world (UK). For example, an increase in export demand for UK-produced cars (most cars manufactured in the UK are for export) leads to an increase in total demand, resulting in both an increase in imports (eg of component parts) and an increase in UK output. The increase in domestic output will be reflected in increased employment (depending on the extent to which the demand can be met by boosting productivity), which in turn leads to increased incomes, generating higher household expenditure on goods and services and growth in total demand. Some of this demand will be met by imports and some by domestic suppliers, and so on.



Household expenditure

Household expenditure is estimated at an aggregated level for each of the 12 UK regions covered in MDM-E3 and then further disaggregated to the 51 expenditure categories which relate to the COICOP classification. At the aggregate level regional consumption in real terms is predominantly a function of regional real income.

This relationship is constrained to reflect the idea that expenditure cannot outgrow income levels in the long term, although it is possible in the short term. The other key drivers of regional consumption as defined in the equations are:

- the adjusted dwellings stock
- the OAP dependency ratio
- inflation

In the short run we also consider the effects of:

- unemployment - in the literature high levels of unemployment are linked to sharp falls in household spending beyond the fall in household spending which can be explained by an associated fall in real gross disposable income that the unemployment would cause; this is explained in the literature by the uncertainty that unemployment induces across a region
- real house prices - we assume here that there is a positive (negative) wealth effect caused by increasing (decreasing) real house prices which causes consumption to increase (decrease) in the short run

Regional consumption is then disaggregated further in the disaggregated regional equations which take the main independent variable as regional consumption, which effectively reflects the income effect on consumption (the parameter is restricted to be positive). The other explanatory variables are relative prices in the form of the price of each category of household spending compared to the overall price index for all items, this captures the price effect (the parameter is restricted to be negative). The OAP and child dependency ratios are also considered so as to reflect differing consumption patterns arising from changing demographic structure in the different regions.

For the consumption categories that represent energy products, consumption in each region is determined by applying the growth rate in UK fuel consumption (in energy units) from the fuel user 'households' (or in the case of petrol - road transport) to the real consumption of gas, electricity, coal, petrol and manufactured fuels. The fuel used by households and road transport is derived from the energy and transport sub-models described later. Disaggregated consumption is then scaled to match regional consumption at the aggregate level.

Household expenditure by expenditure category is then mapped to the 41 product categories to derive domestic household demand by product category.

Investment

Among other elements such as social-capital formation, public and private sector dwellings and legal fees, the most important element of gross fixed capital formation is the acquisition of new buildings, plant and machinery and vehicles by industry.

Investment in MDM-E3 is treated quite differently to the neoclassical framework which relies on the production function of firms and net present welfare maximisation based on equating the user cost of capital with the marginal product of capital.

However, the neoclassical treatment leads to an unresolved conflict between the implied costless switch between capital and employment and the observation that capital stock adjustments are subject to significant time lags.

In MDM-E3 investment data are divided into 27 investing sector categories at the national level. The national investment equations depend on industry output, which is converted from the 41 industry sectors to the 27 investing sectors. The equations yield the result that an increase in output will lead to an increase in investment. Typically, the investing sectors which are most responsive to changes in output are the capital-intensive manufacturing-based investment sectors such as Transport Equipment.

The investment equations are specified in the Engle-Granger co-integrating form and therefore allow for the impact of the lagged investment and an error correction term allowing adjustment to the long-term trend.

Government consumption and investment

Assumptions for government capital spending are used to forecast gross fixed capital formation in the investing sectors relating to Health, Education and Public Administration. Government final consumption expenditure is treated exogenously in MDM-E3 and is based on the plans announced in the Comprehensive Spending Review and Budget statements.

Government transfers

Government revenues from taxes on income and production are inherently endogenous as they rely on consumption and incomes. This duality is an important consideration in scenario analysis. Increased tax revenues are not automatically recycled into the economy. Model operators must decide where additional revenue should be spent. If additional tax revenues are not spent they will, by definition, simply reduce the Public Sector Net Cash Requirement (PSNCR), but this has no further effects on behaviour (for example, it is not assumed that

household spending responds to the prospect of higher or lower taxation in future as indicated by the extent of government borrowing in the present).

Export demand

MDM-E3 has assumptions for 19 world regions, covering (among other factors) activity (GDP), price levels and exchange rates. The world activity indices are the key drivers of export demand, which is estimated across the 41 product categories. The result is that an assumed change in US GDP growth will affect the products that are most traded with the US, depending on the weighting of US demand in the world demand for UK exports and the responsiveness of UK export demand to the change in the world activity index. The price of exports also affects the level of export demand. To explain historical export volumes two dummy terms for integration with the EU internal market are significant for 1974 and 1978.

Import supply

Import volumes are determined by domestic demand and import prices relative to domestic prices. A capacity utilisation constraint is also considered in the short term.

Interdependencies between industry sectors: the input-output framework

Input-output supply and use tables (SUTS) provide a framework to make consistent estimates of economic activity by amalgamating all the available information on inputs, outputs, gross value added, income and expenditure. For a given year, the input-output framework breaks the economy down to display transactions of all goods and services between industries and final consumers (eg households, government) in the UK. Since 1992, ONS has used the input-output process to set a single estimate of annual GDP and ONS has published the detailed analyses in the SUTS.

The information from the regular releases of SUTS are used in conjunction with the more detailed analytical tables (last published for 1995) to construct the inputs that are required for the MDM model. An input-output table has been estimated from official data to provide the detail needed to model inter-industry purchases and sales.

The input-output coefficients derived from the SUTS allow intermediate demand to be derived for each product given the final demand at the product level of disaggregation.

Employment

The employment equations for MDM-E3 are based on a headcount measure of employment rather than on a full-time equivalent basis. The employment equations are specified by region

and industry. The two main drivers of employment are gross output and the relative wage costs as measured by industry wages relative to industry prices.

The determination of prices

In MDM-E3 assumptions are made for world prices and exchange rates. These are then used to determine import prices, which are one element of the cost to the UK's industries of bought-in inputs. The other element is, of course, the cost of the UK's own production. Unit material and labour costs determine industry output prices. Consumer prices, then, depend partly on import prices and partly on UK industry prices, together with taxes on products. Consumer prices have an influence on average wage rates, as do labour market factors. Average earnings and productivity are then used to determine unit labour costs. Export prices depend partly on unit labour costs in the UK and partly on world prices (reflecting the extent to which prices are set in world markets).

Previous versions of MDM have sought to include endogenous treatments for interest rates and exchange rates but the inclusion of these specifications often led to increased instability within the model. Recent versions of the model therefore rely on an exogenous treatment for both exchange rates and interest rates. This has important consequences for scenario analysis. For instance, unilateral UK action on carbon taxes might push domestic consumer price inflation to a position where the Bank of England might take deflationary action by increasing the repo rate. Similarly, exchange rates do not change in response to domestic prices, the balance of payments, world prices, Treasury bill rates and so on.

Industry prices

Industrial prices are formed as a mark-up on unit costs with an allowance for the effect of the price of competitive imports, technological progress and, in the short run part of the equation, the effect of expected consumer price inflation. The supply side comes in through the utilisation of capacity as measured by the ratio of actual output to normal output.

For many of the industries the dominant effect is industrial unit costs. However, import prices can affect domestic prices in three different ways. First, by directly increasing industrial unit costs, to the extent that industry inputs are imported. Second, as competitor prices so that domestic prices tend to rise with import prices over and above any effect on costs. Third, as import prices directly affect consumer price inflation and therefore the expectation of future increases in import prices.

Import and export prices

Import and export prices play the role of transmitting world inflation to the UK economy through its effect on export and import prices. Import and export prices are determined by world product prices, the exchange rate, world commodity prices and unit cost. For export prices in the short term there is also a supply-side effect which comes through the increases in the utilisation of capacity. A measure of technical progress is also included to cope with the quality effect on prices caused by increased levels of investment and R&D. Restrictions are imposed to force price homogeneity and exchange rate symmetry on the long-term equations.

Consumer prices

Consumer prices are determined by import prices and industry prices and the respective weighting of imports and domestic purchases in consumers' expenditure, together with the application of product taxes.

The aggregate consumer price index is assumed to have a positive relationship with wages, such that an increase in prices should lead to an increase in wages. Productivity also has a positive relationship with wages: if employees in an industry are able to increase value added by increasing output for the same input then they are able to command higher wage rates.

Wages

The treatment of wages in MDM partly follows the typical wage bargaining model. The opportunity from not working as expressed by unemployment benefit has a positive relationship with wages as the benefit rate will mean that workers will want to gain sufficiently more than the available benefit transfer to justify employment. In MDM-E3, again following the wage bargaining models, unemployment levels also have an impact on wages: if unemployment is high it follows that wages will be low as there is no incentive for employers to pay an individual more when there are a large number of unemployed willing to work for a lower salary.

The retention ratio term identifies the average real take-home pay for any given salary level. The purpose of this is to simulate the characteristic of individuals operating in a way to make sure that their net pay means they are equally well off following a change in tax. If income tax increases, the retention ratio falls and wages rise to (fully or partially) compensate for the higher tax rate.

In an attempt to understand relationships between wages within one industry but across regions, or within one region but across industries, MDM-E3 also uses external industry wage

rates and external regional wage rates to estimate wage rates as a system. The idea is that if wages in a region are increasing for all other industries that are not industry Y, then this should drive an increase in industry Y wages, within the specified region. This argument is then extended for one industry's wages across all the regions. If the oil and gas industry increases wage rates in all non-X regions, this will have an impact on the oil and gas industry wages in region X.

Wage bills are calculated across region and industry by multiplying the average wage by the number of full time equivalent (FTE) employees. Further key variables, such as the total wage bill, average wage, average wage for a region and average wage for an industry are also calculated.

MDM-E3 Industry Classification

	MDM	SIC07	SIC03	'Target' industry
1	Agriculture etc	01,02,03	01,02,05	
2	Coal	5	10	
3	Oil & Gas etc	06,09.2	11,12	
4	Other Mining	07,08,09.1	13,14	
5	Food, Drink & Tob.	10,11,12	15,16	
6	Text., Cloth. & Leath.	13-15	17,18,19	
7	Wood & Paper	16,17	20,21	
8	Printing & Publishing	18	22	Digital & creative industries
9	Manuf. Fuels	19	23	
10	Pharmaceuticals	21	24.4	Advanced manufacturing
11	Chemicals nes	20	24(ex24.4)	
12	Rubber & Plastics	22	25	
13	Non-Met. Min. Prods.	23	26	
14	Basic Metals	24	27	
15	Metal Goods	25	28	
16	Mech. Engineering	27.4,27.5,28	29	Advanced manufacturing; low carbon
17	Electronics	26 excl. 26.5-26.7	30,32	Advanced manufacturing; low carbon
18	Elec. Eng. & Instrum.	26.5 - 26.7,27,32.5 excl. 27.4,27.5	31,33	Advanced manufacturing; low carbon
19	Motor Vehicles	29	34	Advanced manufacturing
20	Oth. Transp. Equip.	30	35	Advanced manufacturing
21	Manuf. Nes	31,32,38.3	36,37	Low carbon
22	Electricity	35.1	40.1	Low carbon

	MDM	SIC07	SIC03	'Target' industry
23	Gas Supply	35.2,35.3	40.2,40.3	
24	Water Supply	36	41	
25	Construction	41-43	45	Low carbon
26	Distribution	45,46	50,51	
27	Retailing	47	52	
28	Hotels & Catering	55,56	55	
29	Land Transport etc	49,52,79	60,63	
30	Water Transport	50	61	
31	Air Transport	51	62	
32	Communications	53,61	64	
33	Banking & Finance	64,66	65,67	Tradable services/Low carbon
34	Insurance	65	66	Tradable services
35	Computing Services	62,63	72	Tradable services/Digital & creative industries/Low carbon
36	Prof. Services	68-74 excl. 74.2,74.3	70,71,73,74.1-74.4	Tradable services/Digital & creative industries/Low carbon
37	Other Bus. Services	74.2,74.3,78,80-82	74.5-74.8	
38	Public Admin. & Def.	84	75	
39	Education	85	80	
40	Health & Social Work	75,86-88	85	
41	Misc. Services	37-39,94,96-98, excl. 38.3	90 to 93,95,99	Digital & creative industries/Low carbon
42	Unallocated			

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