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Foreword

The South West Observatory exists to promote evidence-based strategy and decision-making across the Region. It does this by making high quality information readily accessible and promoting a common understanding of the evidence base. *State of the South West* is a key component of that evidence base.

Co-ordinated and produced by the Observatory Core Unit it also draws together inputs from the Observatory's thematic modules and a range of other experts from across the region. It provides an authoritative and comprehensive account of the characteristics of the region including its people, economy, environment and social make-up. It describes recent trends and highlights the key challenges and issues faced by the region.

State of the South West is produced in order to inform policy and decision-making at all levels from the regional to the local. The region's future rests on a wide range of stakeholders and *State of the South West*, like the Observatory as a whole, is a resource for business, education, the voluntary and community sector and a wide range of regional bodies as much as for the public sector.

This publication brings together in a single resource wide-ranging information and commentary. Each section is of specialist interest but, together, the different components emphasise the cross-cutting nature and inter-linkage of issues which needs to be understood and addressed.

Information also needs to be timely and up-to-date. The electronic-version of this volume, available on the Observatory web-site, will be periodically up-dated and the web-site itself provides the gateway to the full range of resources provided for the Region by the Observatory.

Professor Martin Boddy

University of the West of England, Bristol

Chair of the South West Observatory Board

Introduction

The State of the South West is a comprehensive review of the South West of England's economic, social, environmental and cultural life. It describes the current position and trends and, without making policy recommendations, helps set an informed context in which policy for the region can be developed. It has been written by a wide partnership, drawing upon a broad range of expertise within the region.

This report is a collaborative exercise involving the major regional organisations responsible for public services and other strategic contributors such as the Environment Agency, the Public Health Observatory, Culture South West and South West Forum all working as part of the Observatory partnership.

State of the South West has been produced primarily to inform policy and decision makers, at local and regional levels, in the public sector. It is a resource that will support the work of senior representatives in regional and local government bodies, and for elected members. However, the scope of the report and its contribution to regional intelligence has a far broader potential. It will be equally useful for business, education, voluntary, community, and funding organisations, and not least for the public; indeed all stakeholders with a part to play in shaping the region's future. Although the report is regional in focus - not least for reasons of size - the Observatory is very conscious of the need for understanding local difference. More detailed local authority data are available from the Observatory web site at www.swo.org.uk.

The South West continues to be a growing region and is performing well on a broad range of measures. The region's population has now passed 5 million and this increase continues to be entirely due to migration. There have been gains across all age groups apart from a continued slight loss of student age people. In terms of economic development a high rate of inward migration can provide an impetus for growth and increased productivity in the medium and long term but may be an issue in the short term as the population grows at a faster rate than output.

The South West also continues to show less deprivation than most of the other English regions and still reflects a high life expectancy. It is also likely that the 'healthy elderly' - older people with good health, disposable income and spare time - contribute greatly to social, cultural and environmental activities in the region.

It is therefore important to manage the growth of the region and develop policies based on sound, up to date evidence. Whilst this report endeavours to cover as broad a range of data and analysis as possible there will inevitably be areas that are less detailed and some of the information will be superseded. An innovation for this report is the web version, which will be regularly updated and enables the content to be easily integrated into reports and presentations.

This is the second production of a 'full' report following on from the published 'What's Changed 2006', and as such, is building on the growing capacity of the Observatory and its partners to access and analyse the relevant data for policy development in the South West. Please let us know the information you find useful or any additional comments you may have.

Nick Chase

Research and Intelligence Manager
SWO Core Unit

How to Use This Report

This report exists in two formats; the printed version and the web based version.

The Printed Version: The paper version contains the large majority of the data available for the analysis undertaken of the South West. Included are all the key charts, maps and tables that support the text in the report. It is fully referenced and contains a glossary of terms used. Due to large amount of information and analysis received from the authors, and the physical restrictions of a printed document, not all of the tables and maps have been included in the paper version. This text, however, is fully supported by the web version.

The Web Version: All the information, analysis, text and graphics in the printed version will be available in the web version. The web version also contains extended analysis with accompanying graphs, charts, tables and maps.

Image and Table Download: The tables can be highlighted, copied and inserted directly into Word documents and presentations. The images i.e. graphs and maps etc., are available as a high resolution download.

Data links: The web version also contains all the hyperlinks to either the specific data used in the analysis or to the web site that holds that data. It also has links to reports, documents and tools that will assist the policy maker in accessing the information.

Cross-cutting links: Links have been incorporated that direct the user of the web version to other 'relevant' parts of the report that will support the analysis in the chapters. This will enable the user to download or print, cross-cutting information to use in analysis or incorporate into reports.

The web version is available at **WWW.SWO.ORG.UK**

Comments on this report: If you would like to make a comment on this report, either about what has been included and the analysis or what has not been included please use the FAX back form available on the Observatory web site. Alternatively send an email to info@swo.org.uk.



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Issues and Priorities

- In many respects the South West England economy has developed in line with the national economy. It has gone through a sustained period of growth since the early 1990s but since 2003 there has been a slow down in economic growth and a marginal increase in rates of unemployment.
- South West England is generally a productive and wealthy region with an attractive environment which has encouraged dynamic population growth from inward migration. The short term effect has been that output and jobs growth in the region has been slower than population growth.
- The South West region has a 'productivity gap' with England's most productive regions in South and East England. The productivity gap has been attributed to relatively lower levels of capital stock, organisational structure, higher level of part time working, skills gaps and the time/distance from some of the UK's largest markets.
- The region is characterised by wide intra-regional differences in terms of output, productivity and drivers of productivity. The northern part of the region is the main economic engine for growth, with its urban areas recording some of the highest productivity levels nationally. There are clear imbalances across the region with some south and south western areas, particularly rural areas, performing least well.
- Levels of household income are close to the national average and the differences across the sub-regions are considerably lower than those for productivity. The effect is that inter- and intra-regional living standards are closer than the economic output data would suggest. Nevertheless, the persistent productivity gap suggests relative living standards may be eroded over time, compared with other leading UK and EU regions.
- South West England's economy benefits from high rates of business stock and investment in Research & Development (R&D). The region has a skilled workforce, although it has some problems with basic and advanced skills. Its stock of capital is relatively low and its international trade performance is modest; relatively little output is exported and exports are concentrated in only a few sectors, particularly aerospace, and markets, particularly the EU.
- South West England is distinctive in that its population has grown at a faster rate than any other English region yet it has the lowest rate of unemployment. Excluding the Greater South

East¹⁾, it is the most productive region in spite of having the largest divergence in intra-regional performance.

Key Data

- South West England's economy was valued at £84.6 billion in 2005, ranking it the sixth largest of any English region.
- Between 2000 and 2005 the regional economy grew on average by approximately 5.8% per annum.
- Gross Value Added (GVA) per head was estimated at £16,685 in the South West making it the most productive English region outside of the 'Greater South East'.
- GVA per head in the South West was approximately 8% lower than the English average.
- Productivity rates vary across the South West - Swindon, the best performing sub-region, is 53% more productive than the English average and Torbay, the poorest performing sub-region, is 40% below.
- In 2004-05, South West productivity growth slowed to 3.4%, marginally outperforming the national performance.
- Gross Disposable Household Income (GDHI) per head was £12,721 in the South West which was the highest level outside of the 'Greater South East'.
- The South West economy is dominated by services, which account for 73% of regional output and employment.
- Manufacturing accounts for 15% of the regional output.
- The South West has a comparatively well educated workforce with over 43% of its working age population with a NVQ3 or higher qualification.
- In 2003, the South West spent £1.8 billion on R&D, proportionately more than the English average.
- At approximately 9%, South West England had the lowest rate of business registration and deregistration to business stock of any region.
- South West England exports just £4,755 per employee, ranking bottom of all regions, nearly a third less than the English average.

Introduction

2.1 This chapter is a regional evaluation of the South West's economy. Due to the geographical size and diverse nature of its economy, the analysis has been supported by additional sub-regional

1 Including London, South East England and East of England

information. Economies, however, do not operate in isolation and the performance of the region has been placed within a national and global context where appropriate. By examining the region in the round, the report gives a greater insight into the region's strengths and weaknesses and the challenges it faces in the future.

2.2 The chapter is broken down into three discreet, but interlinked, sections. Economic performance is set in the context of recent world trends and is explored in terms of output, productivity and income. The following section examines the industrial structure of the economy, exploring the composition and contribution of the various industrial sectors. South West England's 'productivity gap' is discussed in the final section through the framework of the treasury's five productivity drivers; skills, investment, innovation, enterprise and competition.

2.3 An analysis of UK regional economies is limited by the availability of accurate, detailed and timely data. Regional statistics are generally plagued with small survey sizes, large revisions, lack of timeliness and scope for misinterpretation. The Office for National Statistics (ONS) is making efforts to address such issues and plans to have a SW regional presence. It is hoped that this will improve the current situation in which regional economic statistics are often not available until some considerable time after the event. The following analysis, therefore, is inevitably a description of the past rather than the present.

Economic Context

2.4 The world economy had another good year in 2006. International trading activity was strong and growth has been better balanced, with signs of US slowing countered by evidence of acceleration in the Asia and the Euro-zone. High commodity prices and consequent cost inflation started to ease, as substitution effects caused a small drop in oil consumption and the Organisation of Petroleum Exporting Countries (OPEC) members contemplate cuts in output to stem the pace and extent of the fall in the spot oil prices.

2.5 According to figures, at the end of 2006, many of the economic fundamentals remained sound – business and consumer confidence was good in most countries, investment and employment prospects seemed reasonably positive and the policy environment supportive. Inflationary pressures were evident but all the major central banks were responding to that threat by raising interest rates.

2.6 Vulnerabilities remained, however, with concern about a housing market "adjustment" in some leading markets. Moreover, there is a risk that policy tightening has a dampening effect whilst financial imbalances between the major trading blocs are still a significant potential problem. On balance, against this background, the medium term outlook for South West England is for a positive trading environment, albeit with strong competitive pressures. Structural change is likely to remain significant but technological innovation and a positive policy stance offer scope for further growth in output and employment.

Economic Performance

2.7 The section on economic performance explores the regional economy in terms of output, productivity, productivity growth and income. The analysis is focused at the regional level but complemented with sub-regional commentary as appropriate.

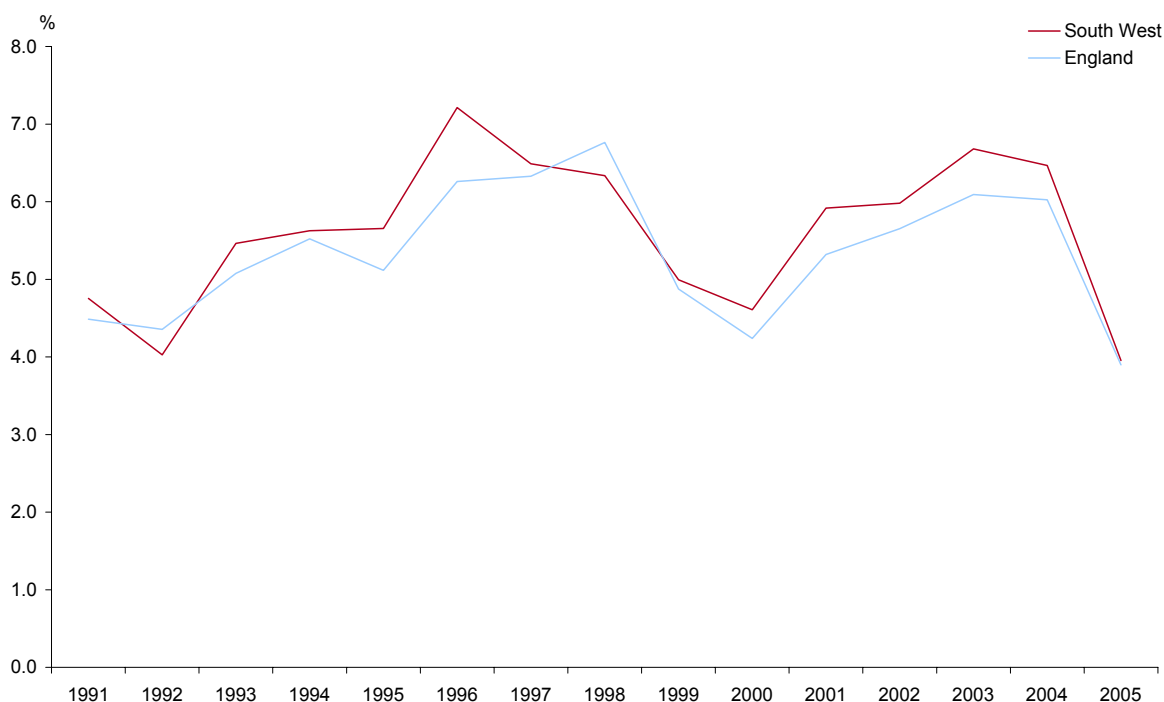
Output: GVA

2.8 GVA is a measure of economic output and is calculated as the value of final goods and services produced in an economy plus subsidies less taxes. For any given region or sector GVA is the difference between output and intermediate consumption and is also used as the numerator in measuring regional productivity.

2.9 The following analysis in this section is at current basic prices due to the unavailability of regional deflators². Estimates of GVA valued the regional economy at £84.6 billion in 2005 in nominal terms. This translates to 9.3% of English total output, ranking the South West as the sixth largest economy of the nine English regions. The region's share of national GVA has increased from 8.9% of total output in the early 1990s, illustrating that the region is growing faster than many other regions. Output has grown at an annualised rate of 5.8% since 2001, the third largest increase of any region and greater than for England as a whole (5.4%). Reflecting the economic cycle, nationally and regionally, the trend in GVA annual growth rates has been decreasing since the highs in the mid 1990s before recovering in 2001 and dropping off again in 2004. In 2004-05, South West England experienced a marginally faster growth rate (4.0%) than nationally (3.9%) although both the national and the region's growth rates were lower than in recent times. Broadly, we would expect the South West economy to continue to mirror national economic trends. Given current structural and policy factors, the region should slightly outperform the English average.

2 A ratio used to account for the effects of inflation.

Figure 2.1 Economic Growth Rates (GVA) at Current Prices 1991-2005, percentages



Source: ONS

1 The headline regional GVA series has been calculated using a five-period moving average.

2 Estimates of regional GVA in this table are on a residence basis, where the income of commuters is allocated to where they live rather than where they work.

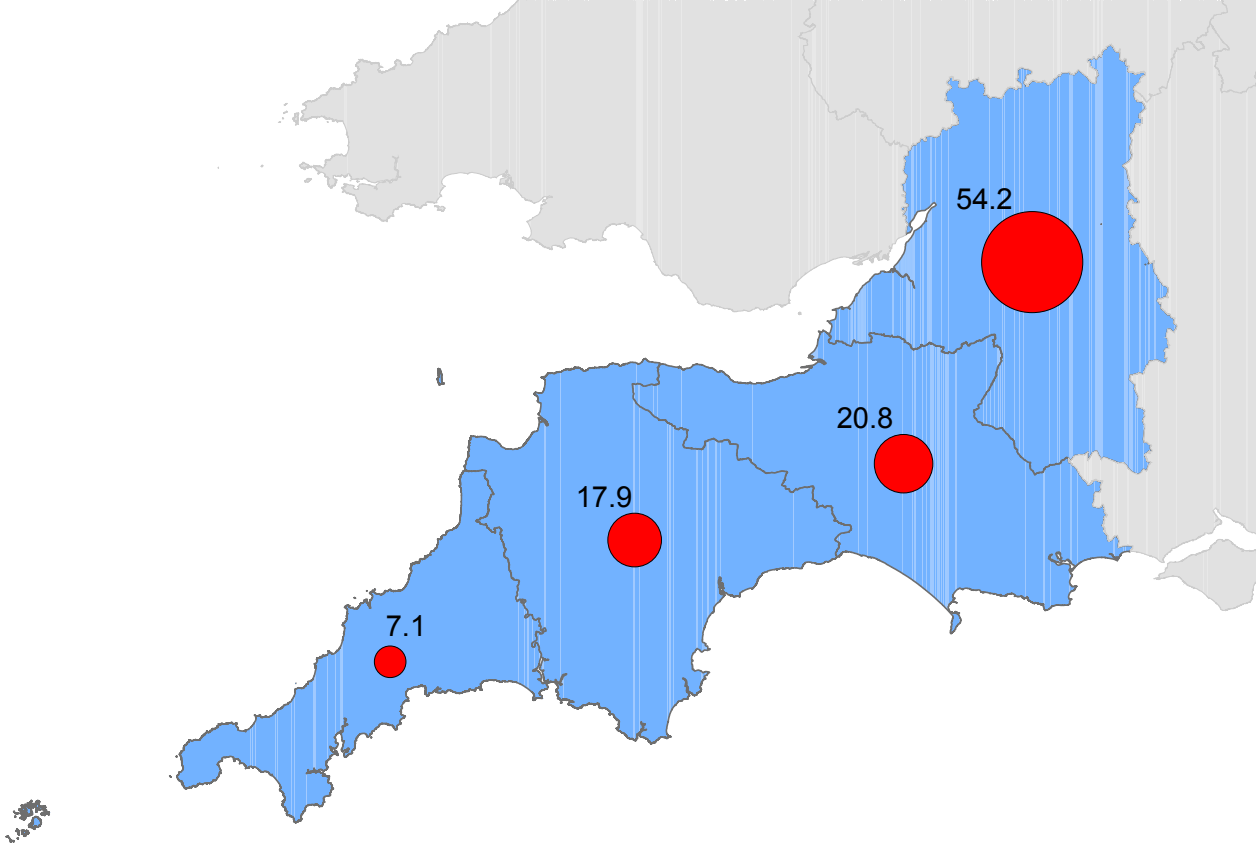
3 2005 data is provisional.

2.10 Sub-regional Performance - Some of the historically under performing sub-regions have experienced relatively fast rates of growth - this is particularly true in Cornwall and the Isles of Scilly which experienced annualised growth rates of 7.5% between 2000-2004. This was well in advance of the South West 6.0% average. Torbay by contrast experienced the slowest annualised growth rate due to the significant losses in its manufacturing capacity and a weaker tourism sector at the beginning of the millennium.

2.11 Cities and principal urban areas are the economic drivers of regional and national economies. In the South West this is reflected by some of the highest

annualised growth rates between 2000-2004 being recorded in the commuter belt areas of Gloucestershire (7.5%) and North and North East Somerset (7.3%). Swindon however, which was an engine for growth in the eastern part of the region in the 1990s, and is still the most productive sub-region, slowed significantly in the past five years recording the second lowest sub-regional annualised growth rate (4.5%). This was due in part to global pressures exerted after the 'dot com' boom and bust. In contrast between 2003/04, Swindon showed signs of a recovery recording the joint third fastest growth rate of 6.7%.

Figure 2.2 GVA Share by NUTS2 Sub Regions 2004, percentages



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Source: ONS

GVA Per Head

2.12 Output per head is used by central Government and the UK regions as a measure of relative economic performance; a broad ‘productivity rate’. Productivity is a significant determinant of standards of living and is an extremely important indicator of future relative economic prosperity. To increase economic output, an economy can either increase the amount of inputs (land, labour or capital) that it uses or it can use those resources more productively. As currently measured, however, GVA per head is imperfect because of the low quality of the underlying data itself and because of methodological issues of estimation. The Allsopp review (2004) of statistics for economic policy making concluded that currently regions have poor estimates of regional nominal GVA, no reliable estimates of ‘real’ regional GVA and problems with the estimates of the denominators (population) required to calculate per head measures. In addition, GVA at NUTS2 (sub-regional) level and below is only calculated at the workplace level. Therefore combining GVA, a workplace estimate, with population, a residence based estimate, will distort the results due to the effects of commuting. An area which has high rates of inward commuting will

appear more productive than it would if calculated using only workplace based estimates. It is likely that areas such as Bristol and Swindon are affected by this issue. In addition, because the denominator consists of all residents, relative rankings are affected by the importance of non-active members of the populace, making places with a high proportion of retired people appear to perform less well. Alternative measures of productivity are analysed later in the chapter.

2.13 In 2005, the regional productivity rate, as measured by GVA per head, was £16,685 making the South West the most productive region outside of the ‘Greater South East’ but still some way behind the English average (£18,097). South West England’s productivity rates were approximately 8% lower than the English average. The English average productivity rate is inflated by London’s performance; excluding the capital, South West England’s performance improves from 92% to 98% of the English average; the average rate of all other English regions excluding London being £17,049.

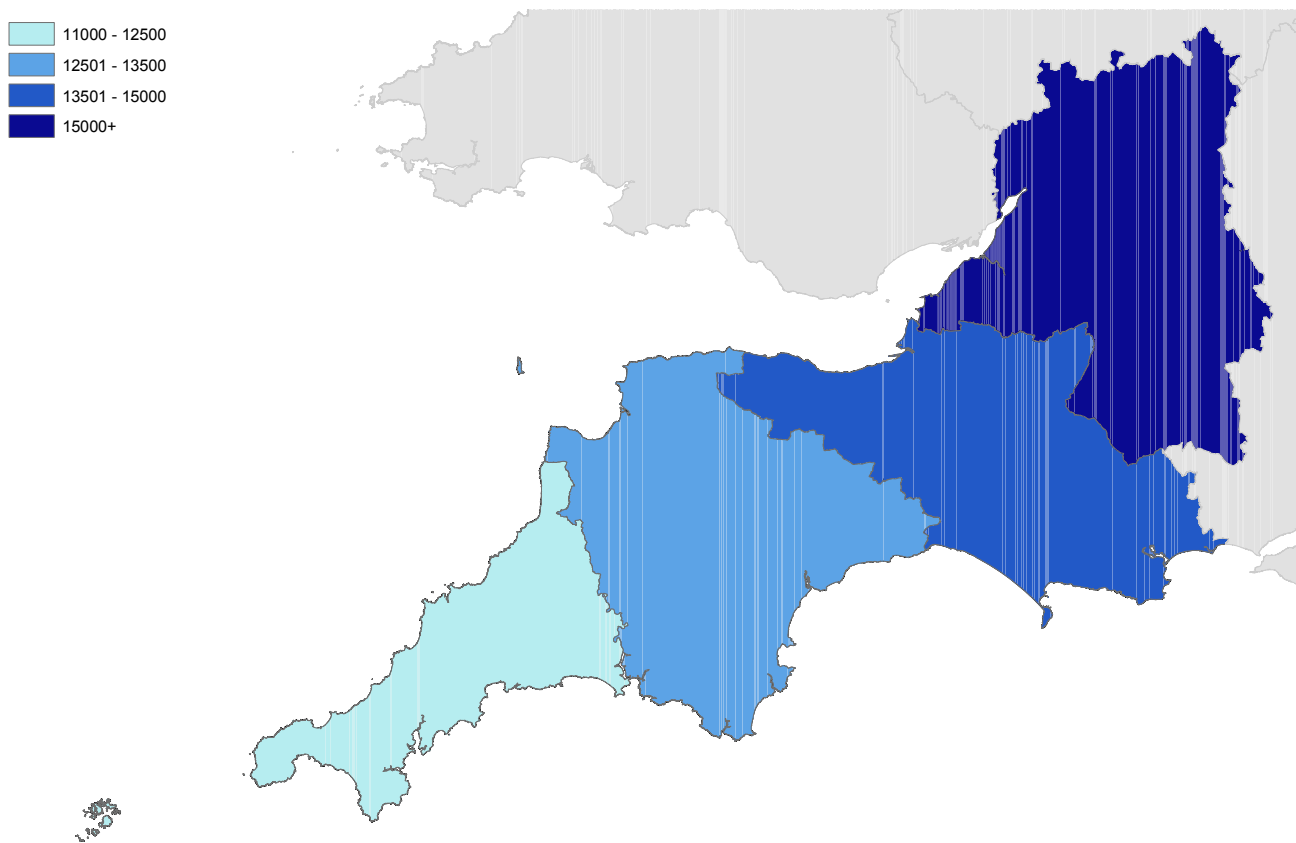
2.14 Sub-regional (NUTS 2) - Of the region’s NUTS2 areas, Gloucestershire, Wiltshire and North Somerset (which includes Bristol) is the most productive

(£19,988). This sub-region is relatively well functioning and economically strong. It is 24% more productive than the region's average and 14% more than the national average. It ranks third highest of England's 30 NUTS2 areas. Dorset and Somerset are the next highest performing NUTS2 area and yet only achieve 79% of the national average. The region's lower economic performance is mainly a result of wide intra-regional disparities, characterised by a decline in economic performance towards the south and west. This shows the importance to the region's economy of the northern sub-regions and in particular the principal urban areas Bristol, Swindon, Cheltenham and Gloucester.

Table 2.1 GVA Per Head by NUTS2 Sub-region-workplace based estimate at current basic prices, 2004

	GVA per head (£)
Gloucestershire, Wiltshire and North Somerset (including Bristol)	19,988
Dorset and Somerset	13,933
Devon	13,240
Cornwall and Isles of Scilly	11,094
Source: ONS	

Figure 2.3 NUTS2 GVA Per Head - Workplace Based Estimate at Current Prices 2004, £



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Source: ONS

2.15 Sub-Regional (NUTS3, Counties and Unitary Authorities) - GVA estimates are based on sample surveys and the quality of the results diminishes as geographical areas decrease in size - the smaller the area, the smaller the sample, and the more caution should be used when interpreting the results. Productivity, as measured by GVA per head, is highest in the two northern and urban areas of Swindon and Bristol, which are respectively the third and seventh

most productive sub-regions in England. Productivity per head in Swindon is £26,795 and Bristol £23,962. This is 53% and 37% above the English average respectively. Although urban productivity rates are inflated by commuting, it does illustrate how important Principal Urban Areas (PUAs) are as economic drivers of regional economies.

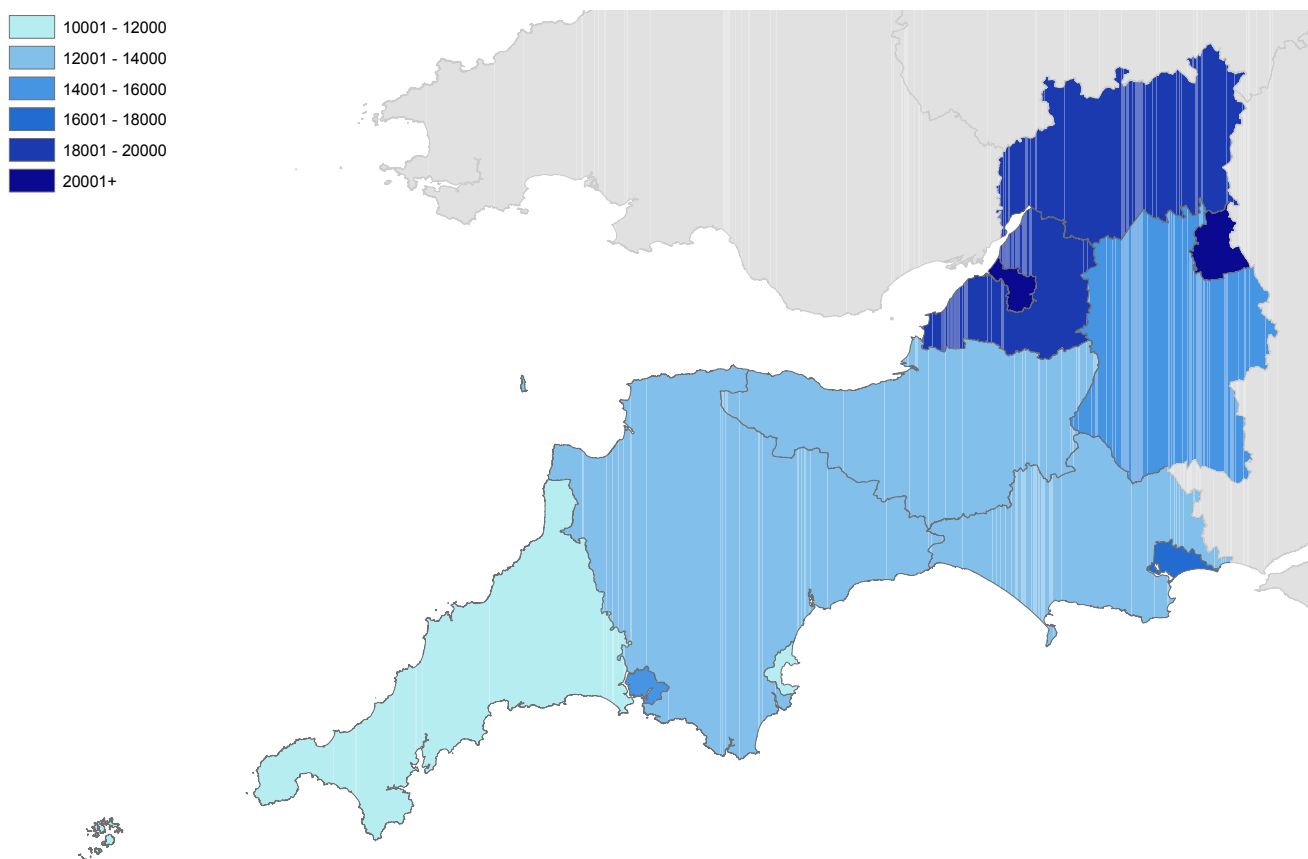
2.16 Only two other sub-regions, North and North East Somerset and South Gloucestershire, are above the national average - mainly because of the proximity and influence of the urban centre of Bristol. In stark contrast, Torbay and Cornwall and the Isles of Scilly record the lowest rates of labour productivity. They are the third and sixth lowest rates of any sub-region in

England, 40% and 37% below the English average respectively. Devon, Dorset and Somerset were all over 20% below the English average. The intra-regional 'productivity gap', which is discussed later in the chapter, exists for a variety of reasons including levels of capital investment, organisational structure and skills, and time/distance from large markets.

Table 2.2 GVA (£) per Head and per Head Index (England =100) at Current Basic Prices, 2003

	GVA per head (£)	GVA per head index
England	17532	100
South West	16141	92
Swindon	26795	153
City of Bristol	23962	137
Gloucestershire	19386	111
North and North East Somerset, South Gloucestershire	19281	110
Bournemouth and Poole	16440	94
Wiltshire	15425	88
Plymouth	14327	82
Somerset	13775	79
Devon	13363	76
Dorset	12250	70
Cornwall and Isles of Scilly	11094	63
Torbay	10562	60
Source: ONS		

Figure 2.4 NUTS3 GVA Per Head - Workplace Based Estimate at Current Prices 2004, £



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Source: ONS

Alternative Measures of Productivity

2.17 As discussed previously, concerns have been raised about using output per head to measure the 'productivity rate'. Using number of employees, rather than population to calculate the 'productivity rate' eliminates some of the distortion. However, the number of employees method also has difficulties as it takes no account of variations in real local labour input - i.e. the effect of working part time as opposed to full time. Labour productivity therefore is more accurately measured by using full time equivalent (FTE) jobs, or hours worked.

2.18 The following analysis uses the three separate denominators (per head, per job and per hour) to create a 'productivity index' where the UK average productivity rate is equal to 100⁽³⁾. The South West scored 94.4 on the 'per head' productivity Index but the South West's performance decreased when measured by 'per job' to 93.6. This is somewhat contrary to common perception that the lower rates of productivity in the region can be attributed to lower levels of economic

activity due to a larger proportion of retired or economically inactive. In truth the region, although having an ageing population, actually has higher rates of economic activity than the English average and, as such, its relative position deteriorates using this measure. South West England, however, does have a higher proportion of its workforce working part time. Therefore, productivity as measured by per hour worked, raises the South West position quite considerably to 95.3% of the UK average, whereas the English average drops down from a high of 102.4% to 101.8%. The results suggest that the flexible structure of the regional labour market is a causal factor in the 'productivity gap'. The flexible labour market encourages higher levels of economic activity but suppresses productivity rates due to a possible under utilisation of labour.

Productivity Growth

2.19 To enable national and sub-regional comparisons, productivity growth has been measured using GVA per head. Both in the long (1996-2005) and medium terms (2000-2005), economic output and

3 Less extra regional compensation of employees and gross operating surplus which cannot be assigned to regions.

productivity grew faster regionally than in England although productivity grew at a slower pace than output. This is due to a faster increase in population, driven by inward migration. Whilst part of the South West's success is reflected in its growing population, it affects

statistical measurements. In economic terms, this success, combined with higher levels of part time working, translates into slower productivity growth rates at least in the short term.

Figure 2.5 Productivity Growth Rates (GVA per head) at Current Prices 1996-2005, percentages

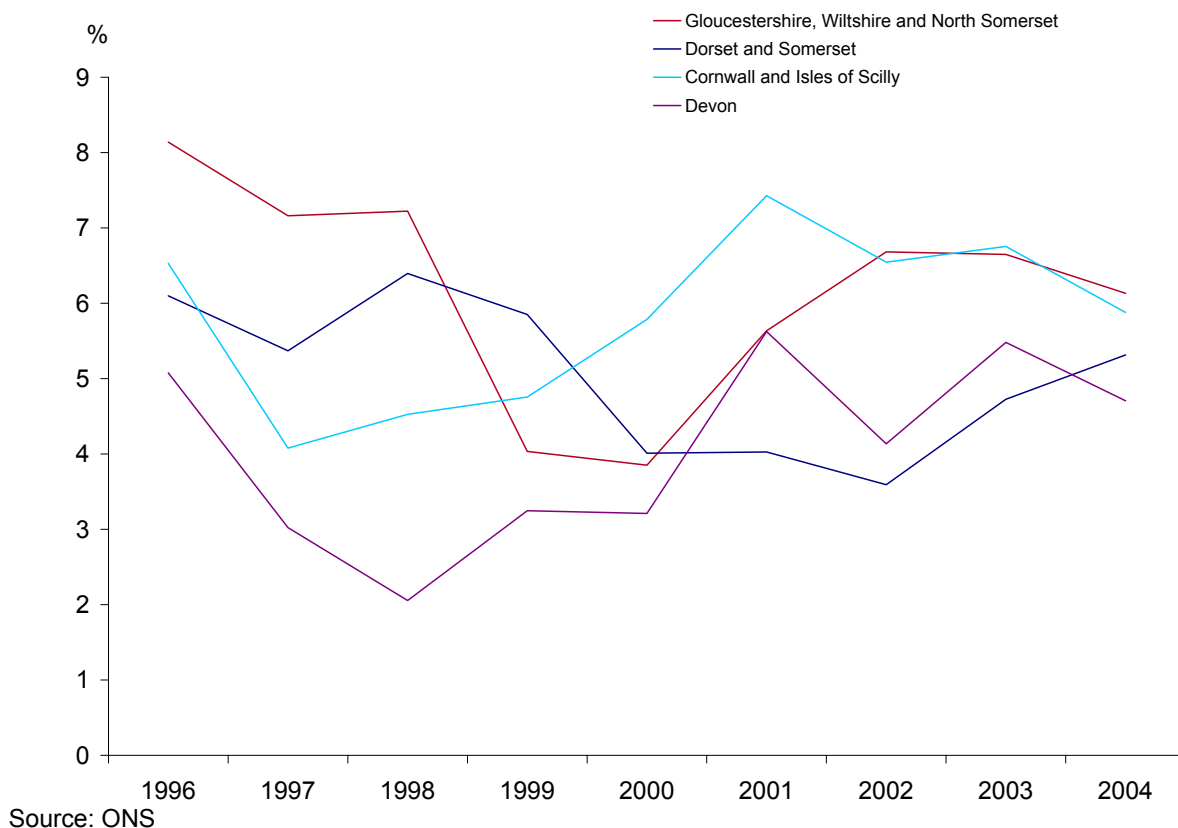


2.20 In the past year, 2004-2005, all regions experienced a slow-down in the growth rate of productivity at which time South West England recorded its lowest rate (3.4%) in recent years. The North East, North West and East Midlands were the only regions to have higher productivity growth rates during this period.

2.21 Sub-regional Productivity Growth (NUTS2) - Each of the sub regions in the South West has faced different recent economic growth experiences. Between 1996-2004, Gloucestershire, Wiltshire and North Somerset (GWNS) and Cornwall and the Isles of Scilly (CloS), with annualised growth rates of 6.2% and 5.8%

respectively, ranked highest sub-regionally and considerably above the English average (5.3%) for the whole period. Dorset and Somerset and Devon were considerably below the national average - Devon, including Torbay and Plymouth, experienced only 76% of the English average rate of growth in 1996-2004. In 2003/04 the trend continued, GWNS (6.1%) and CloS (5.9%) growth rates were the highest of the South West sub-regions and Devon's growth rate the lowest regionally and the third lowest of the 30 English NUTS2 areas. The figure gives details of growth rates at NUTS2 level in South West England and illustrates that GVA growth rates have recently begun to converge.

Figure 2.6 Sub-Regional Productivity Growth Rates (GVA per head) at Current Prices 1996-2004, percentages



2.22 Sub-regional Productivity Growth (NUTS3) -

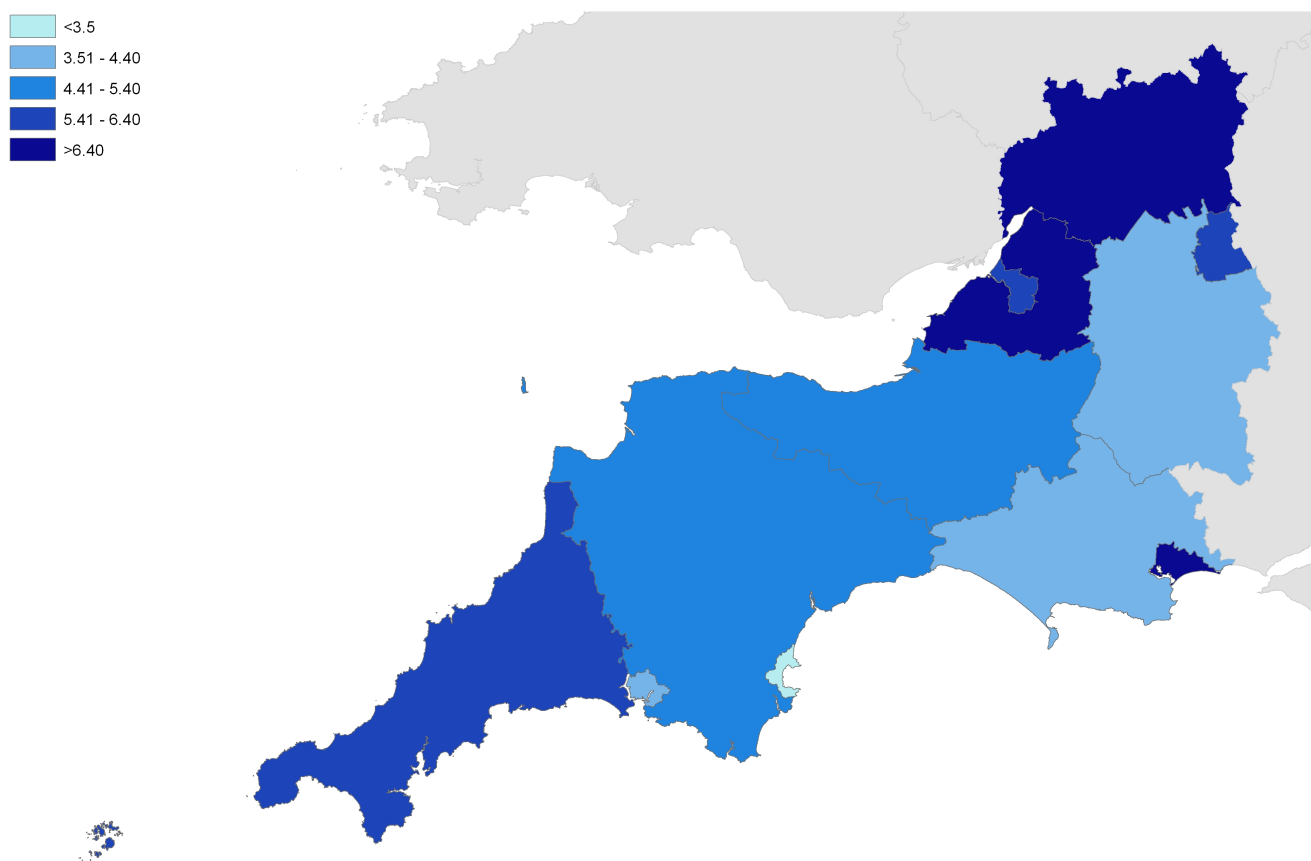
Between 1996-2004 the fastest annualised growth rates were experienced in the northern and eastern part of the region Gloucestershire, North and North East Somerset and Bournemouth and Poole.

2.23 In the period 2000-2004, amongst the NUTS3 areas, Gloucestershire still had the highest rate of annualised growth rate (7.0%) followed by North and North East Somerset and South Gloucestershire (6.7%), however Cornwall and the Isles of Scilly (6.5%) overtook Bournemouth and Poole as the third best performing region. The high growth rate in the northern areas has partly been due to overall growth in the service sector output and restructuring of the manufacturing sector. Cornwall and the Isles of Scilly have benefited from considerable EU structural programme support and there are signs that this has brought in, or been augmented by a strengthening of

private sector activity. Two other regions were marginally above the English average growth rate of 5.0%: Devon (excluding Torbay and Plymouth) which is dominated by Exeter, and Bristol, both of which have strong business service sectors. Torbay experienced a considerably lower growth rate (1.8%) than the national average as did Somerset and Swindon (4.1%) as manufacturing output declined.

2.24 The most recent growth rates, 2003/04, show a similar picture with Gloucestershire and North East Somerset and South Gloucestershire recording the fastest growth rates. Swindon (6.1%), however improved dramatically from joint second slowest growth rate between 2000-2004 to overtaking Cornwall (5.9%) for third place. The signs of recovery for Swindon are encouraging due to its importance in driving the regional economy. Plymouth and Torbay were the slowest growing regions.

Figure 2.7 Average Annual Percentage Productivity Growth Rates at Current Prices 1996-2004, percentages



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Source: ONS

2.25 Growth Projections - Growth projections were prepared using the South West Regional Accounts by the Business and Economy Module of the South West Observatory. They give an indication of economic prospects for the South West region. The analysis is based on the assumptions that current trends continue and that the national economy grows as predicted in the HM Treasury forecasts. The projections described cover the period from 2005-2011 (South West Economy Projections: 2006).

2.26 Output (GVA) - South West GVA is projected to grow to £93.1 billion by 2007⁽⁴⁾. GVA is projected to increase at an average annual rate of 6.0% over the period 2005-2011, the 4th highest growth rate amongst the English regions. Variances in the projected growth for regions are driven by a number of factors, including projections of growth in specific sectors and their relative presence in each of the regions.

2.27 Projected population growth for the South West is, however, marginally above that for most other English regions, so that GVA per head is projected to grow at a slower rate than for England as a whole. This

implies that GVA per head in the South West is projected to decline slightly relative to the national average over the period to 2011.

2.28 The projections suggest that all broad industry sectors in South West England will grow, in nominal prices, over the period 2005-2011, although output in mining & quarrying, manufacturing and (particularly), agriculture, forestry & fishing is expected to decline in real terms. The fastest growing sectors are projected to be real estate, renting and business activities and other services. Output growth is projected to be strongest in the urban north and east of the region; and in Cornwall and Isles of Scilly, with slower growth projected for the rural sub-regions and for Plymouth and Torbay.

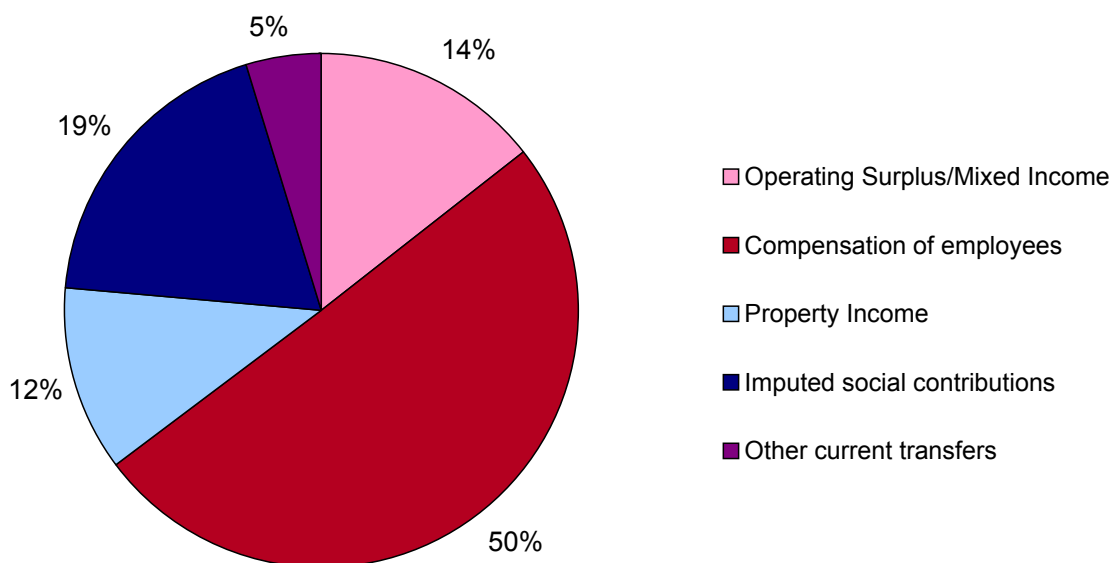
Gross Disposable Household Income

2.29 So far, focus has been on the production method of measuring the economy. In this section, we examine a considerable element of the income method of measuring the economy which is the sum of wages, profits, rents and interest earned. Household incomes

form a substantial proportion to the income approach to measuring GVA. In reality, household income may be a better indicator for the economic wellbeing of its residents than output.

2.30 GDHI is 'disposable income' after taxes and social contributions, pension contributions and property ownership. The structure of GDHI varies considerably both inter- and intra-regionally and has a redistributive effect. In 2004, GDHI in the South West was 64,092 million, the equivalent of 79% of regional output.

Figure 2.8 Regional Composition of GDHI 2004, percentages



Source: ONS

2.31 In 2004, South West England received 9.8% of the English GDHI. This equates to £12,721 per head of population and ranks the region fourth, behind the three 'Greater South East' regions. The regional GDHI per head index is just under 98% of the English average, some way in advance of the region's GVA index measured by output (93.6% - 95.3%). This suggests that the region is economically better off on measures of income rather than measures of output. This is because households within the region benefit from the redistributive effects of pensions, taxes and benefits and other forms of income. As we would expect, the profile of GDHI is a narrower spread than for output because of its redistributive nature - benefits and pensions are designed to narrow income differentials.

Table 2.3 GDHI at Current Prices, 2004

	£ million	£ per head	Index
England	653,214	13,040	100
South West	64,092	12,721	97.6

Source: ONS

2.32 GDHI Growth - Growth in regional GDHI has shadowed the national growth rate, which has been more volatile than output GVA growth. GDHI growth peaked in 2001 before reducing to a low in 2004. As well as normal cyclical explanations, this is due in part to the increased cost of housing, increased Government spending on public services financed by taxation and increased levels of pension contributions by employees combined with a reduction in output growth. The

region's growth in GDHI prior to 2001 was marginally below the English average but has been marginally

above ever since.

Figure 2.9 Annual Growth in GDHI at Current Prices 1995-2004, percentages



Source: ONS

2.33 Sub-regional NUTS2 - Gloucestershire, Wiltshire and North Somerset received £29.1 billion of GDHI, accounting for 45% of all South West GDHI. Although considerable, it is less than the proportion of output (54%), and reflects the redistributive nature of GDHI. All the other three NUTS2 regions had higher GDHI shares compared with their share of regional GVA.

2.34 Of the four NUTS2 sub-regions, Gloucestershire, Wiltshire and North Somerset, and Dorset and Somerset, are above the English GDHI per head average. This contrasts with the pattern of GVA; Dorset and Somerset are 21% below the English average in GVA per head - this is partly an example of the effects of commuting. Devon and Cornwall and the Isles of Scilly also show a dramatically improved relative position, 16 and 25 index points respectively. The results suggest that the effect of a 'productivity gap' may in reality have less impact on people's standard of living, at least in the short term.

Table 2.4 GDHI per Head Index (England=100) by NUTS2 Sub-regions at Current Prices, 2004

	Index
Gloucestershire, Wiltshire and North Somerset (includes Bristol)	101.2
Dorset and Somerset	100.0
Devon	91.9
Cornwall and the Isles of Scilly	88.3
Source: ONS	

2.35 Sub-regional NUTS3 - The redistributive effects of income flows are continued at a sub regional level. Whilst the difference between Swindon, the best performing sub-region and Torbay, the poorest performing sub-region, on a measure of GVA per head, was 85 index points, this diminished to 15 as measured by GDHI. The highest levels of GDHI per head were recorded in Wiltshire (£13,907), 7 index points above of the English average. Plymouth recorded the lowest rate, 15 index points below the national average (£11,051).

Economic Structure

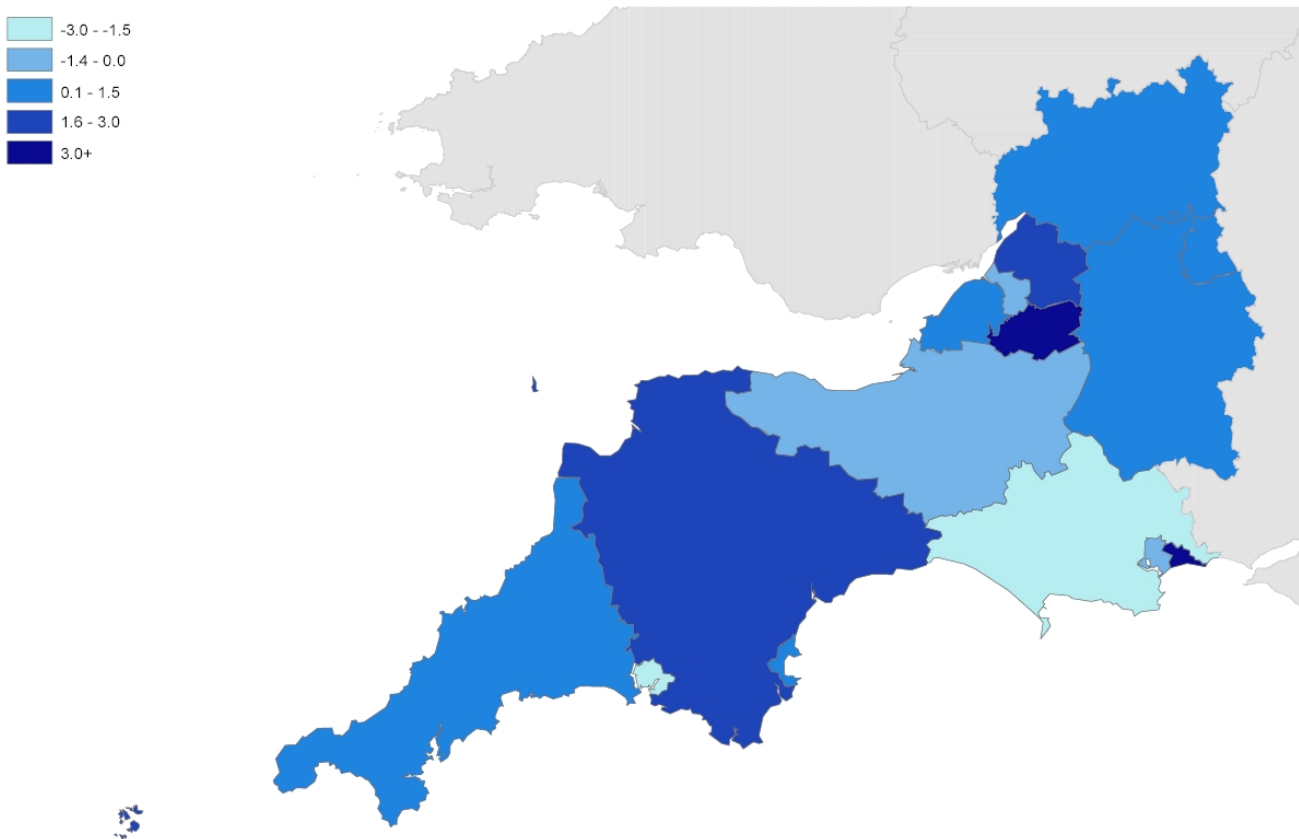
2.36 The following section reports on the industrial structure of the South West's economy. It assesses regional employment and employment growth. Using data from the South West Regional Accounts the structure, size and rates of productivity for the different broad industrial groups are set within a regional and national context. A fuller discussion on all labour market indicators is available in the Labour Market chapter.

Employment

2.37 South West England has a relatively strong labour market, although in recent times, as with the national trend, jobs creation has slowed due to relatively low rates of economic growth and jobs lost to international cost pressures.

2.38 In 2005, based on the Annual Population Survey, just over 2.3 million were employed, equating to 77.8% of the working age population. Since 2001, an additional 22,000 jobs have been created in the region, a growth rate of approximately 1.0%. During this period, the employment rate fell by 1.1% due to a larger increase in the working age population (69,000) from inward migration. This implies that a number of those who have migrated into the region have not entered employment. Of the 22,000 new jobs created in the five year period, half of those were created in one year, 2004-2005. The largest increase in the workforce was in the public administration, education and health sectors, whereas manufacturing employment declined considerably.

Figure 2.10 Growth in Employment by NUTS2 sub-regions 2004 - 2005, percentages



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Source: ONS (NOMIS)

2.39 Sub-regionally, Devon benefited from the largest growth in actual number of jobs (5,300); driven by strong growth in the construction sector. However, Bath and North East Somerset (BANES) had the fastest proportional growth rate (4.7%) due in the most part to

increased service sector employment. The English and South West's employment growth rate during this period was 0.5%.

2.40 An analysis of growth in employee jobs by industry reveals that employment grew strongly in some sectors but other sectors experienced considerable

losses. Countering common perception, agriculture and fishing increased by proportionately the largest amount, although the size of the actual agriculture and fishing labour force is relatively small compared to the other sector groupings. Construction employment within the region grew by 8%, banking and finance by 5.7% and public administration, education and health by 2.8%. This latter sector was the largest gross contributor to jobs.

2.41 Construction, banking and finance and public administration, education and health combined created more than three times the net total jobs created in

South West England. This apparent anomaly was a result of these gains being partially offset by considerable losses in other sectors. Manufacturing, in particular, experienced large scale job losses primarily due to international cost pressures. Regionally, manufacturing shed the equivalent of approximately half the total jobs created in all other sectors. Nationally, manufacturing job losses were proportionately smaller but still considerable. Transport and communications and other services also experienced considerable job losses regionally, although nationally they experienced slight gains.

Table 2.5 Employment Growth by Industry 2004-05, percentages

	South West England		England	
	Annual Growth Rate	Contribution to Total Growth	Annual Growth Rate	Contribution to Total Growth
Agriculture and fishing	17.6	47.4	10	17.4
Construction	8.1	100.6	3.6	44.3
Banking, finance and insurance	5.7	116.7	2.1	54
Public administration, education and health	2.8	123.1	2.4	104.8
Energy and water	0.4	0.6	-1.2	-1.6
Distribution, hotels and restaurants	-1.6	-55.1	-0.7	-21.1
Other services	-3.3	-32.1	0.3	3.2
Transport and communications	-4.4	-39.7	0	0.2
Manufacturing	-7.7	-161.5	-4.4	-101.2
Total	0.5	100	0.5	100

Source: Annual Population Survey, ONS

2.42 Employment Growth Projections - Total employment in the South West (measured by employee jobs) is projected to rise at an average annual rate of 2.6 per cent during 2005-2011, the highest growth rate among the UK regions (South West Economy Projections: 2006). This implies around 370,000 new jobs in the region over this period, many of them part-time.

Industrial Structure

2.43 The following estimates are from the input-output data in the South West Regional Accounts, produced and maintained by the Business and Economy Module of the Observatory and funded by the South West Regional Development Agency. Due to the nature of the software any national comparisons in this section are with Great Britain. The following table lists regional output for broad sector groupings and FTE jobs within each broad sector grouping. These latest full figures are combined to give the 'productivity rate' of each industry.

Table 2.6 Contribution of Output (GVA) and Employment (FTE) by Industry, 2002

South West Industries (2002 base year)	GVA (£m)	GVA (%)	Number of FTEs	FTE (%)
ALL INDUSTRIES	70,481	100	2,146,341	100
Primary industries	1,609	2.3	81,507	3.8
Secondary industries	376	0.5	6205	0.3
Energy & water	1,240	1.8	12,555	0.6
Construction	5,036	7.1	174,307	8.1
Manufacturing	10,879	15.4	306,171	14.3
Services	51,717	73.4	1,571,802	73.2

Source: Regional Accounts, South West Business and Economy Module

2.44 The structure of business is important for the region's economy. A region that has relatively high concentrations in high growth and high value-added businesses will tend to have higher rates of overall economic growth and productivity.

2.45 Services, which is made up of nine sub-sectors, dominate the economy contributing nearly three quarters of regional output and jobs. The two services sub-sectors of finance and business services account for nearly a quarter of all output. Including the distribution and retail and health and social care sub-sectors, they accounted for 62% of total service

sector's output and 60% of jobs. Manufacturing remains important to the regional economy, although its contribution to employment is falling. In 2002, it contributed 15% of GVA and 14% of FTE. Sub-sectors that are important for the manufacturing sector are transport equipment (including aerospace and car production), electronics and food and drink, which combined accounted for 46% of manufacturing output and 41% jobs. Within the energy and water sector, the sub-sectors of electricity production and distribution contributed 59% economic output and 62% jobs, whilst within the primary industries sector, agriculture accounted for 73% output and 88% jobs.

Table 2.7 Productivity Index by Industry (GVA per FTE), 2002

SW INDUSTRIES (2002 BASE YEAR)	GVA/FTE		
	(£)	Index (SW=100)	SW vs. GB (GB=100)
ALL INDUSTRIES	32,838	100	90.3
Primary industries	19,741	60.1	56.2
Secondary Industries	60,569	184.4	34.2
Energy & water	98,765	300.8	86.1
Construction	28,892	88	96.9
Manufacturing	35,532	108.2	103.9
Services	32,903	100.2	89.1

Source: Regional Accounts, South West Business and Economy Module

2.46 The average productivity rate for all industries in the South West, as measured by GVA/FTE, is £32,838. This translates into only 90.3% of the Great Britain average for all industries. There are wide differences in sector productivity. Two of the South West broad sector groups are below the regional average productivity rate, (primary industries and

construction) one is equal to it (services) and three sectors exceed the national average (manufacturing, secondary industries and energy and water). Energy and water exceeds the regional average by over three times. In the case of the energy and water sector, the figure reflects low levels of employment and high rates of investment in capital and infrastructure, which were

the catalyst to high rates of productivity. It also reflects, however, a disproportionately high number of national headquarters located in the region. National accounts are processed through the head office which inflates regional output levels and, therefore, productivity rates. The opposite is true for industries, such as financial services, which generally record lower output and productivity rates due to most financial services headquarters being located in London.

2.47 South West England's industrial sectors are generally less productive than the same sectors in Great Britain as a whole. Business and financial services, two of the region's most productive industries, are considerably less productive regionally than nationally. At the broad industrial level, manufacturing is the only industrial group that is more productive in South West England than in Great Britain. The manufacturing sub-sectors of leather and footwear, transport and equipment and textiles outperform the national average and are comparatively the region's most productive sub-sectors. Within the broad industrial groupings of primary industries, energy and water and service sectors, the most productive sub-sectors are coal extraction, gas distribution and public administration respectively.

Voluntary and Community Sector

2.48 Voluntary and community sector organisations, including social enterprises, are part of the economy and represent a growing business sector. Just like private businesses, these organisations contribute to the local and regional economy by generating income, attracting investment, maintaining and creating jobs and spending money on goods and services. This sector includes, but is broader than, charities, housing associations and social enterprises.

2.49 Charities and Housing Associations - In 2005, there were over 17,600 general charities in the South West, with a paid labour force of 54,000 people and a combined income of £1.92 billion. In addition, the 248 South West housing associations, which are not included in the definition of general charities, had a combined annual turnover of nearly £600 million and employed almost 9,000 people. Nationally, earned income from the sale of goods and services was the main source of all charitable income. This included contract fees and payments from public sector organisations, which were higher in 2003-04 than in 2001-02 and represented 20.3% of all charitable income. Voluntary income (such as grants and donations), though still substantial, reduced in importance. It is likely that South West charities followed the national pattern.

2.50 Social Enterprise - DTI commissioned research identified about 1,800 social enterprises in the region registered as companies limited by guarantee or industrial and provident societies, generating at least 25% of their income from trading. On this basis, the South West contained 12% of all social enterprises in the United Kingdom (compared to 9% of all businesses) and ranked third after London and the South East. However, as acknowledged in the DTI survey, the data represented only a subset of the whole social enterprise population. Research for Regional Infrastructure for Social Enterprise (RISE), based on a review of sub-regional and other studies, estimated that there are about 5,500 social enterprises in the South West. This is consistent with the Government's estimate that, nationally, some 5% of all businesses with employees are social enterprises.

2.51 A further indicator of social enterprise in the region comes from the Social Entrepreneurship Monitor (GEM Consortium, London Business School). This measures social entrepreneurship activity (SEA) across the United Kingdom based on the proportion of the population engaged in some form of activity that has community or social goals at its heart, either as a start up venture or as owner-manager of that venture. South West England had an above average Social Enterprise Activity rate of 3.8% compared with 3.2% for the United Kingdom as a whole.

Productivity Gap

2.52 This section explores the issues of a 'productivity gap'⁵ set within a framework of the treasury's five drivers of productivity.

Context

2.53 It is widely recognised that the UK has a 'productivity gap' with its main competitors; France, Germany and the United States. As a result, the Government has set a Public Service Agreement (PSA) target to improve comparative rates of productivity - 'Demonstrate further progress by 2008 on the Government's long-term objective of raising the rate of UK productivity growth over the economic cycle, and narrowing the gap with our major industrial competitors'. In support of this goal, the South West's Regional Economic Strategy has set a priority to 'Support Business Productivity' in order to address the regional and sub-regional 'productivity gap'.

2.54 The Treasury has identified five 'drivers' of productivity: skills, investment, innovation, enterprise and competitiveness. All nations and regions benefit unequally from these drivers due to market and

5 The difference in levels of productivity between two regions.

coordination failures. The general pattern has been for the stronger and richer regions of the economy to compound their comparative advantage by growing indigenous business and attracting new investment.

2.55 The Allsopp review recognised that research into regional productivity has been held back by the quality of the data publicly available. To compound the problem further, the South West is a geographically large and dispersed region requiring analysis at the sub-regional level. Any difficulties with examining productivity data are compounded at such low levels of disaggregation.

South West Productivity Gap

2.56 Research was commissioned by the South West Regional Development Agency in order to understand fully the productivity gap between the region and the national average⁶. This research utilised restricted business level data from the ONS allowing a more robust productivity analysis.

2.57 The research estimated that a headline gap of approximately 30% existed between the South West and the UK's most productive region - London. Of the five productivity drivers, the research suggested it was important to support both high level and basic qualifications. Skills are, however, very mobile and regionally the need is to provide job opportunities that will attract and retain those with higher level skills. Low capital to labour ratios impacted negatively on the productivity rates of the region. The evidence pointed towards the benefit of innovation - both product and process based. It reported that the adoption of the innovation in terms of process, technique and work practices may be of more importance than leading edge R&D. The research into entrepreneurship reported a link between VAT registration and productivity growth. Increasing Foreign Direct Investment and exposure to international trade would increase rates of competition and potentially increase rates of productivity growth.

2.58 Other Influences - As well as the five productivity drivers, Boddy et al (op cit 2005) examined a number of other potential causes of the region's productivity gap including size of the workforce, industrial composition, regional price differences, time-distance and peripherality, agglomeration and scale effects.

2.59 Size of Industry - The Treasury estimated that up to 40% of the regional disparities in productivity could be accounted for by the size of the working population. The Boddy report concluded that for South West England this was not the case. The region's share of the working age population is relatively low but it has

a higher than average rate of economic activity which largely cancels out the difference in workforce size. In addition any population bias was controlled for by standardising economic output by workforce rather than population. The South West's productivity rates were lower using a per job measure of productivity than a per population measure.

2.60 Industrial Composition - Different industrial groups show substantial differences in productivity rates. Therefore, regional industrial structures may explain differences in regional productivity. If the South West had a higher than average share of low productivity industries, and a lower than average share of high productivity industries, this could go some way to explaining the gap.

2.61 Boddy et al (op cit 2005) found that differences in industrial composition play only a minor role in explaining differences in regional productivity. Productivity differences tended to be relatively uniform across all sectors in the region and low productivity in some sectors in the South West were largely offset by high productivity in others. Within the sub-regions of the South West, however, the industrial structure did reflect differences in productivity. High-value added sectors, including finance and business services, were more important in the northern part of the region and lower value added sectors, such as tourism were more significant in the southern areas. For example, if Cornwall had the same industrial structure as the northern sub regions, its GVA would be 7% higher. Although industrial structure was marginal in explaining the regional productivity gap, the source of business ownership played a strong part in rates of productivity. Multi-national firms, US firms in particular, were much more productive than indigenous firms.

2.62 Regional Price Differences - Regional price differentials may mean that the productivity gap is less important than the headlines indicate. Productivity may be lower in a region but, if prices are also lower, this will reduce the impact on comparative wage rates and standards of living. Boddy et al (op cit 2005) concluded that, although the evidence was limited, price differentials do not account to any great degree for the gap between the South West and other regions.

2.63 Travel Time and Peripherality - Distance and travel time from major centres of population, employment, markets and business activity has been identified as a major determinant of productivity in recent studies. The report concluded the travel time to London and the next four largest conurbations in the United Kingdom explained nearly one third of the productivity gap between London and the South West: the largest effect of any single factor.

6 Meeting the productivity challenge (2005): Professor Martin Boddy et al (2005).

2.64 Agglomeration and Scale Effects - Access to large markets can bring scale economies through access to labour, markets, suppliers and specialist services. They also provide access to wider networks and collaborators. The remoteness of much of the SW region from major centres of population and lack of agglomeration outside of the Bristol city region was reported to be particularly significant.

2.65 The econometric analysis reported that capital stock explains just under one third of the productivity gap as does distance from London and the four largest English conurbations. The remaining element is explained by ownership structure, proportion of full time workers and the qualification rate of the workforce. In 2006, the analysis was updated and extended to identify the extent of, and the causes of, the intra regional 'productivity gap', with Bristol set as the sub-regional benchmark⁽⁷⁾. The productivity gap ranged from 0 in Wiltshire to 28% in Cornwall. The conclusions reached were similar to the regional analysis with intra regional productivity gaps reflecting differences in capital investment, organisational structure, skills, and time distance from large markets.

Table 2.8 Explaining the Productivity Gap Between Bristol and the other South West Sub-regions, 2003

	Productivity Gap - % difference ⁽⁸⁾
Cornwall	-28
Devon	-25
BANES	-20
Somerset	-18
Dorset	-13
Gloucestershire	-6 ⁽⁹⁾
South Gloucestershire	-3
Wiltshire	0
Source: Boddy et al (2006)	

Productivity Drivers

2.66 The results from the productivity research confirm that HM Treasury's five productivity drivers are important determinants of regional economic growth. The remainder of this chapter explores the region's economy under the framework of the five productivity drivers.

Skills

2.67 Skills are important to grow the economy and improve productivity. Skilled workers are more productive, have the capability to take on sophisticated tasks and are more flexible as they have greater capacity to absorb and learn additional skills. Comparatively low educational attainment and skills levels are often cited as one of the principal reasons for the productivity gap between the United Kingdom and other leading economies. Internationally, the United Kingdom comes 25th out of 29 industrial countries for the percentage of 17 year olds in full time education and training. Compared nationally, however, the South West has a highly qualified working age population outperforming the English average at all levels of NVQ or equivalent qualification.

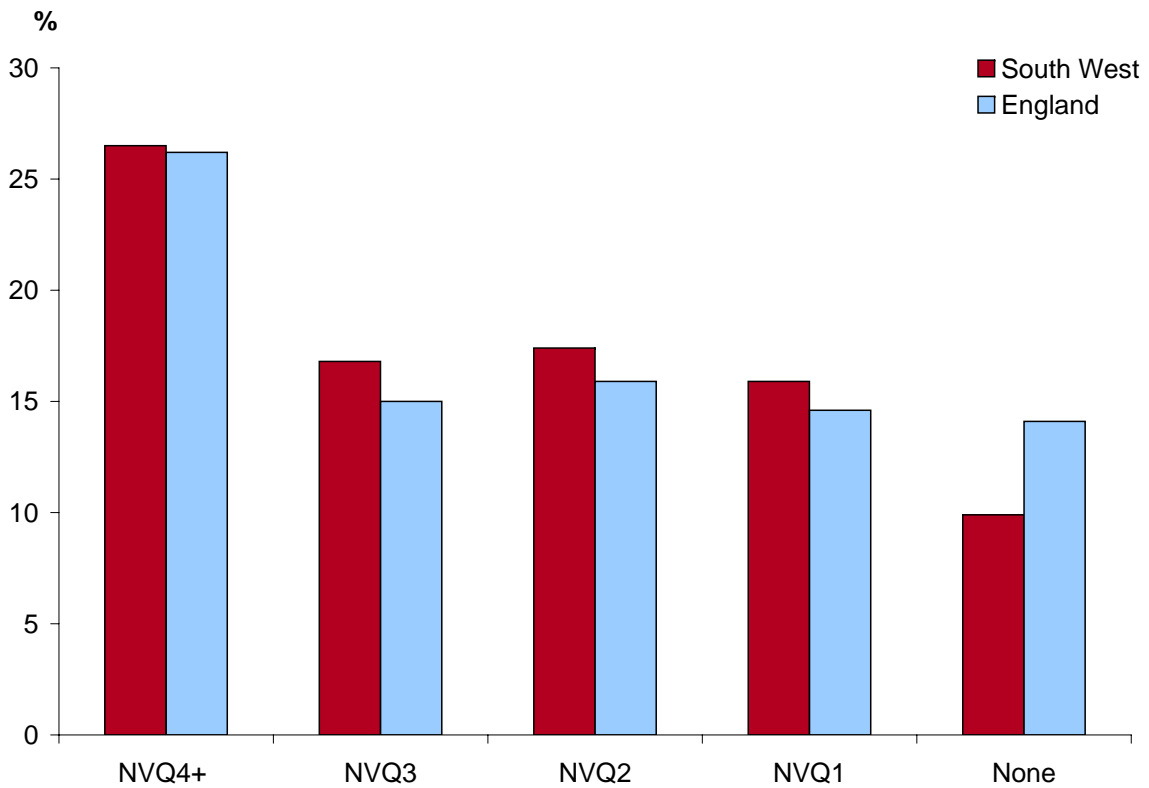
7 Meeting the productivity challenge 2, update, Boddy, M et al., 2006

8 Results in the parentheses are not significantly different from that for Bristol in a statistical sense but the relative scale of the differences are plausible

9 Parenthesis denotes the results were not statistically significant.

Education Rates

Figure 2.11 Proportion of the Working Age Population with Highest Level NVQ or Equivalent Qualifications 2005, percentages



Source: Annual Population Survey, ONS (NOMIS)

2.68 South West England had the third highest proportion of its population with NVQ4 or higher, the highest rate with NVQ3 and the lowest proportion of persons with no qualification. The northern sub-regions in general had the most qualified adult population. In Bath and North East Somerset and Bristol, over a third of the adult population has a NVQ4+ or higher. Plymouth and Torbay were the poorest performing sub-regions with only one in five of the adult population achieving NVQ4+. The region performs relatively well on educational attainment yet experiences a considerable productivity gap. The productivity gap is partially due to the structural mismatch between human capital capacity and employment; an under utilisation of skills and a mismatch of skill sets to employment opportunities⁽¹⁰⁾. This realignment of skill sets may be addressed through employment led training.

Employer Led Training

2.69 South West England also performs relatively well on measures of employer led training. Regionally, 16.8% of the workforce was actively engaged in some form of work related training in the four weeks preceding December 2005 - a small increase of 1.5% on the same time during the previous year. The South West was above the national average rate for work related training (16.2%); the North East was the only region which had proportionately more of its employees in training during the period. Sub-regionally, the highest job related training rates were recorded in Plymouth (20.9%) and Cornwall and the Isles of Scilly (19.8) and the lowest rates in Poole (13.1%) and Gloucestershire (14.6%).

2.70 South West England performs comparatively well on most educational and training indicators. Certain industries, however, report specific skills gaps within the economy. With such a relatively well qualified

workforce, it is surprising that the South West has comparatively low rates of productivity. In 2003 McVittie reported that the region has a relatively highly-skilled population, but that the high skilled individuals are less likely to be employed and, if they are, more likely to be employed part time than similar individuals from other regions.

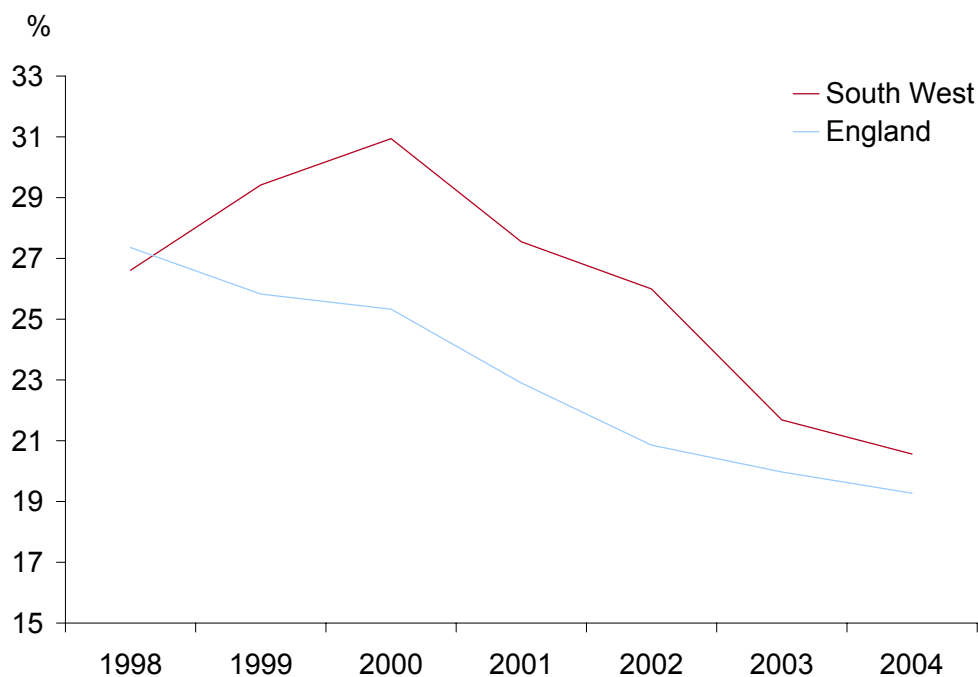
Investment

2.71 Investment in physical capital, both land and buildings, improves regional capacity and levels of technology thus improving regional productivity. Limited data are available on the region's capital stock. Boddy (op cit 2005) however, using restricted business level data, concluded that capital stock to labour ratios are the lowest of any English region. There are major contrasts across the region with Bristol and Gloucestershire similar to the UK average. In Devon and Cornwall, however, this rate drops to around 60%.

Capital to Labour Rates

2.72 Although it is difficult to undertake an analysis of capital stock, data availability from the Annual Business Inquiry survey make it possible to undertake a review of regional annual capital investment flows. Recent capital investment to labour rates has shown that the South West has outperformed the English average in all years since 1999. Investment grew strongly in 1998-2000, but has continued to decline over the past four years as productivity growth has slowed. In 2004, business invested proportionately more, as measured in capital to labour ratios, than four of the English eight regions and over the seven year period more than all other regions except the North East.

Figure 2.12 Annual Capital to Labour Rates 1998-2004, percentages



Source: Annual Population Survey, ONS (NOMIS)

2.73 In 1998-2004, the South West's year on year growth in capital expenditure was 11.2%. Only the East Midlands and Yorkshire and Humberside experienced higher rates of growth. During this period, England experienced negative total annual growth in capital expenditure of -5.2%. As a result, the South West increased its national share of capital expenditure from 7.2% to 7.4%. As the region's productivity gap has been attributed somewhat to lower rates of capital to labour

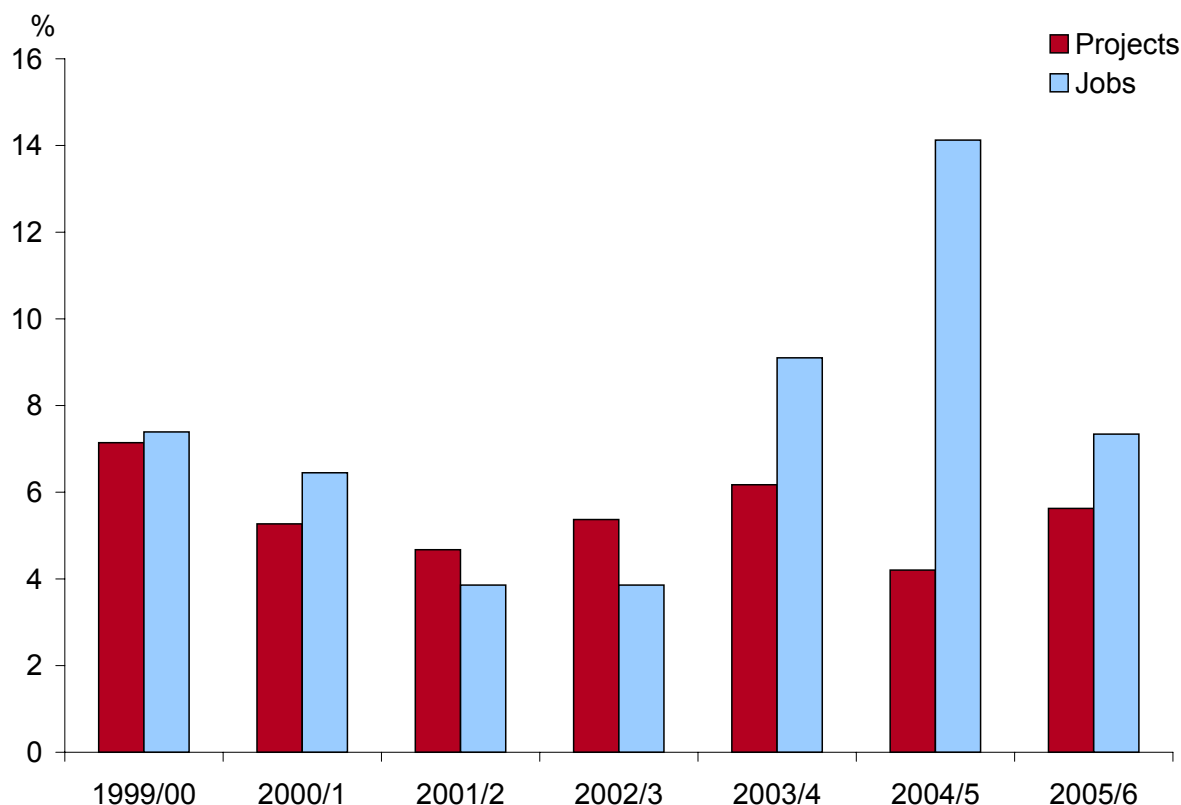
rates, it is encouraging that the region has recently experienced comparatively faster growth in both levels of capital expenditure as well as capital expenditure to labour rates.

Foreign Direct Investment

2.74 An alternative measure of investment is Foreign Direct Investment (FDI). Investments from Multi-National Enterprises are important to a regions economy as they are generally more productive than indigenous firms. Multi-Nationals also indirectly benefit the economy through productivity and managerial spillovers both geographically and sectorally⁽¹¹⁾. The

South West's performance in attracting FDI has progressed. In 2005/06, the region secured 61 separate project successes, accounting for 5.6% of all Multi-National Enterprises investments in England. Its performance is considerably improved when considering the number of jobs created as a result of these investments. In 2003-05, the region created an average 10% of all jobs created within England although in 2005/06 this dropped to just over 7%.

Figure 2.13 South West Percentage Share of English FDI by Projects and Jobs 1999-2005, percentages



Source: Invest UK

2.75 Nationally and regionally, FDI has started to increase from its historically low levels in 2001/02. The number of investment projects in the region and in the country has nearly doubled. Jobs levels nationally have however remained stagnant leading to the conclusion that nationally multi-national investments are less about large scale manufacturing employment investments and more about smaller service based investments. The South West has bucked this trend and is still creating investments with large numbers of jobs. Due to the small population size, however, single large investments can considerably influence the figures. Research into the determinants of FDI into the

South West concluded that investment in physical infrastructure and the structure of the economy both contributed to a Multi-National Enterprise's decision to locate to the region⁽¹²⁾.

Innovation

2.76 Innovation within a region relates to the 'successful exploitation of new ideas' which includes the ability to introduce new products and processes, ultimately leading to higher rates of productivity and

11 Girma and Wakelin (2000) Are there regional spillovers from FDI in the UK?

12 Damian N. Whittard and Don J. Webber (2003): Why Do Foreign Firms Invest in the South West?

faster rates of growth. Innovation is difficult to measure but two primary indicators for innovation are expenditure on R&D and patent applications.

Research and Development

2.77 Research and Development (R&D), successfully commercialised, is a very effective way of creating competitive advantage and can translate into considerable productivity gains. In 2003, total expenditure in the region was approximately £1.8 billion, equating to 10% of the English total. Regional R&D expenditure grew by 33.4% in nominal terms in 1999-2003 compared to 19.6% nationally.

2.78 In 2003 the South West spent proportionately more on R&D as a percentage of GVA than the England average. Only the East and South East regions spent more as a proportion of GVA. Expenditure regionally, was made up of 76% from the business sector, 13% from the Government sector and 11% from the higher education sector.

2.79 R&D expenditure rates were greater regionally than nationally in the business and Government sectors but below the national average for the higher education sector. The Government's drive to concentrate higher education research capacity in fewer numbers of centres of excellence may further impact negatively on South West research institutions. Overall, regional R&D rates rose by 8.8% in 1999-2003; increasing the proportion the region spends on R&D from 2.3% to 2.5% of GVA.

2.80 Business sector R&D expenditure data is available until 2004. At which time businesses in the region invested £1.36 billion in R&D. This was a nominal increase on the previous year. Due to GVA growing at a faster rate, however, the index fell from 1.8% in 2003 to 1.7% in 2004; this was still some way in advance of the English average.

Patent Applications

2.81 Patent applications are an alternative measure of innovation. Eurostat data is available at the UK, regional and NUTS2 specification. In 2003, South West England produced approximately 75 patent applications per million labour force; the UK national average was 121 although the figure is heavily biased upwards by results from the 'Greater South East'. The South West recorded the lowest patent application rates of the nine English regions. Businesses in the Gloucestershire, Wiltshire and North Somerset sub-region were the most

innovative, as measured by patent applications, registering 101 patent applications per million employees.

2.82 All the other three NUTS2 sub-regions were some way below the South West average. Cornwall and the Isles of Scilly recorded the lowest; 39 patent applications per million employees. The innovation divide can partly be explained by the productivity differential between the north/east and south/west sub-regions of the region. Productive companies achieve a virtuous circle; productivity gains are translated into increased profits, leading to greater investment in innovation, resulting in improved productivity and greater profitability.

2.83 High-Tech Patent Applications⁽¹³⁾ - Possibly a better measure of innovation is the regional share of high-tech patent applications, again presented as per million labour force. The South West does better when evaluated using this measure (20 per million labour force), ranking 5th of the nine English regions. The region still performs behind the UK average for all high-tech sectors (24) due to high application rates from the 'Greater South East'. Of the six separate high tech groupings, the South West outperforms the UK high tech patent rate for 'aviation' cementing the region's comparative advantage within this sector.

2.84 Sub-regionally, the pattern follows that for all patents; higher in the north and decreasing in the south and west. Gloucestershire, Wiltshire and North Somerset are the only sub-region to outperform the South West average. Dorset and Somerset, however, do have higher than average rates in 'computer and automated business equipment' and 'aviation'. In part, this may be due to a small number of world class organisations operating in this sector such as Cobham, Sunseeker and Augusta Westlands. Overall, the region's innovation capacity is somewhat fragmented and a contributing factor to the South West's productivity gap.

Enterprise

2.85 Enterprise refers to the risks taken by business when organising the factors of production; land, labour and capital. It is difficult to capture but it can be measured by the number of business start ups, deregistrations and stock within a region. Due to data availability, this is usually measured by the stock or flow of businesses registering for Value Added Tax (VAT)⁽¹⁴⁾. Due to the industrial composition of businesses within the South West, a predominance of micro and small and medium sized enterprises (SMEs) relative

13 High-tech industries are computer and automated business equipment, micro-organism and genetic engineering, aviation, communication technology, semiconductors and laser.

14 Businesses with over £60,000 turnover must register for VAT

to the national average, the number of business start ups and deregistrations are likely to be considerably higher than that just reported in the VAT registration/deregistration rate.

2.86 New enterprise or new business formation increases productivity through competitive pressures and innovation, bringing new products and processes to the market. Business stock is a measure of overall levels of entrepreneurial activity. Finally, good survival rates can be taken as a proxy for competitive and healthy business and also may indicate potential for future business growth. Growing businesses in general tend to become more productive due to economies of scale.

VAT Registered Businesses

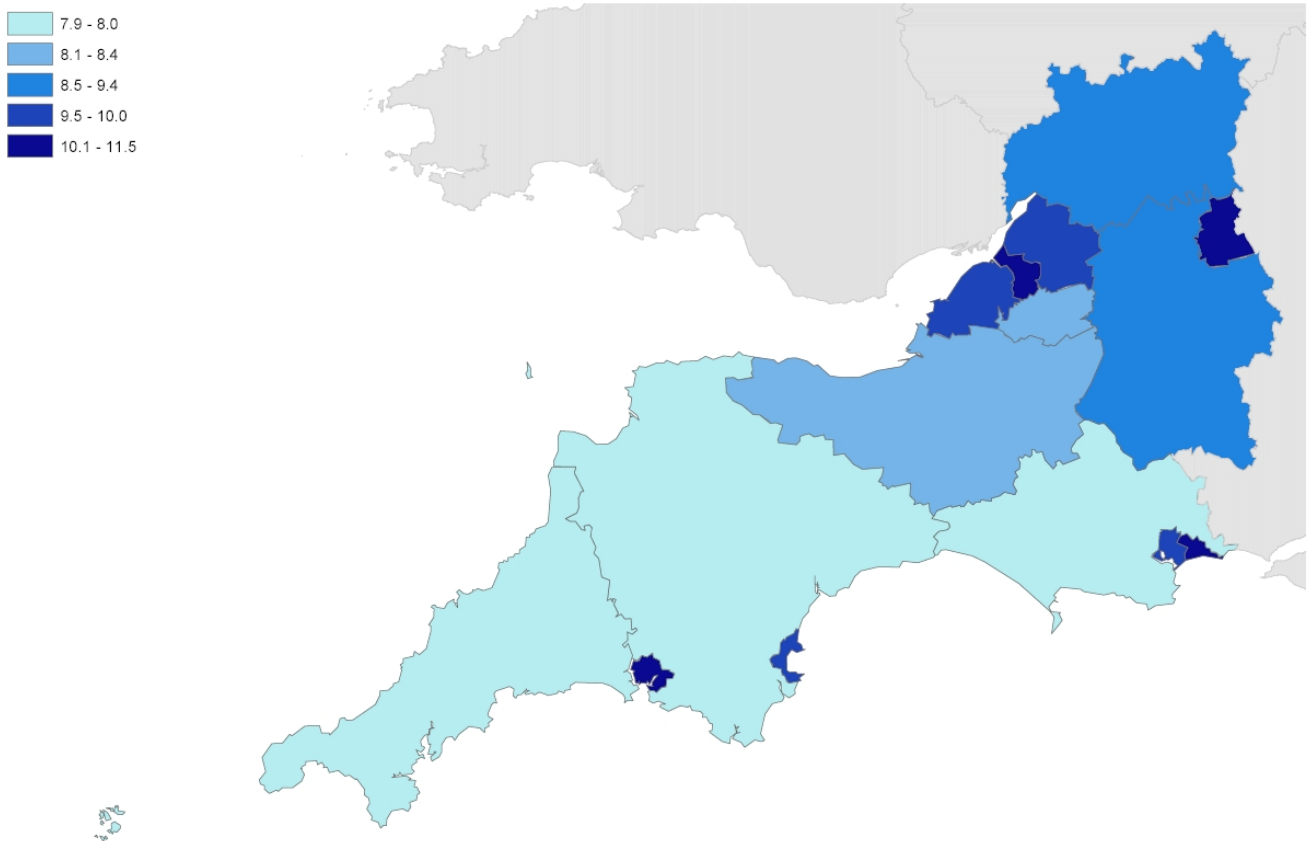
2.87 South West England had over 170,000 VAT registered businesses at the beginning of 2005, equating to around 11% of the English total. In 2004, the last data for registrations and deregistration, business stocks generally stagnated. Just over 15,000 new businesses were created regionally (slightly higher than deregistered businesses), leading to a nominal increase of business stock of just 0.2%. This was the fifth highest increase of business stock of any English

sub-region and above the English average of 0.16%. West Midlands and London experienced a contraction of business stock during this period.

2.88 Since 1999 the South West has had the lowest regional rate of business registration and deregistration as a proportion of business stock. It is uncertain as to whether the low 'churn' rates indicate a lack of entrepreneurship as the region also benefits from comparatively high rates of business stock (per head) - the South West has higher rates of regional stock than every other region except the 'Greater South East'. Further work is needed to explore this issue in the absence of any clear evidence.

2.89 The urban areas of Plymouth, Swindon, Bournemouth, Bristol and Poole all benefited from high rates of business start ups but also experienced the highest rates of business deregistration. Poole was the only one of the five urban areas to experience a reduction in business stock (-0.1%). These higher rates of business registration and deregistration are examples of business 'churn' from competitive pressures which is most visible in the main urban areas of economic activity. Many of the South West's rural counties such as Devon, Dorset and Somerset experienced comparatively low rates of registrations and deregistration.

Figure 2.14 VAT Registrations as a Proportion of Business Stock 2004, percentages



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Source: Small Business Service, DTI

2.90 Business survival rates for start up companies after one year and three years give an indication of a region's level of entrepreneurship and a future indication of business growth. South West England performed well on these measures, ranking first of all English regions.

Competition

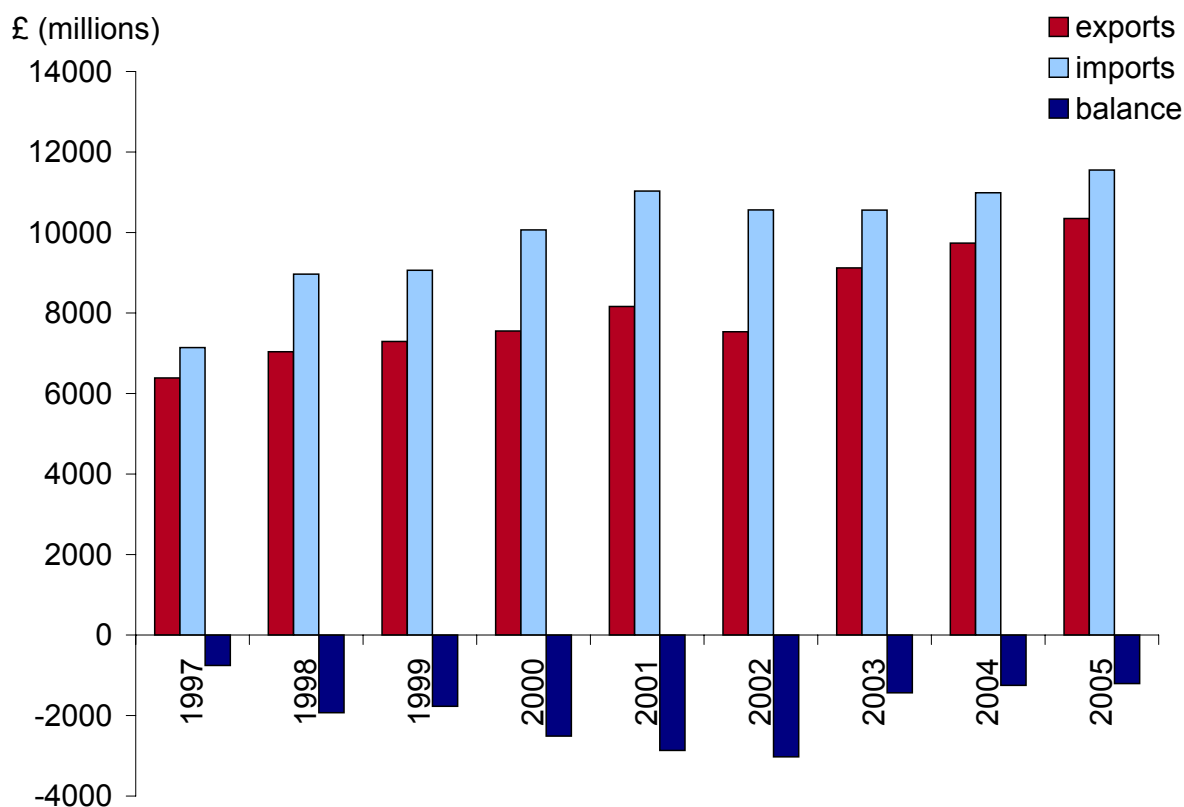
2.91 Competition provides the incentive for a firm to become more efficient and hence more productive. Competitiveness is affected by a number of factors such as barriers to entry, number of competitors, properties of the goods and services traded and geographic location. Goods and services that are easily transported face more intensive competition than goods and services that are localised. Urban areas with high densities are likely to be exposed to higher rates of competition and potential competition.

Trade

2.92 International trade is a mechanism whereby a company can develop its competitive advantage and become more productive by exposing its business to international cost pressures. Concerns have been raised about regional trade statistics firstly due to the measurement of services being inadequate and secondly to the attribution of international trade statistics to specific regions. Regions which have more company headquarters are likely to have higher rates of regional trade because international trade is not attributed to the point of production.

2.93 Since 1997, the region has consistently had a trade deficit due, in part, to the growth in offshore manufacturing leading to cheaper imports. Since 2002, the level of deficit has fallen as exports increased at a faster rate than imports. This growth in exports was driven primarily by a leaner and more productive manufacturing industry as a result of industrial restructuring.

Figure 2.15 South West Trade Flows 1997-2005, £

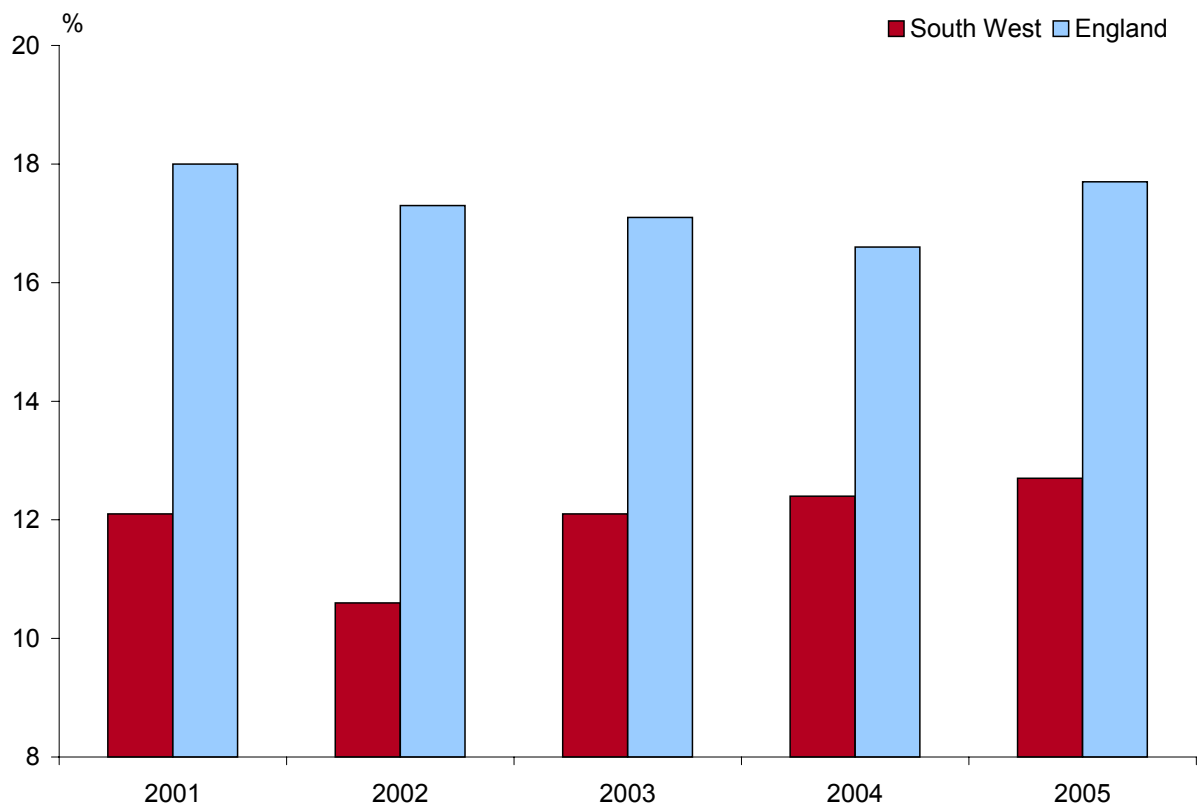


Source: Regional Trade Statistics, HM Revenue & Customs

2.94 UK trade information statistics report that the South West had a relatively high number of companies trading internationally in 2005 - just over 5,600 companies which accounted for 8% of the national total. The growth in the number of companies exporting rose by an annualised rate of 5.4% between 1997-2005, the largest of any region. Nationally, the annualised growth rate was 3.3%. South West England, however, has a relatively low level of output traded internationally⁽¹⁵⁾. In

2005, the region exported £10.3 billion equating to just 6.5% of the total value of English exports, only proportionately more than the North East. On value of exports per employee, however, the region is ranked bottom of all regions, £4,755 compared to £7,073 nationally. International exports, as a proportion of GVA, were lowest of all English regions. The figure illustrates that the export/GVA rate was nearly a third lower regionally than nationally.

Figure 2.16 Value of Goods Exported as a Proportion of GVA 2001-2005, percentages



Source: DTI, HM Revenue & Customs, Short Term Employment Survey, ONS

2.95 Recent performance has improved with the South West's share of exports growing from 5.6% in 2002 to 6.5% in 2005, although dropping from a high of 6.8% in 2004. Regional international trade as a proportion of the population has grown by an annualised rate of 4.6% since 2001, the third highest growth rate of any English region. International trade as a proportion of GVA increased year on year; from a low of 10.6% in 2002 to the high in 2005 of 12.7%.

2.96 Export Destination - The largest market both nationally and regionally unsurprisingly is the European Union (EU), to where the South West sends over 60% of its exports.

2.97 Exports by Broad Grouping - The region's main export sector is 'machinery and transport equipment' which contributed 64% of the export share and 49% of the import share in 2005. Two of the South West Regional Development Agencies priority sectors, advanced engineering and marine technologies are significant contributors to these export rates. The degree of export specialisation reflects the region's comparative advantage. This level of specialisation,

however, does expose the region to considerable risk of adverse conditions affecting these key markets and strategic decisions of the major employers.

2.98 Small and Medium Enterprises Trading Internationally - According to the Small Business Survey (2005), 13% of SMEs in the region were exporting compared to 17% across the United Kingdom. Sub-regionally, the picture was more varied. Six sub regions exported more than the UK average and nine less. Generally, businesses located in the northern and eastern areas of the region were more likely to export. Businesses located in Wiltshire and Swindon were almost twice as likely to export as the average UK business. Wiltshire and Swindon's connectivity to London and its high quality manufacturing and service base contribute to its international success. The noticeable exception in the northern regions was the West of England. This was partially explained by the sub-regions high dependency on service sector employment and the roles of these companies in servicing local Multi-National Enterprises, particularly in the aerospace industry. In general the South West performs relatively poorly in terms of international trade, and this may go some way in explaining the productivity gap.

Conclusion

2.99 The regional economy has generally mirrored the national economy, which has gone through a period of sustained growth and restructuring. Recently, levels of output and incomes growth have slowed and the unemployment rate has risen.

2.100 The South West remains, however, a comparatively wealthy and productive region, particularly compared with the English regions outside the 'Greater South East'. Although rates are slowing, the region continues to raise its level of economic output, create additional jobs and increase incomes. The region can boast a diverse economy with a highly productive manufacturing sector, highly productive urban areas in the northern part of the region, whilst some of the least productive sub-regions are recording high rates of productivity growth. Industry is dominated by the service sector of which business services and public administration have experienced large growth in employment and output, as has construction. The region also benefits from a skilled workforce, a high level of business stock and high rates of investment in R&D.

2.101 Part of the South West's success is measured in the fact that it has attracted relatively high rates of inward migration. This population growth can fuel regional economic and productivity growth particularly in the medium and long term. The short term effect, however, of this inward migration is to suppress productivity growth as population grows at a faster rate than output.

2.102 The challenge for the South West is that performance levels are inconsistent throughout the region and across industrial sectors. Productivity rates are in general somewhat behind the best performing regions of England and are considerably worse in some of the rural and peripheral areas. Manufacturing has suffered some considerable job losses in recent years due to competitive pressures. The region in general suffers from historically low levels of capital investment, has deficiencies with some basic and high level skills and relatively little output exported overseas, concentrated in a few sectors, particularly aerospace. Finally, time/distance, reflecting the geography, infrastructure and demographic distribution of the peninsula, is a key factor in the South West economy's relative and absolute performance.