

# PRODUCTIVITY GROWTH IN THE HEART OF THE SOUTH WEST

PART OF THE EVIDENCE BASE  
UNDERPINNING THE HEART OF THE  
SOUTH WEST  
LOCAL INDUSTRIAL STRATEGY

*Document 004*

**Productivity growth in the  
Heart of the South West:**  
A Technical Paper

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## SUMMARY

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This document has been produced to support the development of Heart of the South West (HotSW) Productivity Plan. It is designed to supplement the Productivity Plan Green Paper <http://www.torbay.gov.uk/devolution> providing evidence to guide discussions and to inform responses to the questions asked in that paper.

As productivity measures are derived from estimates of the size of the economy, any discussion about the former is best rooted in an understanding of the trends and drivers of economic growth as a whole.

### **Economic output**

Estimates from the Office for National Statistics (ONS) suggest that the Gross Value Added (GVA) in HotSW LEP area economy was £33,320 million in 2014<sup>1</sup>. In economic terms, it is one of the largest non-metropolitan LEPs outside of London and the South East region, ranking 14th out of 39 LEP areas. Its economy is similar in size to those of the Thames Valley Berkshire (£34,506m), New Anglia (£33,894m), Hertfordshire (£32,753) and Sheffield City region (£32,328) LEP areas.

Of the 15 local authority areas within HotSW, Plymouth (16%) and Exeter (16%) have the largest economic output. The five local authorities of Somerset (32%) together generate a similar level of output to the seven local authorities of Devon *excluding Exeter* (31%). Torbay accounts for 6% of the LEP area's economic output.

### **Economic growth**

Nationally, the fastest growing LEP economies 2008 and 2014 were centred around London or within a triangle extending down the M4 corridor to the West of England, north along the M5 and M1 to the Derby, Derbyshire, Nottingham and Nottinghamshire and back southwards to London down the A1 (M) via the Greater Cambridge and Greater Peterborough LEP area.

Encouragingly, in 2013 the HotSW economy returned to its pre-recession size, though the nature and scale of the recovery has played out differently across the patch. Some areas - South Hams, Torbay and Mid Devon - have yet to return to pre-recession levels of economic output. Growth has been weaker than the national average in the most parts of the LEP. The exceptions were the relatively strong performing economics of Exeter and East Devon, Torridge, Sedgemoor and Mendip. As is the case nationally, the average annual growth rates recorded between 2007 and 2015 are lower than those recorded between 2000 and 2007.

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<sup>1</sup> GVA is a measure of the value of goods and services produced in an area, industry or sector. It is measured by taking the value of all outputs produced (e.g. turnover of a company) minus intermediate consumption (such as bought in goods and services that appear in the GVA data for another region or company).

## Productivity

In terms of productivity, HotSW is one of the least productive LEP areas in the UK. In 2015, GVA per hour worked in HotSW was 13% lower than the UK average<sup>2</sup>.

As might be expected, productivity is highest in London and its environs (including the Thames Valley Berkshire, Buckinghamshire Thames Valley, Enterprise M3 and Coast to Capital LEP areas).

Nonetheless, the productivity gap between HotSW and the UK has narrowed since 2011. The national picture, of below-trend productivity growth since the economic crisis, is also evident locally. Nationally, the average annual rate of productivity growth between 2009 and 2015 was less than half that recorded between 2000 and 2007. Within the HotSW, the only areas demonstrating stronger rates of productivity growth after the recession than before were Plymouth and Exeter.

Before the recession, economic growth across HotSW and the UK was mainly productivity driven (especially in Sedgemoor, South Somerset and Plymouth) evidenced by employment levels tended to grow considerably more slowly than economic output.

During the recovery, economic growth appears to have been more employment driven than hitherto, although some local authority areas such as Exeter, Plymouth, Sedgemoor, Torridge and West Devon seem to have bucked this trend.

Productivity varies significantly from sector to sector. HotSW has high concentrations and volumes of employment in a number of low productivity sectors, including Arts, entertainment & recreation; Accommodation and Food Services; and Human health & social work (including care). The proportion of HotSW's employment that is found in a number of highly productive sectors, such as Financial services and Information & communication, is also lower than average. The sectors with the fastest productivity growth over the last fifteen years have been: Mining & quarrying; Agriculture, forestry & fishing; Administrative & support services; Information & Communication; Wholesale & retail and Professional, scientific & technical activities. HotSW experienced a larger than average decline in productivity in Arts, entertainment and recreation; Education; and Water, waste and sewage management.

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<sup>2</sup> Data from the HotSW LEP Economic Model based on 2013 prices shows an even larger gap, at 16% for 2015.

## INTRODUCTION

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This report examines headline indicators of economic and productivity growth for the HotSW LEP and its constituent local authority areas. It has been produced as part of an evidence base, created to inform the development of a Productivity Plan for the HotSW LEP area.

The report comprises two substantive chapters:

- The first chapter examines the LEP's performance in terms of economic growth, comparing the size of the HotSW LEP economy with that of other LEP areas and examining how this has changed over time.
- The second chapter seeks to determine the extent to which economic growth can be attributed to rising employment levels or gains in productivity. In so doing, it examines productivity levels across the LEP area and how these have changed over time.

It is worth noting that the pursuit of 'growth' and the pursuit of 'productivity growth' are different. Growth can be achieved either by:

- Increasing the size of the population or the proportion of the population that is in employment or the number of hours each person works; or
- increasing the value or volume of outputs that each person produces per day or per hour (i.e. by increasing productivity).

Increasing the number of people who are employed does not, of itself, increase productivity. It might, but it depends on the type of job the new employees are doing, how they do it, where they do it and whether they are more productive than the average employee. This in turn depends on factors such as individuals' skills, the industrial sector they work in, the capital intensity of their workplace, the price-sensitivity of the goods they produce and so on. These drivers of productivity and how we might improve them, are the focus of the Green Paper.

Economic output is normally reported in terms of the unit 'Gross Value Added' (GVA), which is measured by assessing the value of all outputs produced in an area, industry or company minus the intermediate consumption, i.e. the value of the goods and services that are bought in and are part of the GVA of another region or company. Productivity is estimated by dividing GVA by a measure of labour input, such as jobs or hours worked.

The Office for National Statistics publishes GVA estimates at current basic prices which include the effect of inflation. The fact that inflation is included means that it is not possible to identify the underlying growth in output from these estimates. The Heart of the South West LEP Economic Model, produced by Oxford Economics,

provides an alternative source, based on official estimates but calibrated in terms of 2013 prices, which effectively strips inflation out to reveal the underlying change in economic output.

As productivity measures are derived from estimates of the size of the economy any discussion on productivity is best rooted in a sound understanding of trends in and drivers of economic growth as a whole.

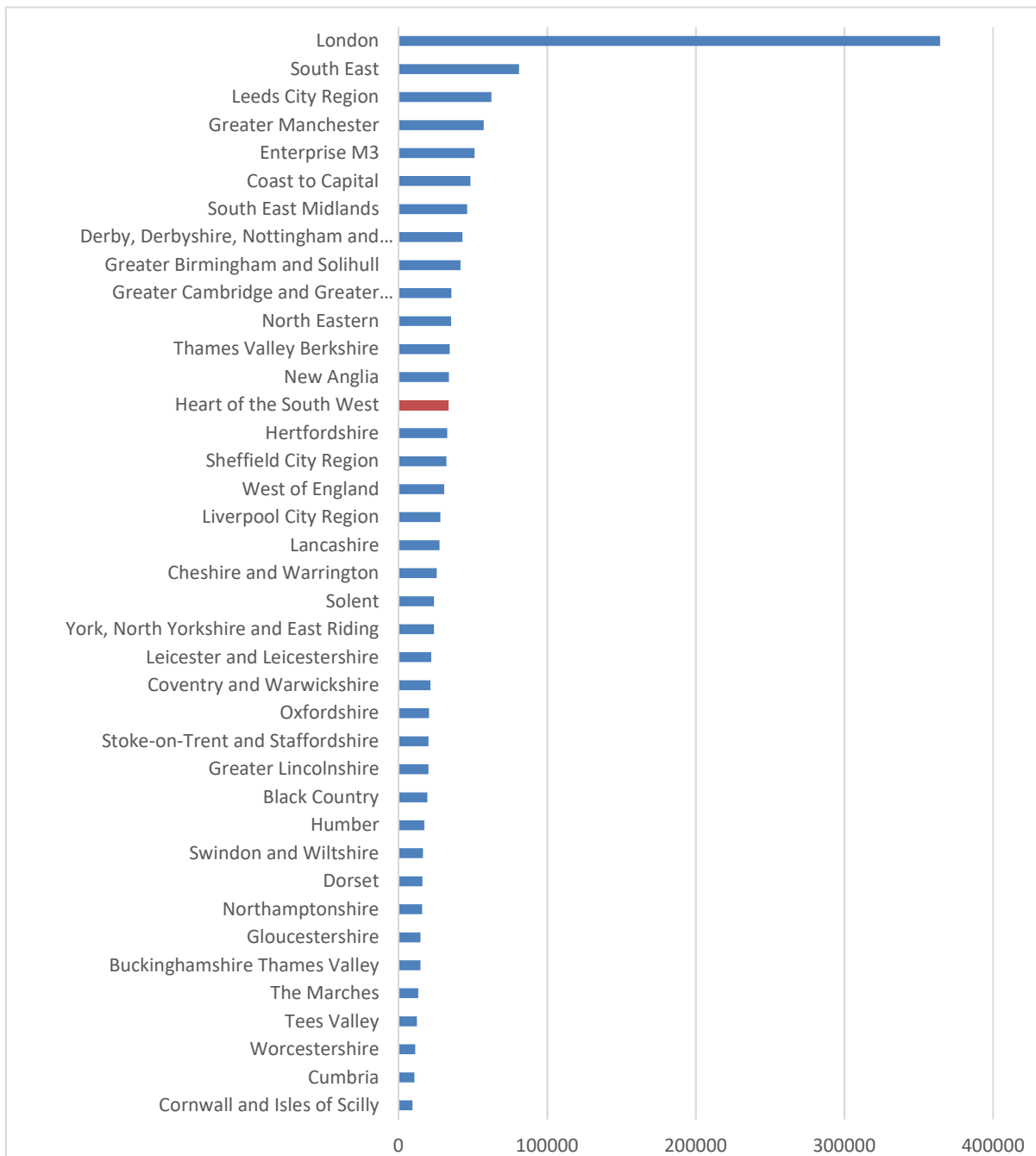
The first section of this report uses both these data sources to explore: firstly, estimates of the current size of the HotSW economy relative to other LEP area economies and the contributions of constituent local authority areas; and secondly, explores trends and patterns in economic growth.

# 1. ECONOMIC GROWTH

## 1.1. Economic output

ONS estimates put the GVA of the HotSW LEP area at £33,320 million in 2014. HotSW is one of the largest non-metropolitan LEPs outside of London and the South East. Among the 39 LEPs it ranks 14th overall and is of similar size to the Thames Valley Berkshire (£34,506m), New Anglia (£33,894m), and the Sheffield City region (£32,328) LEPs. The scale of London's contribution to national output is also evident in Figure 1.

**Figure 1** Gross Value Added by LEP area: 2014



Source: ONS



The HotSW LEP Economic Model generates estimates of GVA for the lower tier local authority areas within the HotSW LEP (Table 1). According to the model, the HotSW LEP area generated £32,665m in GVA in 2015<sup>3</sup>.

Table 1 shows that the administrative geographies of Plymouth and Exeter are the two largest 'economies' within the HotSW LEP. They are of similar size and together account for almost one-third (31%) of output in the LEP area.

**Table 1 Gross Value Added: local authorities within HotSW, 2015**

Lower tier local authority	GVA, £m	Share of HotSW GVA, %
<b>Plymouth</b>	5,081	15.6
<b>Exeter</b>	5,051	15.5
<b>South Somerset</b>	3,276	10.0
<b>Taunton Deane</b>	2,403	7.4
<b>East Devon</b>	2,127	6.5
<b>Mendip</b>	2,028	6.2
<b>Torbay</b>	1,992	6.1
<b>Teignbridge</b>	1,958	6.0
<b>Sedgemoor</b>	1,877	5.7
<b>North Devon</b>	1,824	5.6
<b>South Hams</b>	1,613	4.9
<b>Mid Devon</b>	1,071	3.3
<b>Torridge</b>	828	2.5
<b>West Somerset</b>	780	2.4
<b>West Devon</b>	756	2.3
<b>HotSW</b>	32,664.5	100.0
<b>Devon County (excluding Exeter)</b>	10,177.0	31.2
<b>Devon County (including Exeter)</b>	15,228.1	46.6
<b>Somerset County</b>	10,363.5	31.7

Source: Heart of the South West LEP Economic Model, Oxford Economics

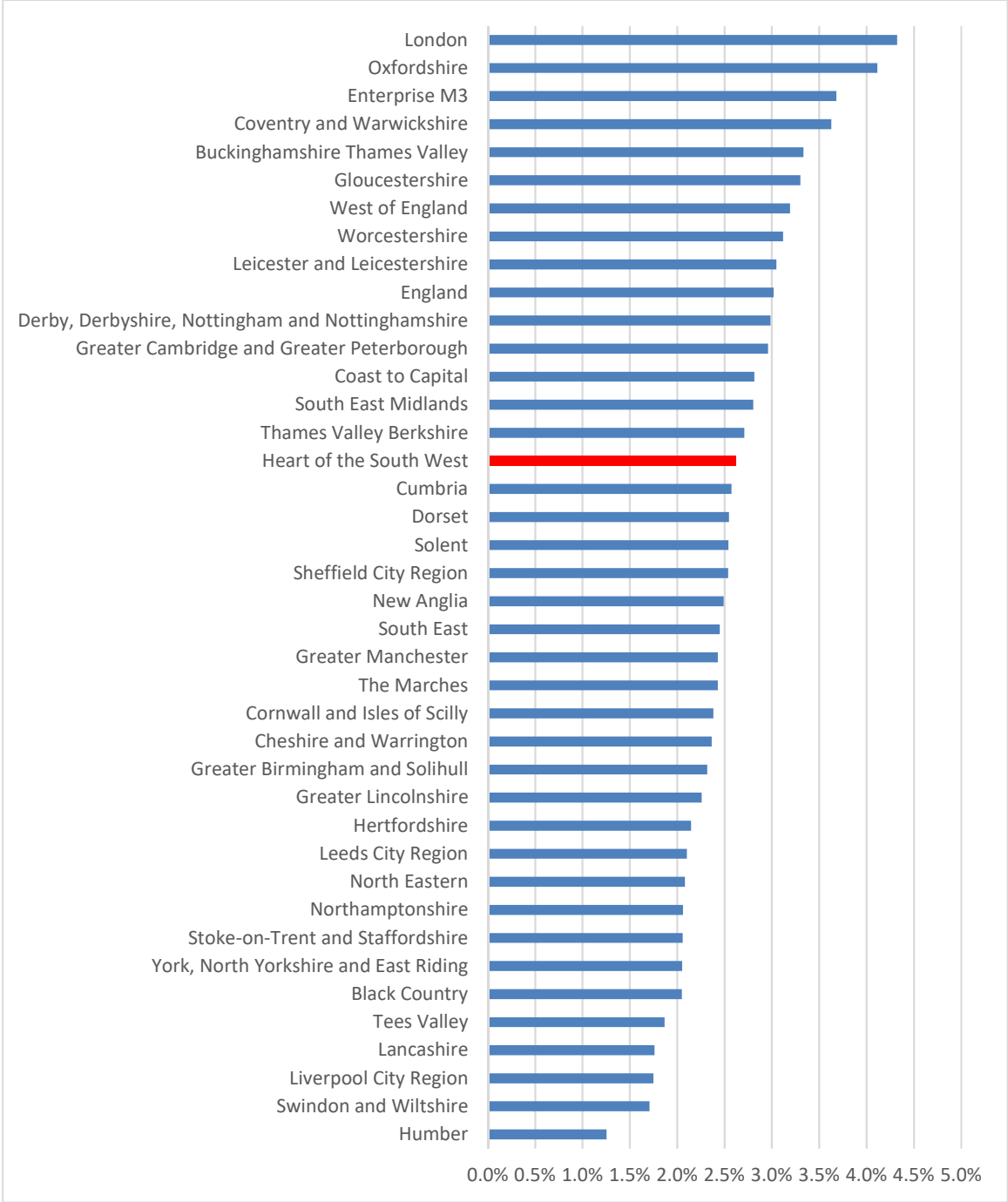
## 1.2. Economic growth

The ONS data shows the HotSW economy growing by 2.6% per annum between 2008 (the pre-recession peak) and 2014. HotSW was the 16<sup>th</sup> fastest growing LEP over this period, attaining a rate of growth slightly below that of the fastest growing economies. These fast growing economies centred on London and the M4 corridor (principally Oxfordshire and Enterprise M3) and a broader group of LEP areas that form a triangle extending down the M4 corridor to the West of England, north along

<sup>3</sup> This is lower than the ONS estimate for 2014 because it is published at 2013 prices.

the M5 and M1 to the Derby, Derbyshire, Nottingham and Nottinghamshire and back southwards to London down the A1 (M) via the Greater Cambridge and Greater Peterborough LEP area.

**Figure 2 Average annual growth rates by LEP area: 2008 to 2014**



Source: ONS

An assessment of the patterns of growth within HotSW over time and within the LEP's 15 constituent local authority areas reveals three broad trends (shown in Figure 3 and Table 2).

1. Rapid growth, faster than the national average between 2000 and 2007 (3.5% per annum compared to 3.1% for the UK), but with rates slowing and trailing the national average during the last three years of this period.

North Devon (5.7%), West Devon (5.3%), South Hams (5.1%), Sedgemoor (5.1%), Exeter (4.7%) and Mid-Devon (4.3%), were the strongest performers.

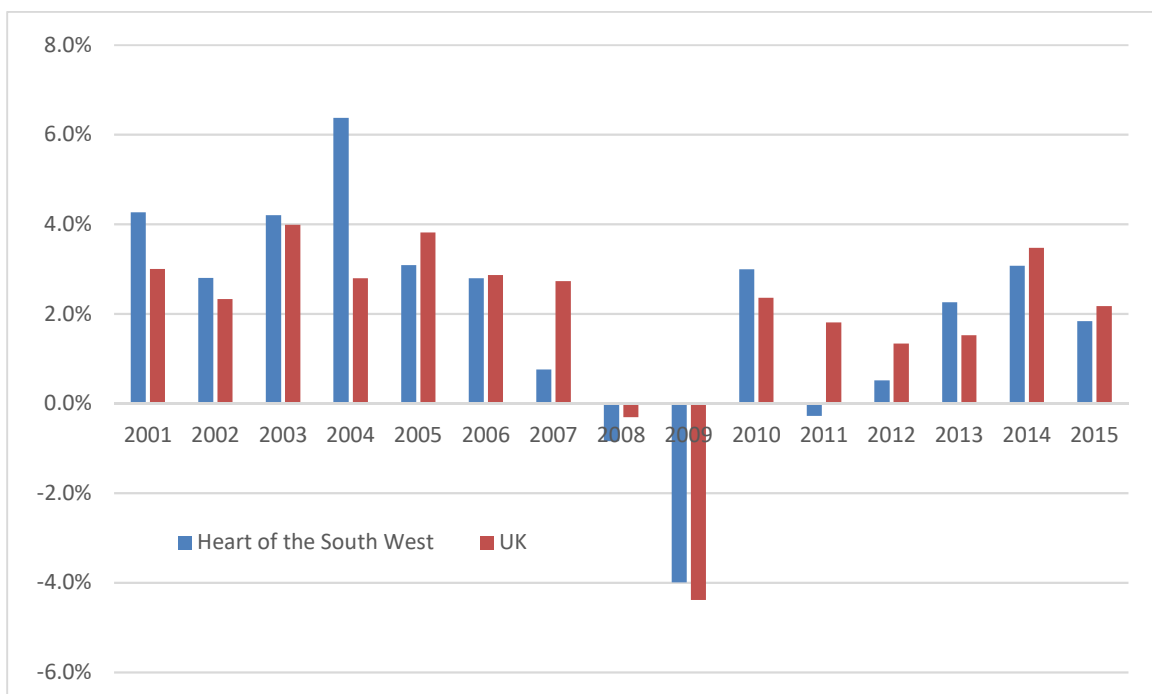
2. Recession between 2007 and 2009 with the severity of the contraction (2.4% per annum) matching that of the UK (2.4%).

Exeter was the only lower tier local authority area to avoid recession during this period<sup>4</sup>. Output contracted most in percentage terms in Plymouth (-5.4%), Sedgemoor (-5.0%), Torbay (4.7%) and Teignbridge (-4.5%) and mid-Devon (-4.3%).

3. Sporadic recovery between 2009 and 2015. The LEP economy grew relatively strongly during the immediate aftermath of the UK recession but contracted marginally between 2010 and 2011. Growth rates increased year-on-year between 2011 and 2014 but have slowed during 2014 and 2015.

Recovery has been less strong locally (1.7%) than the UK average (2.1%) but strongest in Sedgemoor (3.8%) and Torrridge (3.4%).

**Figure 3** Annual change in GVA: 2000 to 2016



Source: Heart of the South West LEP Economic Model, Oxford Economics

<sup>4</sup> The data suggests that Exeter experienced an early recession, with its economy contracting by 4.4% between 2006 and 2007. This contraction was not big enough to prevent Exeter appearing among the strongly performing economies over the period 2000 to 2007.

Encouragingly, the HotSW economy returned to pre-recession (2007) levels of output in 2013, although the recovery has played out differently across the sub-region. In some areas – the South Hams, Torbay and Mid Devon – output in 2015 had yet to return to pre-recession levels. Economic growth between 2007 and 2015 has also been weaker than the national average in the most parts of the LEP. The exceptions were the relatively strong performing economics of Exeter and East Devon, Torridge and Sedgemoor and Mendip. As nationally, however, average annual growth rates recorded between 2007 and 2015 are somewhat lower than those recorded between 2000 and 2007.

**Table 2 Average annual growth rates in GVA: 2000 to 2015**

	2000 to 2007	2007 to 2009	2009 to 2015	2007 to 2015	2000 to 2015
East Devon	1.9%	-2.1%	2.4%	1.3%	1.6%
Exeter	4.7%	3.8%	1.8%	2.3%	3.4%
Mendip	2.4%	-0.6%	1.7%	1.1%	1.7%
Mid Devon	4.3%	-4.3%	1.2%	-0.2%	1.9%
North Devon	5.7%	-1.4%	1.1%	0.4%	2.8%
Plymouth	2.6%	-5.4%	2.3%	0.3%	1.4%
Sedgemoor	5.1%	-5.0%	3.8%	1.6%	3.2%
South Hams	5.1%	-3.7%	0.0%	-1.0%	1.8%
South Somerset	3.1%	-3.2%	1.5%	0.3%	1.6%
Taunton Deane	3.1%	-2.2%	1.0%	0.2%	1.6%
Teignbridge	3.9%	-4.5%	1.5%	0.0%	1.8%
Torbay	2.4%	-4.7%	1.0%	-0.5%	0.8%
Torridge	2.6%	-2.7%	3.4%	1.9%	2.2%
West Devon	5.3%	-3.7%	1.8%	0.4%	2.7%
West Somerset	1.0%	-0.5%	0.9%	0.5%	0.8%
HotSW	3.5%	-2.4%	1.7%	0.7%	2.0%
Rest of South West	3.2%	-1.5%	1.7%	0.9%	2.0%
South West	3.3%	-1.8%	1.7%	0.8%	2.0%
UK	3.1%	-2.4%	2.1%	1.0%	1.9%

Source: Heart of the South West LEP Economic Model, Oxford Economics

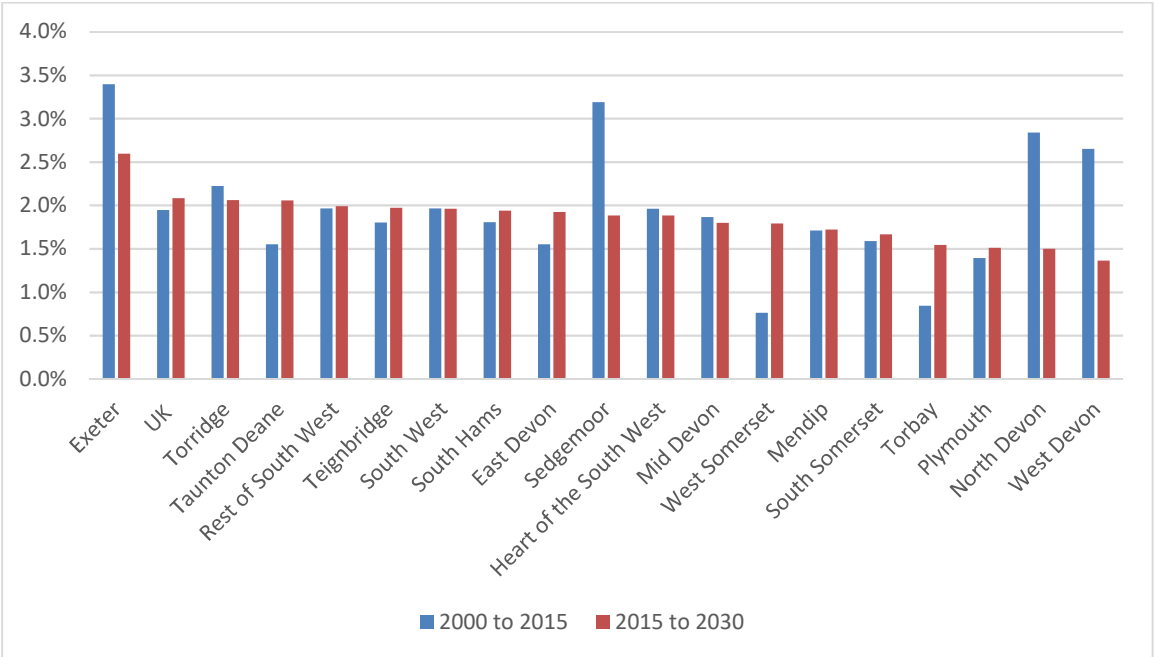
### 1.3. Economic projections

The projections component of the model suggests that the HotSW LEP area will grow marginally more slowly over the next 15 years (1.9% per annum) than it did over the preceding 15 years. Future local growth is also expected to be slightly slower than the UK (2.1%) and rest of South West average (2.0%).

With the LEP area, only Exeter (2.6% per annum) is expected to grow faster than the UK average. Local authorities that grew relatively strongly between 2000 and 2015,

such as Sedgemoor, North Devon and West Devon are not predicted to sustain these growth rates over the next 15 years.

**Figure 4** Historic & projected average annual growth rates

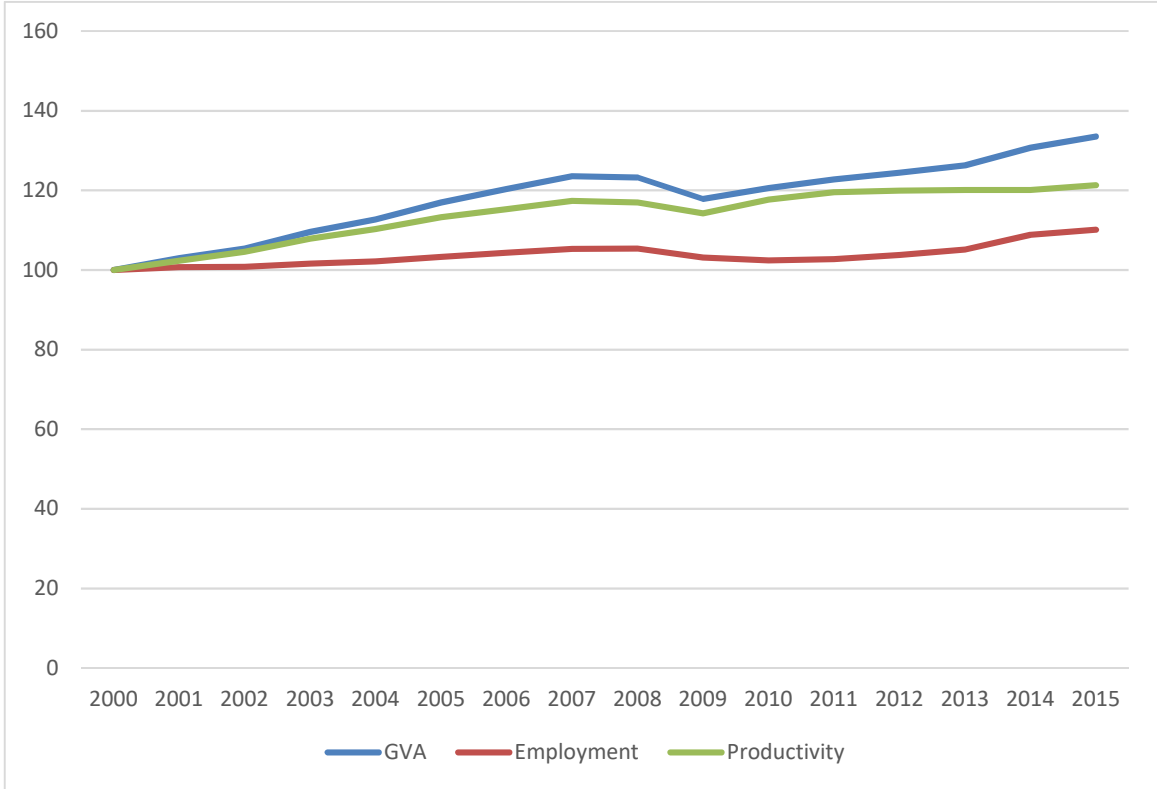


Source: Heart of the South West LEP Economic Model, Oxford Economics

## 2. PRODUCTIVITY GROWTH

As described in the previous section, the total economic output of the UK and HotSW economies has risen since 2009. However, in large part this has been due an increase in the volume of people in employment. Figure 5 shows that before the recession (2000 to 2008) productivity growth (the green line) was a much more significant contributor to total GVA growth than employment growth. Since 2009, and particularly since 2011, the opposite has been true: productivity has increased slowly while a rise in employment has driven overall economic growth. It is worth remembering that these figures include inflation and that in real terms, UK productivity per worker only returned to its pre-recession peak on Quarter 2 of 2016<sup>5</sup>.

**Figure 5 Indexed GVA, employment & productivity growth, UK, 2000 to 2015 (2000=2015)**



Source: Heart of the South West LEP Economic Model, Oxford Economics

The relative stagnation of labour productivity since the recent economic downturn has puzzled many economists. Previous economic downturns have been followed by an initial fall in productivity but with a more rapid return to the previous trend rate of growth.

<sup>5</sup> ONS, UK productivity flash estimate: July to Sept 2016

[www.ons.gov.uk/economy/grossdomesticproductgdp/articles/gdpandthelabourmarket/julytosep2016](http://www.ons.gov.uk/economy/grossdomesticproductgdp/articles/gdpandthelabourmarket/julytosep2016)

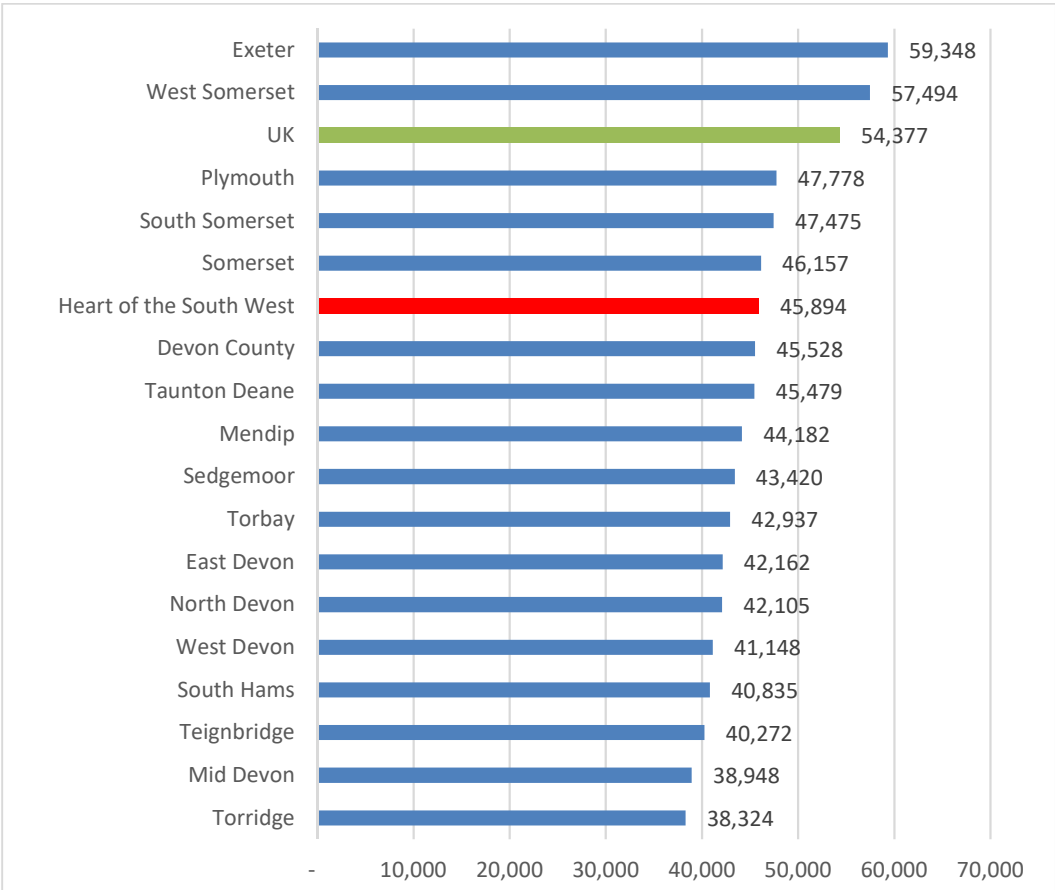
According to ONS, the latest UK productivity data, for Q3 2016, “provides little sign of an end to the UK’s “productivity puzzle”<sup>6</sup>.

**2.1. Current levels of productivity in HotSW**

ONS data shows HotSW having low levels of productivity compared to other LEP areas. GVA per hour worked in HotSW stood at £26.80 in 2014 ranking it 32<sup>nd</sup> out of 39 LEPs. The highest levels of productivity nationally were found in London (£40.10), Thames Valley Berkshire (£39.70), Buckinghamshire Thames Valley (£36.20), Enterprise M3 (£35.90) and Coast to Capital (£33.50).

Within HotSW, productivity varies considerably from £59,300 per full time equivalent (FTE) in Exeter to £38,300 per FTE in Torrige (Figure 6). Only Exeter has productivity that is higher than the UK average (£54,400). The figure for West Somerset includes output from Hinkley Point power station. The energy sector tends to be one of the most productive sectors nationally, but perhaps does not reflect the nature of the economy of that area as a whole.

**Figure 6 Productivity (GVA per FTE) at 2013 prices: 2015**

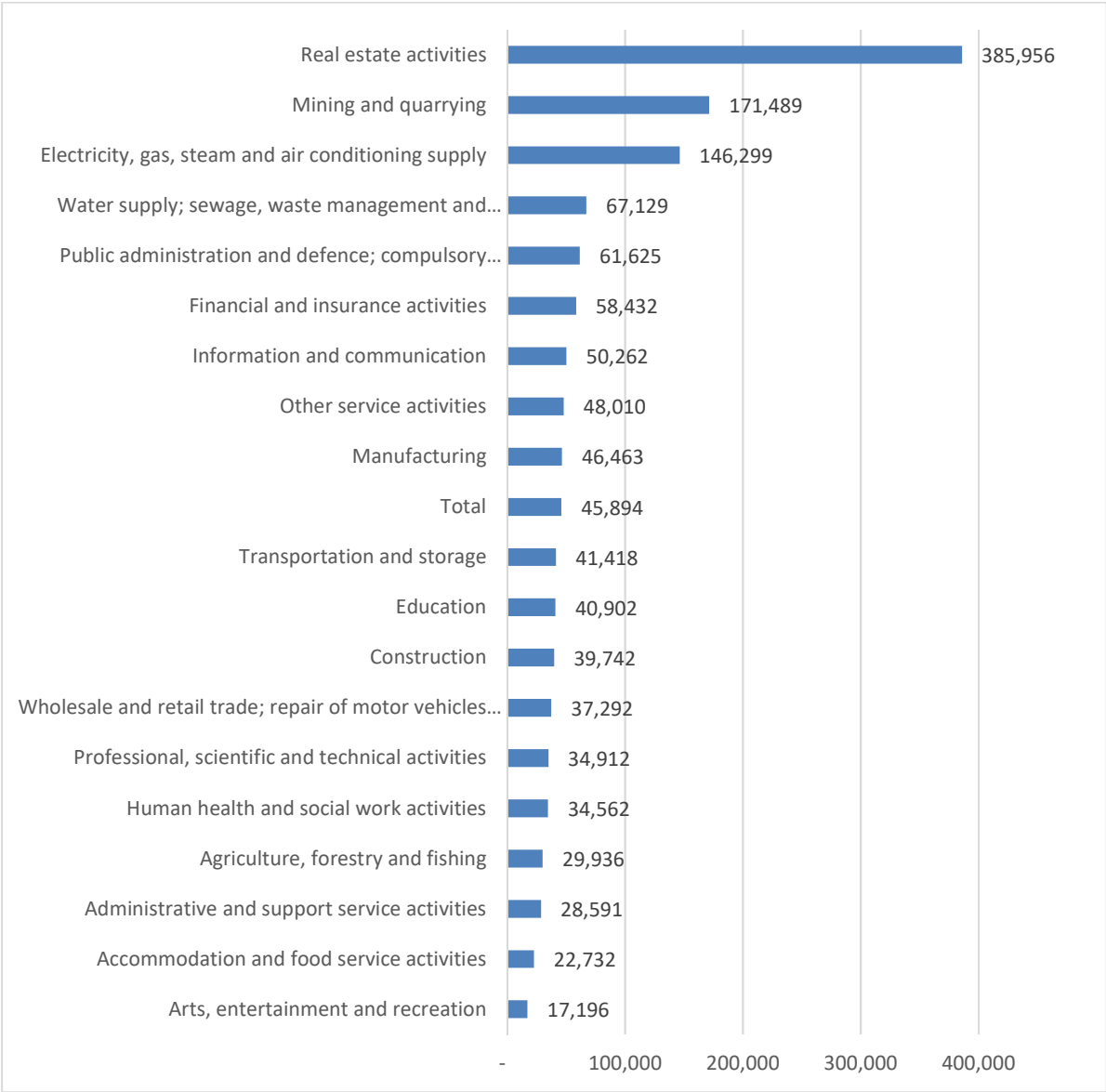


Source: Heart of the South West LEP Economic Model, Oxford Economics

<sup>6</sup> <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/bulletins/labourproductivity/julytosept2016>

Productivity varies considerably by sector (Figure 7) with the highest levels recorded in real estate activities, mining and quarrying and utilities.

**Figure 7 Productivity (GVA per FTE) at 2013 prices by sector: 2015**



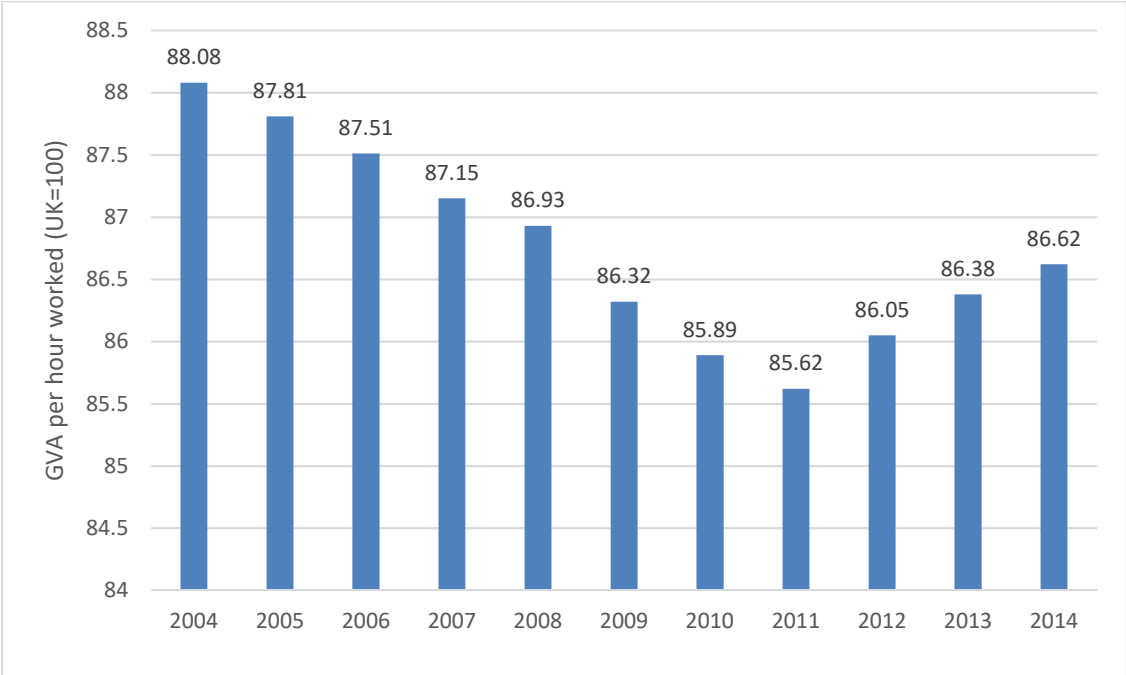
Source: Heart of the South West LEP Economic Model, Oxford Economics



## 2.2. Productivity growth

As ONS estimates of productivity are produced at current prices it is impossible to differentiate real gains from the impact of inflation. However, what is clear from Figure 8 is that since 2011 the LEP area has started to close the 'productivity gap' with the UK, following seven successive years during which the gap widened.

**Figure 8** Productivity in HotSW, 2004 to 2014, Indexed, UK=100,



Source: ONS

Between 2011 and 2014, productivity growth in HotSW averaged 2.2% per annum, compared to 1.8% nationally, the 10<sup>th</sup> fastest rate of productivity growth among the 39 LEP areas. Greater Lincolnshire (3.4% per annum), Worcestershire (3.2%) and Leicester and Leicestershire (2.9%) posted the fastest productivity gains over the last three years.

The ONS data, for county and unitary authority areas, shows little difference in rates of productivity growth across the LEP area. However, modelled data for smaller geographies suggests that the figures for these larger areas disguise significant differences in local productivity trends arising from variations in the industrial structure, knowledge and capital intensity of production in different localities.

### 2.3. Contribution of productivity to economic growth

The HotSW LEP Economic Model publishes estimates of productivity<sup>7</sup> at constant 2013 prices, allowing real changes in productivity to be distinguished from the impact of inflation. Table 3 suggests that while UK productivity grew by 2.4% per annum in real terms in the period leading up to the recession (2000 to 2007) growth during the period of recovery (2009 to 2015) has averaged just 1% per annum, lagging the long-term trend by a considerable margin (this is the so-called 'productivity puzzle'). This picture is also true for HotSW. Across the LEP area as a whole, the average annual productivity growth rate between 2009 and 2015 (1.2%) was considerably lower than that achieved between 2000 and 2007(2.1%).

This trend is replicated across most of the LEP area with the notable exceptions of Exeter and Plymouth. The HotSW LEP Economic Model suggests that both these areas achieved higher rates of productivity growth during the recovery than during the period leading up to the recession. The data for the South Hams and West Somerset is also unusual in suggesting that productivity in these areas continued to fall between 2009 and 2015.

**Table 3 Average annual rates of productivity growth: 2000 to 2015**

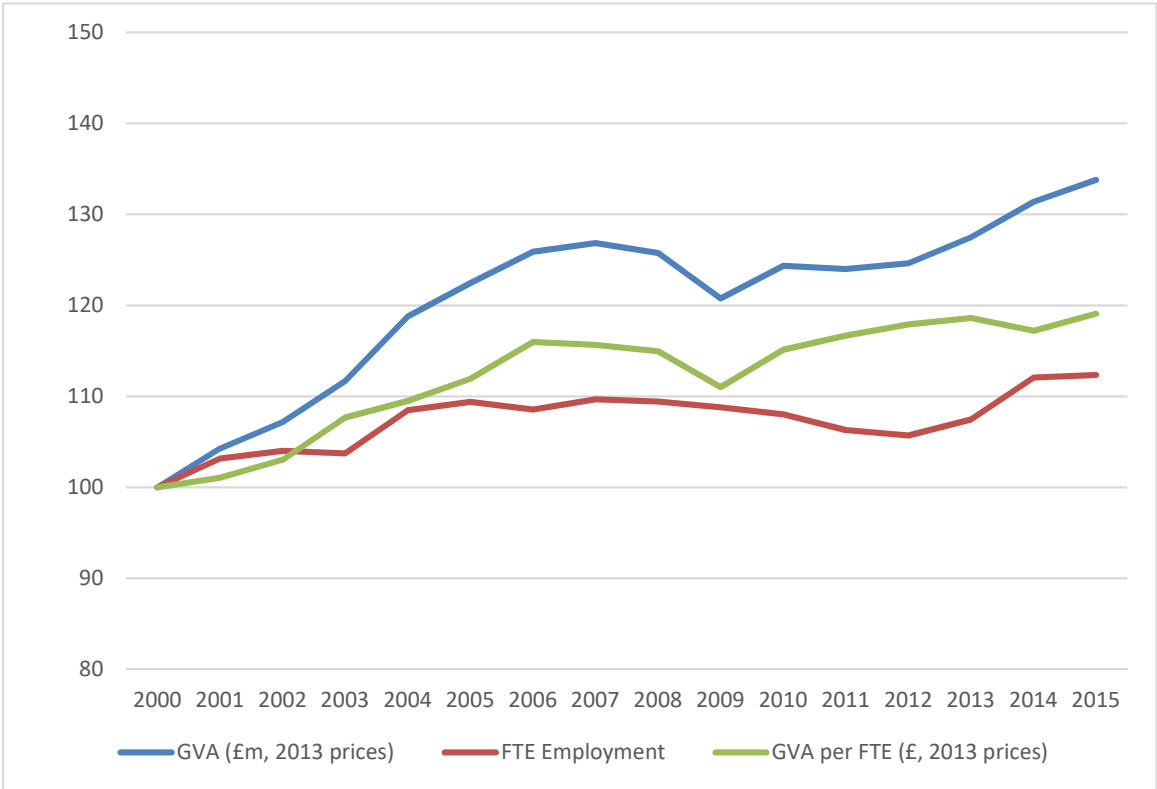
	2000 to 2007	2007 to 2009	2009 to 2015
<b>East Devon</b>	1.0%	-2.5%	0.8%
<b>Exeter</b>	1.4%	-0.5%	2.5%
<b>Mendip</b>	1.7%	-0.9%	0.3%
<b>Mid Devon</b>	2.2%	-2.5%	0.3%
<b>North Devon</b>	2.8%	-1.1%	0.3%
<b>Plymouth</b>	1.7%	-3.3%	2.1%
<b>Sedgemoor</b>	4.0%	-2.9%	2.7%
<b>South Hams</b>	1.9%	-1.8%	-1.2%
<b>South Somerset</b>	2.0%	-1.4%	1.9%
<b>Taunton Deane</b>	2.7%	-1.1%	0.7%
<b>Teignbridge</b>	2.9%	-5.2%	0.0%
<b>Torbay</b>	1.7%	-3.4%	0.7%
<b>Torridge</b>	2.3%	-3.0%	1.8%
<b>West Devon</b>	3.5%	-3.2%	1.8%
<b>West Somerset</b>	2.2%	-1.9%	-0.3%
<b>HotSW</b>	2.1%	-2.0%	1.2%
<b>Devon County</b>	2.1%	-1.9%	0.9%
<b>Somerset</b>	2.4%	-1.4%	1.3%
<b>UK</b>	2.3%	-1.4%	1.0%

Source: Heart of the South West LEP Economic Model, Oxford Economics

<sup>7</sup> Measured in terms of GVA per full time equivalent worker

Figure 9 illustrates the relative contributions that employment and productivity have made to economic growth in the HotSW LEP area. In general employment has grown more slowly than the economy, highlighting the contribution productivity gains have made in driving growth. That said, both economic output and productivity showed very little growth between 2006 and 2013 and since 2012 the greater share of the growth in economic output has been the result of employment growth, rather than productivity gains.

**Figure 9 Economic output, employment and productivity growth in the Heart of the South West LEP: 2000 to 2015 Index 2000=100**



Source: Heart of the South West LEP Economic Model, Oxford Economics

Between 2009 and 2013, in the immediate aftermath of the recession, there was a period during which productivity growth was accompanied by a decline in employment, presumably in less productive enterprises or industries. Some economic theorists argue that this is the way recessions are 'supposed to work', driving out less efficient enterprises, focusing investment on the more competitive companies and generally clearing the ground for the 'green shoots or recovery'. Outside periods of recession, improvements in productivity can also be linked to loss of labour, resulting, for example, from the introduction of new technologies. This raises questions about the potential costs of productivity growth (and structural change more generally) in both short and long term.

Table 4 examines the contribution of employment and productivity to economic growth within the LEP area in the periods preceding and following the recession.

The results suggest that economic growth in Sedgemoor, South Somerset and Plymouth, for example, have been largely productivity driven with employment growing fairly modestly relative to the economy in the three areas. The opposite is true in the South Hams. In Exeter, economic growth in the years immediately preceding the recession was largely employment driven whereas, a contraction in employment<sup>8</sup> in the years immediately following it, means that all recent economic growth can be attributable to productivity gains.

**Table 4 Average annual growth rates in GVA, employment and productivity: 2000 to 2007 and 2009 to 2015**

	2000 to 2007			2009 to 2015		
	GVA (£m, 2013 prices)	FTE	GVA per FTE (£, 2013 prices)	GVA (£m, 2013 prices)	FTE	GVA per FTE (£, 2013 prices)
<b>East Devon</b>	1.9%	0.9%	1.0%	2.4%	1.7%	0.8%
<b>Exeter</b>	4.7%	3.2%	1.4%	1.8%	-0.7%	2.5%
<b>Mendip</b>	2.4%	0.7%	1.7%	1.7%	1.4%	0.3%
<b>Mid Devon</b>	4.3%	2.0%	2.2%	1.2%	0.9%	0.3%
<b>North Devon</b>	5.7%	2.7%	2.8%	1.1%	0.7%	0.3%
<b>Plymouth</b>	2.6%	0.9%	1.7%	2.3%	0.3%	2.1%
<b>Sedgemoor</b>	5.1%	1.0%	4.0%	3.8%	1.1%	2.7%
<b>South Hams</b>	5.1%	3.1%	1.9%	0.0%	1.2%	-1.2%
<b>South Somerset</b>	3.1%	1.0%	2.0%	1.5%	-0.4%	1.9%
<b>Taunton Deane</b>	3.1%	0.4%	2.7%	1.0%	0.3%	0.7%
<b>Teignbridge</b>	3.9%	1.0%	2.9%	1.5%	1.5%	0.0%
<b>Torbay</b>	2.4%	0.7%	1.7%	1.0%	0.3%	0.7%
<b>Torridge</b>	2.6%	0.3%	2.3%	3.4%	1.5%	1.8%
<b>West Devon</b>	5.3%	1.7%	3.5%	1.8%	0.0%	1.8%
<b>West Somerset</b>	1.0%	-1.1%	2.2%	0.9%	1.2%	-0.3%
<b>HotSW</b>	3.5%	1.3%	2.1%	1.7%	0.5%	1.2%
<b>UK</b>	3.1%	0.7%	2.3%	2.1%	1.1%	1.0%

Source: Heart of the South West LEP Economic Model, Oxford Economics

## 2.4. Productivity by sector

Productivity varies considerably by industrial sector. Capital intensive activities such as real estate leasing, mining or electricity generation have much higher levels of productivity than many employment-intensive sectors. Table 5 shows the GVA per full

<sup>8</sup> The estimates of FTE for Exeter suggest that employment in the City fell between 2009 and 2011 and whilst levels have grown strongly since they have not quite returned to the 2009 peak.

time equivalent employee in each sector in HotSW, alongside the proportion of all HotSW employment found in that sector and a 'location quotient'<sup>9</sup> showing extent to which employment is concentrated in that sector, relative to the UK average.

**Table 5: Productivity, employment & employment density by sector, 2015**

	GVA per full time employee	% of employment	Location Quotient
Real estate activities	386,000	2.0%	1.2
Mining and quarrying	171,000	0.1%	0.7
Electricity, gas, steam & air con	146,000	0.3%	0.9
Water, sewage & waste management	67,000	0.9%	1.4
Public administration & defence	62,000	5.0%	1.1
Financial and insurance activities	58,000	1.4%	0.4
Information and communication	50,000	2.4%	0.6
Other service activities	48,000	2.7%	0.9
Manufacturing	46,000	8.8%	1.1
Transportation and storage	41,000	3.2%	0.7
Education	41,000	8.8%	1.0
Construction	40,000	7.5%	1.2
Wholesale & retail trade; repair of vehicles	37,000	15.3%	1.0
Professional, scientific & technical activities	35,000	6.5%	0.8
Human health and social work activities	35,000	15.0%	1.2
Agriculture, forestry and fishing	30,000	2.5%	2.2
Administrative and support service activities	29,000	6.0%	0.7
Accommodation and food service activities	23,000	8.4%	1.3
Arts, entertainment and recreation	17,000	3.3%	1.1
All Sectors	46,000	100.0%	

Source: Heart of the South West LEP Economic Model, Oxford Economics

The table shows that HotSW has:

- higher than average concentrations of employment in Water & sewage management, Real estate activities and Public Administration which, having high GVA per FTE, boosts average productivity for the LEP area;
- low levels of employment in the highly productive Financial and Insurance activities and Information and Communication sectors; and
- high densities of employment in a number of relatively low productivity sectors, including: Arts, entertainment & recreation; Accommodation and Food Services; Agriculture; and Human health & social work (including care), a number of which employ large volumes of people.

<sup>9</sup> Location quotients show whether the concentration of employment in a sector is denser (a score above 1) or rarer (a score below 1) than the UK average.

This data is important as it forms the starting point for a discussion about the scope that may exist for and potential impact of focusing the HotSW Productivity Plan on raising employment in a number of highly productive sectors (or sub-sectors) relative to focusing it on raising productivity across all sectors, or across major employment sectors. This will be explored in more detail in additional Technical Paper looking at the scale of change required to achieve a range of growth scenarios, such as raising HotSW productivity to the UK average.

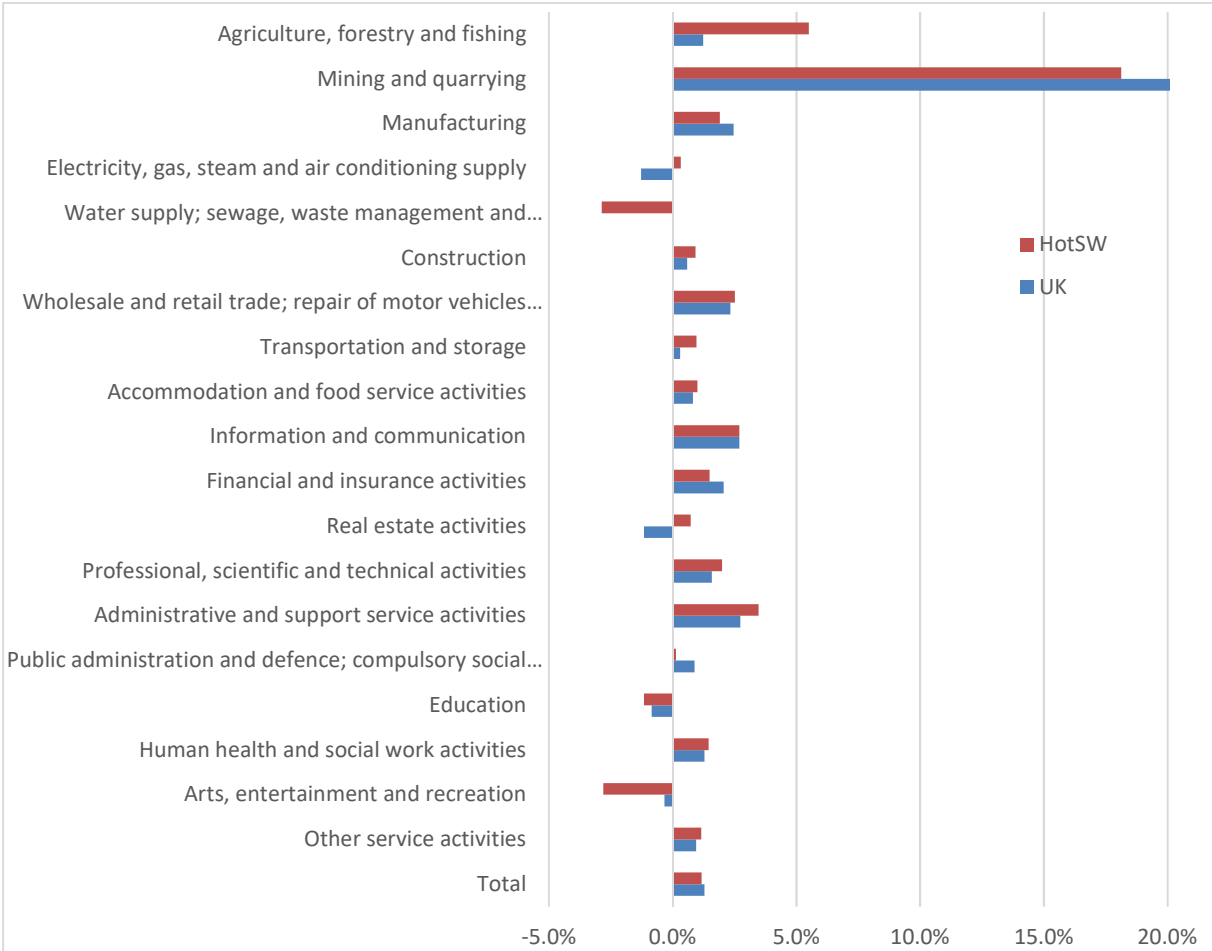
Within HotSW, the sectors with the fastest average annual growth rates over the last fifteen years have been: Mining & quarrying; Agriculture, forestry & fishing; Administrative & support services; Information & Communication; Wholesale & retail and Professional, scientific & technical activities.

Figure 10 compares average annual productivity growth rate for each sector between in HotSW and the UK. Between 2000 and 2015 growth rates locally were broadly similar to those seen nationally, with a few notable exceptions including:

- Agriculture, forestry and fishing which delivered more rapid growth locally than nationally and Electricity & gas and Real estate activities, both of which recorded modest growth locally compared to negative growth nationally.
- HotSW saw larger than average decline in productivity in Arts, entertainment and recreation; Education; and Water, waste and sewage management.

Growth within HotSW was stronger than the national average in 11 of the 19 sectors.

**Figure 10 Average annual productivity growth, HotSW & UK, 2000 to 2015**



Source: Heart of the South West LEP Economic Model, Oxford Economics