

# Update on Productivity in Greater Lincolnshire



## Introduction

This paper provides an update to the original 'Productivity in Greater Lincolnshire' paper (<http://www.research-lincs.org.uk/lep-evidence-productivity.aspx>) which used the then latest data relating to 2013 to look at productivity levels locally and considered how these could be improved. Since that point, more recent data for 2016 has been published by the Office for National Statistics (ONS) and it is this latest information that will be covered in this paper.

At the national level, this paper could have easily been called "The Productivity Puzzle continues.....". In fact, Richard Heyes, the Deputy Economist at the ONS, went a bit further than this in his December 2017 blog describing it as "the key economic issue of our age".

Why is this? Well, borrowing heavily from the aforementioned blog post, for the five decades before the most recent economic downturn, productivity has grown on average by around two per cent per year and this has been achieved through oil crises, inflation spikes, and various periods of boom and recession.

In contrast, and following the 2007/8 financial crash, UK productivity fell and has subsequently endured its slowest recovery since the second world war. To put this into context, if productivity had grown in line with the pre-2008 trend, output per hour would today be 21 per cent higher. This is important because higher levels of productivity bring higher levels of GDP, living standards, and tax receipts.

What is confusing economists is that this productivity issue comes at a time of great technological advancements, a stable labour market, and low levels of unemployment.

Further compounding this issue is the fact that this appears to be largely confined to the UK. As we will see later on in this paper, UK levels of productivity have continued to stagnate whilst many of our largest global competitors have seen levels of productivity return to pre-recession levels.

In the latest attempt to tackle this issue, the Government has issued the UK Industrial Strategy, which sets out a long-term plan to boost productivity, earning power, and well-being of people throughout the UK.

The strategy outlines the five foundations of productivity where the Government will work with industry, academia and civil society to build on the UK's strengths, make more of untapped potential and create a more productive economy that works for everyone across the UK.

Those five foundations are as follows:

1. Ideas - the world's most innovative economy
2. People - good jobs and greater earning power for all
3. Infrastructure - a major upgrade to the UK's infrastructure
4. business environment - the best place to start and grow a business
5. places - prosperous communities across the UK

As previously mentioned, whilst the latest local data on productivity relates to 2016, national level data is more up-to-date, and at present paints a more positive picture. The latest data relates to the period Oct – Dec 2017 and shows that output per hour rose by 0.8 percent, resulting from a 0.5 per cent increase in GVA, and 0.3 per cent fall in total hours worked. In the previous three month period, output per hour rose by 0.9 percent meaning that this was the strongest two quarters of productivity growth since the recession of 2008.

## Headlines

- Greater Lincolnshire remains in the bottom 10 LEP areas based on its performance against both measures of productivity.
- Growth in Greater Lincolnshire's productivity levels between 2013 and 2016 has been below that seen at the national level.
- Even when taking into account regional disparities and removing the effects of London, then Greater Lincolnshire still performs well below national levels.
- Experimental figures for productivity at sector level suggest that there is "headroom" (i.e. productivity levels are below those seen in comparator areas and nationally) across most sectors (including priority sectors) in Greater Lincolnshire.
- Removing this productivity headroom based on Greater Lincolnshire closest performing comparator area (D2N2 LEP) in the priority sectors would raise GVA per job to just under £49,000, placing it in 15<sup>th</sup> position (as opposed to 32<sup>nd</sup>) out of the 38 LEPs.
- If employment were to stay the same, then this would result in a Greater Lincolnshire economy GVA of nearly £24bn, an increase of £2.6bn based on what it is currently.

## Productivity Definitions

The Office for National Statistics defines (labour) productivity as the "amount of output produced by a unit of labour input. A higher level of productivity means that a higher level of output is being produced per unit of labour input".

Productivity matters because increasing productivity is a major factor in increasing economic growth. An economy's output can only be increased by either increasing the amount of inputs or by raising productivity. Increasing productivity is, therefore, an important aim for both national and local economies.

## Measures of Productivity

The Office for National Statistics has produced experimental statistics for two measures of labour productivity, GVA per hour worked, and GVA per filled job. The preferred measure of labour productivity is GVA per hour worked though we will look at both sets of indicators in this paper.

GVA, or Gross Value Added, is the measure of value created on goods and services once the price of the means of production (inputs, wages etc.) have been taken into account. It is broadly in line with GDP (Gross Domestic Product) plus taxes less subsidies.

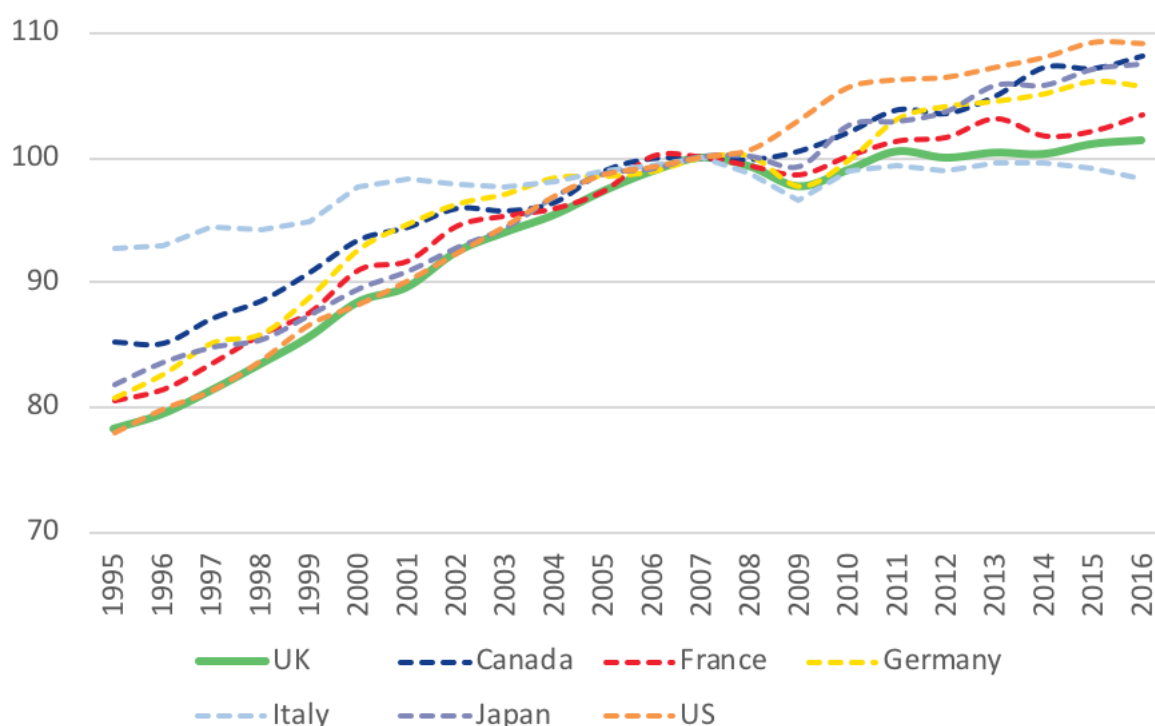
# Measures of Productivity at International Level

## GVA per hour worked

Figure 1 illustrates why productivity levels have become such an issue for the UK and successive governments. Prior to the financial crash in 2007/08 the UK's level of productivity was growing strongly, in line with that of the US economy. Post financial crash, levels of productivity have been fairly flat, only showing small signs of improvement from 2014 onwards. The same cannot be said for most of the G7 countries, with only Italy (where growth in productivity prior to 2007/08 was low compared to the rest of the G7) having a lower level of growth in GVA per hour worked post 2007/08.

**Figure 1 – Labour Productivity Levels (GVA £ per hour worked) across the G7 (2007 = 100)**

Sources: Organisation for Economic Cooperation and Development, Office for National Statistics



## GVA per filled job

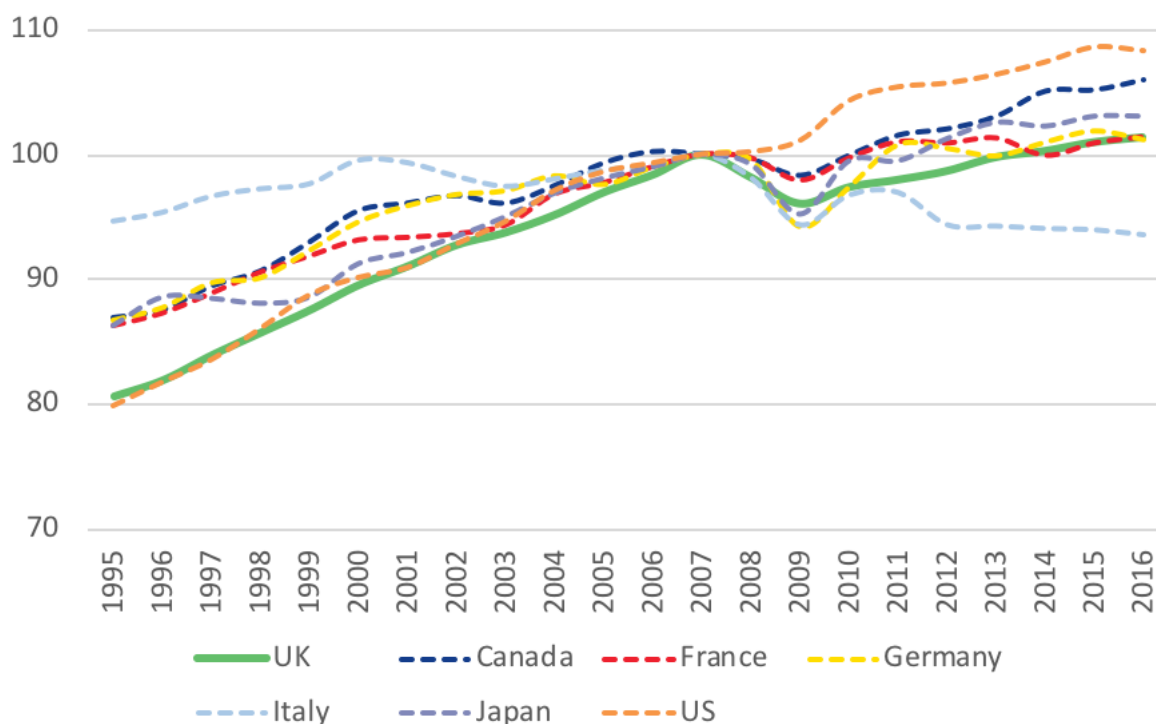
Figure 2 tells a very similar story for the UK to that of figure 1, with strong pre-financial crash productivity growth. However, post 2007/08 we can actually see a marked fall in productivity levels (which fitted well with the thinking at the time that businesses were retaining staff despite tough conditions) with the UK economy returning to 2007 levels of productivity in 2013, effectively representing six years of lost productivity growth.

The difference here is that based on the productivity measure of GVA per filled job some of the other G7 nations fared similarly to the UK with noticeable dips in productivity levels and

subdued levels of growth in the post-recession period (Germany being a particular case in point).

**Figure 2 – Labour Productivity Levels (GVA £ per filled job) across the G7 (2007 = 100)**

*Sources: Organisation for Economic Cooperation and Development, Office for National Statistics*



## Measures of Productivity at NUTS Level

Before we look at the measures of productivity for this level of geography, first an explanation of what NUTS actually is. 'NUTS' stands for the Nomenclature of Territorial Units for Statistics, and it is a basic classification for regional data in the EU.

There are three level of NUTS but in terms of the UK then the one we are most interested in is that of NUTS2 which is the lowest level official statistics on Gross Value Added (GVA) are available. NUTS2 breaks the area of the UK down into: Northern Ireland; Counties in England; Groups of districts in Greater London; Groups of unitary authorities in Wales; and Groups of council areas in Scotland.

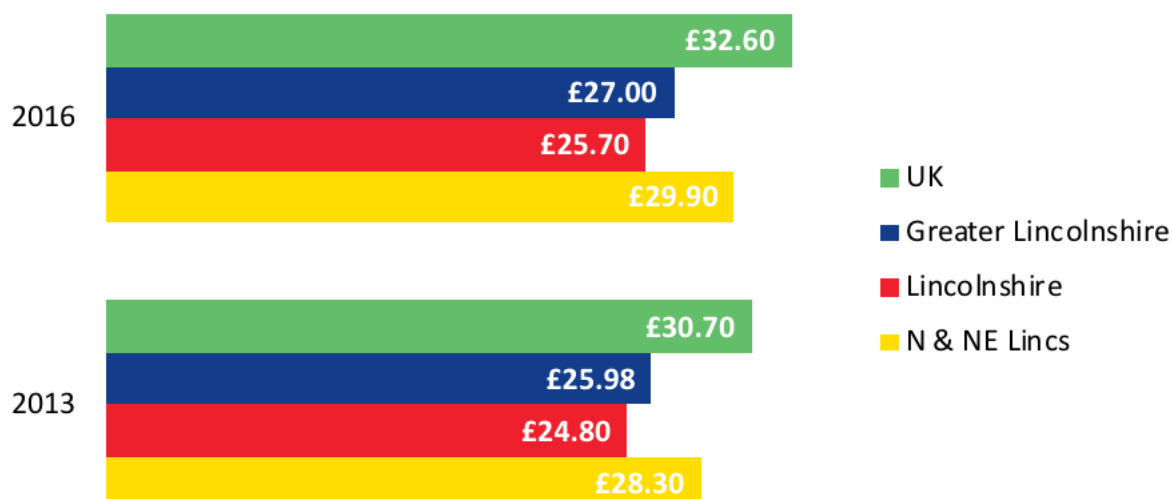
Note that NUTS2 does break England further down in terms of unitary authorities or districts. It is for this reason that we present data in the following section for North and North East Lincolnshire combined as this is a NUTS2 area.

## GVA per hour worked

Based on the measure of GVA per hour worked, in 2015 Greater Lincolnshire's workers generated on average £27.00 compared to the national average of £32.60. Going below the GLLEP level then North and North East Lincolnshire's GVA per hour worked is higher at £29.90 (but still lower than the national average), whilst Lincolnshire's is lower at £25.70.

**Figure 3 – Labour Productivity Levels (GVA £ per hour worked), 2013 and 2016**

Source: Office for National Statistics



Growth in GVA per hour worked across Greater Lincolnshire has been weaker than nationally over the period 2013 to 2016, increasing at a rate of 3.9 per cent compared to 6.2 per cent nationally.

**Figure 4 – Change in Labour Productivity Levels (GVA £ per hour worked), 2013 to 2016**

Source: Office for National Statistics

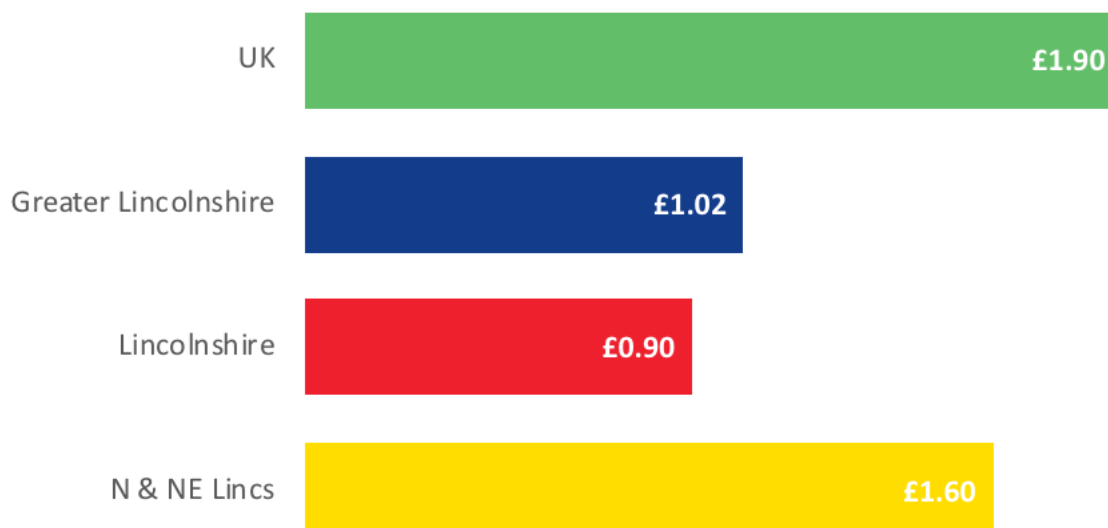


Figure 4 shows that whilst the increase in GVA per hour worked in North and North East Lincolnshire has been relatively high at £1.60 (though still lower than national increase of £1.90) over the three year period, it is weaker growth in Lincolnshire at £0.90 which has effectively held Greater Lincolnshire productivity back. Figure 5 further illustrates this point showing that despite some periods of strong growth, more recently productivity growth levels in Lincolnshire, and North and North East Lincolnshire have been much weaker relative to the UK.

### Figure 5 – Greater Lincolnshire Labour Productivity levels (GVA per hour worked), 2004 to 2016 (UK=100)

Source: Office for National Statistics

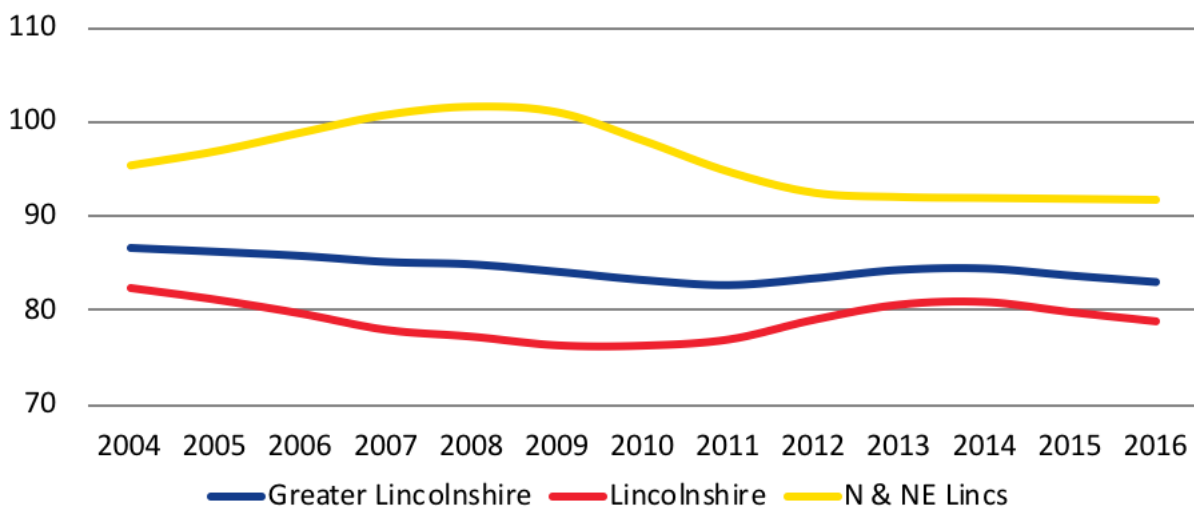
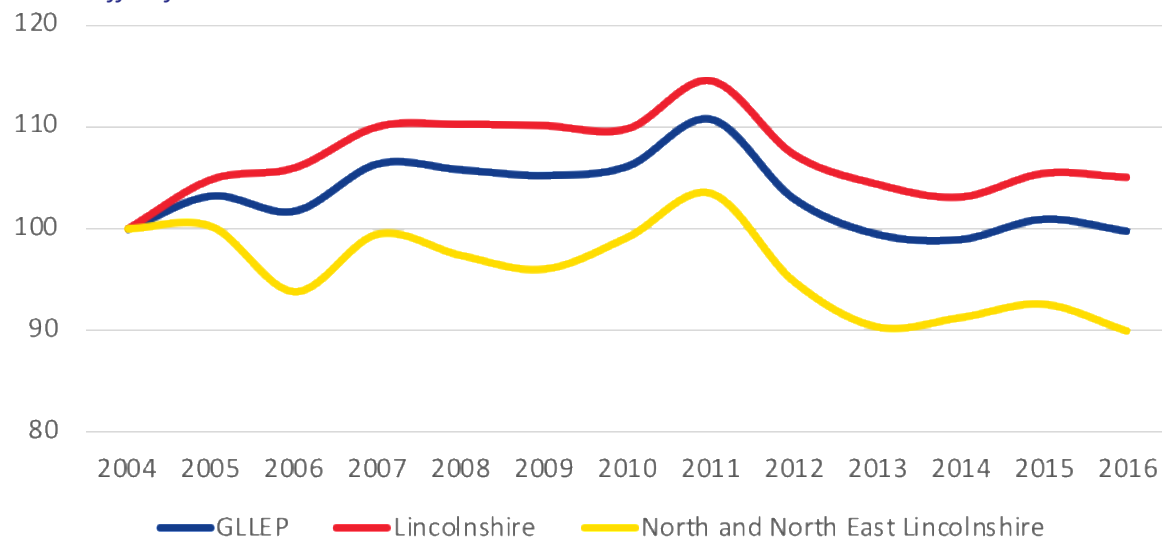


Figure 6 shows that whilst prior to 2011, growth in productivity hours worked will have played some role in pushing down productivity levels relative to the UK, since that point productivity levels and hours worked have both fallen relative to UK performance.

### Figure 6 – Productivity hours worked per week in Greater Lincolnshire, 2004 to 2016 (UK=100)

Source: Office for National Statistics

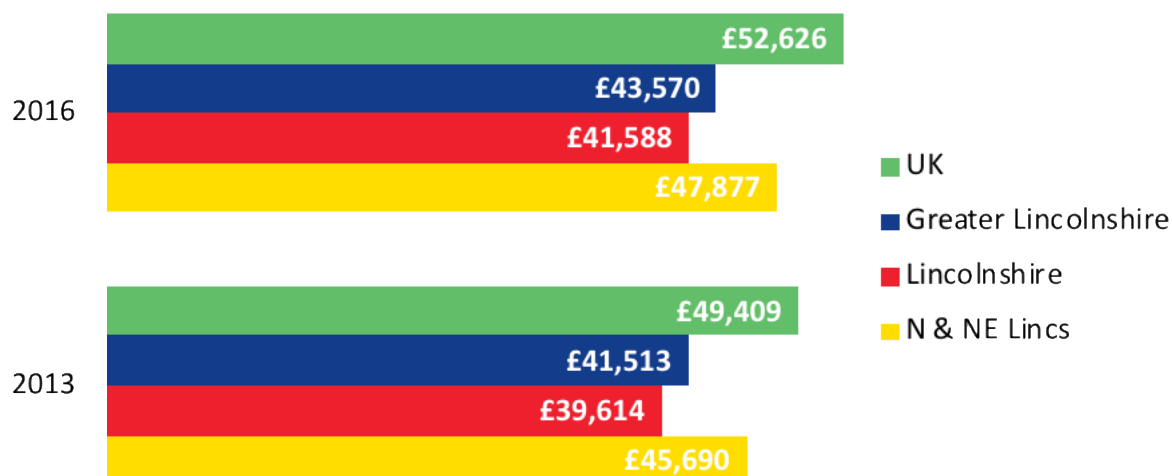


## GVA per filled job

Despite being the less preferred measure of labour productivity, GVA per filled job paints a similar picture to that of GVA per hour worked. Referring to figure 7, a Greater Lincolnshire worker generates on average £43,570 per year, which again is lower than the national average of £52,626.

**Figure 7 – 2013 and 2016 Labour Productivity Levels (GVA £ per filled job)**

Source: Office for National Statistics

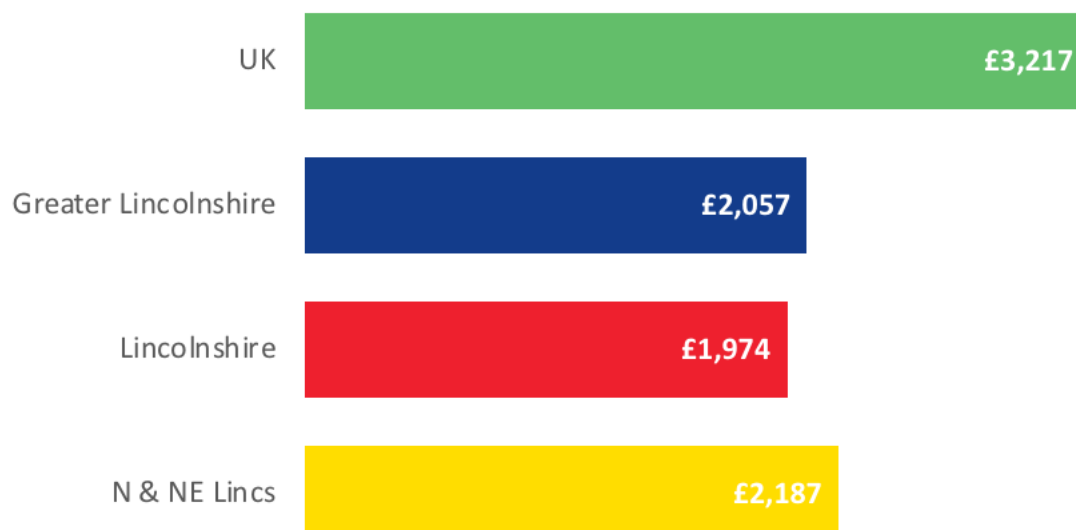


Going below the GLLEP level then North and North East Lincolnshire's GVA per filled job is higher at £47,877 (again, still lower than the national average) whilst Lincolnshire's is lower at £41,588.

Referring to figures 8 and 9, then unlike the measure of GVA per hour, both Lincolnshire, and North and North East Lincolnshire, have experienced similar levels of growth between 2013 and 2016, but again both are well below the growth seen at the national level.

**Figure 8 – Change in Labour Productivity Levels (GVA £ per filled job), 2013 to 2016**

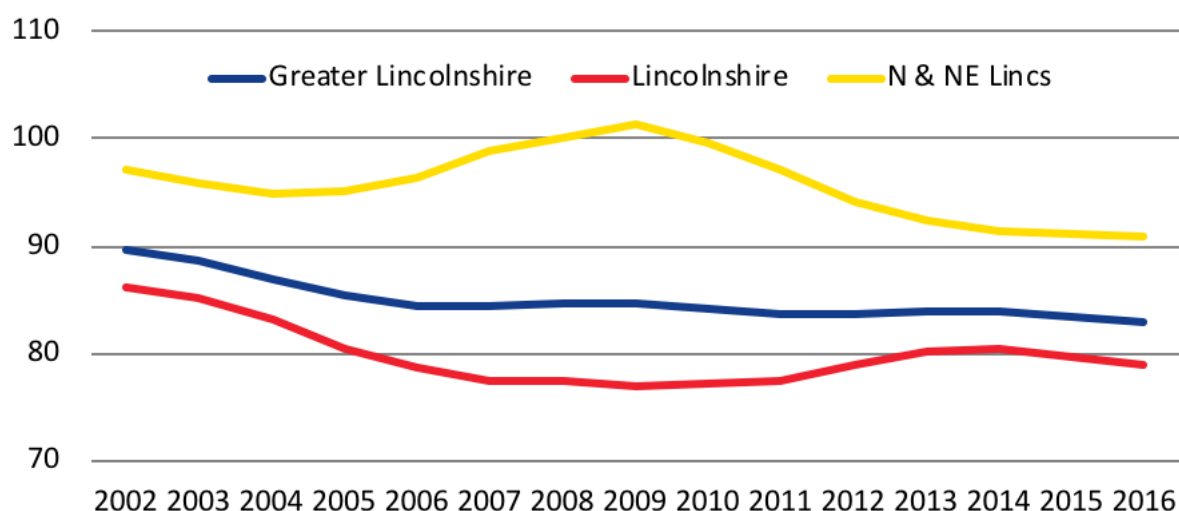
Source: Office for National Statistics





**Figure 9 – Greater Lincolnshire Labour Productivity levels (GVA £ per filled job), 2002 to 2016 (UK=100)**

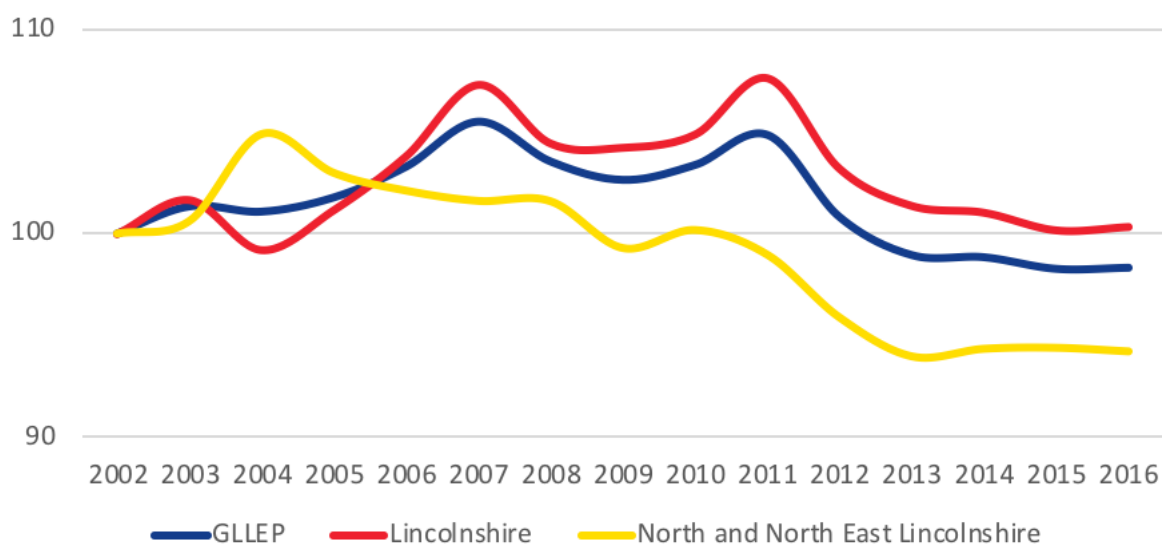
Source: Office for National Statistics



Again, and as shown in the analysis of productivity hours worked (figure 6) then prior to 2011, growth in productivity job numbers (figure 10) will have played some role in pushing down productivity levels relative to the UK, but since that point productivity levels and jobs worked have both fallen relative to UK performance.

**Figure 10 – Productivity jobs in Greater Lincolnshire, 2002 to 2016 (UK=100)**

Source: Office for National Statistics



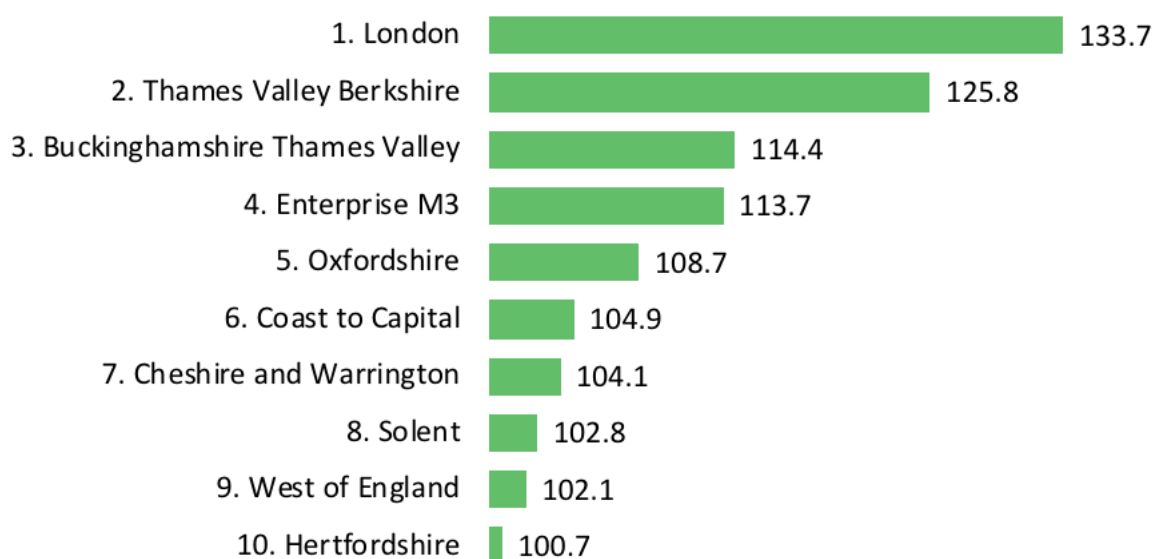
# Measures of Productivity at LEP Level

## GVA per hour worked

Figure 11 below shows the top ten LEPs with the highest labour productivity levels in 2016. It is perhaps not surprising to see that many of the LEPs that make up the South East and cover the Greater London area appear in this top ten list, with productivity levels above the UK average.

**Figure 11 – 2016 Labour Productivity Levels (GVA per hour worked), Top Ten Performing LEP Areas (UK=100)**

*Source: Office for National Statistics*



Referring to figure 12, and turning our attention to the bottom ten LEPs (bearing in mind that there are 38 LEPs, then this effectively constitutes the bottom quartile of LEPs), then compared to 2013, when Greater Lincolnshire was ranked at number 32 (of 39 LEPs), it now appears at number 33 with a labour productivity (GVA per hours worked) index of 82. In this position, Greater Lincolnshire finds itself between The Marches LEP (83.0) and the Sheffield City Region LEP (82.8) in the table.

Reviewing the bottom ten LEPs then we can see that there are many areas which Greater Lincolnshire uses as its comparator areas for performance such as Heart of the South West, Cornwall and Isles of Scilly, and Stoke-on-Trent and Staffordshire. There are also perhaps surprisingly two northern city region areas within the bottom ten.

## Figure 12 – 2016 Labour Productivity Levels (GVA per hour worked), Bottom Ten Performing LEP Areas (UK=100)

Source: Office for National Statistics

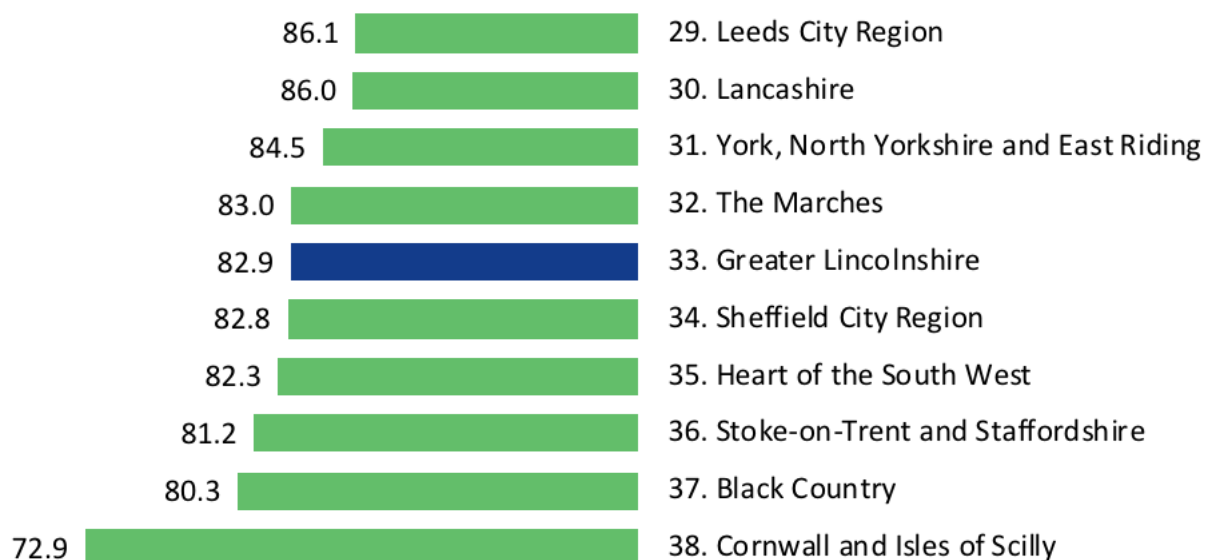
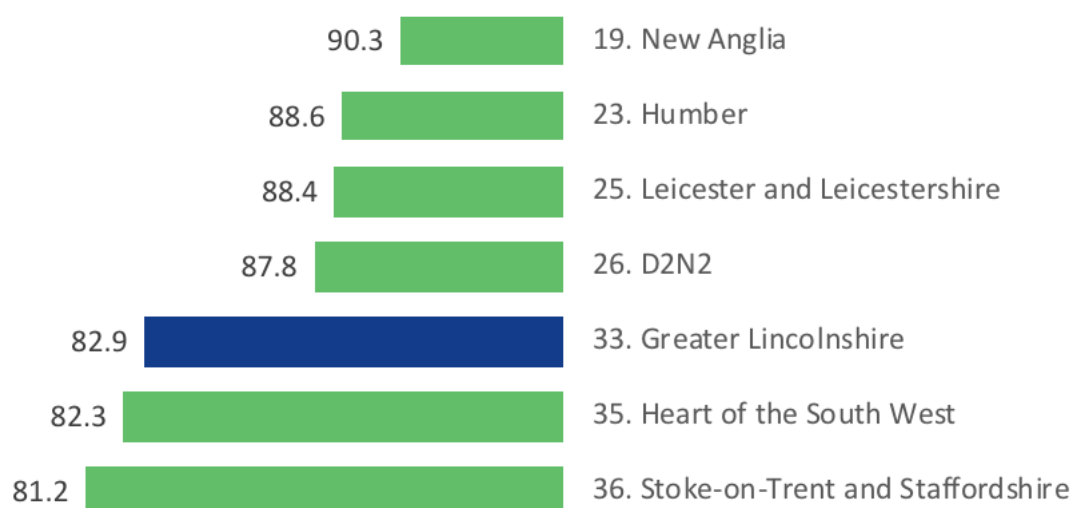


Figure 13 isolates the results for those LEP areas that Greater Lincolnshire most often compares itself to and we can see now that performance is closest to that of the D2N2 LEP but that there is some distance between the two.

## Figure 13 – 2016 Labour Productivity Levels (GVA per hour worked), Greater Lincolnshire and Comparator LEP Areas (UK=100)

Source: Office for National Statistics

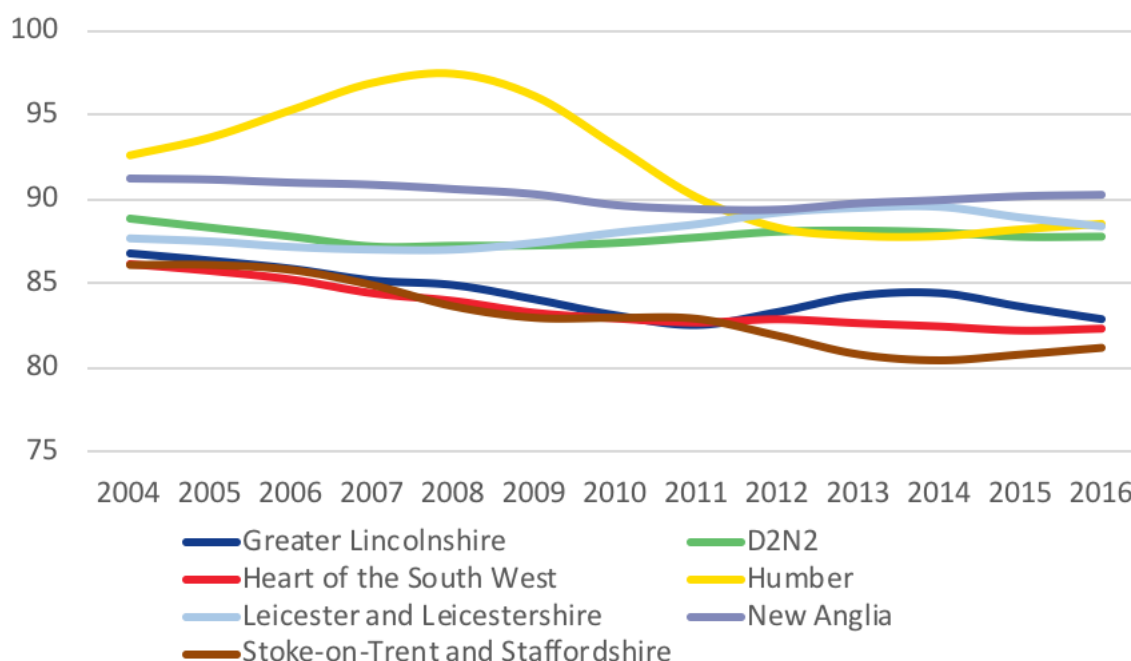


If we consider the performance of these comparator areas over time, then referring to figure 14, we can see that the LEP areas of Greater Lincolnshire, Stoke-on-Trent and Staffordshire, and Heart of the South West, have all been in decline relative to the UK from 2004 onwards. It is worth noting though that Greater Lincolnshire did experience an upsurge in

performance between 2011/12 and 2013/14 but that this has subsequently fallen away in more recent years.

**Figure 14 – Labour Productivity Levels (GVA per hour worked) over time, Greater Lincolnshire and Comparator LEP Areas (2004=100)**

Source: Office for National Statistics

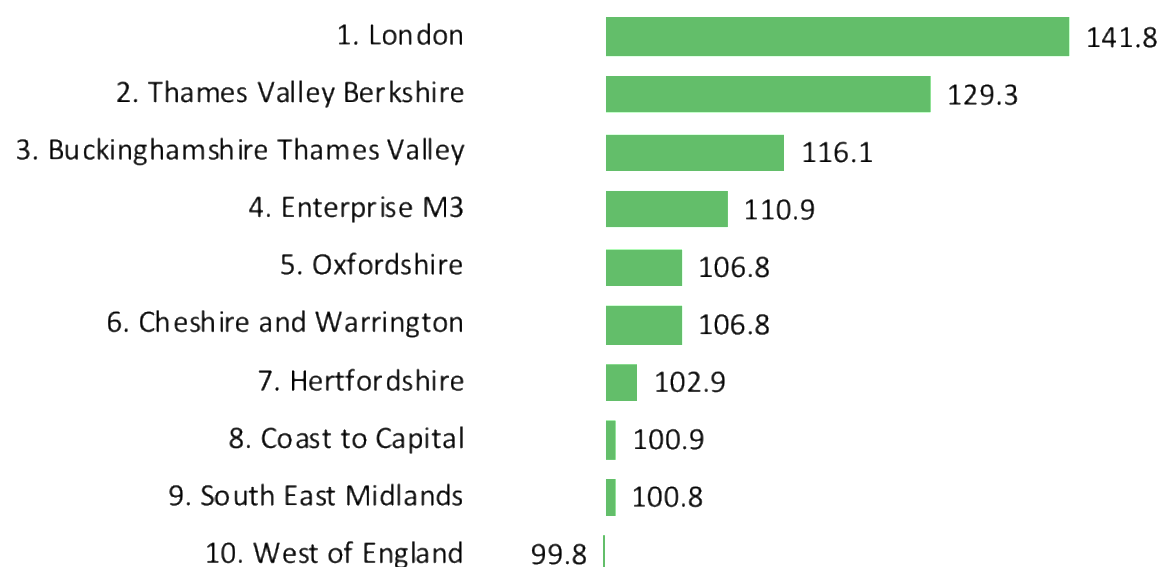


## GVA per filled job

Figure 15 shows the top ten performing LEP areas based on this productivity measure, and again we see the familiar LEP names at the top of the tree but further down there are also appearances from the South East Midlands, West of England, and Cheshire and Warrington.

**Figure 15 – 2016 Labour Productivity Levels (GVA per filled job), Top Ten Performing LEP Areas (UK=100)**

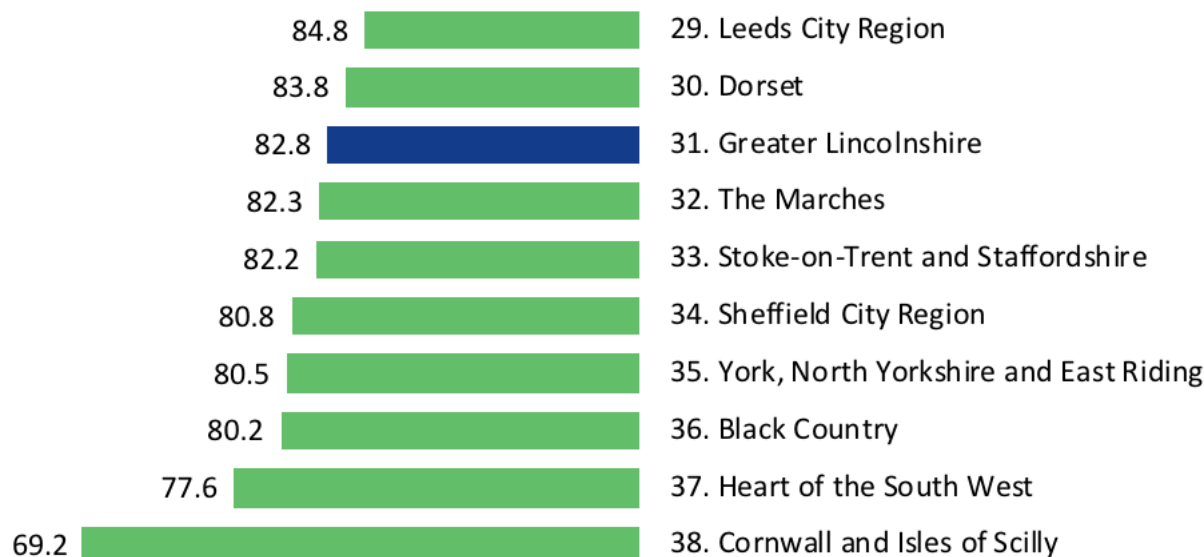
Source: Office for National Statistics



In terms of the bottom ten LEP areas (figure 16), and compared to 2013, then again Greater Lincolnshire remains in this group, appearing at number 31 (the same position it was in 2013 though at the time that was out of 39 LEPs), above The Marches LEP area this time.

### Figure 16 – 2016 Labour Productivity Levels (GVA per filled job), Bottom Ten Performing LEP Areas (UK=100)

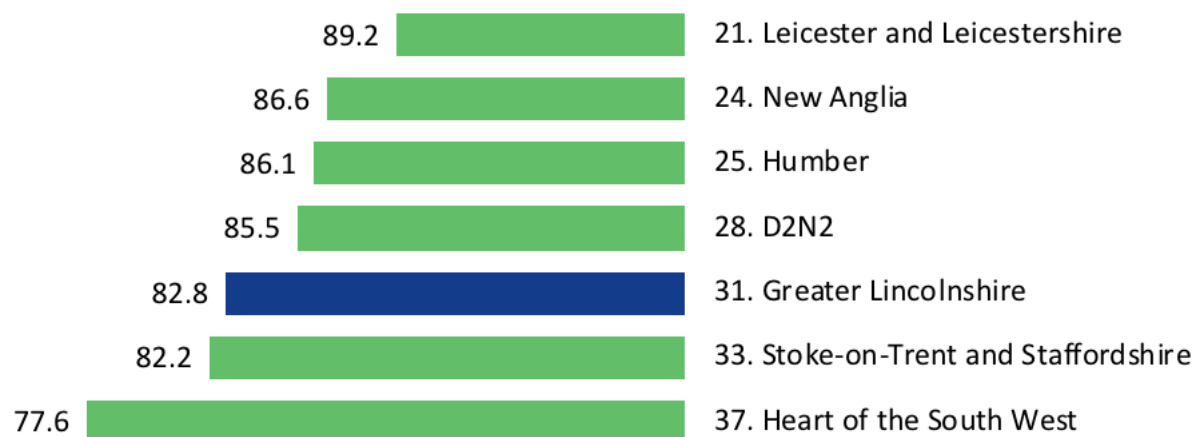
Source: Office for National Statistics



In figure 17 we consider again those areas that Greater Lincolnshire regularly compares performance against, and it tells a similar story to that of GVA per hour worked in figure 11. However, on a positive note, Greater Lincolnshire's performance on GVA per filled job is closer to that of D2N2 (82.8 compared to 85.5 respectively) than it is based on the GVA per hour worked measure (82.9 compared to 87.8 respectively).

### Figure 17 – 2016 Labour Productivity Levels (GVA per filled job), Greater Lincolnshire and Comparator LEP Areas (UK=100)

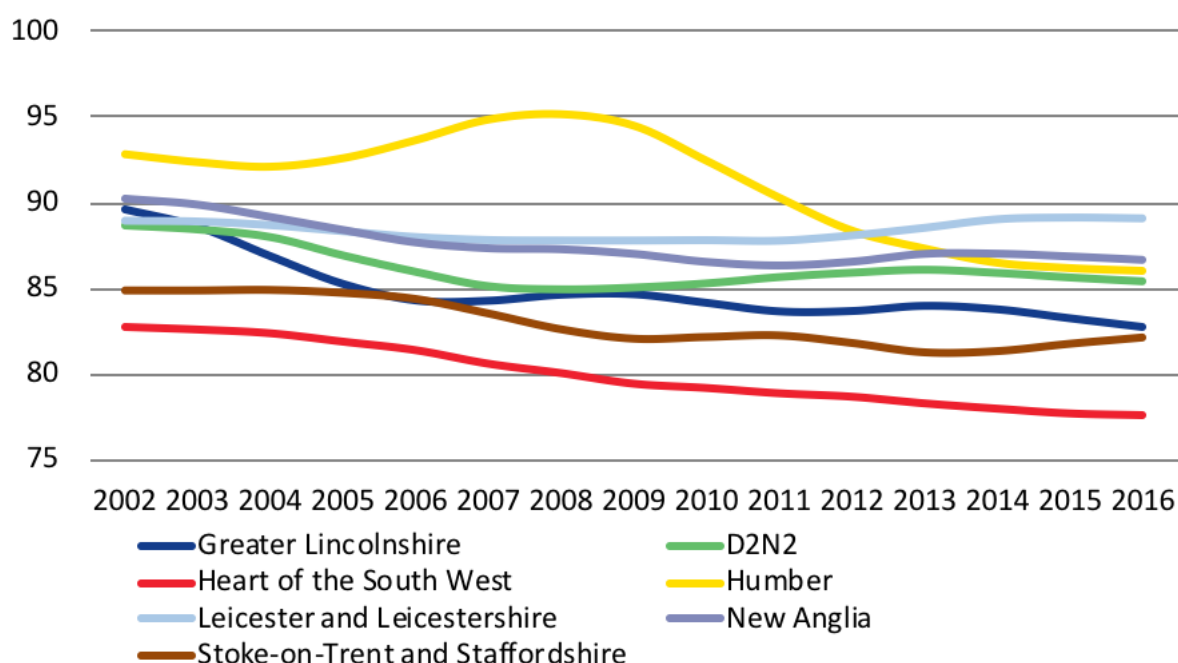
Source: Office for National Statistics



Referring to figure 18, then again it the LEP areas of Greater Lincolnshire, Heart of the South West, and Stoke-on-Trent and Staffordshire which have experienced poor runs of performance over the longer term in terms of productivity. In the shorter term, notably it is the Humber LEP which has experienced the most rapid dip in productivity levels beginning around 2008/09 (noting that the Humber LEP also contains North and North East Lincolnshire).

**Figure 18 – Labour Productivity Levels (GVA per filled job) over time, Greater Lincolnshire and Comparator LEP Areas (2002=100)**

*Source: Office for National Statistics*



Finally, it is worth noting at this stage that based on both measures of productivity then London LEP outperforms all other LEPs by some distance. It is this well documented 'London Effect' that results in the UK having the biggest gap in regional GDP of any EU country, and why we have so much policy directed at rebalancing the national economy.

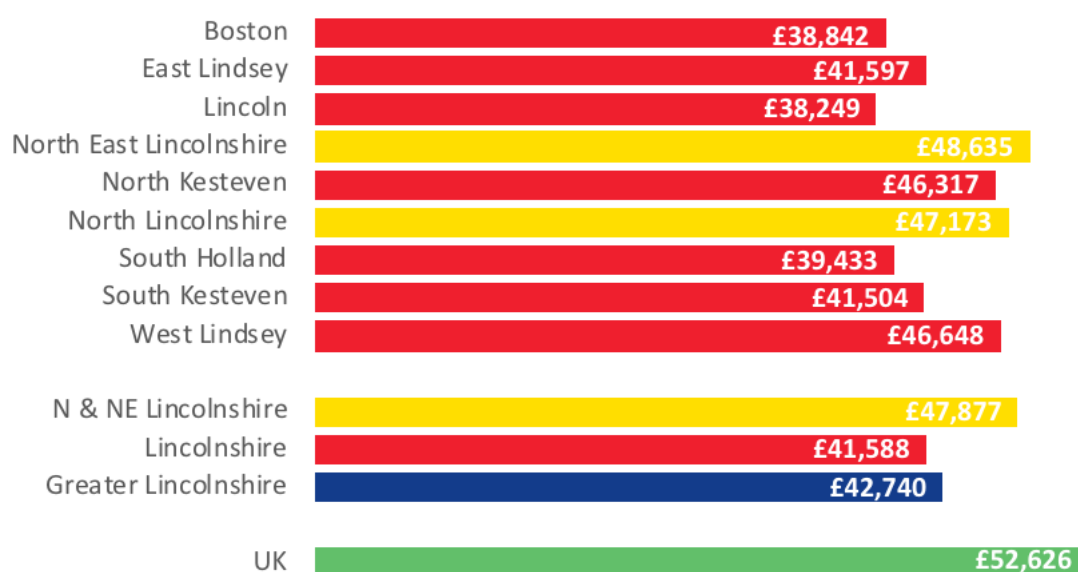
With this in mind it is worth considering how the national economy would perform on productivity measures with the effect of London removed. On this basis then, estimating the effects of the removal of London from the calculations suggests that GVA per job for England would be somewhere in the region of £48,000, a drop of around £4,500. However, even at this much lower level, the national economy still outperforms Greater Lincolnshire and its constituent areas.

## Measures of Productivity at Local Authority Level

The Office for National Statistics do not produce statistics on productivity at local authority level. But, given that they do produce statistics on both Gross Value Added (the latest being 2015), and employment numbers at the local authority level, then we are able to produce some estimates for productivity at this level. Figure 19 presents estimates which have been adjusted to bring them into line with productivity measures at LEP level. Figure 20 shows change in productivity levels since 2013 with North East Lincolnshire appearing to have been the main source of productivity growth in North and North East Lincolnshire over this period

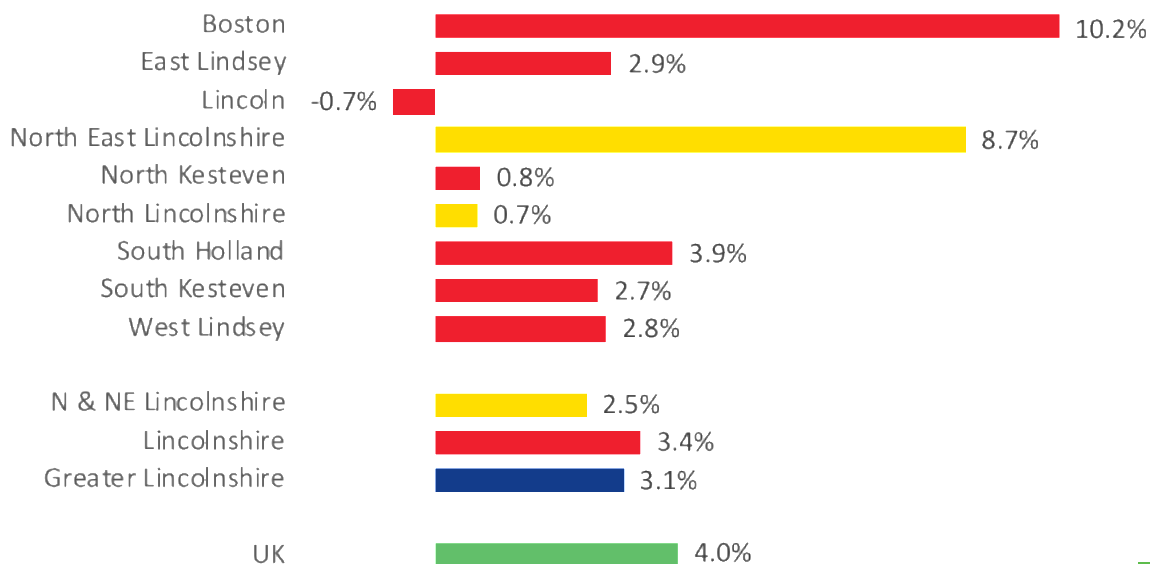
**Figure 19 – Estimates for GVA per job across Greater Lincolnshire, 2015**

*Source: Codename:Consulting 2017, using ONS experimental statistics on GVA and employment at local district and unitary authority level*



**Figure 20 – Estimates for change in GVA per employee across Greater Lincolnshire, 2013 - 2015**

*Source: Codename:Consulting 2017, using ONS experimental statistics on GVA and employment at local and unitary authority level*



## Measures of Productivity by Sector

Similarly, as with the previous statistics on productivity at local authority level, then the Office for National Statistics do not produce statistics on sectoral productivity at the local authority level. But again, using ONS experimental statistics on GVA at the local authority level along with figures on employment from the Business Register and Employment Survey, we can create some approximations, and these are presented in figure 21.

**Figure 21 – GVA per job by sector across Greater Lincolnshire, 2016**

*Source: Codename:Consulting 2017, using ONS experimental statistics on GVA and employment at local and unitary authority level*

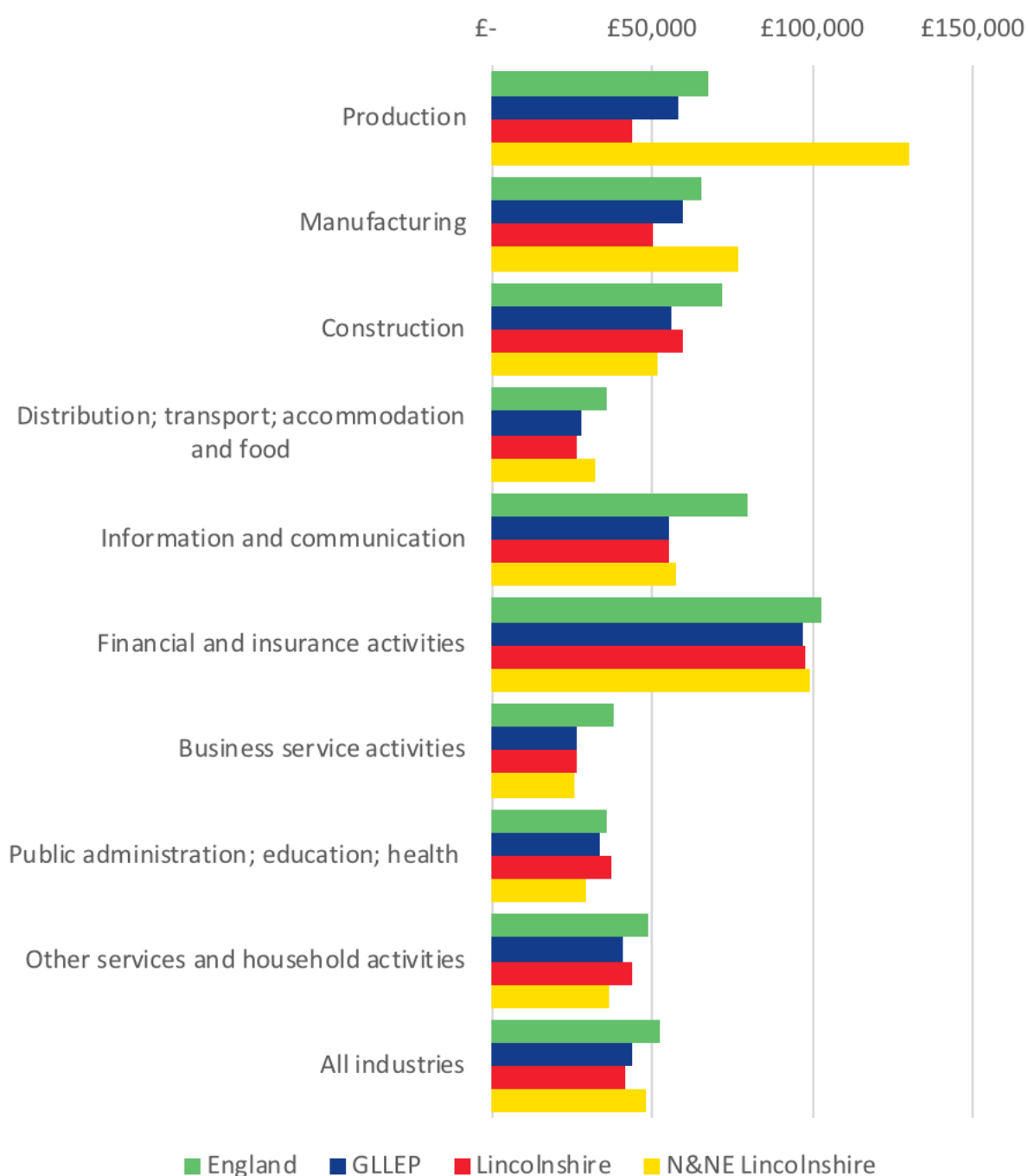


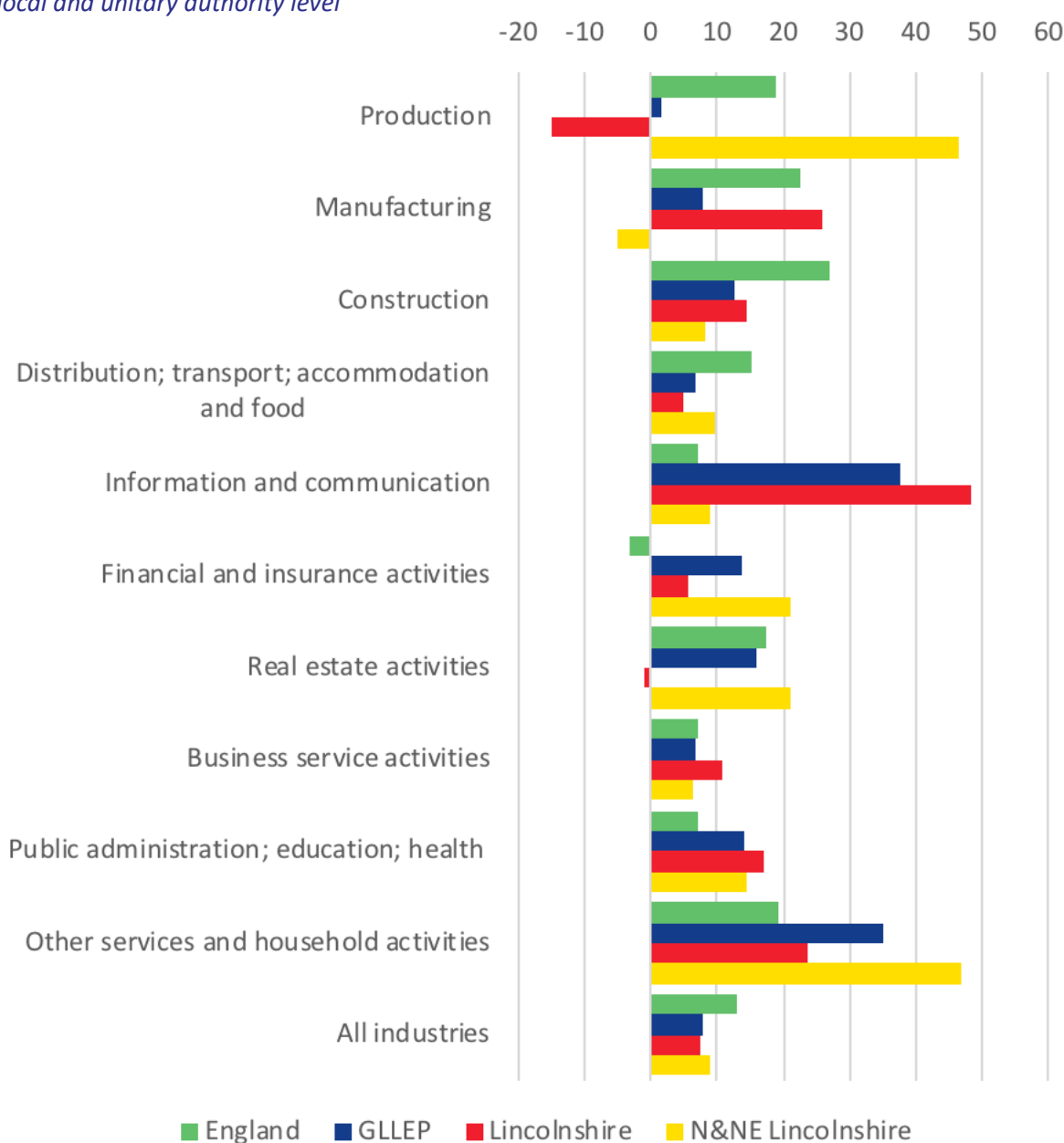


Figure 21 presents no real surprises in that Greater Lincolnshire, and the areas of Lincolnshire, and North and North East Lincolnshire, continue to lag behind nearly all sectors nationally when it comes to GVA per job. There are however some notable exceptions for North and North East Lincolnshire where this is not the case, those being ‘Production’ (which includes things like Agriculture, fishing, and energy) and ‘Manufacturing’.

So, Lincolnshire, and North and North East Lincolnshire, have both been outpaced by national level growth in productivity, but which sectors then have performed well? Again, as with previous figures presented, then we will attempt to answer this question using estimates devised from ONS experimental statistics at local authority level GVA (figure 22).

### Figure 22 – Change in GVA per job by sector across Greater Lincolnshire, 2010 – 2016 (Index, 2010 = 100)

Source: Codename:Consulting 2017, using ONS experimental statistics on GVA and employment at local and unitary authority level



Firstly, please note that given the experimental nature of these statistics then we have considered a longer time period of change (2010 to 2016), rather than the period covered by the headline productivity statistics (2013 to 2016).

So, with that in mind, and referring to figure 22, we can see that there are a few sectors which stand out in terms of where Greater Lincolnshire (and/or Lincolnshire, and North and North East Lincolnshire) has experienced relatively large positive changes in productivity when compared nationally. In the order they are presented in figure 22 then these are:

- Production
- Manufacturing
- Information and communication
- Financial and insurance activities
- Business service activities
- Public administration; education; health
- Other services and household activities

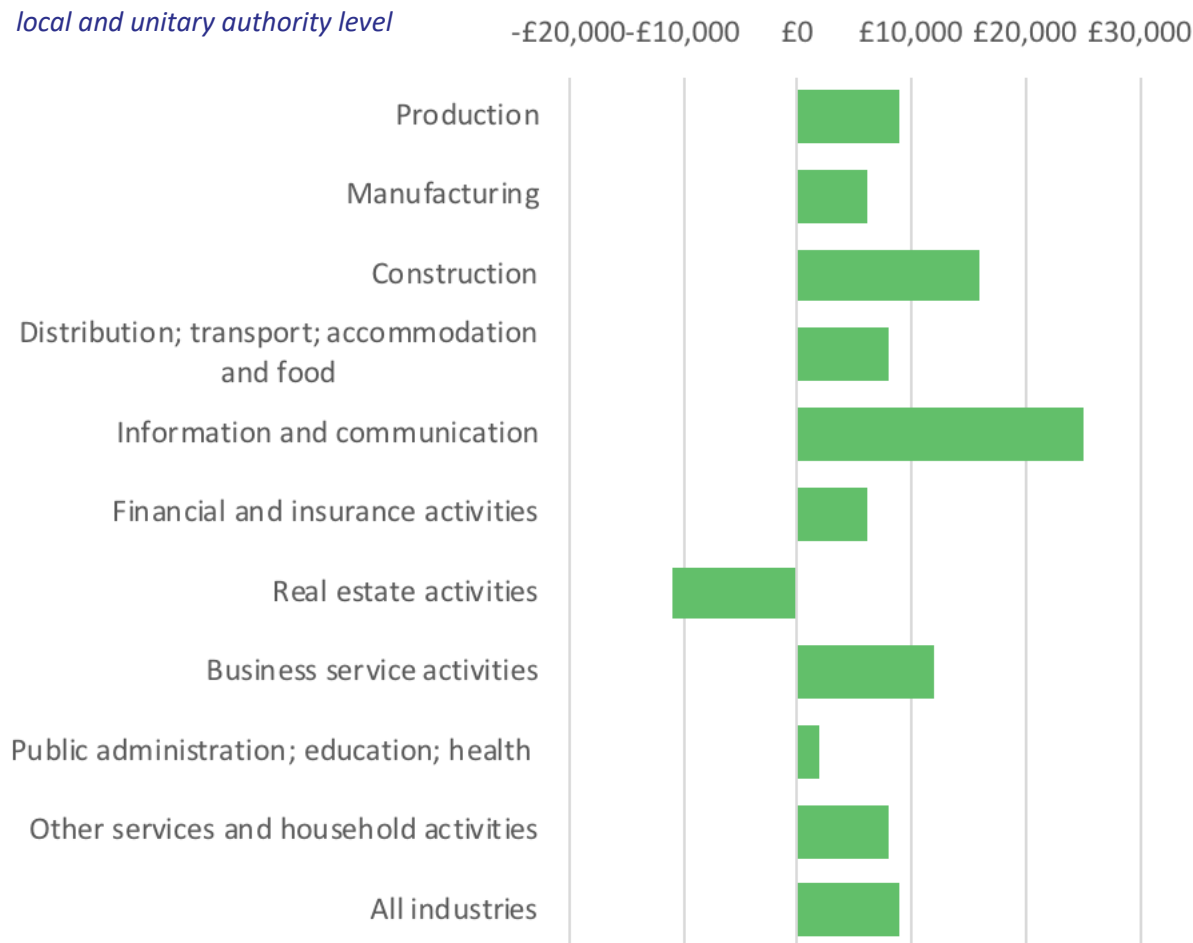
Given that the level of analysis we are able to do at this stage is based on fairly broad industrial groups, then admittedly it is limited. For example, given the sector of 'Distribution; transport; accommodation and food' can we assume that productivity gains have been felt right across the spectrum of activities that it captures, or in just one element? At this stage, and until ONS produces more detailed statistics on sectoral GVA at local authority level then we will have to assume the former for now.

## Closing the Productivity Gap

Having identified areas of activity that appear to have performed well over the last few years, this leads us to ask as to whether these improvements might continue into the future and help to close the gap on UK productivity levels further. One way of considering this would be to look at what the available “headroom” (i.e. the positive difference between national and local levels of GVA per job) is between productivity levels for each sector, and this is what figure 23 does.

**Figure 23 – Productivity headroom by sector across Greater Lincolnshire, 2016**

*Source: Codename:Consulting 2017, using ONS experimental statistics on GVA and employment at local and unitary authority level*



So, where is the productivity headroom? Referring to figure 21, and discounting ‘Financial and insurance activities’ (which whilst not having the largest amount of headroom, what is there will most likely be due to the effect of the City of London at the national level), then these estimates suggest that the sectors in which Greater Lincolnshire could realistically improve are:

- Production
- Manufacturing
- Construction
- Distribution; transport; accommodation and food

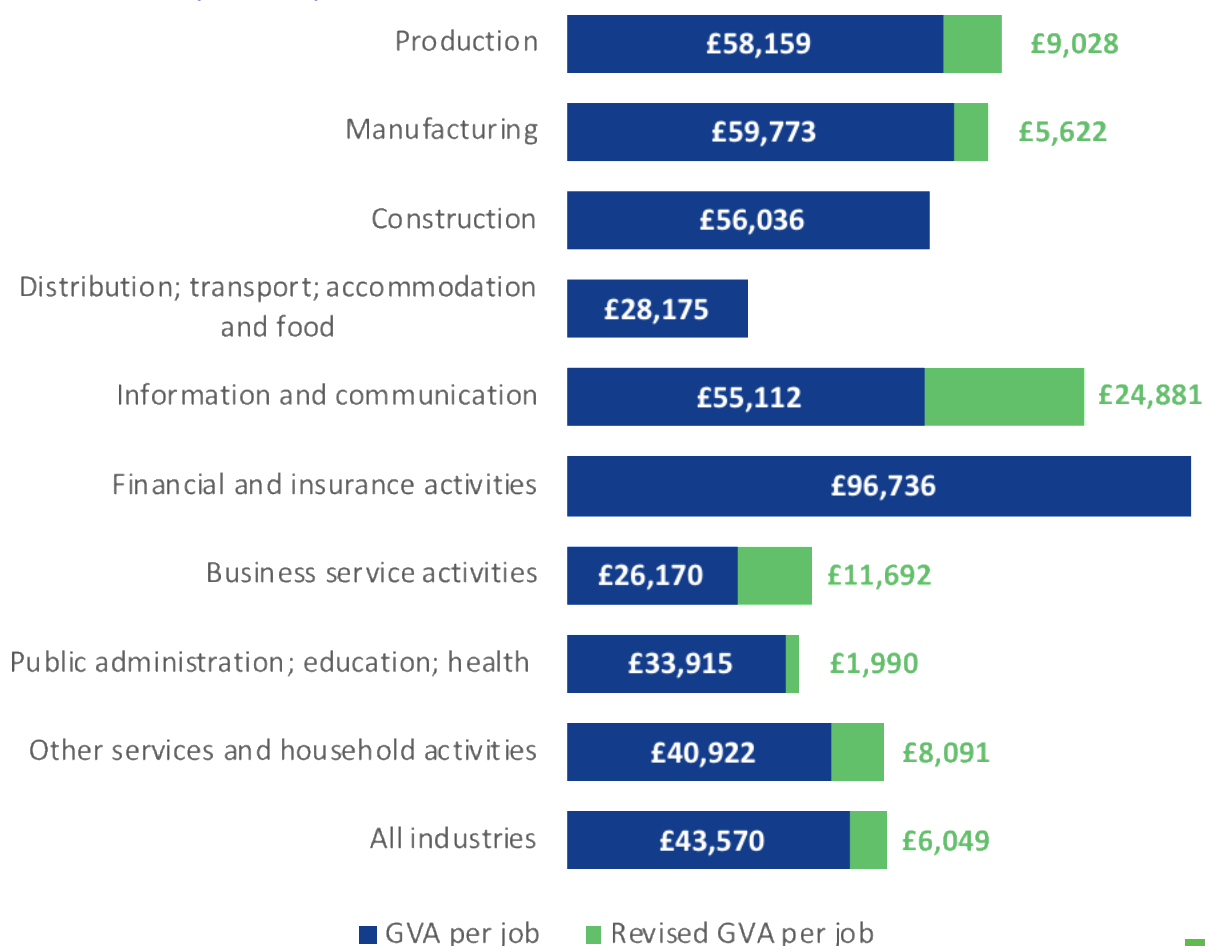
- Information and communication
- Business service activities
- Public administration; education; health
- Other service and household activities

Referring back to figure 20, then six out of eight of these sectors were highlighted as having made the most in terms of productivity gains in recent years. Having quantified the productivity headroom within sectors which have shown high levels of productivity growth over the last few years, and assuming that these sectors will continue to improve in productivity terms, what would be the result for Greater Lincolnshire of matching national levels of productivity within these identified sectors (scenario 1)?

Well, all other things remaining the same, if GVA per job in each of the five sectors were in line with the national level in 2016 then Great Lincolnshire's GVA per job would increase by approximately £6,049, to £49,619, as shown in scenario 1 in figure 24. Overall GVA for the Greater Lincolnshire economy would subsequently be at £24.3bn, an increase of nearly £3bn.

**Figure 24 – Greater Lincolnshire productivity headroom Scenario 1 – Levels of GVA per job in Greater Lincolnshire growth sectors matched to national levels**

*Source: Codename:Consulting 2017, using ONS experimental statistics on GVA and employment at local and unitary authority level*



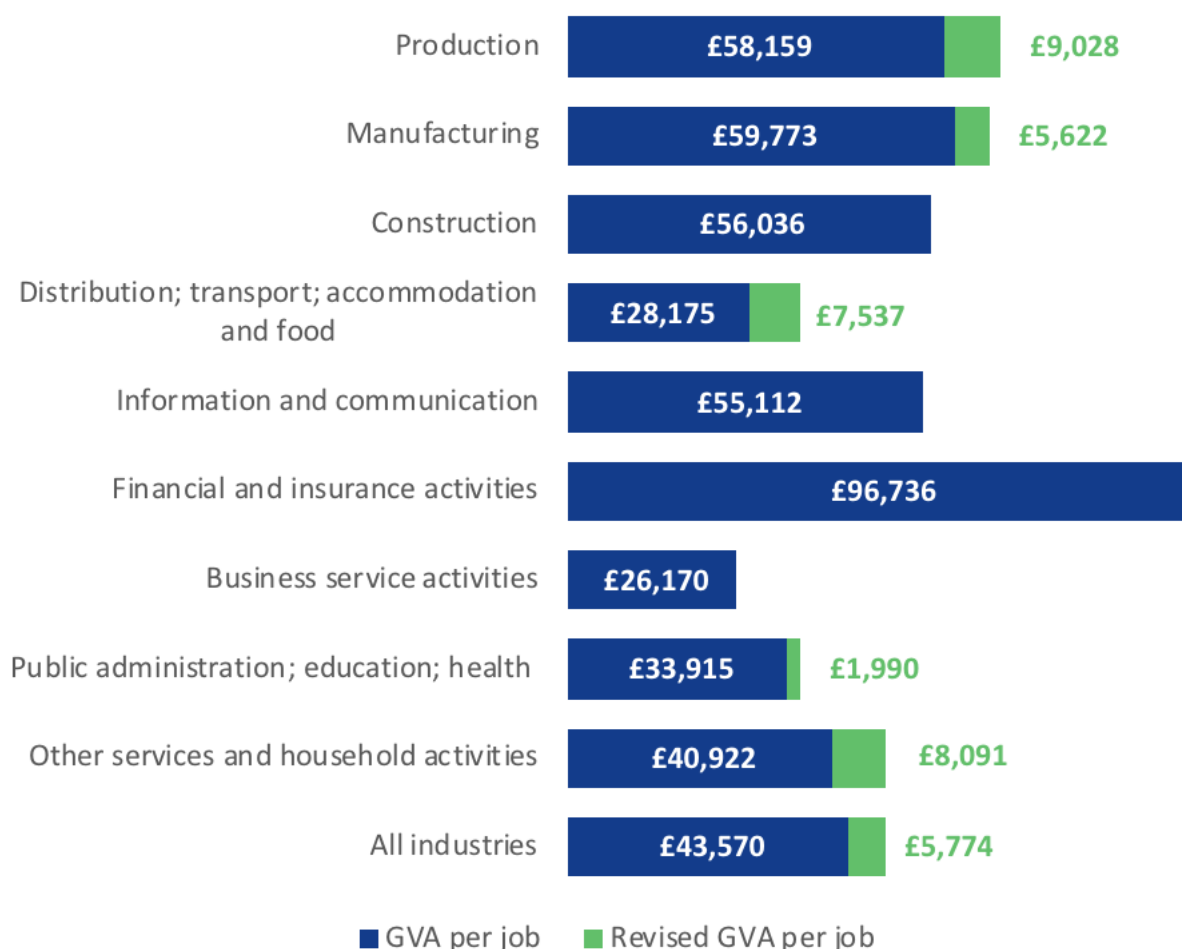
A GVA per job of £49,619 would place Greater Lincolnshire in 15<sup>th</sup> place out of the 38 LEP areas, above areas such as the South East, and Greater Birmingham and Solihull.

On the basis that it is probably unrealistic for Greater Lincolnshire to match national levels of productivity in certain sectors then let us consider increase in productivity in those sectors which the Greater Lincolnshire has prioritised (scenario 2).

In this instance it will mean matching national productivity levels in the broad industrial groups of 'production' (which contains agri-food), 'manufacturing', 'distribution; transport accommodation and food' (which captures both visitor economy and 'ports and logistics' activity), 'public administration; education; health' (which contains 'Health and Care'), and 'Other services and household activities' (which contains activity covering culture, the arts, and sports, all important elements of the visitor economy).

### Figure 25 – Greater Lincolnshire productivity headroom Scenario 2 - Levels of GVA per job in Greater Lincolnshire priority sectors matched to national levels

Source: Codename:Consulting 2017, using ONS experimental statistics on GVA and employment at local and unitary authority level



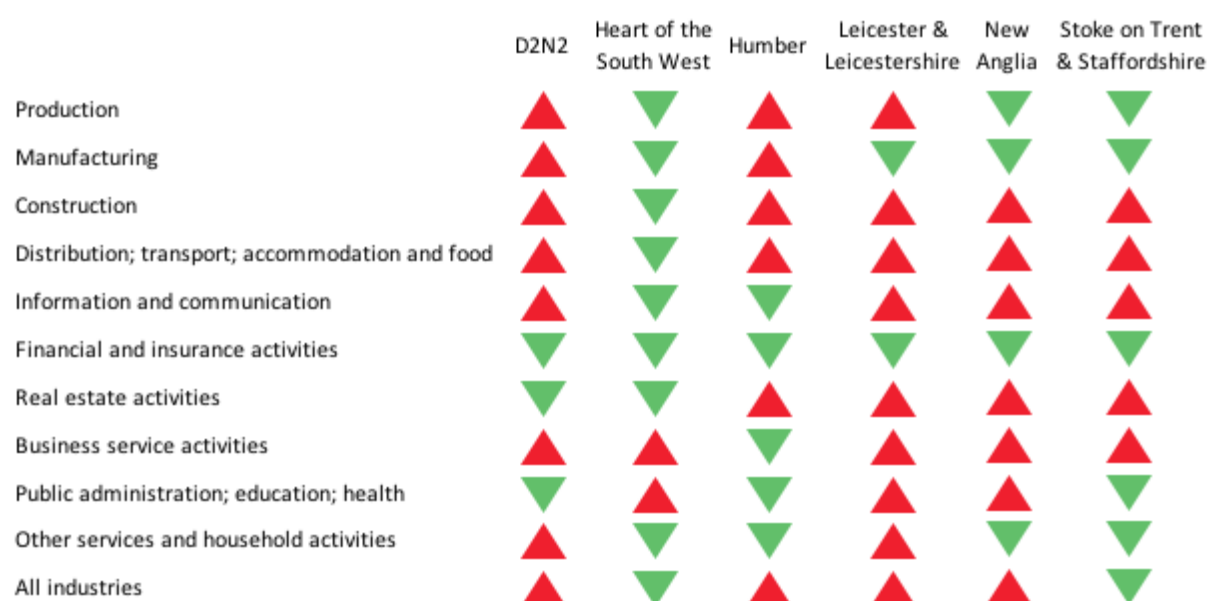
Again, and if all other things remain the same, if GVA per job in each of the priority sectors were in line with the national level in 2016 then Great Lincolnshire's GVA per job would increase by approximately £5,774, to £49,344, as shown in scenario 2 in figure 25. This would again place Greater Lincolnshire in 15<sup>th</sup> place out of the 38 LEP areas. Overall, GVA for the Greater Lincolnshire economy would subsequently be at £24.1bn, an increase of nearly £2.8bn.

Scenario 2 actually chimes well with the Industrial Strategy as it rightly points out that "some of the biggest opportunities for raising productivity come in sectors of the economy that have lower average productivity levels, but where many people work and which are vital to our economy". The visitor economy comes in for particular focus with the Government stating that it "will work closely with sectors such as hospitality, retail and tourism on each of the foundations of productivity in order to be able to progressively drive up the earning power of people employed in these industries and enhancing our national productivity".

Whilst it is useful to compare with national performance levels, perhaps more realistically Greater Lincolnshire should be looking at some of its nearest performing LEP areas and identifying more achievable areas of productivity headroom. Figure 26 shows where Greater Lincolnshire productivity levels by broad industrial group are either above (▼ - signifying no productivity headroom) or below (▲ - signifying productivity headroom is available)

**Figure 26 – Greater Lincolnshire productivity headroom across LEP comparator areas**

*Source: Codename:Consulting 2017, using ONS experimental statistics on GVA and employment at local and unitary authority level*

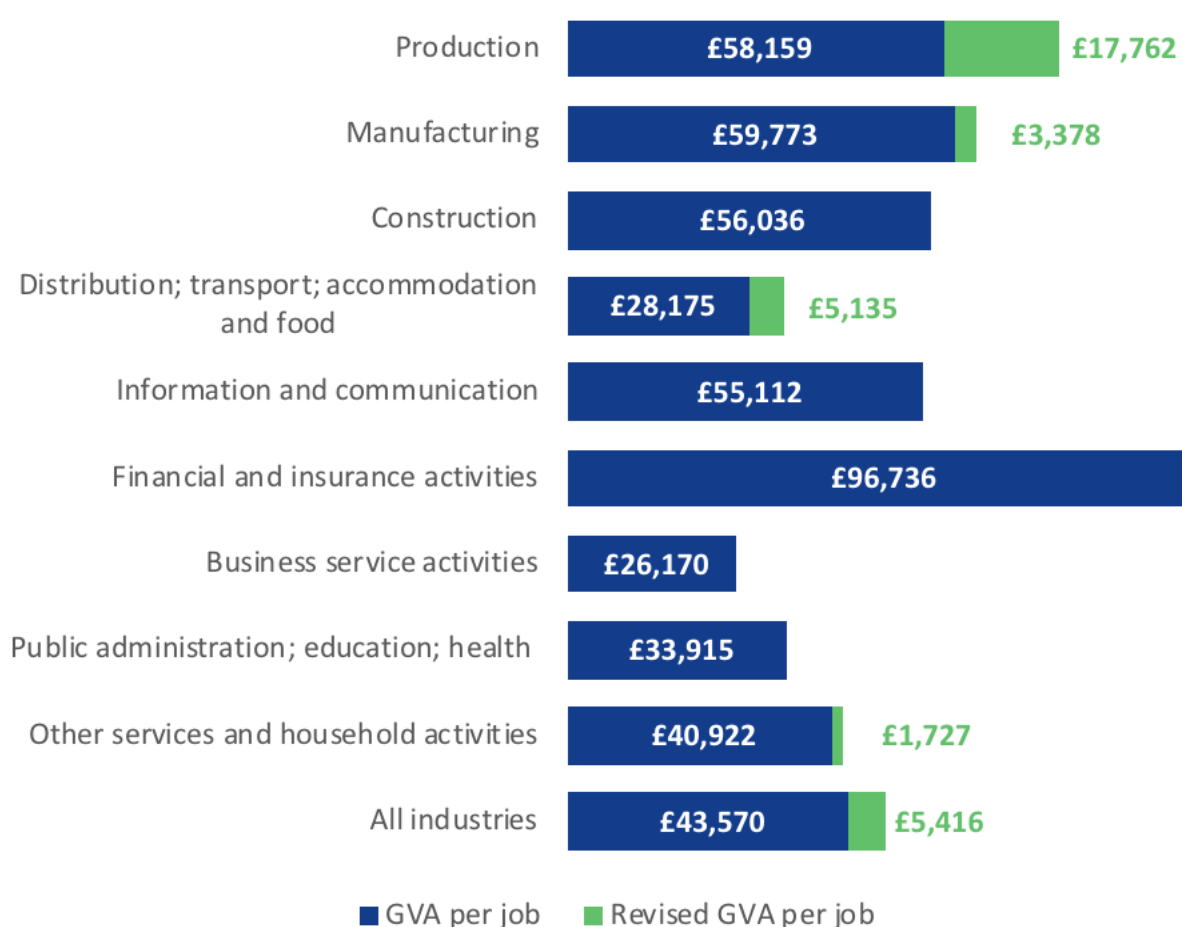


If we refer back to figures 13 and 17 then D2N2 was the next highest performing comparator LEP on both measures of productivity. Referring to figure 26, then we can also see that across all of the priority sectors (apart from Health and Care) then there is in theory some productivity headroom in Greater Lincolnshire when compared to D2N2.

So, with this in mind, let's consider a scenario 3, where Greater Lincolnshire productivity levels within those sectors align with those of D2N2.

### Figure 27 – Greater Lincolnshire productivity headroom Scenario 3 - Levels of GVA per job in Greater Lincolnshire priority sectors matched to D2N2 levels

Source: Codename:Consulting 2017, using ONS experimental statistics on GVA and employment at local and unitary authority level



Referring to scenario 3 in figure 27, then on this basis Greater Lincolnshire's GVA per job would increase to £48,986, placing it again in 15<sup>th</sup> position out of the 38 LEPs. Overall, GVA for the Greater Lincolnshire economy would nearly be £24bn, an increase of £2.6bn.

# Driving productivity growth

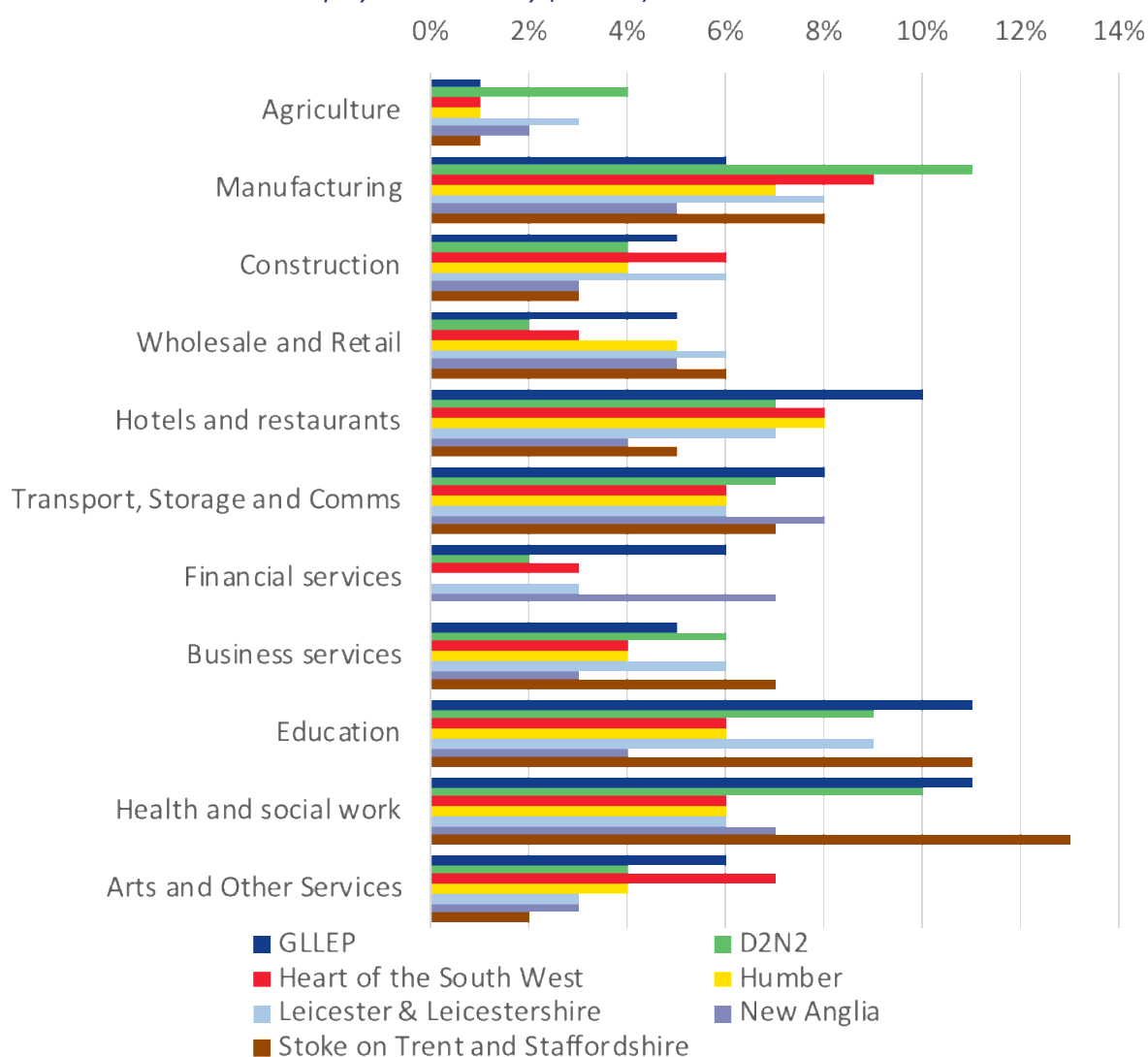
Having considered what Greater Lincolnshire productivity levels might look like if they were to match comparator and national levels, let us now turn our attention to some of the drivers of productivity growth (as outlined in the five pillars of the Industrial Strategy), and how these might both be affecting productivity levels, and stimulated in order to raise performance levels.

## People (Skills)

The UK's Industrial Strategy recognises that people, and the skills they have, are a key driver of productivity. According to research by the Confederation of British Industry, disparities in education and skills are the biggest drivers of regional variation in productivity. We also know from multiple sources that Greater Lincolnshire lags behind national averages on skills levels, but that this position is improving. However, results from the UKCESS 2015 suggest that Greater Lincolnshire still has a way to go in some sectors when performance against its comparator areas is considered.

**Figure 28 – Percentage of establishments with a skills shortage vacancy**

*Source: UK Commission's Employer Skills Survey (UKCESS) 2015*





Referring to figures 28 and 29 then a number of sectors stand out that align well with those sectors identified previously as having potential productivity headroom, namely:

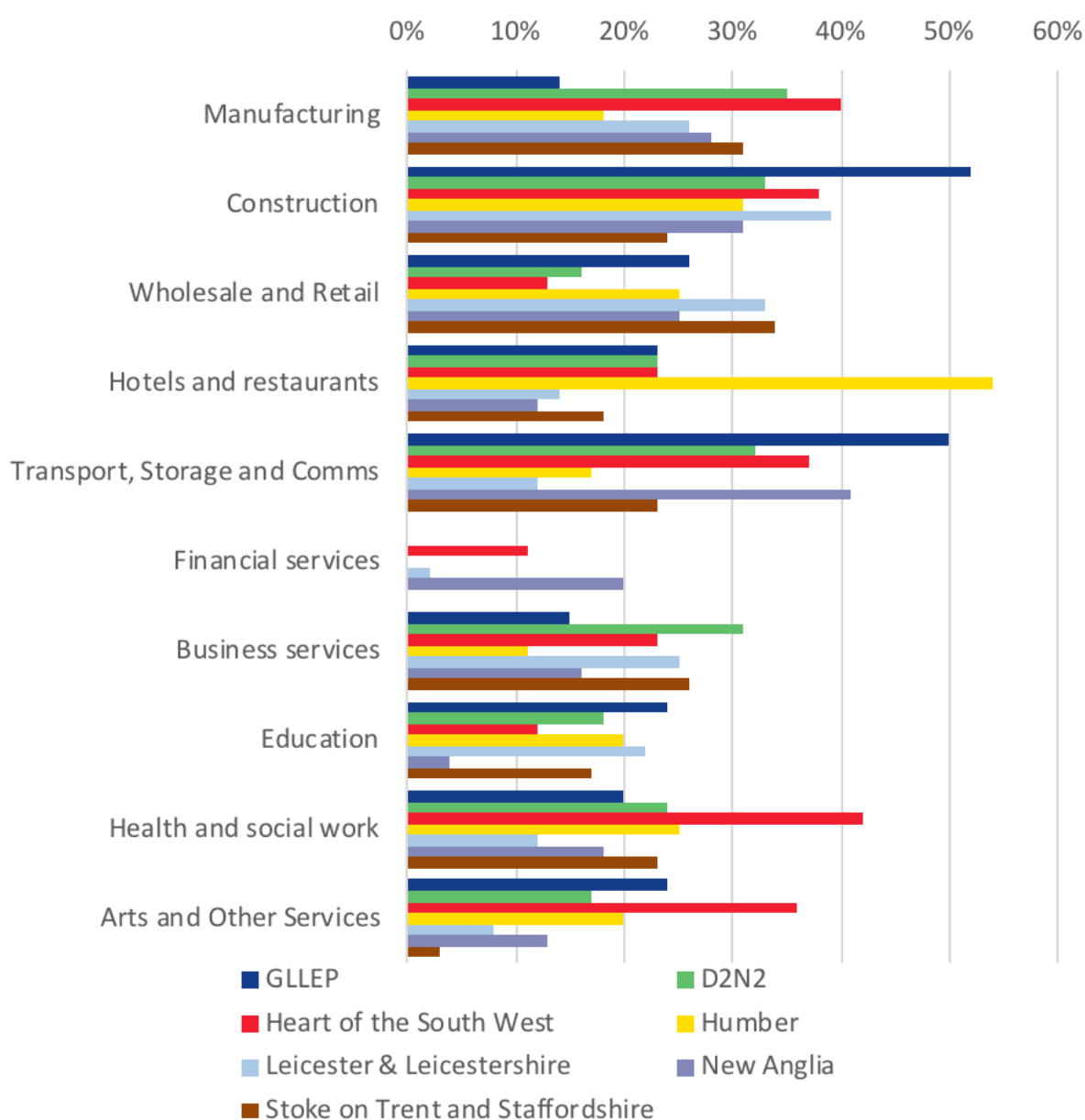
- Hotels and restaurants (figure 28)
- Transport, storage and comms (figure 28 and 29)
- Health and social work (figure 28)
- Arts and Other Services (figure 28 and 29)

These sectors also correspond well with Greater Lincolnshire LEPs priority and emerging sectors.

### Figure 29 – Percentage of all vacancies that are a skills shortage vacancy

Source: UK Commission's Employer Skills Survey (UKCESS) 2015

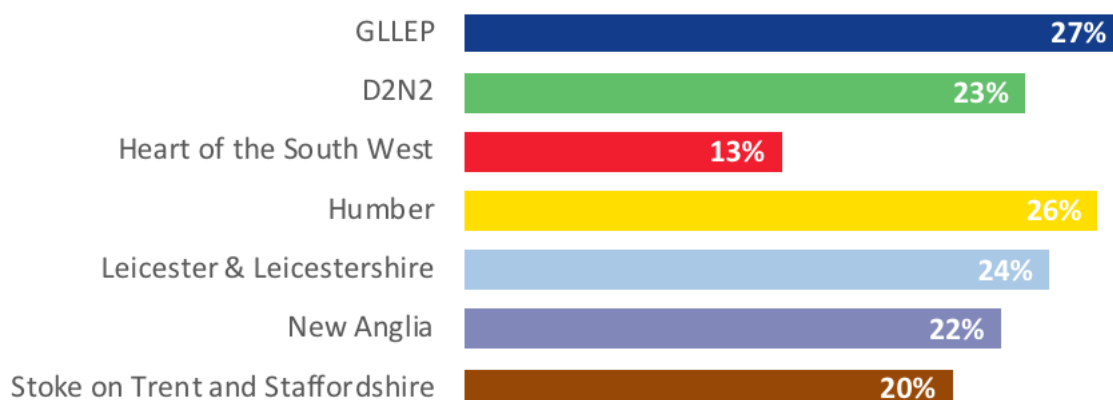
Please note that data was available for the Agriculture industry



Up until this point Manufacturing has not featured strongly but, if we consider where manufacturing establishments have stated that they have staff who are not fully proficient, then Greater Lincolnshire manufacturers top the list of its regular LEP comparator areas (figure 30).

### Figure 30 – Percentage of manufacturing establishments with any staff not fully proficient

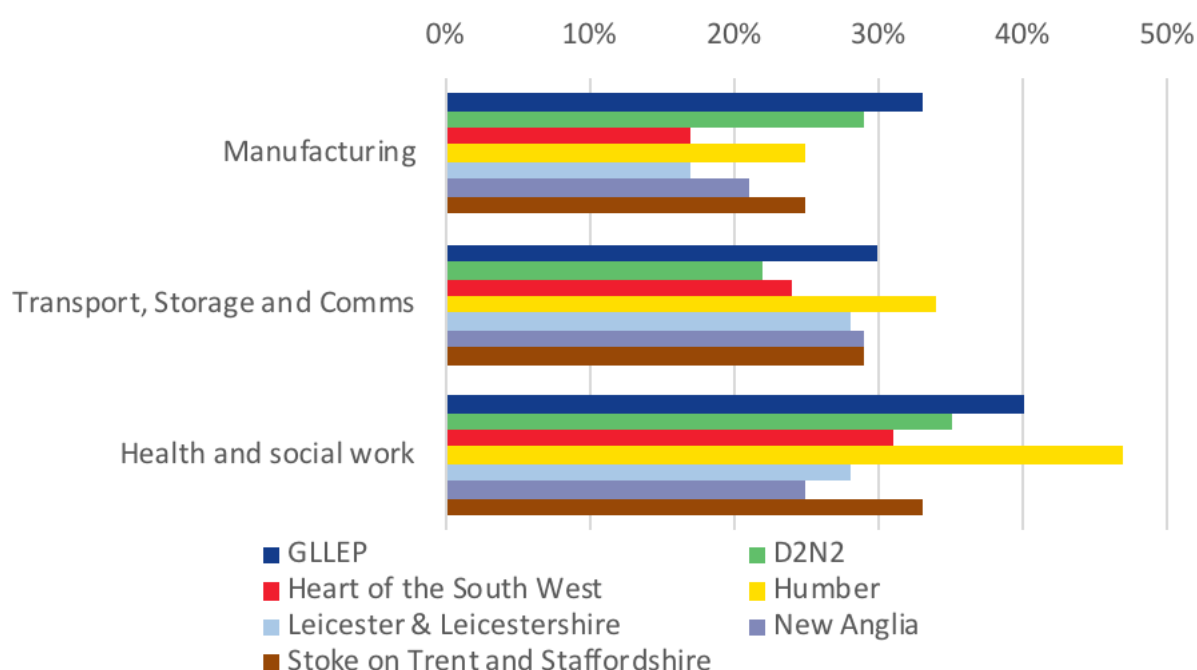
Source: UK Commission's Employer Skills Survey (UKCESS) 2015



Finally, if we consider those establishments that stated they had underutilised staff then Manufacturing, Transport, Storage and Comms, and Health and social work establishments all featured strongly for Greater Lincolnshire on this measure of performance (figure 31). As such, all of these sectors would be good places to concentrate activity in terms of realising productivity headroom.

### Figure 31 – Percentage of establishments with underutilised staff

Source: UK Commission's Employer Skills Survey (UKCESS) 2015



Many of these skills challenges faced by employers have been summarised neatly as part of the recent Greater Lincolnshire Area Review. The review goes on to identify the following mechanisms that Greater Lincolnshire LEP will use to drive change and support local employers:

- Seven European Social Fund / Skills Funding Agency projects tailored to address some of these challenges
- A bid to the Growth Deal for a skills capital programme
- A Place Marketing Strategy
- Inward investment support
- Supporting businesses through Growth Hub Advisors

## **Ideas (Innovation)**

IR4.0, or the fourth industrial revolution, refers to the huge transformational effect we are currently going through due to the ever growing digitalisation of our economy. IR4.0 encompasses such technological advances as labour automation, artificial intelligence, additive manufacturing, augmented and virtual reality, and the use of big and open data, to name but a few.

It is the first two examples in that list that perhaps provide the best opportunities to drive productivity growth through the “replacement” of humans with machines to undertake routine tasks. There are the ever present fears that these developments will drive up unemployment but the reality is much more likely that those people “replaced” by machines will be trained for work higher up the value chain as we see the economy generate more and more higher skilled jobs. The key for Greater Lincolnshire, and its levels of productivity, will be ensuring that it is somewhere near the front of the pack when it comes to realising these technological advancements, particularly within its traditional industries.

## **Business (Exports)**

The UK Industrial Strategy notes that “Businesses that export account for 60 per cent of the UK’s annual productivity growth, deliver stronger employment growth and pay higher wages than those that don’t”. So, whilst it would appear that exporting is a key component of productivity levels, and that there exists good information on this at the national level, unfortunately the understanding of levels and types of exporting at the local level has until recently been quite limited due to the lack of official data. Instead we have relied on local surveys to provide information on the types and places of exporting but have only been able to discern limited data on levels of exporting. However, the GLLEP 2014 business survey did find that only 13 per cent of Lincolnshire businesses exported, a figure which was significantly below the UK average.

This lack of information at the local level is something that is changing, in part with new data sets being released by HMRC for local enterprise partnerships, and it is this information (along with other relevant sources) that will be considered in a forthcoming paper on exporting in Greater Lincolnshire. Initial analysis of this data shows that the total value of exporting is worth £2.91bn to Greater Lincolnshire, with £651m of this generated by chemicals exports, and that Greater Lincolnshire's top trade partner is Belgium.

## **Business (Environment)**

Greater Lincolnshire is under-represented in terms of businesses that have high growth intentions or wish to enter new markets. We also estimate that in addition to the 36,400 VAT/PAYE register businesses there is somewhere in the region of a further 50,000 small businesses not picked up in official datasets.

This research looking at productivity has highlighted that Greater Lincolnshire's nationally important sectors still have significant room for raising productivity levels. In order to make sector based initiatives to raise productivity a success, we first need to understand that different sectors will have different levers to do enable this, and identify what they are.

Alongside this, further work to Identify existing, or potential, for business clusters (through Location Quotient analysis) will be carried out. It is through these business clusters that we will look to introduce or improve the ability to share best practice, and encourage capacity building and leadership through specifically developed support.

Finally, and in addition, there is still much work to be done in order to further understand small businesses and their specific challenges and motivations.

## **Infrastructure**

Greater Lincolnshire already makes a significant contribution to meeting the nation's food supply. We are the nation's biggest arable and horticulture producer. We produce 25% of the country's vegetables, have 25% of the nation's Grade 1 agricultural land, and process 70% of the UK's seafood. In addition to this then there is potential for Greater Lincolnshire to make a similarly significant contribution to national water and energy requirements, without sacrificing the character and appeal of the area. But there are infrastructure challenges which will need to be overcome in order to achieve this.

## More Information

This paper was produced by Codename:Consulting on behalf of Lincolnshire County Council's Economy and Environment Research Team for the Greater Lincolnshire Local Enterprise Partnership (GLLEP).

The GLLEP evidence base on the Lincolnshire Research Observatory is the key source of analysis and intelligence for the GLLEP.

[www.research-lincs.org.uk/lep-home.aspx](http://www.research-lincs.org.uk/lep-home.aspx)

