

Rebalancing the economy sectorally and spatially: An evidence review

Volume 2 – International case studies

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Volume 2 – International case studies

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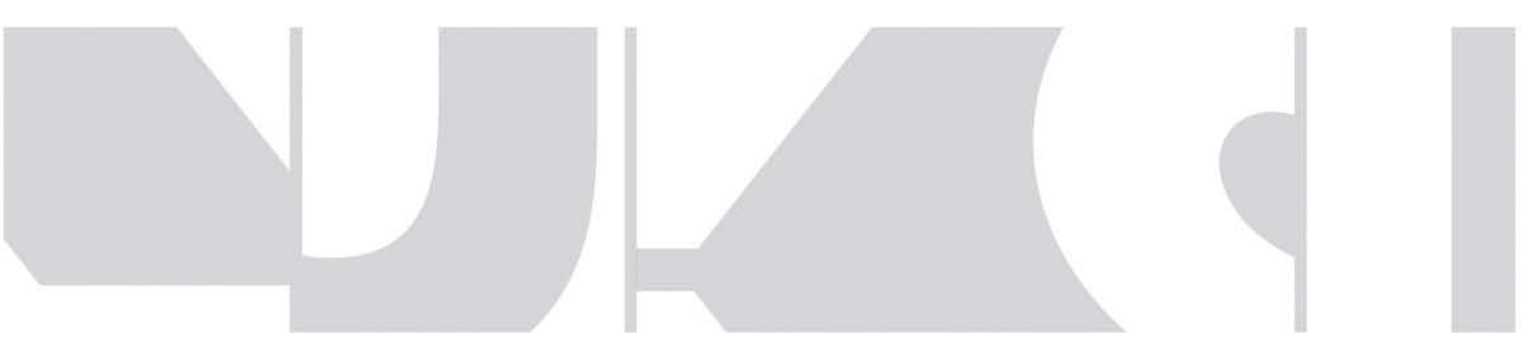


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1 Introduction

1.1 Study aims and objectives

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 offering guidance on 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 study involved an extensive review of relevant conceptual, empirical, policy and evaluation literature from the UK and abroad, formal projections of the amenability of the UK economy to *'rebalancing'* and five complementary case studies on *'rebalancing'* in Finland, Germany, Korea, Netherlands and Germany. This Volume 2 report contains the five international case studies. Overall findings from the research, including a more detailed discussion on what *'rebalancing'* means, are contained in the main report (Volume 1).

¹ Sourced from UKCES study brief, 2010.

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).

1.2 Selecting the case study countries

The primary purpose of the international case studies was to provide lessons to the UK on how '*rebalancing*' had been achieved in other places and the role played by the public sector in so doing, either through direct intervention, or by influencing or creating the appropriate conditions for '*rebalancing*' to occur at the macro and/or micro level. The case studies also sought to identify practical interventions which had been particularly effective in assisting the '*rebalancing*' process and why, and contextual factors that had enabled '*rebalancing*'.

A long-list of potential case study candidates was prepared following an analysis of international performance against the following criteria:

- **Economic position** – based on GDP and productivity growth, and international competitiveness statistics (e.g. Global Competitiveness rankings).
- **Assessment of national 'balance'** – reflecting the country's record of growth through private investment and exports, the balance of payments surpluses, net trade levels, the nature of the sectoral mix (e.g. knowledge economy share, World Bank Knowledge Economy Index); Gini Co-efficient²; progress made in '*rebalancing*' and/or 'balanced' current position.
- **Governance structures** – taking in countries with similar structures to the UK (i.e. largely centralised and/or less industry specific) and others with substantive differences (e.g. federalised models).
- **Policy approaches and type of '*rebalancing*' interventions** (where applicable) – the approaches taken to '*rebalancing*' thus far, and the relevance or transferability of such experience to the UK '*rebalancing*' context.

Based on detailed quantitative analysis against the criteria above, the qualitative knowledge and experience of the Study Team and discussions with the UK Commission, the following five countries were selected for detailed review:

² The Gini coefficient is a measure of income distribution; it ranges from 0, indicating perfect equality, to 1, indicating perfect inequality. The measure used here includes the redistributive impact of taxes and benefits.

Table 1.1 The five shortlisted international case studies

| Selected country | Rationale for selection |
|------------------|---|
| Finland | <ul style="list-style-type: none"> A 'preferable' macro-balance classification compared to the UK and 'better' competitiveness. Strong growth in ICT, but dependence on this sector, especially Nokia. More balanced in terms of net trade/fiscal balance. Lower economic and sub-regional inequality than UK. Contribution of exports to recovery in early 1990s, along with macro '<i>rebalancing</i>' policy and supplementary micro measures. |
| Germany | <ul style="list-style-type: none"> Mixed macro-balance performance compared to the UK, but 'better' competitiveness, and consideration of micro-rebalancing interventions. However, caution required around context due to federal governance structure, although unification potentially represents a classic example of the case for '<i>rebalancing</i>'. |
| Korea | <ul style="list-style-type: none"> Lower competitiveness and lower score on knowledge economy, but better macro-balance classification in terms of trade/fiscal surplus and lower economic inequality. The term '<i>rebalancing</i>' has featured strongly in policy making, and the Government has actively tried to rebalance the economy spatially with the use of radical policies. However, caution required in terms of transferability of lessons, given different context and stage of development. |
| Netherlands | <ul style="list-style-type: none"> A 'preferable' macro-balance classification compared to the UK and 'better' competitiveness. A larger share of employment in government. Scores better than the UK on spatial inequality. |
| Sweden | <ul style="list-style-type: none"> A 'preferable' macro-balance classification compared to the UK and 'better' competitiveness. Export-driven economy, with strong technology/knowledge base. Governance structure similar to UK (centralised) albeit with large welfare state support. Potential to review Sweden's response to 1990s banking crisis (sectoral and public/private '<i>rebalancing</i>'). Spatial '<i>rebalancing</i>' has occurred (Stockholm – Gothenburg). |

Source: SQW, 2011

1.3 Headline comparisons of 'balance' with the UK

Table 1.2 Key statistics – macro and spatial balance

| | Finland | Germany | Korea | Nether-lands | Sweden | UK | OECD average | Year |
|--|---------|-----------|-----------|--------------|---------|-----------|--------------|-----------|
| GDP – rounded millions of US\$ constant PPP ³ , constant (real) prices (year 2000) | 165,700 | 2,322,600 | 1,042,800 | 535,600 | 298,700 | 1,832,200 | | 2007 |
| Population (millions) | 5.3 | 82.2 | 48.6 | 16.4 | 9.2 | 61.2 | | 2008 |
| Employment (by residence) | 2.5 | 38.9 | NA | 8.6 | 4.6 | 29.4 | | 2008 |
| Fiscal balance (% GDP) | -2.7 | -3.0 | 0.0 | -5.4 | -1.2 | -11.0 | -7.9 | 2009 |
| Current account balance (% GDP) | 2.7 | 4.9 | 3.0 | 4.6 | 7.4 | -1.3 | -0.5 | 2009 |
| Expenditure components of GDP (% of total GDP) | | | | | | | | |
| Household expenditure | 53.1 | 57.3 | 50.2 | 46.6 | 49.4 | 67.1 | | |
| Government consumption | 21.0 | 20.3 | 12.8 | 26.6 | 24.6 | 20.4 | | |
| Investment | 18.1 | 18.1 | 23.0 | 19.0 | 17.0 | 15.5 | | |
| Net trade | 7.7 | 4.4 | 14.0 | 7.8 | 9.0 | -3.0 | | |
| GDP per capita - US\$ constant PPP, constant (real) prices (year 2000) | 31,337 | 28,286 | 21,520 | 32,697 | 32,652 | 30,047 | | 2009 |
| Gini coefficient - mid-2000s | 0.27 | 0.30 | 0.31 | 0.27 | 0.23 | 0.34 | 0.31 | mid 2000s |
| Sub regional variation in GDP per capita - coefficient of variation, dispersion of regional GDP at NUTS3 level | 15.5 | 17.3 | NA | 11.7 | 15.3 | 22.4 | 28.9 (EU) | 2006 |
| Unemployment rate | 6.4 | 7.5 | NA | 2.8 | 6.2 | 5.6 | | 2008 |
| Tertiary education (as % of labour force) | 38.6 | 26.5 | 33.7 | 33.9 | 32.5 | 34.0 | | 2006 |
| High and medium high-technology manufacturing (as % of total employment) | 6.8 | 10.7 | NA | 3.1 | 6.3 | 5.5 | | 2006 |
| Knowledge intensive services (as % of total employment) | 41.1 | 34.1 | NA | 42.0 | 47.7 | 42.9 | | 2006 |

Source: OECD, 2010h; Eurostat, 2010; and Eurostat, 2010b

³ Purchasing Power Parity (PPP).

Table 1.3 Key statistics – broad sectors, 2008

| | Finland | Germany | Korea | Netherlands | Sweden | UK |
|---|---------|---------|-------|-------------|--------|------|
| Employment by Broad Sector (as % of all employment) | | | | | | |
| Manufacturing | 15.9 | 19.0 | NA | 12.2 | 14.1 | 10.1 |
| Financial & business services | 13.4 | 17.5 | NA | 22.1 | 15.8 | 21.2 |
| Government services | 33.3 | 30.2 | NA | 30.1 | 37.6 | 31.2 |
| GVA by Broad Sector (as % of all GVA) | | | | | | |
| Manufacturing | 30.3 | 23.0 | NA | 14.7 | 23.4 | 13.3 |
| Financial & business services | 19.2 | 29.1 | NA | 28.1 | 25.8 | 31.5 |
| Government services | 16.8 | 22.0 | NA | 21.6 | 21.5 | 21.1 |

Source: Cambridge Econometrics analysis of Eurostat, 2010, and OECD, 2010h

In the chapters that follow we present the five case studies in the following order:

- Finland
- Germany
- Korea
- Netherlands
- Sweden

2 Finland

2.1 Introduction

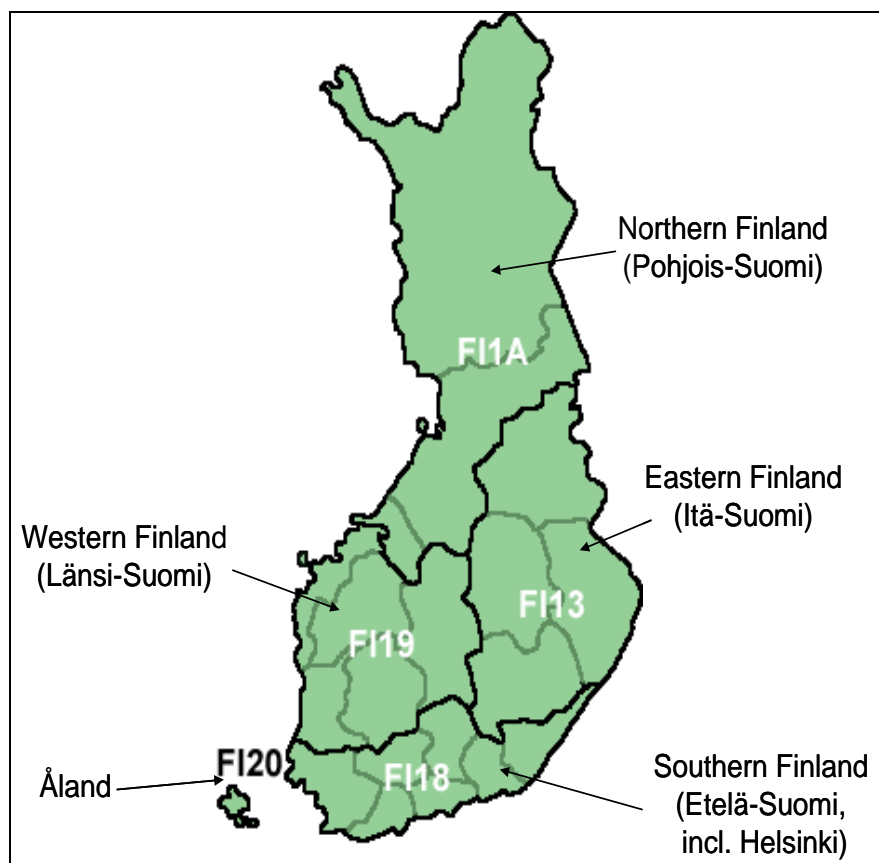
Following an economic crisis and major fiscal consolidation in the early 1990s, Finland made a strong recovery and has achieved a better macroeconomic balance in terms of trade and fiscal balance than the UK throughout the 2000s. Finland used recession to accelerate structural change, and came out of recession in a stronger competitive position. Exports played a key role in Finland's recovery, and manufacturing now makes a greater contribution to the economy in terms of GVA.

Against this background, the focus of this case study is on the macro-level '*rebalancing*' undertaken in the 1990s and a selection of the policy interventions employed to achieve this, focusing on the cluster approach, technological innovation, and supportive education and training measures. The case study provides an update on key policies since the 1990s that have contributed to Finland's strong position in terms of macroeconomic balance and competitiveness compared to the UK.

2.2 Spatial context

Finland is a relatively small country with a population of 5.3 million and GDP of £0.17 billion in 2008/7 (compared to 61m and £1.8bn in the UK respectively). Finland's economic activity is concentrated in two regions; Southern and Western Finland. Southern Finland (Etelä-Suomi, which includes Helsinki) is the most urbanised and industrialised, and home to half of Finland's population, generating 57 per cent of GVA and 53 per cent of jobs. Its industrial structure is diverse, but services and high-tech industries account for a large proportion of output. By contrast, Western Finland (Länsi-Suomi) is home to a quarter of the country's population and generates 23 per cent of GVA and 24 per cent of jobs. This region has close functional links to Sweden, and specialises in metal production, forestry, food manufacturing and agriculture. The economy of Eastern Finland (Itä-Suomi) is highly dependent on forest industries, and mining is becoming an important industry. Forest industries have also dominated the economy of Northern Finland (Pohjois-Suomi) for many years, although recently, the high-technology industry has grown significantly in and around Oulu, which has become one of Europe's leading centres for electronics and ICT.

Figure 2.1 NUTS2 regions of Finland



Source: SQW, 2011

2.3 The ‘rebalancing’ challenge

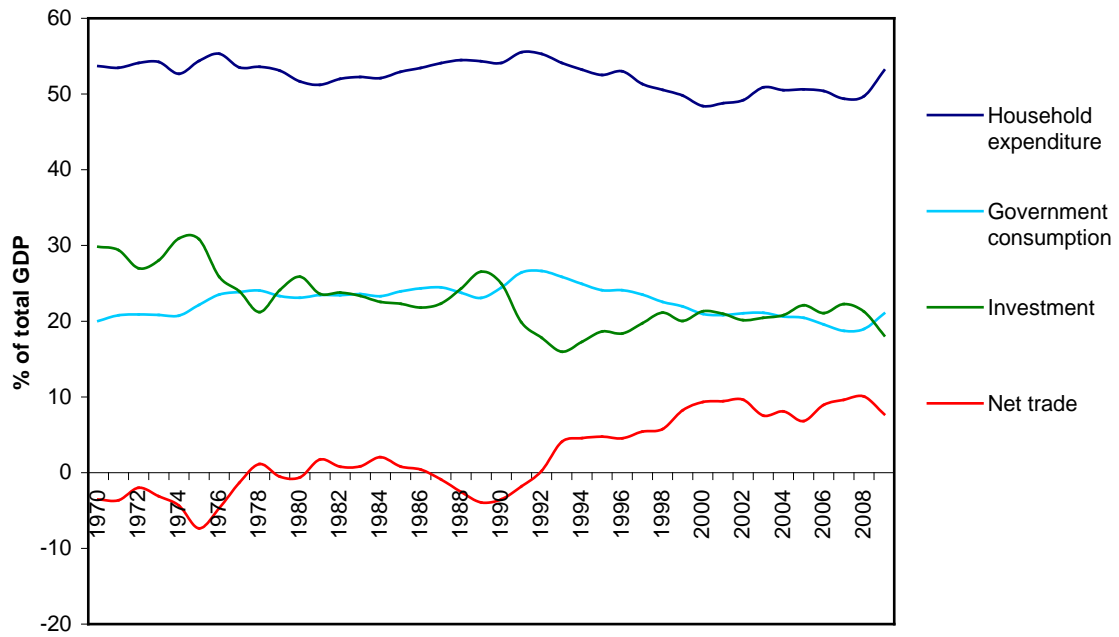
2.3.1 Finland’s relative position

In 2010, Finland ranked seventh on the World Economic Forum’s Global Competitiveness Index (GCI, 2010) compared to the UK’s position of twelfth. Finland also performs better than the UK in terms of GDP per capita (\$31,300 in Finland, compared to \$30,000 in the UK⁴) and GDP growth (Finland grew at around 2.5 per cent pa compared to 2.0 per cent for the UK 1997-2009).

At a macro level, investment and net trade account for a greater proportion of GDP at 2008 (18 per cent and 8 per cent) compared to the UK (15 per cent and -3 per cent respectively). However, this has not always been the case, as Figure 1.2 shows, net trade made a negative contribution to GDP in the late 1980s and early 1990s, but made a strong contribution to Finland’s recovery during the 1990s.

⁴ Regional GDP per capita, US\$ constant PPP, constant (real) prices (year 2000).

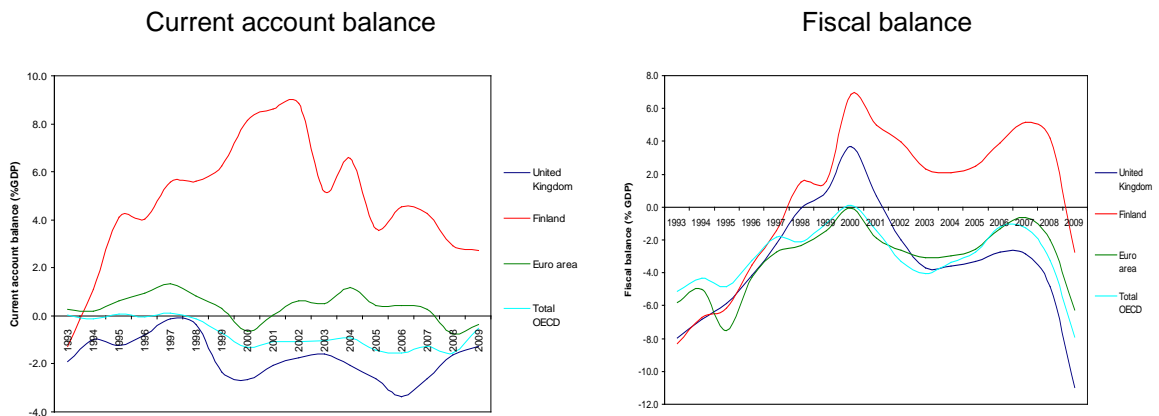
Figure 2.2 Expenditure components of GDP in Finland, 1970 - 2008



Source: Cambridge Econometrics analysis of Eurostat, 2010b

Finland's net trade pattern is reflected in a positive current account balance, which has been positive since the recovery in the early 1990s and is above that of the UK. The fiscal balance is now negative in Finland (as it is across most OECD countries). However, from a fiscal deficit of around eight per cent in the early 1990s (which was similar to the UK position), Finland managed to reach a fiscal surplus by 1998. The UK took slightly longer to reach a positive position and this was not maintained throughout the 2000s as it was in Finland.

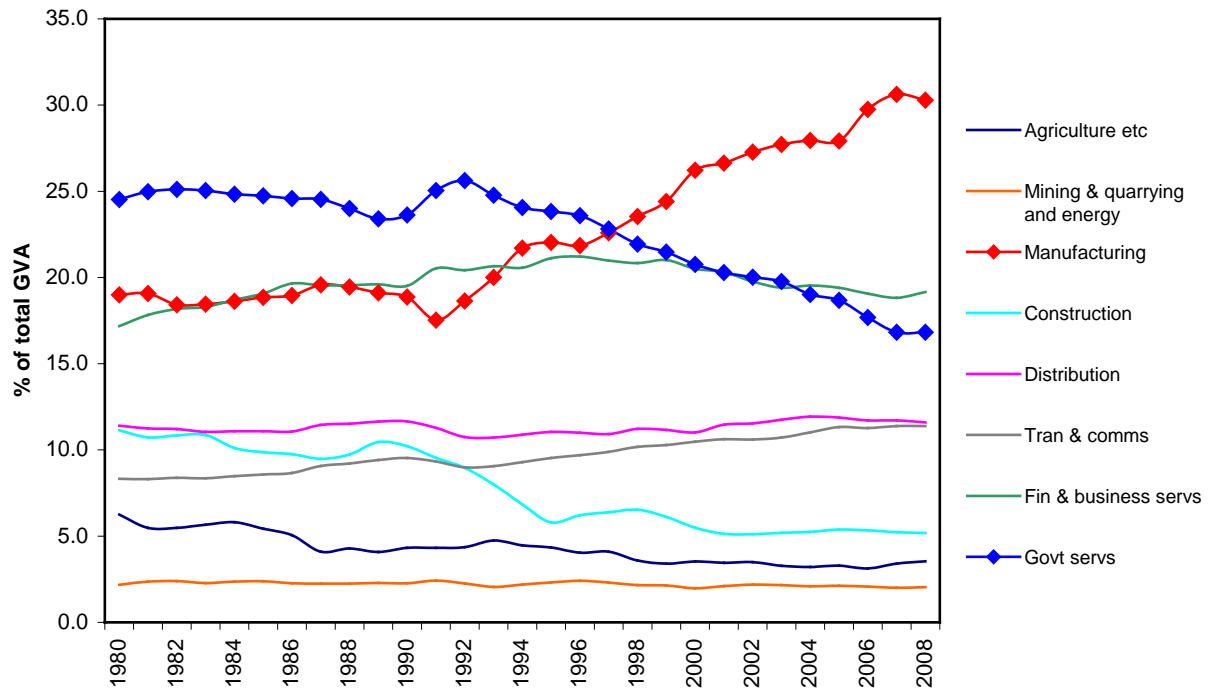
Figure 2.3 Current account and fiscal balances (per cent GDP)



Source: Cambridge Econometrics analysis of Eurostat, 2010

Over the last 30 years, the contribution of manufacturing to Finland's GVA has increased from 19 per cent in 1980 to 30 per cent in 2008⁵, whereas the contribution of Government services has fallen from 25 per cent in 1980 (this level was maintained until 1992) to 17 per cent by 2008. On the World Bank Knowledge Economy Index⁶, Finland ranked third in 2009 (compared to UK at seventh) suggesting the country is judged to have one of the highest levels of 'knowledge potential'.

Figure 2.4 GVA by sector, as per cent of total GVA



Source: Cambridge Econometrics analysis of Eurostat, 2010b

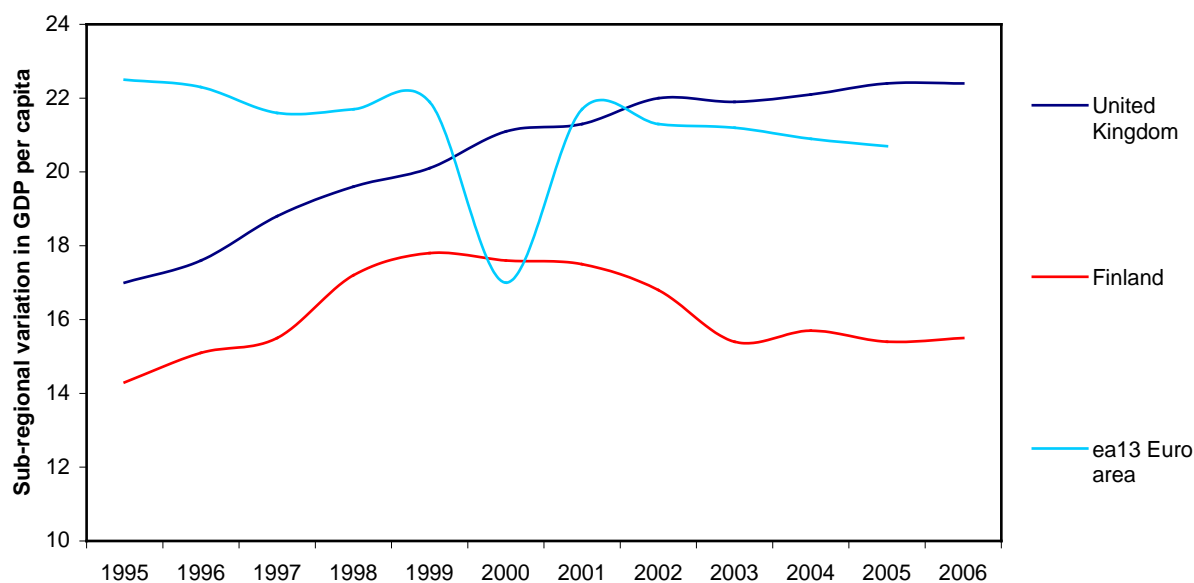
Income inequality is lower in Finland, scoring 0.27 on the Gini Coefficient⁷ in the mid-2000s (compared to an OECD average of 0.31 and UK score of 0.34). As Figure 2.5 shows, the sub-regional variation in GDP per capita in Finland is the second lowest of all OECD countries at 16 per cent in 2006 (compared to 22 per cent in the UK), although the Country's sub-regional variation did widen during the late 1990s and early 2000s, as Finland recovered from the economic crisis of the preceding decade.

⁵ However, it should be noted that the proportion of jobs in manufacturing has fallen over this time period from 25 per cent in 1980 to 16 per cent in 2008 as jobs in the sector have become increasingly productive and associated technological changes. The Government still accounts for one third of jobs in 2008.

⁶ This measures the 'overall potential of knowledge development in a given country' taking account of: the economic incentive and institutional regime; education and human resources; the innovation system; and the diffusion of information and communication technology.

⁷ The Gini coefficient is a measure of income distribution; it ranges from 0, indicating perfect equality, to 1, indicating perfect inequality. The measure used here includes the redistributive impact of taxes and benefits.

Figure 2.5 Sub-regional variation in GDP per capita



Source: Cambridge Econometrics analysis of Eurostat, 2010a

2.4 The causes of imbalance

The evidence above suggests that Finland now performs relatively well in terms of macro balance and, arguably, also micro balance with strong growth in the manufacturing sector and low sub-regional variations in GDP per capita, compared to the UK and OECD averages. However, this follows a major economic crisis in the early 1990s which presented Finland with a number of economic ‘*rebalancing*’ challenges (Gylfason, 2010; Kiander, 2009; Social Policy Research Centre, 1996; HM Treasury, 2009; Policy Exchange, 2009):

- Trade with the former Soviet Union, Finland’s major trading partner, collapsed and resulted in a negative export shock to the economy. Prior to the shock, exports to the former Soviet and Baltic Blocks accounted for over 20 per cent of total exports.
- Private investment was reduced by 50 per cent between 1990 and 1993, and private consumption fell by 10 per cent over the same time period.
- A speculative bubble in domestic securities and real estate markets was fuelled by uncontrolled credit expansion, which led to a credit crunch and excessive private sector indebtedness. Cumulative credit losses of Finnish banks amounted to 15 per cent of GDP in the early 1990s.
- Public debt increased from 12 per cent to 50 per cent of GDP in 1990-1995.

- Finland's economy was dependent upon primary and heavy industry, which was not well placed to withstand the emerging cost pressures of globalisation and the increasing need to compete on the basis of quality/content. At that point, Finland's export base lacked diversity, and was overly-reliant on forestry products.
- As a result, unemployment rose from just under four per cent in 1990 to 17-18 per cent of the labour force by 1993 and GDP contracted for three consecutive years from 1991-1993 by an aggregate of 11.4 per cent.
- Rising welfare spending, the need for public bank support and falling revenues resulted in a budget deficit of seven per cent of GDP in 1993.

In the following section, we explore the types of interventions employed in Finland in response to the economic crisis to aid recovery and interventions that have helped Finland maintain its competitive position through the 2000s.

2.5 The public sector's objectives and approach to intervention

In 1995, a new coalition government was elected and introduced a **fiscal consolidation** programme in response to economic crisis. The government placed greater emphasis on spending cuts rather than tax rises, arriving at a split of spending cuts to tax rises of 55:45, compared with the current UK coalition government's position of 80:20 (Monaghan and Conway, 2010). The consolidation programme included a reduction in primary government expenditure of 14 per cent of GDP between 1993 and 2000 through reductions in government staff (between 1990 and 1993, the number of people employed by public health and social services declined by around eight per cent), pay freezes, reductions in transfer payments and unemployment benefits to municipalities (achieved by tightening beneficiary eligibility) and cuts to other soft areas such as agricultural, business and investment subsidies (HM Treasury, 2009).

The government made the decision to protect investment in the fiscal consolidation process and, it is argued, benefitted the economy in the long-term (SCDI, 2010). In particular, R&D spend was protected and rose during the period of fiscal consolidation; for example, funding to the TEKES (the agency for technology and innovation) increased by 40 per cent in real terms between 1991 and 1993 (Suonpera, 2009). The tertiary level of the education system 'suffered very little' from government cuts; its share of total expenditure on education exceeded the OECD average even during the deepest recession and education budgets increased after 1994, peaking at a growth rate of 7.7 per cent in 1995 (Hyytinen *et al.*, 2004; OECD, 1999). Arguably, the easier option would have been to bring forward interventions that generated employment immediately, rather than taking this long-term approach to build and develop fundamental strengths in the knowledge base.

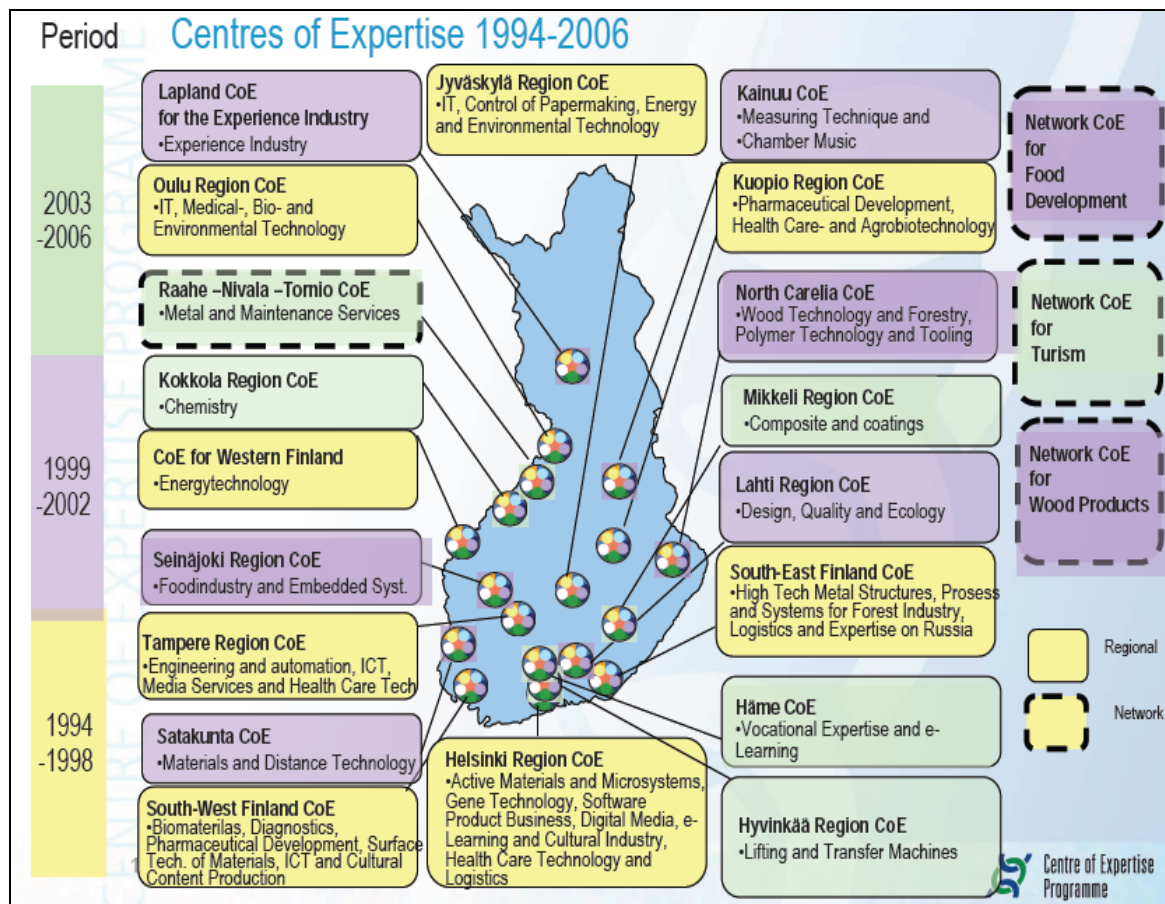
In addition to the fiscal consolidation, the government introduced **supplementary measures** to improve the competitiveness of Finland's economy, because the government did not believe *'rebalancing'* was possible through fiscal means alone and that wider structural change was needed. Specifically, **greater emphasis was put on long-term microeconomic policies to create the conditions for growth as opposed to short-term macro economic policies and industrial subsidies**, in acknowledgement that the foundations of sustained national competitiveness are largely created at the micro level. Accordingly, the government prioritised innovation policy in particular, plus labour supply, skills and entrepreneurship (Hyytinen *et al.*, 2004). The main rationale given for these interventions and policies was one of market failure. The government's aim was to enhance and enable the business environment, rather than providing heavy subsidies or other direct government support, and focused on indirect measures to influence business's behaviour, address market failures, promote competition and improve business conditions.

In particular, Finland's policy was heavily geared towards **technological innovation** and the development of **specialist clusters** from 1992 onwards, building on Finland's strong engineering inheritance. This centred on the growth of the country's ICT cluster, with Nokia obviously playing a major role, but Hyytinen *et al.* (2004) argue that the development of Finland's ICT cluster is not entirely driven by the telecoms giant. Indeed, Michael Porter refers to Finland's approach as a good example of planning economic policy, it having given rise to many new companies in Finland. The government had no interest in protecting domestic suppliers in the telecommunication sector (i.e. implementing protectionist policies), so small local manufacturers were under pressure to be competitive.

A specific intervention under Finland's innovation policy was the **Centre of Expertise (CoE) Programme** which started in 1994 with eight centres in Finland's largest urban regions (the first round of the programme ran from 1994-1998, funded with FIM 15m/ECU 2.5m over this period (Hamalainen *et al.*, 2000)), and expanded to smaller urban centres in 1999-2003, and is still ongoing. The Programme aims to promote and create a critical mass of world class excellence, enhanced co-operation between selected knowledge clusters, enhance regional specialisation (building on regional economic strengths), focus on internationalisation to diversify the export base, and promote SME growth. A key aim of the Programme is also to provide platforms to increase collaboration between companies, research institutes, polytechnics, universities, training institutions, and local authorities (known as the 'triple helix model') so as to encourage collaboration in terms of commercialisation of innovation and ultimately jointly develop regional competitiveness (this represented a 'systems view' of the innovation model). They also aim to increase 'regional appeal' and therefore attract further investment and expertise to the area.

Areas that become CoEs are based in regional hubs, but are self-selected, which means actors need to come together in order to apply to become a Centre of Expertise and therefore the cluster is driven from the bottom up. The CoE receive relatively small funding incentives from central government (despite CoEs having a high status in Finland's innovation policy) which Centres compete for on an annual basis, and this forces them to continuously improve the quality of activities and projects. The public-private project collaborations focus on the diversification and renewal of the industrial structure within each region, which in turn has generated new jobs (see below) and it is estimated that over 5,000 companies have taken part in the preparation and implementation of projects each year through the CoEs (Manninen, 2006). A number of skills policies have played a key role in enabling the success of CoEs. These are complementary, but not part of the CoE programme specifically, and are covered in more detail below.

Figure 2.6 Centres of Expertise



Source: Kavonius, 2004

The cross-party Science and Technology Policy Council (STPC) played a leading role in innovation policy in the 1990s, which established the shared vision of Finland as the premier knowledge economy according to NESTA (2008), and played an important coordinating role, as well as delivering high level political leadership. In particular, it promoted intensive and informal communication between Government, industry, academia and the labour market and developed the national innovation system for policy-making, which was predicated on the argument that innovation had a systematic (rather than linear) character and emphasised the role of education in adopting, diffusing and utilising new technologies.

Throughout, Finland has combined business and technological innovation policy with social measures (i.e. education and training) to support the transition to a more knowledge based economy. The government made a strong commitment to **education**, with an emphasis on natural sciences and engineering. Universities have been allocated resources for teaching according to forecast labour market, as opposed to student demand (OECD, 2007b). Universities are also charged with a 'third task' to interact with their surrounding communities and promote the positive impacts of research activities on the local economy (Goddard *et al.*, 2006). Polytechnics at the tertiary level were established as pilots in 1991 and subsequently rolled out. These are designed to respond to regional business needs, and apprenticeships were introduced in 1994 alongside on-the-job learning in vocational education, in order to develop 'individual pathway options' or 'individual learning paths', giving more flexibility and individualised choices for study. Access to tertiary education across a wider geography has been aided by the expansion of universities and polytechnics across the country. Also, for employers, up-skilling their workforce in order to restructure towards technology-based activities was essential for survival according to the OECD (2004).

High general levels of education were also considered to be important for adopting and utilising new technologies, and basic education is still prioritised as a key imperative of the Finnish education system (OECD, 2001). However, it is important to note that education to enhance technological change has a deep root, being prioritised in the policies of the 1960s and 1970s, so the process of building the knowledge base through educational activity was well understood.

Despite these measures, Finland experienced a skills shortage during its intensive ICT growth period. The government's response was to increase the number of Higher Education Institutions (HEI) places, and between 1993 and 1998, the total intake for universities nearly doubled and polytechnics nearly tripled (Hyytinen *et al.*, 2004). In terms of labour supply to areas of high demand, the priorities of Finland's regional policy changed from a focus on reducing regional disparities towards encouraging geographical mobility.

2.6 Effectiveness and impacts of interventions

'Rebalancing' of Finland's public finances took around seven years (1992-1998). According to McKinsey, the key driver of fiscal consolidation was the expansion of exports and, underpinning this, government's policy which 'proved key to restoring confidence, reviving private investment, and generating the economic rebound that made the deleveraging process much easier in the later years' (McKinsey, 2010a). As a result of fiscal consolidation, the fiscal balance improved by 14 per cent (to a surplus of seven per cent), and public debt declined rapidly. Growth and employment picked up strongly. Finland was one of the fastest growing countries in the world during the latter half of the 1990s, growing at an annual rate of approximately five per cent (Hyytinen *et al.*, 2004). Some argue that fiscal consolidation did not impede and may have accelerated the recovery and were successful enough for taxes to be reduced in 2000 (Policy Exchange, 2009).

The shift from an economy based primarily on forestry and heavy industry to a competitive high-technology, knowledge intensive country took around ten years. R&D intensity grew rapidly and the business sector increased expenditures on innovative activity. Since the mid-1990s, the number of public and private sector researchers has grown rapidly, and by 2001, Finland had more researchers than all other OECD countries (OECD, 2005b). Now Finland's R&D intensity (as a per cent of GDP) is amongst the highest in the world. Linked to this, Finland's annual productivity growth rate rose by nearly 30 per cent over the 1990s, which some argue was helped by Nokia's leading role in the mobile phone industry (NESTA, 2008). Finland has also been successful in converting R&D investment and educational capacity into export strengths in high technology sectors. The issue now is around Nokia's dominance in the mobile market, although recent strategic alliances with Microsoft on next generation phone platforms will help.

In terms of education and skills, Finland consistently performs well in maths, science and literacy compared to the OECD average, which have been important skills for the growing high technology and knowledge sectors. Also, adapting the education system to meet the needs of the economy, retraining and linking unemployment benefits to getting extra qualifications have been crucial in enabling the economy to restructure. For example, the tertiary sector was quick to respond in the courses provided to produce workers with the new ICT skills needed.

The Centres of Expertise Programme appears to have been particularly successful in mobilising innovation at the regional level. Over the first period (1994-1998), the programme created around 8,000 new jobs, contributed to the renewal of 7,000 jobs, established 290 new high tech enterprises and attracted 130 enterprises to the CoE areas (Hamalainen *et al.*, 2000). Evaluation evidence for the 1999-2005 period of the Programme shows over 12,000 knowledge intensive jobs were created, 23,500 jobs were maintained, 1,100 new high tech businesses were set up, and almost 90,000 people have been trained (IRE, 2011). Developing networks between academia and businesses has encouraged knowledge dissemination and the programme has contributed to the process of sectoral specialisation and encouraged the 'internationalisation' of enterprises. Furthermore, some argue that the programme has successfully directed limited resources towards exploiting regional strengths and opportunities (Manninen, 2006; Ministry of Employment and the Economy, 2010). That said, the participation rate of SMEs has been low and there is some concern that focusing on existing regional strengths might lead to backward facing 'lock-in' situations (Hamalainen *et al.*, 2000).

In the round, the evidence points to a number of **factors that have been critical to the successful recovery** in the 1990s and current competitiveness of Finland:

- Policies were consistent over the long-term, and not significantly dictated by short term cyclical or political considerations.
- Following the initial fiscal consolidation programme, policies focused far more on micro economic issues to create the conditions for growth, specifically innovation, skills and enterprise. 'For Finland, the increased emphasis on microeconomic and especially innovation policies has in many ways been a successful choice' (Hyytinen *et al.*, 2004).
- A focus on world class expertise, combined with specialisation between regions and increased the critical mass in R&D. Also, policy recognised local needs and opportunities, especially through a bottom-up approach with companies. Employing science parks as operational platforms also appears to have worked well.

- Education played an important role in recovery, particularly a free education up to university, a social security system that incentivises young people to continue education post-16 (e.g. people must be over 18 to claim unemployment benefits) and the ability of the higher education sector to respond quickly and flexibly to meet the needs of the most productive sectors e.g. by producing engineers, managers and skilled workers (Dahlman *et al.*, 2006). Creating a decentralised network of HEIs in regions and having skilled human resources available has also been very important factor in the success of the CoEs, creating a relevant knowledge base for each region. It is reported that 'this policy has been successful: participation in initial education is rising, and young people seem to highly value education and training' (OECD, 1999).

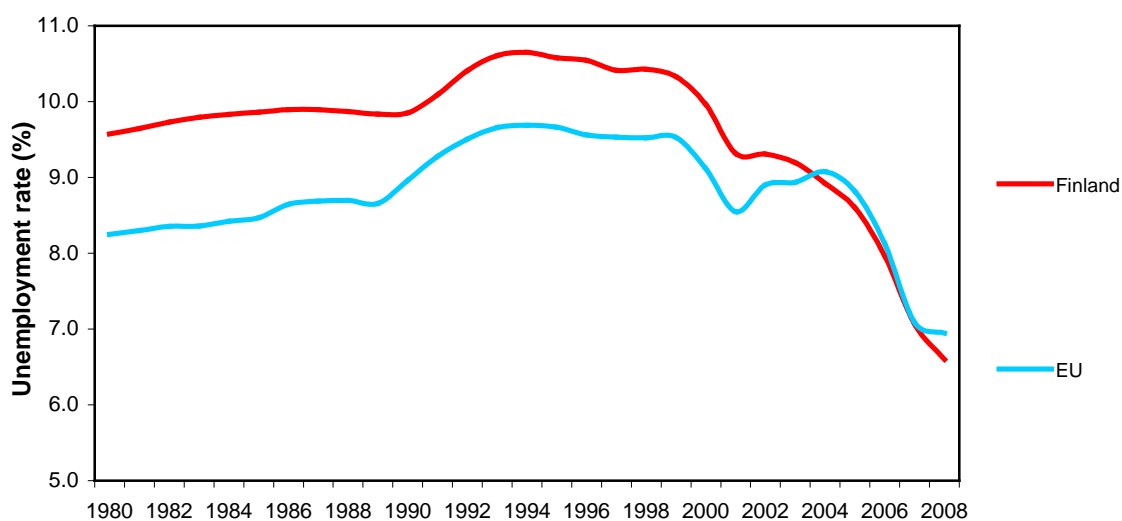
However, it is also important to note a number of **contextual factors** that have influenced the success of Finland's fiscal consolidation and other supplementary measures around innovation and education. In terms of fiscal consolidation, the depreciation of the Marrka (by 40 per cent) also helped economic recovery, although once Finland adopted the Euro in 1995, the scope for national macroeconomic policies thereafter was considerably reduced. The liberalisation of capital and removal of restrictions on Foreign Direct Investment (FDI) in 1993 also helped. Others argue that the preconditions for stable development, such as stable and transparent economic and social institutions, consistent and predictable policy environment, and high social cohesion, were in place in Finland before the recovery period (Hyytinen *et al.*, 2004). According to CPPR (2010), the upturn in the IT sector and growth of Nokia also played an important role. Furthermore, not all of the success can be attributed to policies in the 1990s. Policy changes had already begun in the 1970s and 1980s, which gave high priority to ICT and the science and technology base of industry and to high levels of educational attainment. This reinforces a key leitmotif of '*rebalancing*', i.e. it takes significant time to bring about sustainable changes in the business and skills base of large economies.

It is debateable as to whether Finland has now achieved an '**optimal balance**'. The country now has a much more desirable fiscal/macro balance, with growth driven by an improvement in exports and net trade. Also, some commentators in the UK argue the growth towards high value manufacturing demonstrates successful sectoral '*rebalancing*', and Finland has not seen the decline in manufacturing that other EU countries have observed. However, there are still concerns within Finland that the economy is over-reliant on one sector (high tech manufacturing, and especially Nokia as a single enterprise) and the challenge of encouraging small firms with high growth potential remains (NESTA, 2010).

Whilst macro balance (and to some extent sectoral balance) might have been achieved, there have been some **negative consequences** of the ‘rebalancing’ process. Economic success was concentrated strongly in certain regions, especially in the South-Western parts of the country, and so spatial imbalances have increased. As illustrated in Figure 2.5, sub-regional variations in GDP per capita increased through the latter part of the 1990s and early 2000s (although spatial inequality is still not a major issue in Finland compared to the UK).

Also, unemployment remained relatively high throughout the 1990s, as demonstrated below. The redistribution of employment opportunities also favoured younger, better educated people who were absorbed relatively rapidly by the labour market, creating ‘severe problems for older, less educated groups’ (OECD, 1999). At the same time, the policy of preventing youth unemployment through longer participation in education appears to have been successful and helped prepare individuals for high quality jobs that became available during the recovery.

Figure 2.7 Unemployment rate



Source: Cambridge Econometrics analysis of Eurostat, 2010c

2.7 Implications for skills and employment policy in the UK

Since the 1990s, Finland has recovered from a major economic crisis with a more ‘balanced’ fiscal position and competitive, high technology and knowledge intensive economy. The government focused on long-term microeconomic policies, prioritising innovation, skills, and entrepreneurship to create the conditions for growth, rather than short-term macro economic policies. Finland’s experience provides a number of policy lessons for the UK, especially in terms of skills and employment:

- 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 (e.g. ICT). These actions enabled a shift into high value sectors, helping to improve the competitiveness and productivity (and therefore wealth) of Finland's economy.
- High educational achievement (particularly that which enabled technological change) had been a priority for the three decades preceding the economy's *'rebalancing'* period. Systems, approaches, and platforms were in place that could be built upon.
- The government promoted 'individual pathway options' or 'individual learning paths', giving more flexibility and individualised learning, whilst at the same time set up mechanisms (such as the Centres for Expertise and the Science and Technology Policy Council) to ensure close working between academia/education providers and industry to ensure skills met the changing needs of businesses. The tertiary sector was quick to respond in the courses provided to produce workers with the new skills needed.
- There was a focus on export-led growth, and the Centres of Expertise focused on regional strengths to enhance specialisation and exports, and ensured that education providers collaborated with industry to provide the relevant skills and expertise.

3 Germany

3.1 Introduction

From the initial evidence review, Germany emerges as a country which experienced regional convergence in growth⁸ (BIS and CLG, 2010) and decreasing regional disparities in unemployment since the early 1990s.

This case study of Germany considers two sub-regions; the Ruhr and Munich. These have been selected to illustrate policies of sectoral '*rebalancing*' and spatial '*rebalancing*'.

The Ruhr is located in Nordrhein-Westfalen (see Figure 3.1) and is an area that has faced substantial contraction of its industrial base focused on coal and steel industries. It spans parts of the Dusseldorf, Munster and Arnsberg NUTS2 regions. It is a polycentric urban area of over 5-7 million people (depending on the precise definition used) and includes cities such as Duisburg, Essen, Bochum and Dortmund (each with populations of 375,000 to 600,000 in 2009), and forms part of the wider Rhine-Ruhr metropolitan region including Dusseldorf, Cologne and Bonn. The area has been selected to show how large-scale sectoral transformation in the largest industrial region in Europe has been tackled.

By contrast, Munich in southern Germany does not have the same legacy of heavy industry but has built up a strong focus on defence-related activities. It is located in the Oberbayern (NUTS2 region) part of Bayern (NUTS1 region) in southern Germany⁹. It has been selected to show how a successful economy has managed to 'stay ahead'. This is an important issue given the concern with '*rebalancing*' in the context of overall economic growth.

⁸ Based on regions' initial GDP and subsequent GDP per head growth rate.

⁹ NUTS nomenclature of territorial units for statistics.

Figure 3.1 Map of Germany showing NUTS1 and NUTS2 regions



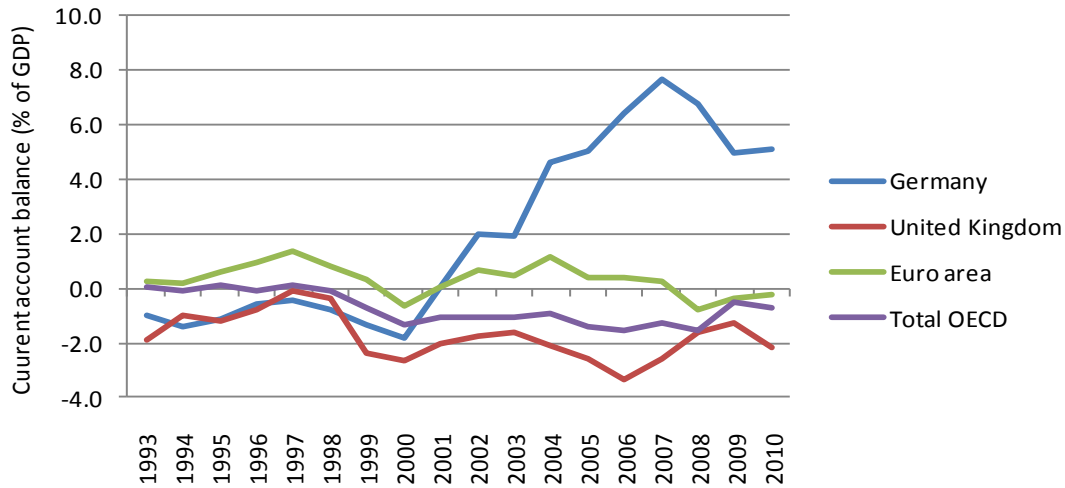
Source: Guide to China, 2011

3.2 The 'rebalancing' challenge

3.2.1 The national position

At a macro level, net trade has made a strong positive contribution to GDP in Germany in contrast to the UK situation (see Figure 3.2). Investment is also stronger in Germany (19 per cent of GDP in 2008) than in the UK (15 per cent in 2008).

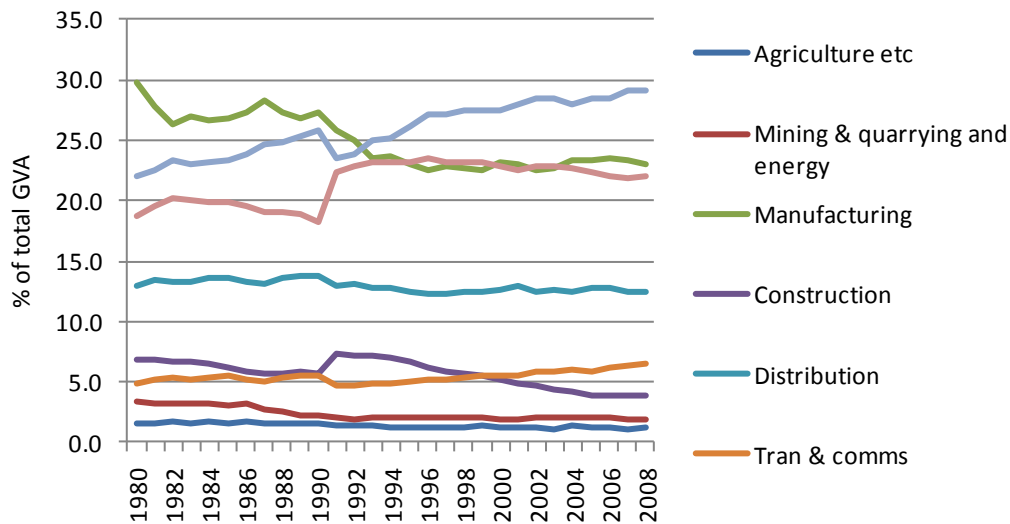
Figure 3.2 Current account balance as a percentage of GDP



Source: Cambridge Econometrics analysis of Eurostat, 2010b

Manufacturing remains an important contributor to GVA. In 1980 it accounted for 30 per cent of GVA, but following a decline in the 1980s and the early 1990s its contribution has remained constant at around 23 per cent (Figure 3.3), while as a share of employment, it has declined more steadily since the 1990s to 19 per cent (Figure 3.4).

Figure 3.3 GVA by sector as a percentage of total GVA

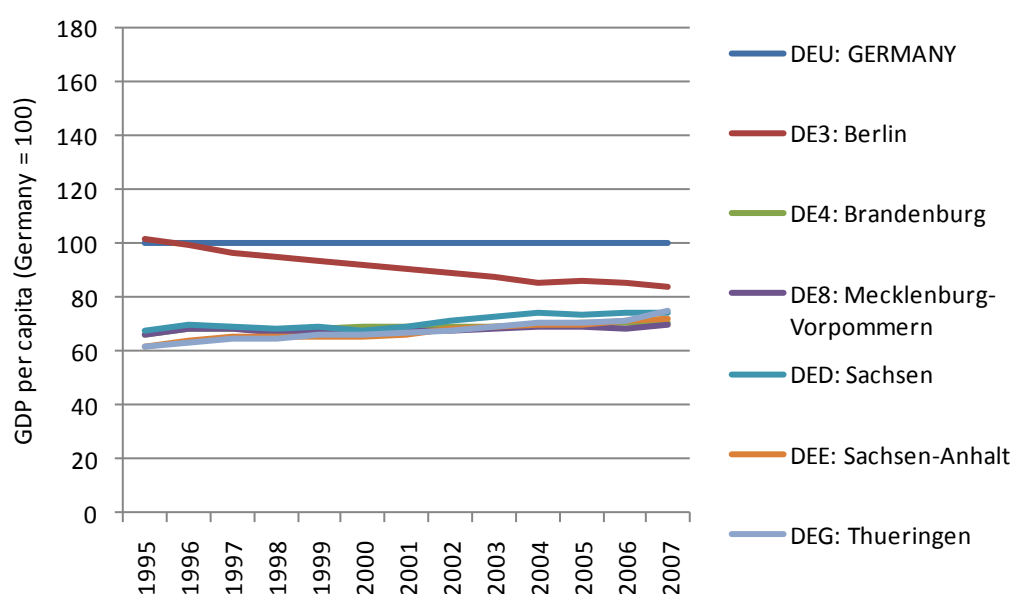


Source: Cambridge Econometrics analysis of Eurostat, 2010b

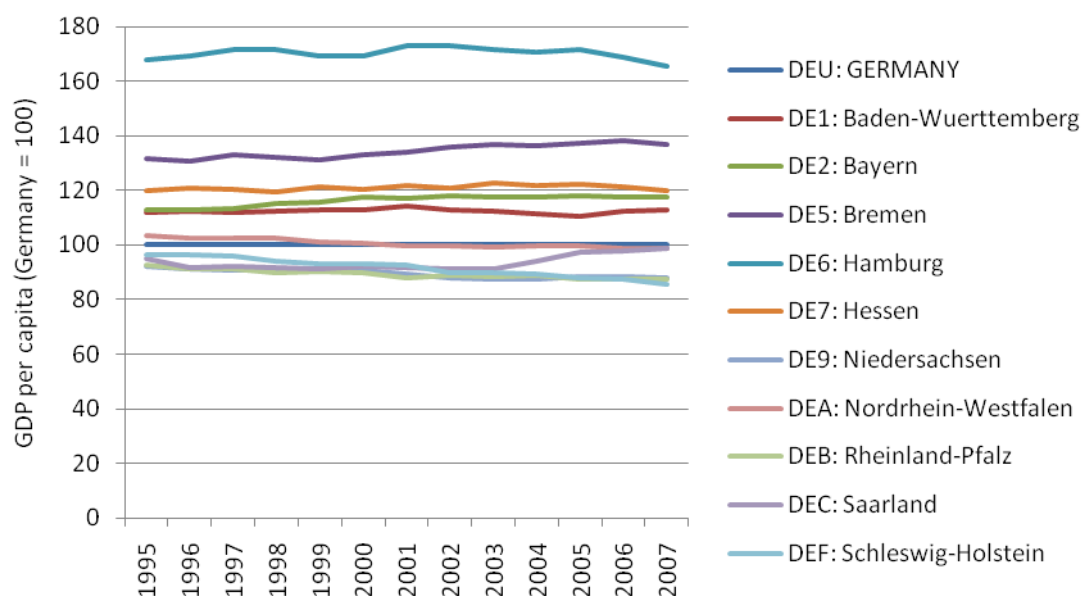
Within Germany there are two main *'rebalancing'* challenges in economic and labour market terms (Mosley and Bouche, 2008):

- Disparities between eastern (the new Lander) and western Germany (the old Lander).
- A broad north-south divide within western Germany between older industrial areas in the north (illustrated here by the Ruhr) and more dynamic economies in southern Germany (exemplified by Munich).
- These are illustrated by performance on key indicators. GDP per capita in most of the eastern Lander in 2007 remained at a level less than 75 per cent of the Germany average, despite improvement since 2005 (see Figure 3.4). In Nordrhein-Westfalen, GDP per capita remained close to the Germany average throughout this period, albeit on a slowly declining trend. By contrast, GDP per capita in Bayern was 18 percentage points higher than the Germany average in 2007, up from 13 percentage points higher than the Germany average in 1995 (see Figure 3.5).

Figure 3.4 GDP per capita – new Lander (East Germany)



Source: Source: Cambridge Econometrics analysis of Eurostat, 2010b

Figure 3.5 GDP per capita – old Lander (West Germany)


Source: Source: Cambridge Econometrics analysis of Eurostat, 2010b

- Between 1995 and 2007, GVA in Bayern increased by 33 per cent (the highest percentage recorded by any Lander), while that in Nordrhein-Westfalen increased by 18 per cent, compared with 23 per cent across Germany as a whole. Most of the new Lander experienced a relative increase in GVA in excess of that recorded in Nordrhein-Westfalen.
- Unemployment rates remain higher in the new Lander than elsewhere but there is evidence for some convergence towards the Germany average over the period from 1995 to 2008 (see Table 3.1). In Bayern, unemployment rates have remained well below the Germany average, while in Nordrhein-Westfalen the unemployment rate is close to the Germany average. Although increasing from 62.6 per cent in 2000 to 68.7 per cent in 2008, the employment rate in Nordrhein-Westfalen remains markedly lower than that in Bayern (71.0 per cent in 2000 to 76.2 per cent in 2008).

Table 3.1 Unemployment rates (per cent)

| | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
|---------------------|------|------|------|------|------|------|------|------|------|
| GERMANY | 7.9 | 7.8 | 8.5 | 9.8 | 10.7 | 11.1 | 10.2 | 8.6 | 7.5 |
| Bayern | 4.0 | 3.8 | 4.5 | 6.1 | 6.8 | 7.0 | 6.5 | 5.3 | 4.2 |
| Nordrhein-Westfalen | 6.5 | 6.1 | 7.2 | 8.8 | 9.5 | 10.4 | 9.8 | 8.3 | 7.4 |
| Berlin | 14.4 | 15.1 | 15.6 | 18.1 | 19.1 | 19.3 | 18.7 | 16.3 | 15.1 |
| Brandenburg | 16.4 | 16.9 | 16.9 | 18.3 | 19.2 | 18.1 | 16.5 | 13.8 | 11.5 |

| | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
|----------------------------|------|------|------|------|------|------|------|------|------|
| GERMANY | 7.9 | 7.8 | 8.5 | 9.8 | 10.7 | 11.1 | 10.2 | 8.6 | 7.5 |
| Mecklenburg- Vorpommern | 16.4 | 18.5 | 19.1 | 20.2 | 22.1 | 21.3 | 19.2 | 17.4 | 14.6 |
| Sachsen | 16.1 | 17.0 | 17.8 | 17.8 | 19.4 | 18.7 | 16.7 | 14.5 | 12.9 |
| Sachsen-Anhalt | 20.2 | 19.9 | 19.3 | 19.9 | 22.4 | 20.4 | 17.8 | 15.7 | 14.6 |
| Thuringen | 13.5 | 13.9 | 15.1 | 16.3 | 16.3 | 17.1 | 15.6 | 13.7 | 10.6 |

Source: Source: Cambridge Econometrics analysis of Eurostat, 2010c

- As a cautionary note, in interpreting socio-economic indicators it should be observed that there has been a relatively heavy reliance on special labour market programmes in Germany, to absorb labour surplus (including short-time working, subsidised employment and training programmes), and these may disguise the extent of disparities between and within different parts of Germany.
- The objectives of *'rebalancing'* in Germany are uniformity of living standards and mitigating structural weaknesses in the new Lander and parts of the old Lander. The OECD (2010a) points to positive developments which have facilitated closing the gap in major urban areas in the new Lander. However, as illustrated above, the new Lander continues to lag behind the rest of the country on key indicators of GDP and unemployment, and has experienced significant demographic decline, partially due to the out-migration of younger well-educated people, with large industrial areas in Bayern and Nordrhein-Westfalen being amongst the favoured destinations (Heiland, 2004).
- It is salient to note here that East Germany had a strong education system, with strong early childhood components and a de-tracked secondary system of comprehensive secondary schools, an upper secondary school programme combining the 'Abitur' (the conventional entry requirement for University) and a journeyman certificate (OECD, 2010b). This meant that well educated people from East Germany moving to the West were relatively well placed in terms of their skills to integrate into the labour markets of West Germany. The similarity in workplaces in East and West Germany following German reunification (Spitz-Oener, 2007) would also ease integration.
- Some parts of the old Lander, notably the Ruhr, face similar challenges (albeit less pronounced than in the new Lander) of population loss associated with the structural problems of long-term industrial restructuring.

3.3 The Ruhr

The Ruhr area was fairly sparsely populated before 1800. The towns of the Ruhr grew independently of each other during the Industrial Revolution. In the nineteenth century, coal, iron ore, steel and chemicals developed as key industries and there was a substantial influx of population from Eastern Europe. During the World Wars of the last century, the Ruhr served as a key centre for munitions manufacture. Subsequently the Ruhr played a key role in the economic reconstruction of Germany, especially during the Cold War. There was migration from Turkey, the Balkans and Italy to fill vacancies. By 1960 the Ruhr was the biggest industrial area in Europe. However, the need for '*rebalancing*' of the Ruhr economy became evident when the price of coal reduced in the late 1960s and the steel industry suffered a structural decline in the 1970s and 1980s. Coal production dropped from 125 million tonnes in 1956 to 51 million tonnes in 1993 leading to a loss of 80 per cent of jobs in coal mining. Steel production reduced from 75 million tonnes in 1974 to 18 million tonnes in 1988. These changes led to a secular increase in unemployment. The '*rebalancing*' challenge for the Ruhr was a sectoral one, i.e. to adapt to the demise of coal and steel.

3.4 Munich

Munich has long played a regional capital role in southern Germany but was less industrialised than other parts of Germany in the 19th century. It saw substantial development after World War II, with an influx of refugees, federal research agencies, and large firms from East Germany. In the Cold War period the Munich economy saw substantial defence-related spending. The 1972 Olympics saw considerable investment in physical infrastructure. These developments helped underpin a strong economy.

At the start of the 1990s, however, Munich faced a series of challenges from:

- Reunification, as there were fears that industries and organisations that came to Munich after World War II might return to Berlin;
- the end of the Cold War and the reductions in defence-related spending which until that point had been a strong underpinning for the Munich economy;
- the economic downturn of 1993-94, which hit export-oriented industries hard; and
- fears that firms might offshore or relocate production from Germany to other parts of the world.

The '*rebalancing*' challenge facing Munich was to '*stay ahead*' by focusing on innovation (Rode *et al.*, 2010).

3.5 The public sector's objectives and approach to intervention

3.5.1 Objectives and responsibilities

Regional policy is seen to contribute to Germany's growth and employment policy and to enhance its effectiveness. The Lander are in charge of designing and implementing regional policy strategies and also have responsibility for spatial planning. The organisation of local government is the responsibility of the individual Lander and municipal government systems vary among the Lander. Cities with more than 100,000 inhabitants have both district and municipal responsibilities.

The federal government is committed to supporting the economic development of the new Lander and those areas of the old Lander facing restructuring challenges, by ensuring appropriate broad macroeconomic conditions and policies and by providing specific additional assistance. The aim of regional policy is to reduce the regional disadvantages faced by structurally weak regions and to facilitate their participation in broader economic development processes, thereby reducing overall development disparities. The majority of regional development aid is targeted at the new Lander, which contain under one-fifth of the German population, but receives six-sevenths of regional development funding. Federal policies also focus on strategic transport investment and R&D.

Responsibility for local economic development and employment policy is divided between the 16 Lander and the national Federal Government. The Federal Government is responsible for labour market policy, including the local implementation of labour market programmes through the national employment service. Across Germany (and most notably in the new Lander) Federal action addresses regional disparities in employment by investing in infrastructure and human capital, including support for research and technology-based businesses, interregional revenue transfers, the utilisation of European Structural Funds, and tax subsidies to promote business investment.

The Lander and approximately 450 local authorities are responsible for local economic development. The Lander are primarily in charge of designing and implementing regional policy strategies. Generally, local agencies for economic development are organised as public-private partnerships, with representatives from local businesses, trade unions and local government, and focus on promotion of new businesses and business support such as business advisory services. The development and sophistication of such policies vary according to the emphasis placed on different issues in each Lander.

3.6 Approach to intervention in the Ruhr

The Ruhr has been a recipient of policy to address structural transformation since 1958. Lurig (2007) suggests that the sequence of approaches taken means that it can be thought of as a 'laboratory' for policy to address structural transformation. From the late 1950s to mid 1960s the federal government and the Lander provided support to control socially the reduction of jobs in the old basic industries through, for example, high early retirement and reduction of working time (Bomer, 2001). In the light of rising unemployment rates from the mid 1960s to mid 1970s an integrated approach to diversify the economic base was adopted involving the modernisation of transportation systems (to enhance intra-regional mobility and labour market access), along with the upgrading of derelict sites for new inward investment companies. Large national and international companies moving into the region included Opel (in Bochum), Dupont (Hamm), Siemens (Gladback, Witten) and Nokia (Bochum).

There was substantial investment in human resources through the foundation of 40 new secondary schools in the Ruhr, 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. From the mid 1970s to mid 1980s, it was clear that attempts to modernise traditional industries were insufficient to address unemployment, and attempts were therefore made to set up companies exploiting new and modern technologies. From the mid 1980s there was greater emphasis on the involvement of local and regional government to co-ordinate economic, industrial, labour market and technology policy more closely together, often involving concentration on selected industries.

Greater account was taken of economic, ecological, social and cultural considerations and seeking to work in a more integrated way. For example, the 10-year International Building Exhibition Emscherpark (IBA) planning approach involving conservation of the industrial heritage, promoting new uses for industrial structures, brownfield development, improving urban design, development of a regional landscape park, ecological upgrading of the Emscher River, technology parks and use of the arts as an engine for change to improve the image of the Ruhr. One of the aims of the IBA was to give an internationally recognised example of State-led economic and social and ecological restructuring of old industrial areas (Knapp, 1998).

From 2004, increased emphasis has been placed on a cluster-based approach designed to 'make strengths stronger'. By 2008 industries with the highest growth were chemicals, machine-building, steel production, automotive manufacturing, metal working, coal- and petroleum-processing and energy production, underpinned by growth in services.

3.7 Approach to intervention in Munich

In Munich the *'rebalancing'* challenge was not on the same large scale as that in the Ruhr and it also came later, in the early 1990s. The aim was not so much large scale sectoral transformation, but rather to secure and enhance the competitive position of existing firms. The Lander and the city government acted jointly to adopt an approach based on promoting innovation, growing the economy through promotion of innovation and 'picking winners', and greening the economy by promoting innovation in green goods and services. Key policy interventions (see Rode *et al.*, 2010) included:

- The Future Bavaria initiative, 1994-1999, combined interventionist industrial policies with privatisation and liberalisation. The initiative was financed by the sale of government-owned shares in a range of enterprises, which was then spent on technology, skills and innovation infrastructures including upgrading university facilities, development of polytechnic colleges, investment in IT and broadband infrastructure. There was investment in promotion of knowledge transfer activities, the promotion of high-tech firm formation (through a mix of subsidies and low interest loans) and in fostering the internationalisation of the economy, in particular supporting SMEs to expand international markets.
- The High-tech initiative, 1999-2006 was funded through the sale of Lander-owned shares and concentrated on key technologies, including life sciences, ICT, environmental technology and mechatronics. The aim of the initiative was to help develop further technology in these fields and to build up an international presence. Around half of the funds for the initiative were used to promote the development of spatial clusters, including a high-tech manufacturing centre in the suburb of Garching adjacent to the technical university and two biotech-oriented centres. Effort was directed at improving university links with firms in the sub-region.
- The Cluster initiative, 2006 onwards identified 19 clusters organised into five platforms: mobility clusters (automotive, rail technologies, logistics, aerospace, satellite navigation); materials engineering clusters (advanced materials, chemicals, nanotechnologies); human beings and the environment clusters (biotechnologies, medical technologies, energy technologies, environmental technologies, forestry and wood, nutrition); information and electronic technologies clusters (ICT, sensor technologies and high performance electronics, mechatronics and automation) and services and the media clusters (financial services, the media). 'Cluster platform' management teams were set up to support networking and collaboration between local firms (especially SMEs), researchers and venture capital, with a view to enhancing the ability of companies concerned to compete in global markets (Bavarian Ministry of Economic Affairs, Infrastructure, Transport and Technology, 2009). The teams' remit includes facilitating vocational and ongoing occupational education. The

initiative represents an attempt to help maturing clusters develop further. This is a smaller scale initiative than those outlined above, reflecting the fact that funds from share sales had been exhausted, with an enhanced emphasis on improving dialogue and mobilising private resources.

3.8 Effectiveness and impacts of interventions

3.8.1 The Ruhr

In the Ruhr the scale of the sectoral '*rebalancing*' challenge has been immense and some progress has been made through the suite of interventions identified. There has been diversification of the economy, development of business start-ups, and development of clusters in advanced manufacturing and technologies, including a solar cluster in Gelsenkirchen and a nanotechnology cluster in Dortmund. In the Technologie Zentrum Dortmund there are over 200 companies employing over 8,000 workers in environmental technologies and similar fields. The cluster policy appears to have helped in nurturing and growing new sectors incorporating some skills from older industries. Services are also more strongly represented in the economy than formerly, as elsewhere, but have been unable to compensate for the loss of jobs in mining and manufacturing over the medium-term. This outlines the sheer scale of the sectoral '*rebalancing*' challenge faced. Despite the progress, on most socio-economic indicators the Ruhr remains disadvantaged relative to other parts of the old Lander. Although the unemployment rate is now close to the Germany average, this disguises lower than average labour market participation rates.

Great strides have been made in promoting the image and culture of the region. The selection of the Ruhr as a cultural capital of Europe in 2010 ("Ruhr.2010") was especially important for an area where the nature of industrial development meant that it had developed without a substantial middle class. Indeed, the bid, and programme of 300 projects and 2,500 events were designed to highlight changes that had been achieved and to help reinforce a new image for the area, for people in the region and beyond. "Ruhr.2010" was successful in promoting culture in the region, and cities and towns benefited from increased visitor numbers.

3.8.2 Munich

In Munich, the inter-linked policy interventions appear to have contributed to economic success, particularly in maintaining Munich's leading position with regard to innovation. At the Oberbayern (NUTS2) region level, GVA per worker has grown and outpaced the Germany average, the employment rate remains above average (albeit the gap has not widened) and the unemployment rate is well below the Germany average. Hence, the

performance on productivity is more positive (from Munich's perspective) than in labour market terms. A variety of indicators relating to patents and entrepreneurship (Rode *et al.*, 2010) show that Munich displayed a strong performance compared to competitor areas, especially in sectors that were specific targets for intervention. On R&D, spending in Munich has maintained its positive position compared to the Germany average, with R&D activity being undertaken in both universities and public research institutes. Rode *et al.* (2010) suggest that key factors in helping Munich to 'stay ahead' were firstly, strong firms and economic diversity across a number of sectors (enabling the continued development of a strong 'service-manufacturing-nexus') coupled with investments in infrastructure and skills; and secondly, an active state approach at Lander and city region levels.

3.9 Implications for skills and employment policy in the UK

3.9.1 Generic lessons for the UK

Looking across the experiences of the Ruhr and Munich a number of generic lessons of wider relevance emerge:

- The importance of place-making: There is a need for place-making policies alongside those concerned with promoting economic competitiveness. The example of the Ruhr (including "Ruhr.2010") demonstrates this and a pro-growth planning system has also helped in this regard (Leunig and Swaffield, 2008).
- An active role for the state: An 'active state' approach has enhanced capacity for innovation. In Munich, this was described as "...an ongoing contradiction. On the one hand we're promoting a free market economy with a social touch. But under the surface, as it were, we're pursuing a massively interventionist industrial and structural agenda" (Rode *et al.*, 2010, p.12). This underlines the existence of a longstanding and strong interventionist tradition in Germany, with the state (federally, regionally and locally) playing a role alongside other partners.
- The importance of stable institutions in facilitating the development of networks: The loose formal and informal networks between public and private sectors, strong and stable public institutions, a commitment to invest in technology and innovative capacity, and a strong sense of common purpose are important components of the institutional infrastructure for success. This is especially evident in Munich. In the Ruhr, the time over which such collaborative activity has been maintained is an important factor.

- **Strength in diversity:** Strengths in a number of economically diverse sectors helped Munich to 'stay ahead'. Interventions in the Ruhr have been concerned with helping grow such diversity, including in cultural activities and services more generally.
- **Retention of a strong manufacturing base:** Despite some reduction in levels of employment across the manufacturing sector as a whole, advanced manufacturing (in both the Ruhr and Munich) means that it is possible to retain a large share of relatively well-paid jobs in manufacturing, as well as employment for lower skilled workers. The manufacturing sector remains stronger in terms of its contribution to GVA than to total employment.
- **An important role for vocational skills and higher education:** The availability of a skilled workforce and a strong higher education system has helped in the development of advanced manufacturing and related sectors in both the Ruhr and in Munich. In Munich the highly skilled workforce is central to driving forward innovation. In both the Ruhr and Munich there has been ongoing investment in improving and expanding higher education facilities and networks.
- **Including SMEs and large firms in clusters:** Large firms have played an important role in innovation, and have helped SMEs in the same cluster. There is growing emphasis on the inclusion of SMEs in cluster networking activity.
- **The importance of investment in physical infrastructure:** Investment in physical infrastructure is important in promoting economic growth and in facilitating structural transformation. In the case of the Ruhr expertise in transforming derelict sites is now exported. For example, work on regeneration in the English Black Country has drawn significantly on the Ruhr's experience. In Munich there have been ongoing investments in broadband and the ICT infrastructure to help the city maintain its competitive position.

In at least four important respects, Germany has significant differences to the UK which means that the context for policy invention is not the same:

- In relation to spatial '*rebalancing*', it is salient to note that Germany is quite different from the UK in that it does not have a single dominant centre (like London). The main metropolitan regions in Germany are more even in size and have complementary functions. Germany is a more polycentric economy.
- Germany has retained a larger manufacturing sector than the UK, and some concerns have been expressed about the (relatively large) size of the manufacturing sector in Germany. In the UK this remains an 'aspiration' (NESTA, 2010).
- The '*rebalancing*' challenge of German unification is greater than anything the UK has had to face. Gartner (2009) contends that particular challenges posed by German

unification have been a factor in the development of a more growth-focused structural policy designed to develop growth potential important to the national economy as a whole, while acknowledging that the challenge is how to create a more growth-focused structural policy and a structural-political concept with both growth and equalisation aspects in line with specific regional strengths and weaknesses.

- Germany has different education and training traditions and training infrastructures to those of the UK (as outlined below).

3.9.2 Specific implications for skills and employment policy in the UK

In relation to skills, a key distinction between Germany and the UK is Germany's well developed, deeply embedded and widely respected vocational educational and training (VET) system, the so called 'dual system' (through which 60 per cent of each cohort of young people pass). This represents the integration of theoretical learning in vocational schools and practical workplace training so that young people develop workplace skills before they leave school, with the state and the private sector involved. The dual system aims to enable people to draw on theory and experience to solve a range of actual problems, and to develop abilities in thinking analytically and creatively. While it would not be possible to transplant the German VET system to the UK, the system there does underline for the UK the importance of theoretical and practical skills being developed in tandem, alongside practical work experience.

While the public education system in Germany is generated and operated by the Lander, the dual system is operated under the aegis of the Federal Government, working with the economic development departments of the Lander and the local chambers of commerce. One of the strengths of the system is that it offers a broad set of qualifications and flexibly adapts to the changing needs of the labour market. For young people, the dual system is attractive because it provides an excellent entrance to the employment system (OECD, 2010b). A key lesson for the UK is that close collaboration between employers (through chambers of commerce) and the state (at national and sub-national scales) is important in helping match the supply and demand for skills and in easing the transition into employment. While, the VET policy and its design and delivery are supported by social partner engagement and by employers, there are checks and balances at national, state, municipal and company levels that mean that employers' short-term needs do not distort broader economic and educational goals. However, it is recognised that the dual system has to respond to the needs of business and the needs of the labour market as job requirements evolve. The German system is well-resourced and combines public and private funding (Hoeckel and Schwartz, 2010). A key lesson for the UK is that in any reforms to the VET system it is important to ensure that broader objectives are not compromised by short-term needs.

Given the strong skills development system in Germany, with the flexible combination of the formal schooling with the dual system, it is salient to note that labour market problems have been assessed primarily as being a consequence of lack of aggregate demand, and not of skill shortages (Mosley and Bouche, 2008). It seems likely that this flexibility has made a contribution to the success of *'rebalancing'* interventions and to Germany's economic strength more generally. For the UK, this indicates that it is possible to set in place an education and skills system in which demand for skills is relatively high and yet skill shortages are minimised.

4 Korea

4.1 Introduction

The Republic of Korea was chosen as a case study due to the existence of a strong policy emphasis on promoting regional economic balance. The Republic of Korea has a long history of policies aimed at reducing regional disparities, starting with the First Territorial Plan in 1972. More recently, the notion of a balanced country was highlighted by the administration of President Roh (between 2003 and 2007), which approved an ambitious plan that included the relocation of the capital city to Sejong, in the South Chungcheong Province, and investments in the regional competitiveness of lagging regions. A new administration has since revised this plan, but maintained a commitment to achieving greater balance between different areas of the country.

Korea has been grappling with increasing regional disparities since it started on the path towards industrialisation in the 1960s. Over the last five decades the capital city of Seoul and its surrounding Metropolitan area have attracted continuously an increasing proportion of economic activity and the country's population. Despite the continuing concerns of the Korean government this trend has not been reversed. In 2008, 21 per cent of the Korean population was located in Seoul and 49 per cent in the capital region, which includes Seoul and Incheon (two metropolitan regions) and the province of Gyeonggi (Sakong and Koh, 2010).

Figure 4.1 Map of Korea and its regions



Source: Pike, Rodríguez-Pose and Tomaney, 2006

4.2 The 'rebalancing' challenge

The demographic imbalance in Korea's territory is demonstrated by data on Table 4.1. The table shows that since 1960, there has been an increasing concentration of population in the capital region. In the same period, the country experienced a rapid growth in total population, which highlights the scale of migration flows in both proportional and absolute terms. The city of Seoul in particular stands out as the main centre of agglomeration, with the Gyeonggi province absorbing another 23 per cent of the total population.

The persistent migration flows to the capital region have had a significant impact in Seoul and its surrounding territories. They have put pressure on land and house prices, despite repeated interventions from successive administrations to try to restrict land speculation. It has also exacerbated the issues associated with congestion, such as environmental degradation, lack of appropriate infrastructures, and social polarisation. Additionally, the proximity of the capital city to the border with North Korea raises security concerns, since in the event of a war it would be vulnerable to a military attack.

Table 4.1 Population in the capital region

| Population in the capital region | 1960 | 1970 | 1980 | 1990 | 2000 | 2008 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|
| Nation (000s) | 24,989 | 30,882 | 37,436 | 43,111 | 46,136 | 48,607 |
| Capital region (per cent) | 20.8 | 28.3 | 35.5 | 43.1 | 46.3 | 49.2 |
| Seoul | 9.8 | 17.6 | 22.3 | 24.6 | 21.4 | 20.6 |
| Incheon | 1.6 | 2.1 | 2.9 | 4.2 | 5.4 | 5.4 |
| Gyeonggi | 9.4 | 8.6 | 10.3 | 14.3 | 19.5 | 23.1 |

Source: Sakong and Koh, 2010

4.3 Economic disparities

The demographic imbalance is mirrored by the unequal distribution of GVA for each of the seven main regions in South Korea, as seen in Table 4.2. According to the OECD (2009a), Korea has the eighth highest range in regional GDP per capita among OECD countries. The table shows that the capital region accounts for 48.9 per cent of national GVA. Gyeongnam and Gyeonbuk in the Southeast, and Chungcheong and Jeolla, in the West, account for another 47.5 per cent. The first two regions form part of the Southeast Coastal Industrial Belt actively developed in the late 1960s through the opening of an expressway linking this part of the country to the capital city and an investment in industrial parks. The regions also benefited from a state-led, high level investment in heavy and chemical industries (HCI) that led to the creation of big industrial conglomerates. The last two regions, on the West coast, benefited from a similar path of investment in the 1990s, motivated by a desire to increase territorial competitiveness and promote trade with China.

It should however be noted that even within these provinces most of the growth is concentrated in coastal cities. Therefore Korea has witnessed an increase in both inter-regional and urban-rural disparities.

Table 4.2 GVA per region in Korea

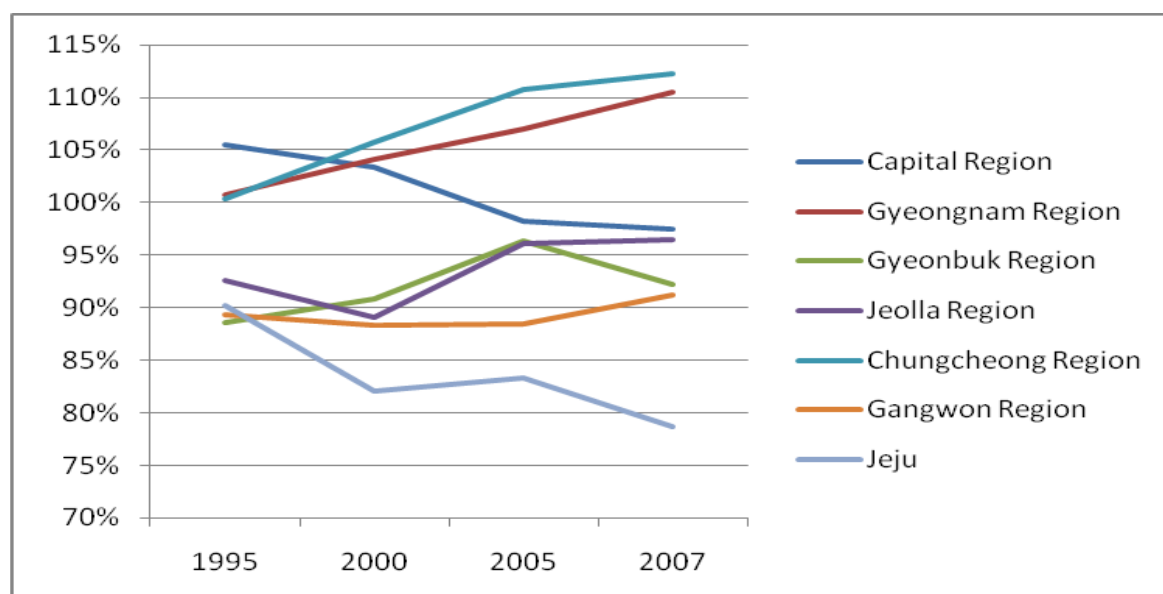
| GVA per region (per cent of national total) | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|-------------|-------------|-------------|-------------|-------------|
| Capital Region | 49.4 | 48.9 | 48.6 | 49.0 | 48.9 |
| Gyeongnam Region | 16.5 | 16.7 | 16.5 | 16.4 | 16.9 |
| Gyeonbuk Region | 10.4 | 10.6 | 10.8 | 10.5 | 10.1 |
| Jeolla Region | 9.5 | 9.6 | 9.8 | 9.6 | 9.6 |
| Chungcheong Region | 10.5 | 10.6 | 10.7 | 10.9 | 10.9 |
| Gangwon Region | 2.8 | 2.8 | 2.7 | 2.7 | 2.7 |
| Jeju | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |

Source: OECD, 2010h

4.4 Relative convergence among the regions

Despite the predominance of the capital region, GDP per capita in this area of the country has decreased in relation to the national average since 1995. On the other hand, the four dynamic regions mentioned previously (Gyeongnam, Gyeonbuk, Chungcheong and Jeolla) have improved their relative position (see Figure 4.2). The Gangwon region has also experience a slight process of convergence. From this point of view investment in the coastal areas has helped these regions improve their relative position within the national hierarchy. However there is no evidence that this has been enough to reduce the importance of the capital region as the main population and economic centre.

Figure 4.2 GDP per capita in the seven main regions of Korea as a proportion of national GDP per capita



Base: Regional GDP per capita, US\$ constant PPP, constant (real) prices (year 2000)

Source: OECD, 2010h

4.5 The public sector's objectives and approach to intervention

Regional policy in Korea has focused on three main objectives: the supply of physical infrastructure for economic growth, the stabilisation of real estate prices and the promotion of balanced regional growth (Sakong and Koh, 2010).

The rationale behind these objectives has changed over time. In the 1960s, the first objective (supply of physical infrastructure) was predominant, since the government's main goal was to stimulate economic development through the development of heavy industries. Subsequently, as Seoul began to attract a greater share of population and economic activity, the remaining objectives came to the fore. Investment in infrastructure remained a high priority, but it was slowly geared towards increasing economic competitiveness and dealing with the deterioration of the natural environment. The second objective, the stabilisation of real estate prices, emerged as a result of increasing demographic pressures in Seoul. Finally the notion of balanced growth was a direct product of the two previous processes. The objective was both to deal with the negative impacts of rapid growth in Seoul and to increase the competitiveness of other regions in Korea. As mentioned in the previous section, security concerns were also prominent from the start, with South Korea concerned that its capital city was too exposed to an attack from the North.

4.6 Types of intervention employed

Despite a long tradition of regional policies, the goals and strategies employed to deliver the objectives described in the previous section changed over time (Korea Herald, 2010). The first territorial plan, devised for the period 1972–1981, had as its main goals the effective use and management of the national territory, the construction of key infrastructure and the improvement of the living environment. At this stage the main concern of the Korean government was to stimulate economic growth through industrialisation. Therefore the strategies employed involved investments in large industrial complexes, particularly in Seoul and in the South East Coastal belt; an investment in basic infrastructure, such as transport, telecommunications, water and energy supply; and a general commitment to the development of lagging regions, that had however a limited impact beyond the coastal cities in the South East of the country.

The second territorial plan (1982–1991) had as basic goals the exploitation of nationwide development potential, an improvement in public welfare and the preservation of the natural environment. Many of its strategies were similar to those of the preceding plan, including the expansion and construction of transportation infrastructure and a continuing investment in new industrial parks. In the background to the two first territorial plans was the *Saemaul* movement, a programme started by the Korean government in 1971 to deal

with increasing urban-rural disparities. This included investment in rural infrastructure, reforestation, and interventions aimed at diversifying and strengthening the economic base of areas of disparity. This movement met with limited success and for a period in the 1980s rural incomes were higher than those of urban households (Sakong and Koh, 2010). However this tendency was quickly reversed.

Towards the end of the second plan and during the period of the third territorial plan (1992–2001), the emphasis shifted towards promoting a better quality of life and strengthening territorial competitiveness to face the challenges of globalisation. The third plan defined as goals a decentralised territorial framework, improved public welfare, a preserved environment and the construction of a foundation for reunification. As a result of several environmental disasters at the beginning of the 1990s, the government placed a greater emphasis on environmental protection.

There was also a renewed emphasis on curbing rising prices in land and real estate. The most effective instrument, according to Sakong and Koh (2010), was a significant increase in the supply of land for new urban projects. It led to the decision in 1989 of promoting the construction of two million housing units and the intention to create five new cities in 1992. Economic intervention was achieved through deregulation, particularly in land use policies, and large-scale integrated local economic structures in eight selected areas. This investment was oriented to the restructuring of the Korean economy towards high-tech activities, and promoting local competitiveness in the round so as to make the country more competitive on a global scale.

4.7 Balanced national territory

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. This plan was revised in 2008 following a change in government, and is now focused on green growth territory, open territory, integrated territory and cultured and welfare territory. Since it is the most recent plan and due to its specific emphasis on balance, it is discussed in more detail below.

Figure 4.3 Regional development policy in Korea

| | |
|---------------------|--|
| County structure | Unitary, three levels of government (national; nine provinces; six metropolitan cities; one special city; 75 cities; 85 counties; 69 autonomous districts) |
| Problem recognition | Lack of competitiveness Regional disparities |

| | |
|---|---|
| Objectives | <p>Establishment of economic regions</p> <p>Regional development based on specialisation</p> <p>Decentralisation and local autonomy</p> <p>Inter-regional co-operation and collaborative development</p> |
| Legal/institutional framework | <p>Framework Act on the National Territory (2002)</p> <p>Special Act on Balanced National Development (2004)</p> <p>Comprehensive National Territorial Plan (2006-20)</p> <p>Five-year Regional Development Plan (2009-13)</p> |
| Rural policy framework | <p>Creative regions (currently under discussion)</p> <p>Five-year Plan for Improving Rural Quality of Life</p> |
| Major policy tools | <p>Regional Development Special Account</p> <p>Tax cut (incentive)</p> |
| Policy co-ordination at central level | <p>Presidential Committee on Regional Development (since 2009)</p> <p>Co-ordination of the Ministry of Land, Transport and Maritime Affairs (MLTM)</p> <p>Comprehensive National Territorial Plan, five-year plans for regional development</p> |
| Multi-level governance between national and sub-national levels | <p>Comprehensive National Territorial Plan, five-year plans for regional development</p> |
| Policy co-ordination at regional level (cross-sectoral) | <p>Economic Region Development Committee</p> <p>City/Province Development Committee</p> |
| Policy co-ordination at regional level (geographic) | <p>Economic regions</p> <p>Metropolitan City Plan</p> <p>Metropolitan Development Plan</p> |
| Evaluation and monitoring | <p>Annual Performance Assessment of Five-year Regional Development Plan</p> |
| Future directions (currently under discussion) | <p>Green Growth</p> <p>Re-organisation of administrative districts</p> |

Source: OECD, 2010d, Table 2.17

4.8 Strategies employed

The current territorial strategy for Korea involves a reconfiguration of policy delivery, a continued investment in the economic competitiveness of regions and an emphasis on environmental protection. To achieve the first objective the government employed two strategies: horizontal cooperation between ministries, to ensure the proper integration of national policies, and decentralisation of power to the local levels. The second objective itself incorporates two sets of measures. The Roh Moo-hyun administration (2003–2007) devised an ambitious project to move the national government from Seoul to the city of Sejong, in the South Chungcheong province. This project was however deemed unconstitutional and had to be revised. It was renamed the Multifunctional Administrative City and included the relocation of some government functions.

A different approach has been the investment in regional innovation systems that aim to build innovation capacity at the local level. The approach is similar to the strategies employed in previous plans, although it involves a greater emphasis on innovation through the provision of higher education, research centres and other relevant institutions. There has also been a further revision of land-use regulations to facilitate private development. These strategies have been maintained by the current government. However the previous explicit intention of reducing the predominance of Seoul has been abandoned. Currently the government's objective is to further develop the capital city as a cosmopolitan, global metropolis, while investing in the competitiveness of the remaining regions. Finally, green policies have been pursued as a response to an increasing concern with quality of life. The current government has invested in the establishment of a management system for greenhouse gases, in the improvement of recycling, in the development of green industries and technologies and in the country's ability to adapt to climate change (Sakong and Koh, 2010). These investments have been supported by a regional development special account that expanded fiscal spending for local municipalities.

4.9 Skills development

Policies for the improvement of skills are subsumed with the innovation strategy. They are based primarily on increasing the share of the working age population with a graduate degree. Korea has achieved this objective with a high degree of success, largely through the expansion of private sector provision of Higher Education. It has currently the highest rate of participation in tertiary education of any OECD country (OECD, 2009b).

4.10 Effectiveness and impacts of interventions

As demonstrated by the data above, the successive attempts to prevent the increasing concentration of population and economic activities in the capital region have not been able to reverse the trend. There has, however, been a certain amount of convergence in terms of relative GDP per capita between some regions. This is likely to be the result of investment in key cities and economic regions in the South Eastern and Western provinces of the country. From this aggregate perspective the country is more balanced, even though that has not yet resulted in reverse migration flows. Additionally, the country has urbanised at a fast pace, going from an urbanisation rate of 17 per cent in 1946 to 90 percent by 2005. Despite a significant increase in rural incomes from the beginning of the 1980s, the gap between urban and rural development has remained high.

The greatest success of Korean territorial policy has been the construction of a transport network and infrastructures for industrial development. The country has made significant investments in roads allowing the total number to grow 4.3 fold between 1945 and 2008. Railways, the most important means of transportation at the beginning of the 1960s, also witnessed a process of expansion, albeit more moderate (a 28.7 percent increase in total kilometres). This included the construction of a high speed line between Seoul and Busan in the Southeast region of the country, and the construction of a mass transit system between Seoul and Cheongryangri. Also extremely significant were the investments made in maritime travel and commercial aviation. The former were essential for the development of dynamic regions in the South East and Western parts of the country. Results in the latter are attested by the fact that Incheon International Airport has been considered the world's best by the Airport Council International in four consecutive years (2006 to 2009).

Regarding the infrastructures for industrial development, Korea registered a very significant increase in the number of industrial parks, both in the capital regions and in other parts of the country. These have been populated by the big industrial conglomerates created by the government in the early stages of this country's industrialisation. They have also increasingly housed new high-tech industries.

Another key objective of Korea's territorial policy has been the stabilisation of real estate prices. Over the past five decades, several measures have been attempted, although with little success. According to Sakong and Koh (2010) this is partly explained by the lack of stability in the application of such policies. The tendency has been for the government to de-regulate land use in periods of economic crisis, and to tighten regulations during economic upturns. The former have led to lack of coherence and focus in urban planning, while the latter imposed restrictions on housing supply without stopping the rise in real estate prices.

4.11 Decentralisation and policy coordination

An important part of territorial policy in Korea, particularly in the 21st century, has been the attempt to decentralise power to local authorities and to improve the coordination of national level policies. This strategy has however met with several constraints, namely the persistence of a centralised and authoritarian governance structure (Lee, 2009; OECD, 2010c). A significant share of the activity undertaken by local authorities is still delegated by the central government, or implemented locally through one of its specialised agencies. An example of this difficulty is evident in the implementation of regional innovation system policies. The objective of the government was to create the foundations for nine innovative clusters, 16 regional innovation councils, and several regional industry promotion agencies. Additionally, as part of the programme for the relocation of public services from Seoul mentioned in previous paragraphs, the central administration planned to relocate 175 public institutes to several cities and provinces from Seoul. However, despite the rhetoric that this would be a bottom-up process, the initiation, design and funding for these projects was done by the central government (Lee, 2009).

In terms of inter-ministerial coordination, the main instrument created for its effective management was the Presidential Committee on Balanced National Development (PCBND). The PCBND incorporates both representatives from 12 ministries and several civilian members. However it is only a consultative body and is therefore not capable of dealing with the emergence of conflicts and tensions between different sections of the government. Its effectiveness has therefore been compromised (Lee, 1999).

4.12 Implications for skills and employment policy in the UK

The UK has a similar regional structure to Korea in that it is dominated by a dynamic mega region (London and the South East), followed by several metropolitan areas that have achieved varied levels of success. It is also characterised by the dominance of the national government and the limited scope for local level intervention. Notwithstanding these shared features, it is difficult to draw lessons from the Korean case for a variety of reasons. The first point is that Korean policies for territorial '*rebalancing*' have not had a significant success in stopping the growth of Seoul and the capital region. This is most likely explained by the global trend towards urbanisation that tends to favour a small number of dynamic cities in each country in detriment of rural areas and less dynamic agglomerations (McCann and Acs, 2010). But also important is the general failure of regional policies in Korea, both in terms of the inadequacy of some interventions (particularly land use policy), and the lack of effective decentralisation (Sakong and Koh, 2010). Second, the industrial structure of Korea is still highly dependent on the activities of big industrial conglomerates. These conglomerates (*Chaebol* in their Korean

denomination) have indeed diversified into different areas of activity, but remain closely linked with central government. Therefore they provide policy makers at the central level an opportunity to influence regional growth through a direct intervention in their locational decisions. There is however no indication that a similar policy would be (or should be) implemented in the UK. Plus, their existence has not prevented the dominance of the capital region, as demonstrated. Therefore their usefulness as an effective instrument of territorial policy cannot be proven.

Possibly the most relevant policy lesson would be the Korean government's commitment to the creation of regional innovation centres. The aim here is to improve regional competitiveness by building on the skills and technologies existing at the local level. This is to a great extent similar to what the previous Labour administration attempted to implement in the UK and as a result it is not entirely a new idea. Furthermore, in Korea as in the UK, the impacts of these policies have been limited, as demonstrated by the continued dominance of their respective capital regions.

Korea's regional policy does not address specifically issues of skills and employment development. It does so only implicitly, through an emphasis on innovation as the basis for regional competitiveness. In this arena, the country has achieved considerable success in increasing the rate of individuals in higher education. The rapid expansion of tertiary education has however meant that the quality of provision remains low. Recently the OECD (2009b) raised concerns about over-education, as a result of a mismatch between skills and demand from the private sector. This organisation called for better quality control mechanisms at the government level, and more coordination between different levels of administration. A second point that should be considered is the importance of private higher education institutions in Korea. The advantage of this system is that it is more responsive to student demand, meaning that there are virtually no limits to its expansion in size. It poses however similar problems in terms of quality control, while also raising issues of affordability.

In the UK a rapid expansion of higher education would imply increasing the number of places at universities and probably the number of institutions offering higher education. This would likely have an impact on quality. Additionally it would collide with current government policies aimed at reducing public expenditure. Therefore this does not seem to be a model that would suit the UK. Additionally the overall competitiveness of Korea is low in comparison to the UK, which might justify the effort that this country has expended on tertiary education. In the UK there are already a significant proportion of individuals with training at the secondary and tertiary levels. Therefore skills development policies will probably have to be more targeted to particular social groups, rather than based on a national overall increase in skills.

5 Netherlands

5.1 Introduction

In the Netherlands, spatial cohesion policies are seen by the national government as an anachronism, according to Ravesteyn and Evers (2004). Since the 1980s, national policies have instead been oriented towards stimulating investment around growth centres and facilitating endogenous growth in lagging regions. The government's approach is, however, counterbalanced at the sub-national level by the activism of local and regional bodies (Alexander, 2009; Marshall, 2009). A relevant example of this activism was the constitution in 1992 of the Northern Netherlands Assembly (SNN in Dutch), incorporating the provinces of Drenthe, Fryslân and Groningen. These northern regions have the lowest level of disposable income in the Netherlands (Dühr, 2009), and would be the 'natural targets' for regional policy in different national contexts.

Figure 5.1 Dutch provinces and towns with more than 100,000 inhabitants



Source: Dühr, 2009

Spatial planning in the Netherlands has, therefore, two relatively distinct levels: at the national level it mostly revolves around providing the appropriate infrastructures to sustain growth centres, such as the port of Rotterdam and Schiphol airport; at the local or regional level it includes bottom up approaches that provide a counterbalance to the country's attempt to concentrate growth in specific places. This case study focuses on these two levels of policy to examine their impact on territorial '*rebalancing*' in the Netherlands. The chapter will outline the processes through which the national government makes investment decisions and how these lead to the reinforcement of growth centres. It will also analyse the impacts of regional policy by focusing on the experience of the SSN and how it has mobilised internal and external resources (mostly through European funding) to increase its share of national wealth.

Dutch spatial policy at both levels is also closely linked with the sectoral structure of its economy. For example, the decision made at the national level to invest in the port infrastructure is related to the importance of the distribution sector to this country's economy. At the sub-national level, the underperformance of the Northern provinces is a result of their previous specialisation in agriculture and manufacturing activities that have become less competitive in recent years. Therefore, actions aimed at stimulating growth in particular places have a direct consequence on the sectoral balance of the Netherlands.

5.2 The '*rebalancing*' challenge

In comparison with other EU or OECD countries, the Netherlands has a relatively balanced territorial structure. According to the OECD (2009a) the country had the second lowest level of regional variation in GDP per capita in 2005. In comparison with the EU, in 2006 the Netherlands had a coefficient of variation in the dispersion of regional GDP (NUTS3 level) of 11.3, which compares positively against the EU average of 28.9. Table 5.1 corroborates this finding by showing that all regions in the country have a GDP per capita above the EU average.

Table 5.1 GDP per capita by NUTS2 region

| Spatial GDP per capita | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2008 |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Noord-Nederland | 141 | 139 | 121 | 119 | 124 | 123 | 125 |
| Groningen | 222 | 229 | 146 | 146 | 151 | 160 | 163 |
| Friesland (NL) | 86 | 80 | 104 | 103 | 111 | 105 | 108 |
| Drenthe | 110 | 106 | 111 | 106 | 108 | 103 | 104 |
| Overijssel | 90 | 88 | 107 | 110 | 118 | 112 | 116 |
| Gelderland | 92 | 88 | 104 | 108 | 115 | 109 | 115 |
| Flevoland | ... | ... | 100 | 96 | 99 | 96 | 112 |
| Utrecht | 111 | 105 | 138 | 147 | 169 | 158 | 158 |
| Noord-Holland | 122 | 122 | 137 | 139 | 155 | 154 | 152 |

| Spatial GDP per capita | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2008 |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Zuid-Holland | 107 | 103 | 125 | 127 | 137 | 135 | 138 |
| Zeeland | 101 | 97 | 120 | 119 | 117 | 116 | 123 |
| Zuid-Nederland | 90 | 90 | 115 | 120 | 132 | 126 | 132 |
| Noord-Brabant | 92 | 93 | 119 | 124 | 138 | 131 | 137 |
| Limburg | 85 | 86 | 107 | 111 | 120 | 116 | 121 |
| Netherlands | 106 | 104 | 121 | 124 | 134 | 130 | 134 |

Note: PPS (EU27=100)

Source: Source: Cambridge Econometrics analysis of Eurostat, 2010b

Notwithstanding the generally positive picture from Table 5.1, these figures mask a significant regional disparity. For instance in Noord-Nederland, the data are skewed by the province of Groningen that benefits from the presence of activities in the mining and energy sector. According to Duhr (2009) if available income is used as an indicator, instead of GDP per capita, these parts of the Netherlands are clearly lagging behind. Duhr asserts that regional disparities measured in this way are greater than in other European countries. Additionally Table 5.1 shows that even using GDP per capita as an indicator of regional wealth, Groningen has witnessed a steep decline in its GDP between 1980 and 2008. On the other hand the central provinces of Utrecht, Noord Holland (Amsterdam) and Zuid Holland (Rotterdam) have experienced the opposite trend, increasing their GDP per capita as a percentage of the EU average.

5.3 Economic structure

The changes outlined above in the territorial distribution of GDP and available income, are linked with shifts in the economic structure of the Netherlands.

Table 5.2 shows that between 1980 and 2008 there was a sustained decline of mining, quarrying and energy related activities, activities that made an important contribution to the economy of the Northern provinces. On the other hand, financial and businesses services accounted for 28.1 per cent of national GVA in 2008, compared with 16.5 per cent in 1980. This is a significant change since these activities tend to concentrate in core cities. Additionally, distribution has also registered a slight increase in its share of total GVA, a shift that will have benefited the regions of Zuid Holland and Nord Holland due to the presence of the Rotterdam port and Schiphol airport, respectively. It is noteworthy that manufacturing has also slightly increased its share of national GVA. However, as Table 5.3 shows, its share of national employment has decreased from 21.4 per cent in 1980 to 12.2 per cent in 2008. This indicates that its current position has been attained through productivity increases and a decline in employment, which is likely to impact significantly on the old industrial regions such as the North.

Table 5.2 Broad sector shares of GVA in national total

| GVA by sector | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2008 |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Agriculture etc | 2.2 | 2.7 | 3.0 | 3.0 | 2.6 | 2.5 | 2.4 |
| Mining & quarrying and energy | 7.2 | 6.4 | 5.6 | 5.6 | 4.6 | 3.8 | 3.3 |
| Manufacturing | 13.9 | 15.5 | 15.4 | 15.2 | 14.8 | 15.2 | 14.7 |
| Construction | 8.4 | 7.1 | 6.9 | 6.0 | 5.6 | 4.9 | 5.1 |
| Distribution | 13.4 | 13.2 | 14.5 | 14.2 | 15.6 | 16.1 | 16.4 |
| Transport, storage & communications | 4.9 | 5.4 | 5.4 | 5.9 | 7.5 | 8.0 | 8.4 |
| Financial & business services | 16.5 | 18.9 | 23.0 | 25.4 | 27.3 | 27.0 | 28.1 |
| Government services | 33.5 | 30.9 | 26.1 | 24.8 | 22.1 | 22.5 | 21.6 |

Source: Source: Cambridge Econometrics analysis of Eurostat, 2010b

Table 5.3 Broad sector shares of employment in national total

| Employment by broad sector | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2008 |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Agriculture etc | 5.9 | 5.9 | 5.5 | 4.6 | 3.6 | 3.3 | 3.0 |
| Mining & quarrying and energy | 1.0 | 1.1 | 1.1 | 1.0 | 0.8 | 0.7 | 0.7 |
| Manufacturing | 21.4 | 19.3 | 18.1 | 16.2 | 14.5 | 12.9 | 12.2 |
| Construction | 9.6 | 7.8 | 6.7 | 6.8 | 7.2 | 6.9 | 6.9 |
| Distribution | 19.6 | 18.7 | 18.0 | 19.4 | 19.3 | 18.9 | 18.8 |
| Transport, storage & communications | 7.3 | 7.4 | 6.5 | 6.4 | 6.5 | 6.3 | 6.1 |
| Financial & business services | 18.9 | 22.8 | 25.2 | 22.9 | 21.3 | 20.4 | 22.1 |
| Government services | 16.3 | 16.9 | 18.9 | 22.9 | 26.8 | 30.6 | 30.1 |

Source: Source: Cambridge Econometrics analysis of Eurostat, 2010b

Regarding the trend for manufacturing, the Netherlands had a similar experience to that of the UK until the end of the 1990s. Between 1980 and 1998 the contribution of this sector to total GVA in the UK declined by 1.3 per cent, from 18.9 per cent to 17.6 per cent. However in the same period the total proportion of employment attributed to manufacturing declined from 25 per cent to 15.9 per cent. In both cases, this is explained by increases in productivity that allowed firms in this sector to maintain a similar level of output (measured in GVA) with a smaller number of workers. Since 1998, however, the UK accelerated the rate of decline with the overall contribution to GVA from manufacturing reaching 13.3 per cent in 2008. Employment also maintained its negative trend and reached only 10 per cent of the UK total in the same year.

5.4 The public sector's objectives and approach to intervention

As indicated earlier, spatial planning in the Netherlands has two relatively distinct levels. At the national level, planning mostly revolves around providing the appropriate infrastructures to sustain growth centres. At the local or regional level it includes bottom up approaches that counterbalance the government's attempt to concentrate growth in

specific places. In this section we will focus on the first level, before analysing the experience of the Northern provinces in particular in the following section.

Spatial planning has a long tradition in the Netherlands, due to the compact size of the country and by virtue of its 'low country' nature the necessary management of a complex system of dykes and canals. According to Marshall (2009), the Netherlands gained its current mature form in 1962, when it started including both sectoral planning (such as transport or water management) and spatial planning. The latter is characterised by cross-sectoral approaches, which include financial and spatial planning. For several decades, Dutch planning has been dominated by the need to invest in transport links with the rest of Europe, although in recent years concerns with climate change and energy supply have gained more predominance.

The planning system in the Netherlands is based on coalition agreements that have to be accepted by all major political actors. This is a lengthy process that may involve several months of negotiation. The programmes of the main political parties are analysed before the elections by the Netherlands Bureau for Economic Policy Analysis. This bureau then adopts a supervisory role during negotiations to ensure that the final agreement is acceptable from a financial perspective. After this process the agreement is translated into national spatial planning key decisions (PKB is the Dutch acronym) which include both a general plan for the country and several applied projects. The implementation of the PKBs is managed by the Ministry of Housing, Spatial Planning and the Environment in cooperation with other ministries. According to Marshall (2009) there were recently a number of PKBs in force or under revision. These were:

Sectoral/Theme

- Second electricity supply scheme, including detailed revisions on the near shore wind park, the cable to Britain and on the Randstad 380kV lines (dates from 1992, under full revision now)
- Pipelines scheme (dated from 1985 - currently under revision)
- Military lands scheme
- Regional airports scheme
- Traffic and transport scheme (revised 2006)
- Policy plan on drinking and industrial water supply
- Green space structure scheme
- Space for the rivers

Specific projects or areas

- Wadden Sea
- Schiphol and surroundings
- Mainport Rotterdam
- High speed line South
- Betuwe line (Railway freight track linking Rotterdam to Germany)

Since 2008, the national strategy gained the name of Nota Ruimte (translated as National Spatial Strategy). PKBs have been replaced by Structural visions ('Structuurvisies'), which can be prepared by different levels of government, but that have no binding effect. The national government retains the capacity to make decisions, namely through 'integration plans'.

In the context of this case study, the most relevant element of the Dutch spatial plans is the national government's decision to reinforce the importance of Rotterdam port and Schiphol airport. This is manifest in the rule contained in the Nota Ruimte (current spatial strategy) that if port investments come out with equal analysed benefits, Rotterdam should always be favoured (Marshall, 2009). According to official Dutch documents cited in Marshall (2009, p.34) "in its spatial policy, the central government will give priority to the further development of the core economic areas of the Netherlands". We can conclude, therefore, that territorial '*rebalancing*' is not a core concern of the Dutch government. This national approach is, however, contested at the local and regional levels, as the next section discusses.

5.5 Rationale at the regional level - example of the Northern provinces

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 EU.

Since its creation, a prime concern of the SNN has been the reinforcement of its core zones, around the cities of Groningen-Assen, Leeuwarden and Emmen. It has done so by emphasizing the quality of its urban infrastructure and the services provided, coupled with the protection of the country side as an important natural asset. The assembly has also emphasized the role of this region in providing transport links between the Western cities and North-eastern Europe.

In its current 2007-2013 strategy document, 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 of the countryside. The first of these has been developed through the identification of three key sub-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 in this area. 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.

5.6 The EU as an intermediary for the regions

Due to the lack of support from the national government the SSN has relied heavily on EU funding and cooperation with other similar regions in the EU for its development activities (SNN, 2005 and 2011). In particular the recent position paper (SNN, 2011) articulates clearly how the priorities for the Northern provinces of the Netherlands are aligned with the current EU 2020 strategy. This document also identifies EU cohesion policy and common agricultural policy as two of its key policy instruments.

Regarding cross-border cooperation there is a particular emphasis on establishing connections with areas such as Northwest Germany, Denmark, Southern Sweden and Southern Finland. From an initial focus on infrastructure development (abandoned after the national government withdrew support for a rail link between Amsterdam and Groningen) the objective is now to extend cooperation to areas such as cultural connections and business links in the identified growth sectors: energy, water technology, agribusiness, healthy ageing and sensor technology (Duhr, 2009; SSN, 2011). These activities are equally supported through EU funding.

5.7 Skills development

One of the main weaknesses of the northern Dutch provinces is the relatively low number of individuals with higher education. This is particularly relevant since the objective of this region is to invest in new knowledge intensive industries. For that reason its regional strategy also includes taking more advantage of the knowledge infrastructure in this area, such as the University of Groningen, the University Medical Centre Groningen, and several other colleges and academies.

Several alliances have already been established with these centres with two main aims: using them as knowledge generating centres for the core industries in these provinces, through their participation in R&D and related activities, and; adapting the skill provision to demands from the private sector. Already in 2005 the SSN had identified as an objective granting its local institutions more independence from central government, in order to change the supply of courses and other higher education activities. The objective has been to adapt provision to demand from businesses. The identification of demand has been facilitated by the existence of platforms that bring together public and private organisations. These allow for a constant monitoring of constraints in skills provision and the design of policies that can address them.

5.8 Effectiveness and impacts of interventions

At the national level *'rebalancing'* is not a priority and therefore interventions cannot be measured against this objective. They can nevertheless be assessed on the basis of their intended impacts. Based on the importance of the distribution sector it could be argued that interventions on the country's infrastructure have been successful in sustaining growth, albeit not necessarily in spreading it to lagging regions. The success of the Rotterdam port is demonstrated by its position as Europe's biggest. The strategy pursued by the national government over a period of 20 years, and reinforced in current policy documents, is to facilitate the physical expansion of port related activities. A new PKB (Key Planning Decision) has been in development since 1997 when the government accepted that there was a need for further expansion. The high cost of this project will be sustained by the Economic Structure Strengthening Fund, supported with revenues from national gas exploitation. It will function as a joint venture between four ministries, the Rotterdam Metropolitan regions, the municipality of Rotterdam and the province of South Holland. It will include the allocation of land for business related activities, including a 600 hectare project in the Moerdijkse Hoek area, and the improvement of transport links between Rotterdam, Schiphol and continental Europe, particularly Germany and Belgium. By 2009 the majority of planning procedures had been approved and the whole project is scheduled for completion in 2033.

The expansion and investment in Schiphol has been subject to wider debate, including the option of privileging other small airports, or even moving Schiphol to a new location. Nevertheless it has benefited from a sustained policy on national investment. Its development is based on the notion of an AirportCity, motivated by the fact that the Schiphol group sees much of its profit coming from property development near the airport and retailing. Therefore it includes both the expansion of the airport (a fifth runway was approved and has been operation since 2003) and of its surrounding areas, provided they used by airport related activities. In 2007, the coalition government indicated that it would allow Schiphol to remain the main national airport until 2040, with two smaller airports (Eindhoven and Lelystad) being used by low cost companies as an alternative.

These decisions by the national government have reinforced the importance of the Randstad region in the national context. However if *'rebalancing'* is analysed from a sectoral perspective, the government's decision to support growth centres can be seen as a success, since it has provided a counterweight to the increasing dominance of financial and business services (a sector that has grown rapidly in recent years). This would suggest that there might be a trade-off between sectoral and territorial balance, since the first can be achieved through a policy of targeted investment, while the latter implies spreading resources across several regions. Because different regions tend to have different patterns of industrial specialisation it is possible that some economic activities with less potential end up consuming resources that would benefit those that could provide an alternative to single sector dominance.

Another important point that should be highlighted is that the Netherlands is already a relatively balanced country, according to the OECD (2009a) and the data provided above. Even if, as Duhr (2009) argued, there are relevant regional disparities hidden behind regional GDP figures, the country appears to have less territorial inequality than most OECD and EU nations. This might explain the lack of attention paid to *'rebalancing'* as an agenda by the national government. It does nevertheless lead to the question of how the country achieved this position. It is likely that the small size of the Netherlands, together with its high population density, helps explain this outcome, since it prevents the emergence of peripheral regions that find it difficult to link and take advantage of growth in the centre. A more profound explanation would however imply a deeper analysis of historical patterns of economic growth that falls beyond the remit of this case study report.

5.9 Achievements of the Northern provinces

Despite the relative cohesion of the Dutch territory, the Northern provinces have not benefited as much as other regions from recent economic growth, as mentioned in previous sections. Its regional assembly has been investing in the restructuring of the local economy through the development of a knowledge based economy, which appears to have had a certain measure of success. For example, the data above depicts a slight reversal of the negative trend in GDP per capita that was noticeable since the 1980s.

Table 5.4 Economic indicators for the Netherlands and Northern Netherlands

| | 2000 | | 2008 | | per cent change | |
|--|--------|-------------|--------|-------------|-----------------|-------------|
| | NL | Northern NL | NL | Northern NL | NL | Northern NL |
| Participation rate (per cent) | 64.5 | 60.3 | 67.5 | 65.3 | 1.05 | 1.08 |
| Unemployment (per cent) | 3.8 | 5.4 | 3.9 | 5.0 | 1.03 | 0.93 |
| Gross regional product (Euros) | 32,605 | 23,909 | 34,713 | 26,245 | 1.06 | 1.10 |
| Highly qualified employment (per cent) | 27 | 23 | 33 | 27 | 1.22 | 1.17 |
| R&D (million Euros) | 4,543 | 208 | 5,495 | 245 | 1.21 | 1.18 |

Source: SSN, 2011

The position paper published by SSN (2011) also indicates a relative success, as shown on Table 5.4. The participation rate in employment and gross regional product both grew at a faster pace in the Northern provinces than in the rest of the Netherlands between 2000 and 2008. Unemployment, on the other hand, progressed at a slower pace. However, both highly qualified employment and total investment in R&D grew less than in the rest of the country, which might be explained by the prevalence of smaller and medium firms in the northern provinces in comparison with the rest of the Netherlands. These last two indicators are relevant considering the main economic strategy outlined by the SSN, but the overall performance of this area does appear to be improving.

Considering the outcomes identified above, the hands-off approach adopted by the national Dutch government appears to have had a positive impact in mobilising local and regional authorities. It is important to highlight that this was only possible because there was a legal framework that gave the latter sufficient autonomy to organise themselves as a regional assembly. Nevertheless the end result was the emergence of an effective bottom up policy approach and a proactive attitude towards using European resources and connecting with regions experiencing similar development patterns.

5.10 Implications for skills and employment policy in the UK

There are two key lessons from this case study that could have interest for the UK. The first is the prioritisation of national investments in growth centres, which could contribute to a diversification of the UK's economy, provided that these are not specialised in sectors that are already predominant. However the main danger with this approach is that it might contribute to a widening of regional disparities. This is an important point in the UK context since, according to the OECD (2009a), the UK had in 2005 the highest level of regional GDP variation in the countries considered. This is in marked contrast with the situation of the Netherlands in the same review period, where territorial disparities were not so marked.

A second potentially more relevant lesson is the capacity that the Northern Dutch provinces have shown for bottom up mobilisation and for finding partners in other parts of Europe, with which to take advantage of EU programmes. The governance structure of the UK is different than in the Netherlands, due to the lack of constitutional protection for local authorities, and the high level of political concentration. Therefore, there might be reduced opportunities and incentives for developing local strategies as alternatives to national policies although the emerging city-region model has some relevance here. In addition, due to current budget constraints it is likely that local authorities will have insufficient resources to invest in building the human capacity that is necessary to implement a similar strategy. Nevertheless, this could be an interesting medium to long-term project that could fill the space left by the demise of the Regional Development Agencies. It would also be in line with current EU directives regarding place based, bottom up policy making, and is as a result likely to gain support from EU policy makers.

The objective of Dutch spatial policy regarding skills and employment, both at the national and regional levels, has been to create synergies at the local level. These include an investment in infrastructure, as mentioned in previous sections, but also an investment in human capital that responds to the demands of the economic structure. The UK could implement a similar approach both through sectoral and regional interventions. The objective would be to guarantee that the management of organisations such as universities, technical training institutions, research centres, but also job centres and other similar organisations are aligned with those of the sectors with the highest growth potential. Since most sectors tend to be concentrated in a relatively small number of places, there would be a natural confluence between spatial and sectoral approaches, that if coordinated could achieve more significant results.

Another important lesson from the Netherlands is that investment should go to areas of activity that already exist or could be developed on the back of accumulated skills and knowledge. This is manifest both in the decisions of the national government of investing

in port infrastructures, but also in the Northern provinces strategy of developing knowledge intensive clusters that are related to the previous economic structure of this region. This shows that it will be easier to retrain that part of the population that already has relevant skills, but also that local training and employment organisations are likely to have experience in similar areas of activity. It is therefore easier to generate the synergies between physical and human development mentioned in the previous paragraph. A similar approach could be implemented in the UK, by promoting the integration of organisations that tend to work independently and sometimes with overlapping or even contradictory lines of action. This process could potentially be coordinated by local authorities aggregated under a structure similar to the SSN and with the participation of representatives from industry, to guarantee that the supply of human capital is aligned with the demand from sectors with high growth potential.

6 Sweden

6.1 Introduction

Sweden is a highly concentrated country, with the majority of economic activity located in a relatively small proportion of its geography. Despite this, levels of regional inequality in terms of GVA per capita and GVA per worker are low. It is also one of the most socially equitable countries in the world. In recent decades, it has transformed itself into a leading knowledge-based economy, responded to declining employment in particular geographies and sectors, and undertaken a process of significant economic liberalisation. In the early 1990s the country also suffered a severe recession. This case study looks particularly at the role of innovation in sectoral '*rebalancing*' and how spatial balance has been maintained through this period of change.

6.2 The '*rebalancing*' challenge

Sweden is a large country geographically (its land area is nearly twice the size of the UK), but with over 80 per cent of its nine million inhabitants living in the southern third, and with over a half of economic output based around three regions (Stockholm in the east, Skåne in the south, and Västra Götaland in the west)¹⁰. The critical determinants of this pattern are the more favourable climate and physical conditions in the southern part of the country and the proximity to the economic centres of the other Scandinavian countries, to the north European mainland and to the Baltic region.

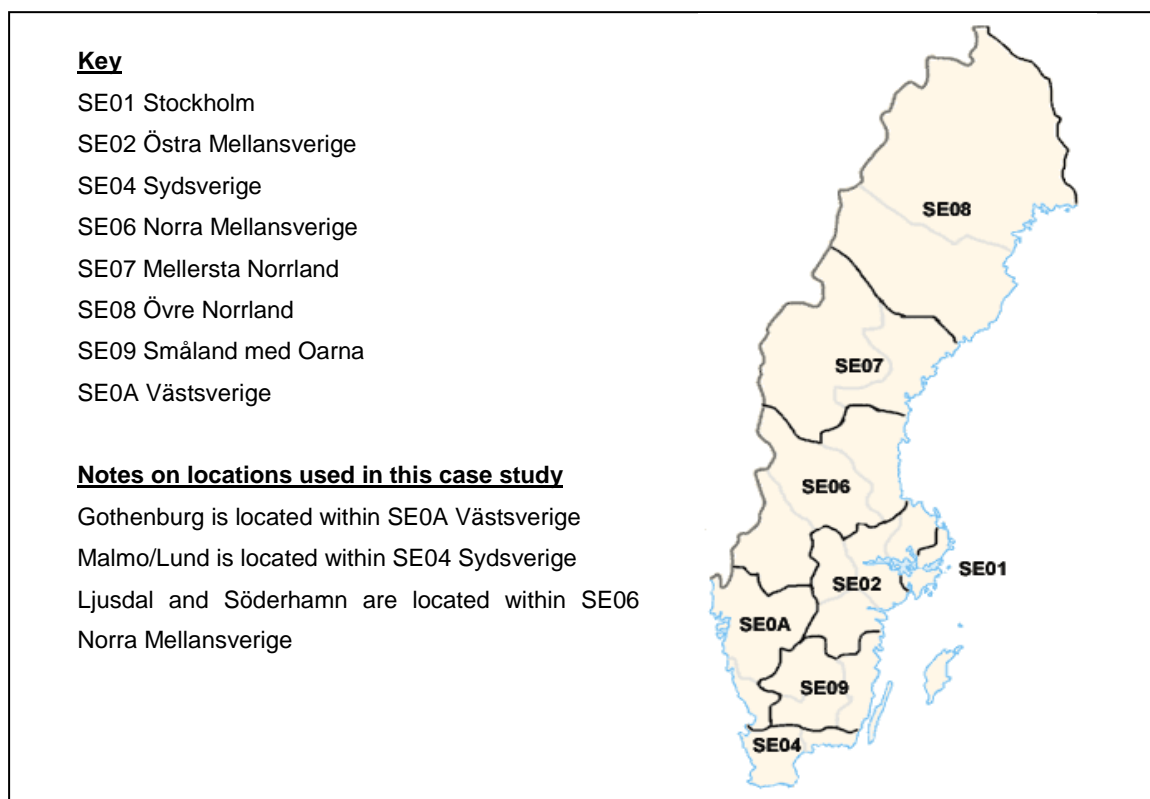
In spite of the climatic and physical differences across the country, Sweden is well-balanced spatially and socially. The dispersion ratio (based on regional GDP at NUTS3 level) was 15.3 in 2006, compared to 22.4 in the UK and 28.9 across the EU¹¹; its Gini coefficient was 0.23 for the mid-2000s for its total population, compared to 0.34 in the UK and 0.31 across the OECD¹². Spatial and social inequalities have increased slightly in Sweden, with the dispersion ratio around 12 and the Gini coefficient at 0.21 in the mid-1990s.

¹⁰ Different geographical references are made in the literature. The southern third of the country essentially incorporates: the 'east of Sweden', which includes the capital Stockholm; the 'west of Sweden', including Gothenburg; and the 'south of Sweden', which includes Malmö. The 'south' and 'west' are combined in some data sources as Södra Sweden (literally Southern Sweden). The northern two-thirds of the land area is often referred to in the literature and data sources as North Sweden.

¹¹ A lower ratio indicates a more spatially balanced pattern of GDP.

¹² A lower Gini coefficient indicates that income is spread more equitably across the population.

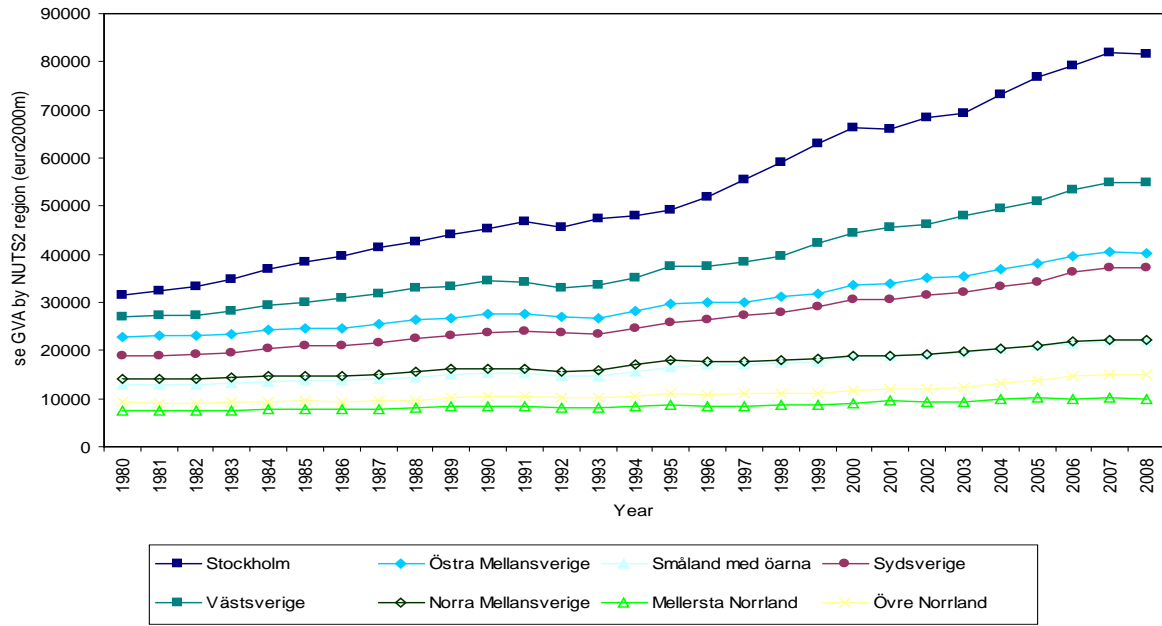
Figure 6.1 NUTS2 regions of Sweden



Source: SQW, 2011

Nonetheless, there are some disparities across regions in Sweden. Figure 6.2 highlights the dominance of Stockholm in terms of GVA growth, the relatively high performance of southern and eastern regions (Västsverige, Sydsverige, and Östra Mellansverige), and the relatively poor performance of the northern regions (although these remain above the EU average). These trends are also reflected in GVA and employment growth rate data, although Övre Norrland (in the north) has seen above average growth since 2000.

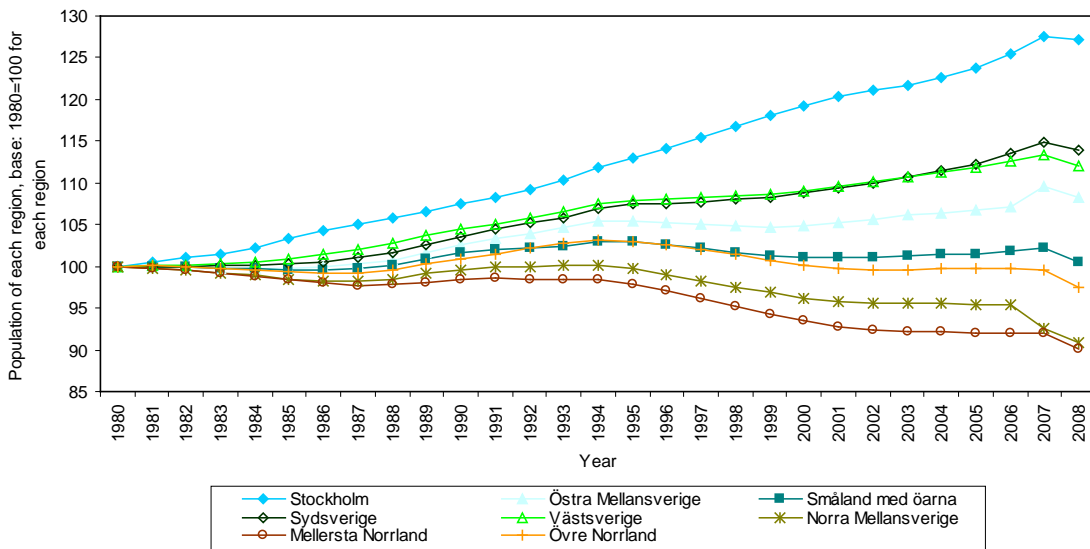
Figure 6.2 Regional change in GVA across Sweden (1980-2008)



Source: Source: Cambridge Econometrics analysis of Eurostat, 2010b

The high performing regions have also seen steady increases in population since 1980 whereas the more peripheral regions have seen declines in population levels over the same period. This may well reflect rational choices to move to more dynamic regions, facilitated by relocation grants, which are discussed later.

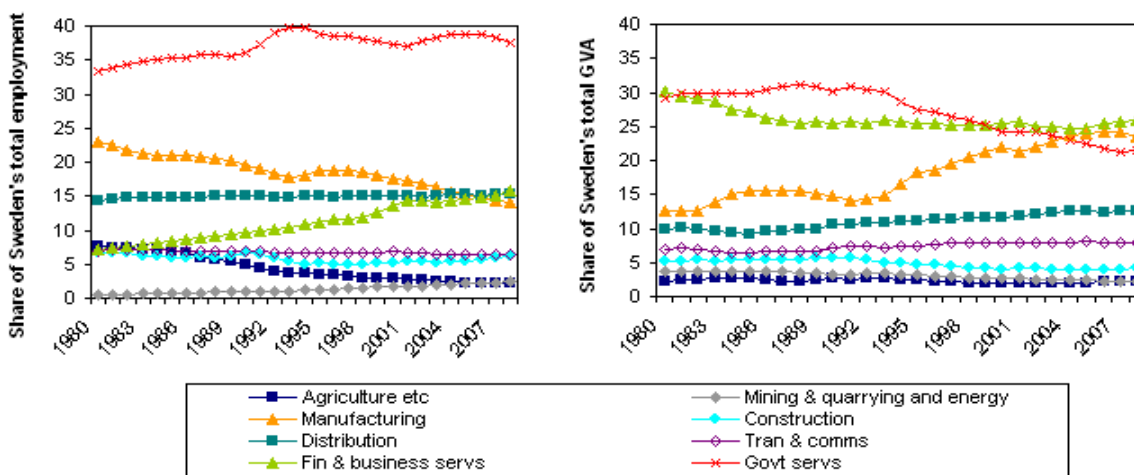
Figure 6.3 Changes in population by region in Sweden



Source: Source: Cambridge Econometrics analysis of Eurostat, 2010b

Sweden has historically been heavily reliant on the public sector as a source of employment, although its share of Sweden's GVA is falling. Despite the retrenchment of the social welfare model, employment in government services has remained high. The importance of manufacturing to the economy has increased dramatically in terms of the share of GVA, although its share of employment has been falling. Only the financial and business services sector has seen a notable rise in its share of total Swedish employment.

Figure 6.4 Sectoral share of Sweden's total population and total GVA



Source: *Source: Cambridge Econometrics analysis of Eurostat, 2010b*

There are and have been a number of other macro challenges to achieving 'balance'. The following points are important in this case study:

- Physical and climatic differences between the south and north of the country mean that economic activity is inevitably drawn to the south. Nuur and Laestadius (2010) have also referred to the lack of entrepreneurial and network-based cultures in the north, and labour surpluses in the north and shortages in the south.
- There has been a decline in traditional industries, largely driven by rising international competition, which have had an impact in particular localities and regions. For example, Nuur and Laestadius (2010) highlight the decline of forest-based industries and manufacturing in the north, e.g. in Söderhamn and Ljusdal. Elsewhere, in his case study on Gothenburg, Cadell (2008) identifies the decline of the shipbuilding industry.

- There have been spatial imbalances in the spread of higher education institutions. Up until 1977, HEIs (six universities and five technical colleges) were concentrated in a relatively small spatial footprint: Lund in the south; Gothenburg in the west; Linköping, Stockholm and Uppsala in the east; and Umea in the north. This has had an impact on access and representation of different groups in the undergraduate population.
- Historically, Sweden has had a strong welfare model, a “third way between capitalism and state socialism” (Lindberg, 2005, p.5), which has been instrumental in delivering very low social disparities. The key elements of the model comprised strong trade unions, a commitment to full employment and, through coordinated wage setting, low wage differentials between different sectors. However, the model was increasingly incompatible as Sweden became increasingly integrated with other countries, with Swedish firms with international operations and markets increasingly breaking coordinated wage bargaining. It is also argued that the model meant that there were low levels of entrepreneurship and private investment (including foreign direct investment)¹³. As a result, the model contributed to high taxes, high spending and an unsustainable balance between the public and private sectors.

6.3 The public sector’s objectives and approach to intervention

6.3.1 Spatial policy

The rationale for government involvement in achieving spatial balance has in many ways remained consistent, with a commitment to achieving full-employment across the country. Locally, Labour Market Boards (funded nationally, but operating regionally and locally) pursue active policies to train people in the appropriate skills for the types of jobs forecast to grow. There has been some shift in the underpinning policy context 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.

Nuur and Laestadius (2010) highlight examples of how the Swedish government have used subsidies and government location/relocation decisions to address issues in lagging regions. The national policy for deconcentrating the former cluster of universities was also essentially based on the redistribution goal of making undergraduate education more accessible to all geographies, increasing representation and access for particular geographical areas and social groups and actively seeking to favour those wanting to stay, live and work locally in more peripheral areas (Anderson *et al.*, 2004). From 1977,

¹³ For example, see <http://racialovertones.wordpress.com/2010/05/20/the-swedish-model-a-success-a-failure-a-transformation/>.

11 new universities were established and 14 colleges were upgraded, resulting in a greater geographical spread and reach of institutions.

The 2001 Government Bill signalled the shift to a more programme-based regional development policy designed to achieve growth in all regions. The overall objective was to create “well-functioning and sustainable labour market regions, with a good level of services in all parts of the country”. The policy did still highlight the importance of providing specific aid to peripheral regions, but is also more growth-focussed. The regional tier has remained weak in comparison to national government and the municipal level, though some regional pilots with more discretion have been adopted in Västra Götaland (relevant to the Gothenburg example quoted in this case study report) and Skåne, which is within the Øresund Science Region (a trans-national technology-focused collaboration between southern Sweden and eastern Denmark, with significant autonomy).

This new regional policy is part of the broader longer-term growth policy measures begun in the late 1990s (following the deep recession of the early 1990s), in which there has been a focus on innovation research and competition. As part of this, new national agencies have been established in order to deliver regional innovation programmes (OECD, 2010d):

- VINNOVA (the Swedish Innovation Agency), whose activities include: financing research, development and demonstrations that meet the needs of business and the public sector; fostering co-operation between universities, research institutes and business; and promoting the diffusion of information and knowledge to SMEs.
- 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.
- NUTEK (the Swedish Business Development Agency), with a key aim to keep regulation simple and practical so that it encourages effective and efficient competition. NUTEK has had an important role in defining and progressing cluster programmes.

The role of the municipal level in setting the local economic development agenda is highlighted by Cadell (2008), who comments on the tax-raising responsibilities of the City Council as an important incentive behind action in the case of Gothenburg.

This case study majors on the use of spatial policy, including the innovation agenda as a way of achieving spatial balance and economic restructuring.

6.3.2 Economic liberalisation and response to the 1990s recession

Whilst focusing on spatial policy, the economic liberalisation agenda provides important context to this case study. In part, this was a response to the increasing incompatibility with economies to which Sweden was linked. In addition, the severe recession of the early 1990s required a significant response in relation to cutting the budget deficit. Bergh and Erlingsson (2006) refer to three sets of policies:

- Deregulation of product markets, including telecommunications, financial markets, the electricity market, agriculture and domestic airways.
- Fiscal changes, including tax reform, which is cited as being important to incentivising entrepreneurship and wealth creation.
- Changes to government structure, including central bank independence and a new budgetary process.

As is evident from the data, though the size of the public sector has been largely unchanged despite these reforms, they are seen as being important in removing regulation and increasing economic freedoms (Bergh and Erlingsson, 2006). That said, some commentators (Lindberg, 2005) suggest that the reforms have contributed to an increase in social disparities.

6.4 Review of interventions

The decline of the shipbuilding and related sectors in Gothenburg and the subsequent redevelopment of a significant site into a knowledge centre and IT cluster is discussed in detail by Cadell (2008). The case study draws a clear distinction between two different sets of interventions, with the short-term response to significant job losses decoupled from the need for longer-term transformation:

- In dealing with job losses, there was partnership working between unions, the City Council, the major shipyard employer, the Labour Market Board and other local businesses. As well as phasing closures and reducing the pension age, active labour market policies were also used, including retraining schemes, the creation of special courses by universities and colleges and involvement of Volvo, which was expanding at the time and made special efforts to find positions for former shipyard workers (other companies followed suit).
- Whilst the immediate response to job losses was critical in the 1970s, the longer term transformation of Gothenburg into a knowledge-intensive city only really started from the late 1980s and has occurred gradually since then. Specific investment decisions by national and local government helped to bring about an education-led regeneration

initiative, supported also by university developments and drawing in of key employers such as Ericsson and Volvo.

Another bottom up example is the Øresund Science Region (OSR), which is a cross-border and inter-city co-operation technology-based initiative led by universities, but also involving industry and the public sector of Greater Copenhagen in Denmark and Skåne region (which includes Malmö and Lund urban areas) in south west Sweden. The initiative, conceived in the early 1990s, has gained momentum following the opening of the fixed link rail and road bridge between Copenhagen and Malmö in 2000. Fundamental to the development of OSR has been the development of a number of technology platforms, in which the OSR has a comparative advantage, and thereby securing the region's position as a major node in the global knowledge-based economy. Neither Copenhagen nor the adjacent Malmö city region and Lund university town of south western Sweden felt that they 'could go it alone' and co-operation was required.

Whilst the Gothenburg and Øresund examples are drawn from the south of Sweden, illustrating the role of bottom up approaches, active labour market policies and long-term restructuring, Nuur and Laestadius (2010) draw specifically on the Swedish government's attempts to address the north-south imbalance. The interventions have been a mix of public sector job creation (e.g. building a new Swedish Air Force in the north of the country) and use of subsidies (e.g. encouraging telephone and telecommunications firms to locate in the north to stimulate a new industry in the region). This includes the location of Ericsson in Söderhamn and the development of a call centre cluster in Ljusdal since the late 1980s, which has also involved working with the education system with the development of school courses appropriate to working in this field.

6.5 Effectiveness and impacts of specific interventions

There have been some significant achievements in some of the places identified in this case study review, and evidence on what has worked well and not so well.

In the case of Gothenburg, the fears of short-term unemployment growth were alleviated, with unemployment never going above four per cent in the period of shipyard closures. Alternative sources of employment were secured in related sectors such as on oil platforms, as well as in construction, manufacturing and the automotive sector. Cadell's (2008) case study of the regeneration site points to successful education-led regeneration. By 2006, the scheme in Gothenburg was the home of 6,000 residents, 400 businesses and 15,000 jobs in addition to 9,000 students taking courses, with more development to come on site. Recent media reports suggest also that the wider West of Sweden region has weathered the recent recession relatively well. One article indicates that 15,000 jobs out of a total of 25,000 that were lost during the recession have

returned¹⁴. Growth has been experienced in consultancy, manufacturing, the automotive sector and construction, though some jobs in manufacturing have been lost permanently.

Key success factors in the case of Gothenburg have been noted as follows:

- Active labour market policies were clearly important in alleviating significant job losses, with the importance of focussed and strategic partnership working cited. Active labour market policies have been commonplace in Sweden, facilitated by relocation grants and the fact that wage differentials between sectors have been low meaning that people are happy to switch sectors and occupations.
- The longer-term strategic view and leadership of Gothenburg City Council was cited as a key success factor to the longer-term transformation. This was helped by the City Council having a clear incentive to do this, given that it sets and collects local taxes for which it is reliant on having a successful business base. In addition, partnership working and capability was again identified, with universities and businesses playing key roles.

Garlick *et al.* (2006) identify that Øresund has a population of 3.5 million and is growing faster than the rest of Sweden and Denmark. There have been successes in relation to the development of biotechnology/medical, ICT, food processing and environmental technology platforms. The evidence indicates that positive progress has been made, but also highlights that there is more to do to share the benefits with the significant 'low tech' employment that exists in the region. This requires greater involvement with SMEs, low and medium technology firms, the education system and attention to some of the more peripheral communities in the region. Therefore, there are key strengths around the innovative approach of OSR, including the focus on areas of comparative advantage (through technology platforms), the leadership of Øresund University, and trust between partners, although collaborative arrangements could be broadened and deepened further.

In the examples drawn from north Sweden, Nuur and Laestadius (2010) point to varying successes:

- In Söderhamn, '*rebalancing*' was successful from the 1970s to the mid 1990s, but then only for Ericsson to eventually pull out of the region. Attempts were made to encourage the development of Science Parks, but this is widely acknowledged as having had little traction and success. Therefore, Nuur and Laestadius conclude that government attempted to do too much too soon, rather than letting the area develop organically. As a result, some '*rebalancing*' was achieved, but it was neither long-lasting nor sustained.

¹⁴ Göteborg Daily, *Strong Growth in West Sweden: but international dependency a concern*, from 25th November 2010.

- In Ljusdal, on the other hand, there has been success in the gradual development of a call centre cluster since the late 1980s with education systems also developing courses appropriate for work in this field. Nuur and Laestadius conclude that in the case of Ljusdal, *'rebalancing'* was facilitated, but allowed to develop organically, with greater signs of long-lasting success.

There are potentially some lessons that could be relevant to the UK:

- Spatial balance in terms of equalisation of GVA growth rates and/or GVA per capita is clearly not a realistic objective. Even in the case of Sweden, which has historically had a much greater emphasis on the policy objectives of alleviating disparities, more equitable incomes, and full employment (all of which have dwindled to some extent in importance), spatial balance has not been entirely achieved. Indeed, spatial balance appears to be maintained partly because of population flows out of peripheral regions and into leading regions.
- A distinction needs to be drawn on the time over which objectives need to be set and achieved. In the case of addressing shocks, such as large-scale redundancies, short-term responses are required. However, this needs to be decoupled from *'rebalancing'* as part of a more fundamental restructuring, where objectives need to be realistically set over longer time periods (in tens of years). In the case of Gothenburg, the transformation to a knowledge city began in earnest only in the late 1980s and is still ongoing now.
- Related to this, doing too much too quickly can be detrimental to the sustainability of the impacts of *'rebalancing'*, whereas allowing development to occur more organically has resulted in more sustainable impacts.
- Active labour market policies are identified as important in contributing to *'rebalancing'* objectives. In the case of Sweden, we have identified retraining schemes, the close and sustained alignment of school, college and university courses to *'rebalancing'* objectives, the encouragement of workers to move sectors, and also the use of relocation grants.
- Partnerships have been noted as a success factor in the evidence, including roles for national government, the regional tier, municipal government, businesses, education providers, research organisations and sector bodies (including trade unions).

- Whilst not majored on in this case study, there are some relevant points from the experience of economic liberalisation. Bergh and Erlingsson (2006) highlight the role of 'government commissions' in helping to identify evidentially and objectively problems on the rise and focussing public debate on long term issues. In addition, as policies and reforms are discussed with long lead-in times, there is time to reach compromise and consensus on a way forward.

It is important to bear in mind the context within which the Swedish experience sits. In particular, there has historically been a strong welfare model in Sweden, with strong state intervention, a key role for trade unions and Labour Market Boards. Whilst this model has softened in the last couple of decades, it is relevant to some of the achievements discussed in this case study.

6.6 Implications for skills and employment policy in the UK

The Swedish example illustrates how economic restructuring can have profound effects on labour markets, and that active labour market policies can alleviate mismatch and help with the transfer of labour from declining sectors to growing ones.

Nuur and Laestadius (2010) drew out the issue of labour surpluses in lagging regions and labour shortages in leading ones. This could imply a rationale for intervention that seeks to improve connectivity for labour to be able to access growing regions, and/or incentives that can facilitate relocation. This could be relevant in the context of the UK, where peripheral towns need better access to core cities, or in the case of integrating lagging regions with more dynamic ones. The discussions around strategic transport, most recently focused on High Speed Rail and its extensions into the North, are pertinent here.

In lagging regions, new sectors have also developed, with some support through government intervention underpinned by a distributional rationale. In leading regions as well, new sectors have developed as part of dynamism and growth. In both these cases, this can result in a demand for new occupations and skills, which was the case in the Ljusdal call centre sector. There, the local education system had a major role to play in increasing the supply of relevant skills through new courses. Where education providers are slow to respond to such opportunities in the UK, a response may be required from government and/or sector bodies, either through coordination or by providing information to improve the certainty with which providers can make decisions. This may particularly be the case where new sectors are at the forefront of technological development and/or are new to the UK.

In addition, it may be desirable for individuals to be encouraged to switch between sectors as part of sectoral '*rebalancing*' within regions. In the case of Gothenburg, this was true as those employed in shipbuilding sought new sources of employment. Such transfers may be straightforward if sectors are closely related. But, where new skills are required, there may be a rationale for intervention, for example, to: develop new qualifications (in particular modular qualifications); coordinate between individuals and employers if there are information asymmetries between supply and demand for labour; and signpost to relevant training providers who can deliver the necessary upskilling.

Finally, the success of the Ljusdal and Gothenburg models emphasised the longer-term approach to re-balancing, with areas being allowed to develop organically and the state acting more as a facilitator. This could also be reflected in the state's role with respect to the labour market policies required, with facilitation and coordination underpinning any involvement.

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