



The Geography of the Humber Economy

December 2015

Introduction

The recent strong job creation performance of the national economy coupled with its poor productivity performance has led to a shift in focus from creating new jobs to creating more productive jobs.

Previous work by Centre for Cities has shown that location is becoming increasingly important to higher-skilled, better-paid jobs. This has big implications for how economic policy attempts to improve the productivity of the national economy.

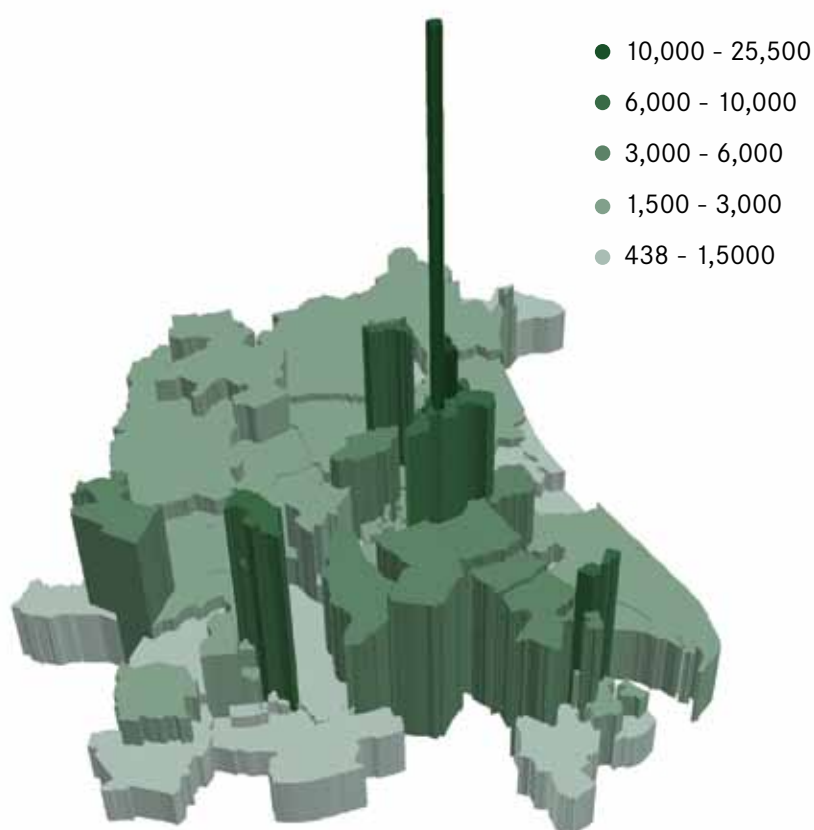
The purpose of this paper is to look at the geography of jobs across the Humber local enterprise partnership (LEP) area, compare this to other cities in the UK and set out what this is likely to mean for the future economic performance of the area.¹

The geography of jobs across the Humber LEP

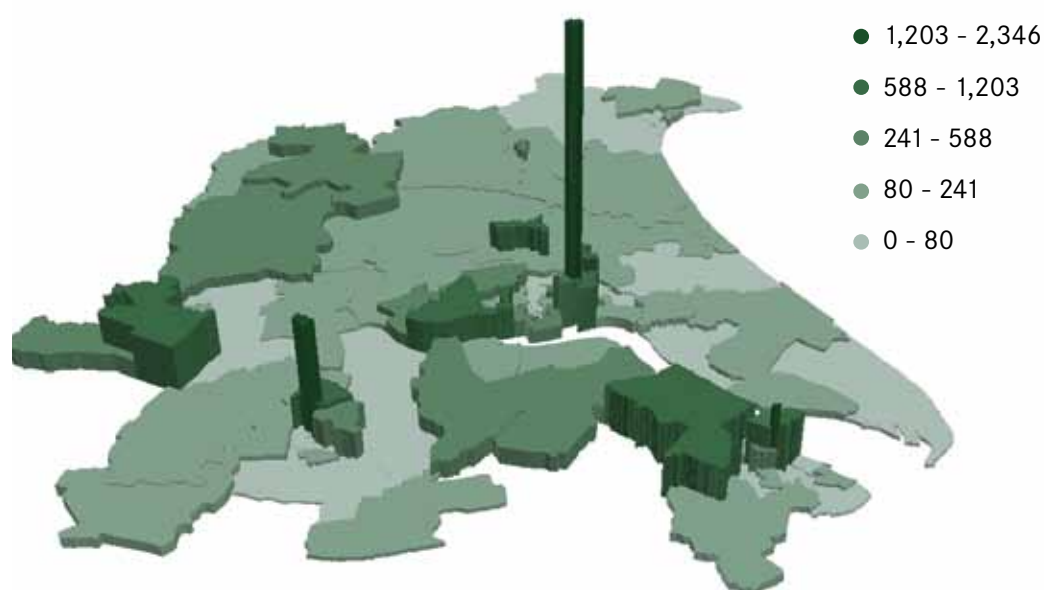
The geography of the Humber economy centres on Hull city centre. At 6.2 per cent (23,300 jobs), the city centre had by far the greatest share of jobs in 2014, as shown in Figure 1, despite accounting for just 0.04 per cent of all land. This was followed by the areas to the east bank of the River Hull – the opposite side to the city centre – which between them accounted for a further 24,000 jobs.

These patterns were even more acute when looking at the location of knowledge intensive business services (KIBS) jobs, such as in law, finance and marketing. As shown in Figure 2, the geography of these jobs, which tend to be high-skilled and better paid, is very much focused within Hull city centre. Just over 18 per cent of the Humber's total number of KIBS jobs were based in the city centre. The area including Scunthorpe town centre had the second highest share, but at a much lower 7.1 per cent.

¹ This work contains statistical data from ONS which is Crown Copyright. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.

Figure 1: The geography of jobs in the Humber LEP by medium super output area (MSOA), 2014

Source: ONS Business Structure Database. Contains Ordnance Survey Data © Crown copyright and database right 2015

Figure 2: The geography of private sector KIBS jobs in the Humber LEP by MSOA, 2014

Source: ONS Business Structure Database. Contains Ordnance Survey Data © Crown copyright and database right 2015

Manufacturing jobs, on the other hand, were more evenly distributed. As Figure 3 shows, the east bank of the River Hull (an industrial area to the east of the city centre) was the most dominant, containing 10,000 jobs (42 per cent of the total number of jobs in these areas), while the area including the Foxhills Industrial estate and steel works to the north of Scunthorpe town centre (7,800 jobs), and the south bank of the Humber (5,300 jobs) were also important sources of these jobs.

Figure 3: The geography of manufacturing jobs in the Humber LEP by MSOA, 2014

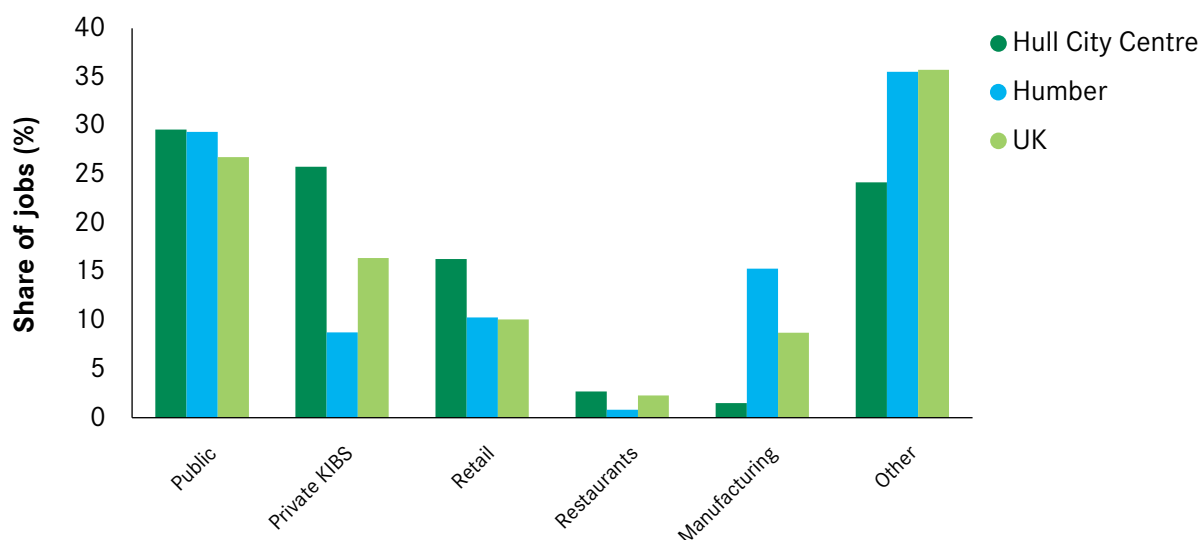


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The industrial structure of Hull city centre

The above analysis shows that Hull city centre plays a very different role to the rest of the Humber LEP. Figure 4 compares the relative size of different industries in the city centre, the LEP area and the UK. Relative to the national average a much higher share of jobs in the Humber area in 2014 were in manufacturing (15 per cent compared to 9 per cent), while a much smaller share were in private KIBS jobs (9 per cent compared to 16 per cent). The opposite is the case in the city centre – one in four jobs here were in private KIBS, just 1 per cent was in manufacturing and 16 per cent were in retail.

Figure 4: Share of jobs by sector in Hull city centre and the wider Humber economy, 2014



Source: ONS Business Structure Database

Box 1: Definition of Hull city centre

Unless otherwise stated, Hull city centre is defined as:



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This definition has been built using workplace zones in order to make data from the ONS' Business Structure Database comparable to data from the 2011 Census.

Why do we see this happen?

The importance of cities generally, and city centres in particular, in the national economy has endured in spite of the invention of ever more sophisticated telecommunications technologies. This is because there are three main benefits to businesses that result from locating in a city, known as 'agglomeration' benefits. These are:

- The ability to share inputs, supply chains and infrastructure, such as roads, rail and street lights
- The ability to recruit from a deep pool of workers with relevant skills
- The ability to exchange ideas and information, known as 'knowledge spillovers'

These benefits operate over different geographies. While the first two benefits operate over a city-wide level – a business based on a business park has access to the same potential recruits as a city centre business – the third operates over a much smaller geographic area.²

This is because knowledge – more specifically tacit knowledge (see Box 2) – is best spread via face-to-face interactions. And these face-to-face interactions are more likely to occur over much smaller distances and in more dense areas where both formal and informal meetings are more likely to come about. Within a city, this area is the city centre.

There is a large body of evidence to support this. For example, for the advertising industry in Manhattan it has been estimated that these knowledge spillovers operate over a distance of just over 750 metres,³ while other research finds that these agglomeration effects are strongest over a distance of one mile.⁴ This spread of tacit knowledge supports innovation – in the US patent rates have been found to be positively associated with employment densities in the urbanised parts of metro areas, suggesting that density helps spur innovation. The citations of patents are also more likely to come from the same area as the patent itself.⁵ It also boosts

² Rosenthal S & Strange W (2001) The Determinants of Agglomeration, *Journal of Urban Economics*, 50, pp 191-229.

³ Arzaghi M & Henderson J (2008) Networking Off Madison Avenue, *Review of Economic Studies* (October 2008), pp. 1011-1038

⁴ Rosenthal S & Strange W (2003) Geography, Industrial Organization, and Agglomeration, *Review of Economics and Statistics* (May 2003), pp. 377-393

⁵ Carilino G, Chatterjee S & Hunt R (2006) Urban Density and the Rate of Invention, Working Paper 06-14 (Federal Reserve Bank of Philadelphia, 2006); Jaffe A, Trajtenberg M & Henderson R (1993) Geographic Localisation of Knowledge Spillovers as Evidenced by Patent Citations, *Quarterly Journal of Economics*, vol. CVIII, August, no. 3, pp577-598.

productivity – a number of studies have found that productivity increases with employment density.⁶ This means that concentrating economic activity makes cities more productive. And increases in productivity drive long run economic growth.

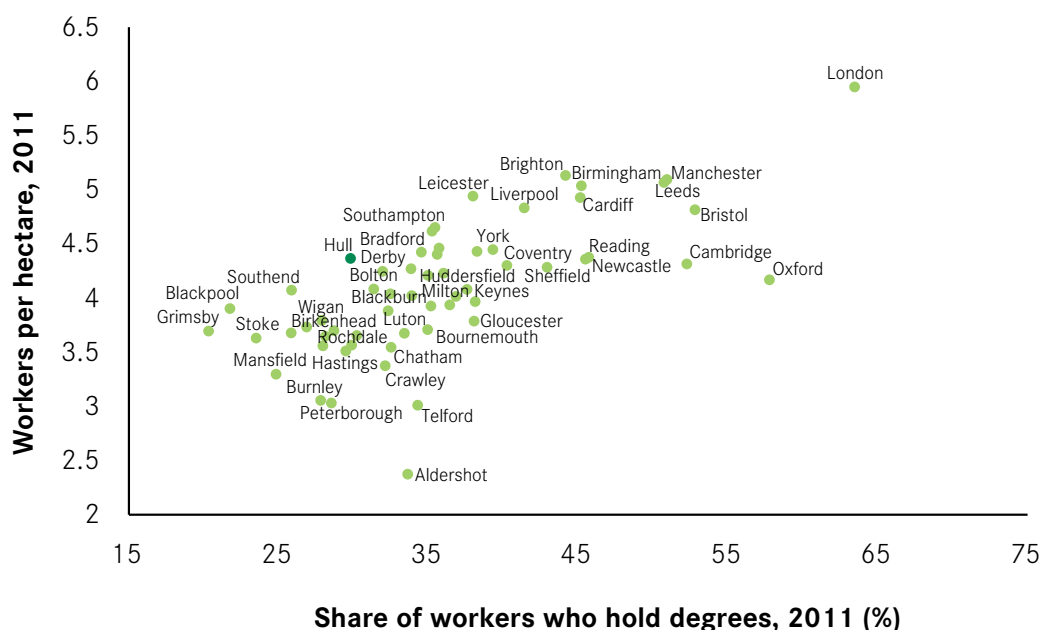
Box 2: Why knowledge is important⁷

New knowledge is what allows innovation to occur. Innovation allows us to produce new products and services and create more with fewer resources. This increases productivity, which drives long-run economic growth.

There are two broad types of knowledge – codified and tacit. Codified knowledge can be easily communicated through books and so can be spread without the need for face-to-face interaction. Tacit knowledge, on the other hand, is much harder to embed in people, and so things such as learning a new language or learning how to run a business are much better spread through face-to-face interaction. This is an important distinction. If tacit knowledge flowed easily across the world then it would be very easy for less developed countries to catch up to the most developed ones. And within countries it would be easy for poorly performing cities to catch up with the stronger performers. This does not occur, and so the ability for cities to spread knowledge and ideas is an important part of their long-run performance.

In England and Wales this can be seen by looking at the concentration of degree-educated workers in city centres. As Figure 5 shows, the share of all workers in a city centre who hold a degree increases as the density of all jobs in a city centre increases. Assuming that workers holding a degree get paid more than non-graduates, this would suggest that average wages in city centres are higher where the concentration of economic activity, and face-to-face interaction, is greater.

Figure 5: Density of workers and share of graduates in city centres, 2011



Source: ONS Census 2011. English and Welsh cities only

This doesn't hold for all sectors of the economy. Those businesses that are knowledge-based tend to benefit the most from the knowledge spillovers that occur in dense city centres. It is for this reason that we see them concentrate in these areas. Of all the private sector jobs in British cities, 25 per cent are located in city centres.

6 Ciccone A & Hall R (1996) Productivity and Density of Economic Activity, *The American Economic Review*, 86; Graham D (2007) Agglomeration Economies and Transport Investment, *Journal of Transport Economics and Policy* 41 (3)

7 Hausmann, Hidalgo et al. (2011) *The Atlas of Economic Complexity: Mapping the Path to Prosperity*, Cambridge: MIT Press

For KIBS jobs this rises to 40 per cent. And for financial services, a subset of the KIBS definition, half of all urban jobs in this sector are based in city centres.⁸

It's worth noting here that city centres are important sources for lower-skilled jobs as well as higher-skilled ones. The increased footfall that high-skilled jobs create increases the size of the market that retail and leisure businesses can sell to, which is likely to have a positive knock-on impact on the performance of the high street. Emerging evidence suggests that the presence of high-skilled 'tradable' jobs has a multiplying impact on those service jobs that sell to local markets.⁹ The result is that a strongly performing city centre economy is likely to create jobs for a range of skill levels.

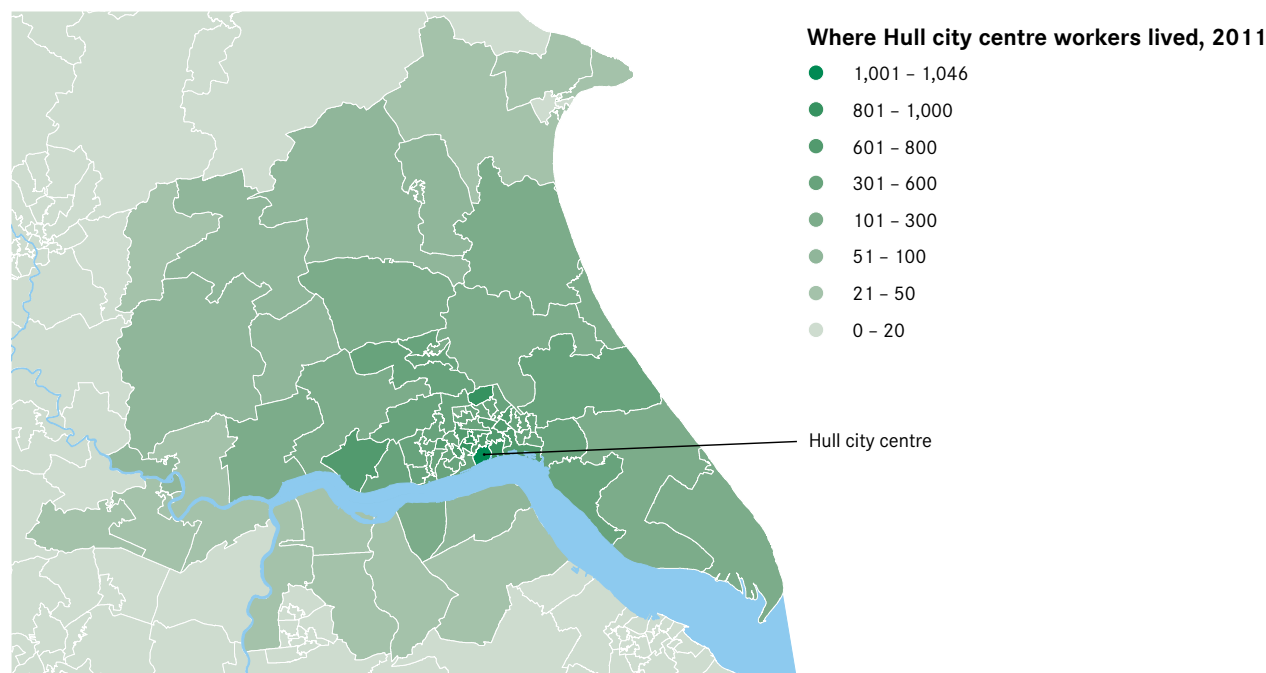
Of course, not all businesses prefer city centre locations, as shown by the location of manufacturing businesses away from Hull city centre, for example. This is because the businesses on these sites tend to require cheap land and good transport links more than they require access to knowledge and information.

But the UK's likely continued specialisation in knowledge-based economic activity, and the ever growing competitive pressures on more routinised types of work such as more traditional manufacturing and call centres, means that city centres are likely to become ever more important to their wider cities and the national economy as a whole. This means that the ability of city centres to attract and retain more knowledge-focused jobs will become increasingly important in determining the future economic performance of places.

Commuting patterns¹⁰

The concentration of jobs in Hull city centre, particularly KIBS jobs, make it an important potential source of jobs not only for Hull local authority but the wider area too – 42 per cent of Hull city centre workers lived outside of Hull local authority in 2011. But as Figure 6 shows, this reach tends to be limited to the North Bank of the Humber, with very little commuting seen from Lincolnshire. One in three workers in Hull city centre lived in East Riding, compared to just 2 per cent from the South Bank – the pull of Hull city centre does not reach very far into the South Bank.

Figure 6: Where Hull city centre workers lived, 2011



Source: Census 2011. Contains Ordnance Survey Data © Crown copyright and database right 2015.

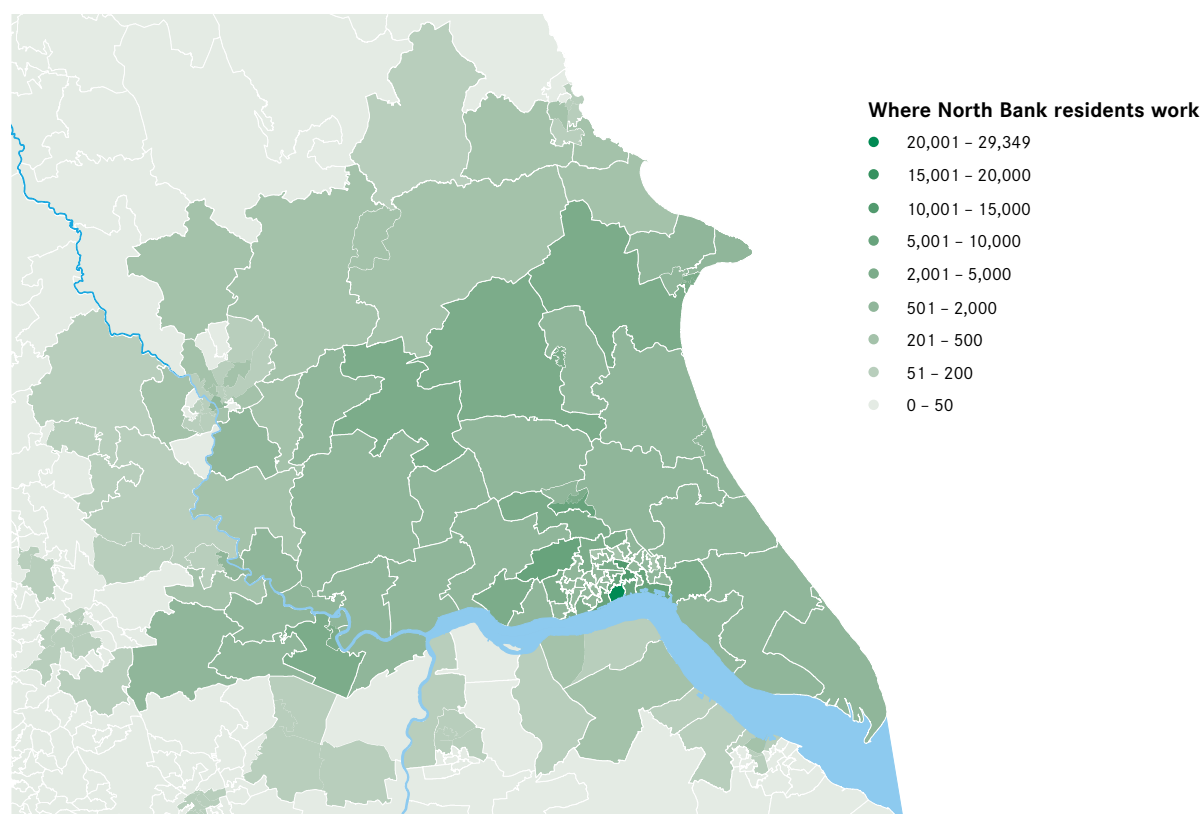
⁸ Swinney P and Sivaev D (2013) *Beyond the high street: Why our city centres really matter*, London: Centre for Cities

⁹ Moretti E (2012) *The New Geography of Jobs*, Boston: Houghton Mifflin Harcourt

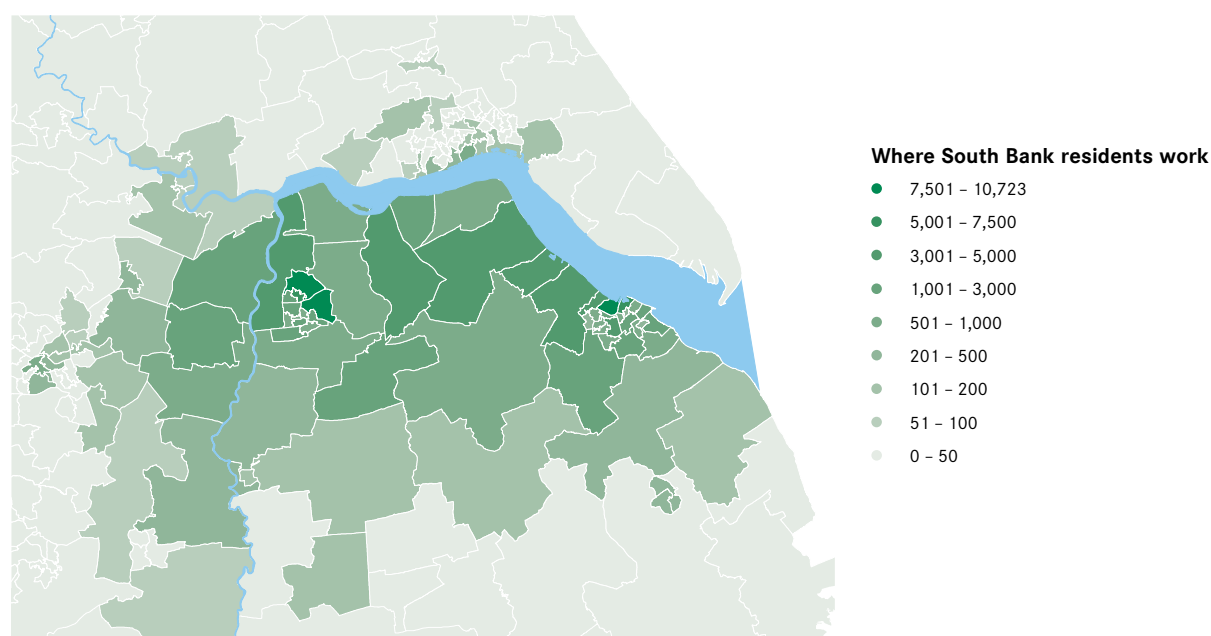
¹⁰ Because commuting data is only available to medium super output area, Hull city centre is defined as Hull 029 when using this data.

This is reflective of the commuting patterns of residents of the North Bank – containing Hull and East Riding – and the South Bank – containing North Lincolnshire and North East Lincolnshire. In 2011 just 2.8 per cent of all residents in the South Bank worked in the North Bank, while just 1.3 per cent of North Bank residents went south over the Humber Bridge to work in the South Bank. Figure 7 sets out these patterns. This suggests that while the LEP spans the whole Humber area, the North Bank and South Bank currently operate as two distinct economies. These patterns are reflective of the east-west transport links and the historic county boundaries which still appear to have a bearing on commuting patterns across the Humber LEP.

Figure 7: The commuting patterns of North Bank and South Bank residents, 2011



Source: Census 2011. Contains Ordnance Survey Data © Crown copyright and database right 2015.



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The performance of Hull city centre

While Hull city centre is an important source of jobs for the North Bank, it underperforms relative to other city centres across the country. And this has implications for the number of higher-skilled, better-paid jobs available in the wider Humber area.

The Humber LEP has lower productivity than the UK average – £44,700 per worker compared to the national average of £51,800 in 2013.¹¹ It has lower workplace weekly wages too – an average of £446 compared to £501 for the UK as a whole. This is reflected in the industrial structure of the area shown in Figure 4 above, which showed the Humber LEP to have a much smaller share of KIBS jobs than the national average, and a much higher share of jobs in manufacturing.¹²

This is reflected in the performance of the city centre. Around 26 per cent of jobs in the city centre were in private KIBS, compared to an average of 30 per cent for all city centres in Britain. And just over half of all jobs in English and Welsh city centres were in high skilled occupations in 2011, compared to 36 per cent in Hull city centre.¹³

Its private sector job creation performance has been weak in recent years too, in line with the wider performance of the Humber LEP. In 2008, the city centre had around 760 fewer private sector jobs than it did in 1998. And it has been hit hard since the beginning of the last recession. Between 2008 and 2014, it lost a further 1,900 jobs, as shown in Figure 7. This meant that the city centre accounted for a smaller share of all Humber jobs in 2014 (6.2 per cent) than it did in 1998 (6.9 per cent). Box 3 discusses the private sector job creation performance of the Humber area since 1998 in more detail.

Figure 7: Change in private sector jobs in Hull city centre and the Humber LEP

	1998-2008	2008-2014
Hull city centre	-764	-1,938
Humber	156	-10,147

Source: ONS Business Structure Database

This weak performance poses a large challenge for the future economic performance of the Humber LEP. As discussed above, city centres are likely to become ever more important for the economic performance of the wider economies that they sit at the centre of. If Hull city centre struggles to attract this type of work then this will have implications for the future economic performance of the wider Humber area – both the North Bank and the South Bank – and the job opportunities for the people that live within it.

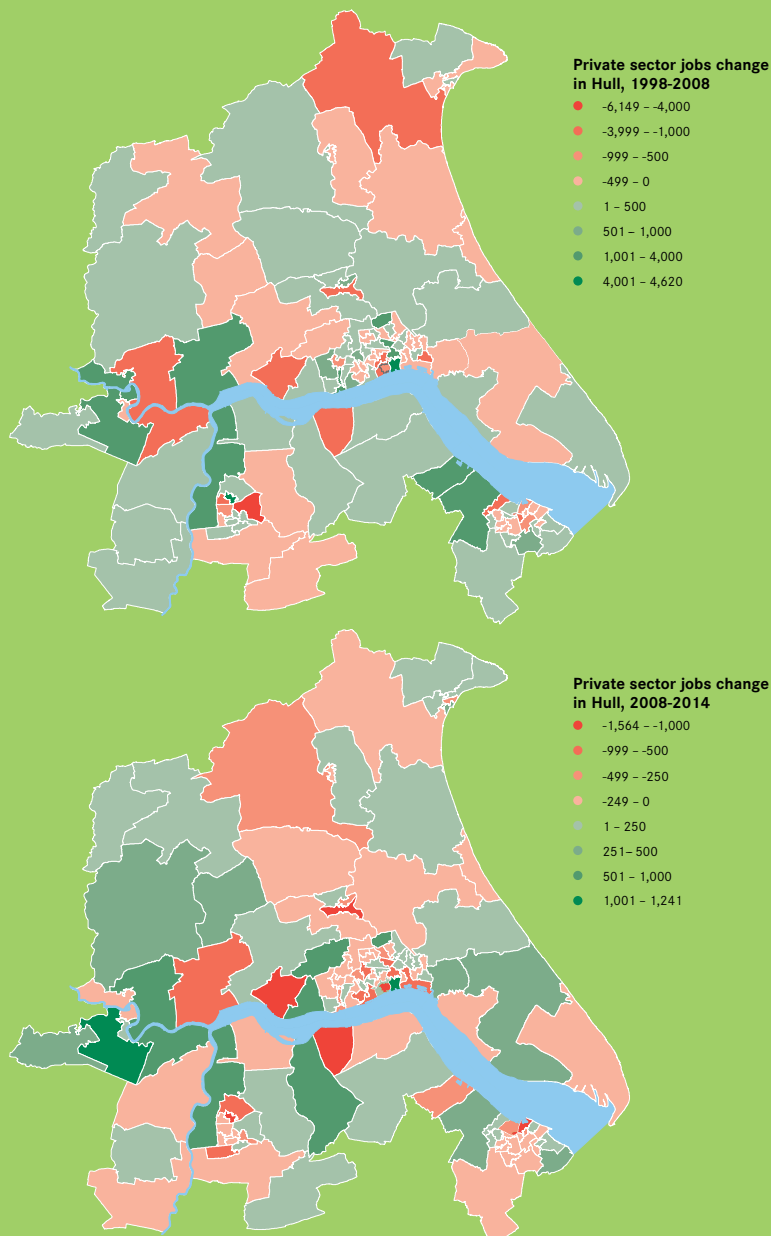
¹¹ Source: ONS, Regional, Sub-regional and Local Gross Value Added; NOMIS, Business Register and Employment Survey

¹² The nature of manufacturing in Hull tends to be lower skilled than England and Wales as a whole. In 2011 26 per cent of jobs in manufacturing in the Humber were high skilled, compared to the English and Welsh average of 33 per cent.

¹³ Source: Census 2011

Box 3: Private sector jobs changes in the Humber LEP, 1998-2014

While the LEP area as a whole saw a fall in private sector jobs between 1998 and 2008, not all areas had losses. In the 10 years to 2008 the industrial sites on the west bank of the River Hull and the Foxhills area of Scunthorpe saw the strongest job creation, creating over 4,000 private sector jobs each. The former continued its strong performance after 2008, adding a further 1,100 jobs, while the area to the west of Goole saw an increase of 1,200.

Figure 8: Private sector job creation in the Humber LEP, 1998-2008 and 2008-2014

Source: ONS Business Structure Database. Contains Ordnance Survey Data © Crown copyright and database right 2015

As noted above, the patterns of job creation have important implications for the types of jobs created in the Humber LEP. In light of the recent announcements that the Chancellor has made concerning the devolution of business rates, it will also have fiscal implications for the local authorities concerned in the future. As the analysis above shows, a number of people live in one authority, but work in another, creating a misalignment in terms of where tax is raised and where public services are consumed. In the on-going discussions around devolution, the commuting patterns seen should be used to help allocate tax revenues in a way that reflects the roles that different authorities play across a functional economic area.

What should policy focus on to improve the Hull city centre economy?

For Hull city centre to become a more attractive place to do business, it needs to improve the availability of key inputs for businesses – skilled workers, appropriate office space and good infrastructure. Improving all of these elements should form part of a plan to improve the economic performance of the city centre.

A deep pool of appropriately skilled workers

High-skilled businesses require access to high-skilled workers. The problem for Hull and the Humber LEP is that they have few residents with degree-level qualifications and many people with no formal qualifications. Around 74,000 people – 17 per cent of the working age total – who lived within 18 kilometres of Hull in 2011 held a degree, the 8th lowest level of all British cities.¹⁴ Meanwhile the Humber LEP area had the 12th highest share of residents that did not have a qualification higher than 5 GCSEs at grade D-G in 2014 (22 per cent)¹⁵, although this proportion has fallen in recent years.

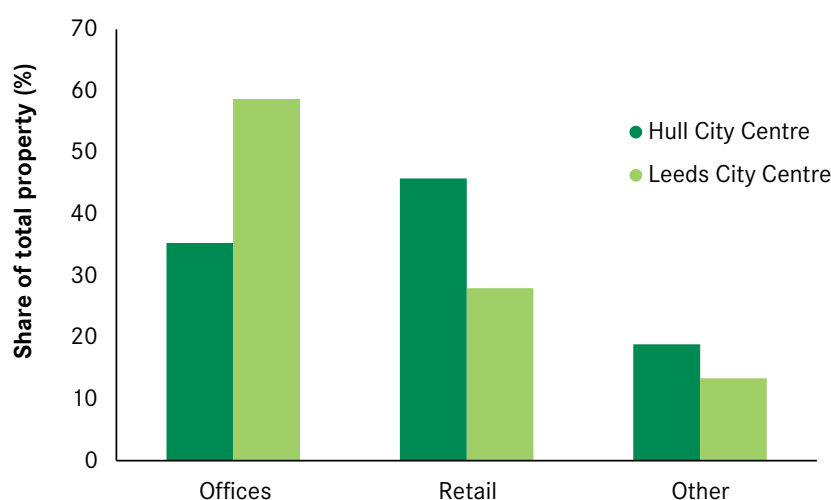
This poses a big challenge for Hull city centre and the Humber economy more generally when attempting to attract higher-skilled, higher-paid jobs. Improving the skills of residents should be central to any policy approach to improve the economy.

This should take two forms. The first should be to improve the performance of Hull's schools. Just half of pupils attained 5 A*-C GCSEs including Maths and English in 2013, the second lowest of all cities in England, Wales and Northern Ireland.¹⁶ The second should be to improve the qualifications held by those who have left school, both for those in and out of work, principally in Maths and English.¹⁷ To do this Hull and the Humber LEP should work with national skills providers and local further education colleges to direct funding towards addressing these problems, complementing this with any national funding that becomes available through funds like the Local Growth Fund.

Appropriate space to do business

Another issue likely to be important for office-based businesses is the ability to get the right type of space. Figure 9 compares the make-up of commercial office space in Hull and Leeds city centres. Leeds city centre has a much higher proportion of office space than Hull city centre, while it also has a much smaller reliance on retail space.

Figure 9: The make-up of commercial property by floorspace in Hull and Leeds city centres



Source: Valuations Office Agency. Data for Leeds was correct as of October 2014. Data for Hull was correct as of August 2015.

Note: the floorspace of pubs and clubs is not included as it is not disclosed.

¹⁴ Eighteen kilometres was defined as the upper quartile of commuting distances by managers and senior officials in Green A (2009) *Geography matters: The importance of sub-national perspectives on employment and skills*, Wath-Upon-Deane: UK Commission for Employment and Skills p.14-15

¹⁵ Source: NOMIS, Annual Population Survey

¹⁶ Centre for Cities (2015) *Cities Factbook 2015*, London: Centre for Cities

¹⁷ Swinney P and Clayton N (2011), *Learning Curve: Schooling & skills for future jobs*, London: Centre for Cities

Leeds city centre has performed very strongly in recent years, and has played an ever-increasing role in the West Yorkshire economy. One of the knock-on impacts of this has been a thriving retail core, supported by the daily inflow of 70,000 commuters.¹⁸ As shown above, this has not been the case in Hull. Given the much smaller role that retail space plays in a more buoyant Leeds city centre economy, this suggests that Hull may have too much retail space, something that is likely to increase if the performance of the city centre economy does not improve.

This means that a remodelling of the commercial space available is likely to be required. Crucially, this will not be about increasing the supply of office space. Using rateable values as a proxy for rents shows that the average rateable value in Hull city centre is £58, compared to £186 in Leeds city centre.¹⁹ Despite rents being an estimated three times higher in Leeds, businesses have shown a clear preference to locate in Leeds rather than in Hull. Further increasing the supply of office space in Hull city centre would most likely push rents down further when demand is weak, and would not make it a more attractive place to do business.

Instead, any focus on addressing the supply of office space should focus on improving the quality of office space. This is likely to involve the conversion of obsolete stock to other uses, or even demolition, as well as the creation of new grade A space, of which there has been very little in recent years.²⁰ A review of the current commercial space would give a better picture on the current size and condition of offices available and whether or not they are fit for purpose. Any subsequent policy should be respond to this.

Consideration should also be given to the role that the public sector as an office occupier can play in boosting demand for city centre office space. A number of cities, such as Coventry and Bradford,²¹ have brought their functions into the city centre in recent years in the hope of increasing footfall and concentrating economic activity. Where possible, Hull City Council should consider doing the same in a wider plan to improve the quality and occupancy rates of city centre offices.

The use of other public sector assets will also be important here. The presence of both the university and Hull College in the city centre are two sources of knowledge in the urban core, and this will be supported by the opening of the University Technical College in 2017. The challenge is to how to make better use of the knowledge within these institutions to help attract in new knowledge-based businesses.

Infrastructure to support growth

Policies to improve skills and the supply of office space will be underpinned by good infrastructure – both to make sure that people across the Humber can easily commute to the city centre via both private and public transport, and to make sure that Hull city centre businesses are well connected via good digital infrastructure.

Poor transport infrastructure does not currently seem to be a barrier to growth in the Humber, with congestion in particular not being a major problem.²² But policy should look to consider two issues – how to make the current public transport system work better, and how transport needs will change as the economy grows.

On the former, authorities in the Humber LEP area should investigate the possibility of re-regulation of the bus services, as is being looked at by other city-regions in England. This system would allow the introduction of a single fare structure across the area, reducing barriers to commuting, and better management of the routes provided. In order to do this though the local authorities in question would have to form a combined authority.

On the latter, the role that the Humber authorities play in Transport for the North will be important. While Hull has reasonable direct links to London, its rail links to other cities in Yorkshire and Lancashire are weak. The importance of these connections, and the impact that an improvement of the services on them may have should be considered as part of any future plan to support economic growth in and around Hull.

18 Swinney P (2014), Core strength: Supporting the growth of Leeds City Centre, London: Centre for Cities

19 Source: Valuations Office Agency

20 Source: Hull City Council

21 McGough L and Thomas E (2014) Delivering change: Putting city centres at the heart of the local economy, London: Centre for Cities

22 The Northern Way (2010) City Relationships: Economic Linkages in Northern city regions Hull and Humber Ports, Newcastle: The Northern Way

The role of digital infrastructure will need to be central to any plan to remodel the office space available in Hull city centre. Through its Broadband Delivery UK programme, the Government has committed money to rolling out superfast broadband to 90 per cent of the UK by 2016. Any extension of or successor to this initiative should be used to improve internet speeds that can be achieved within the city centre, particularly as the technology continues to develop.

Conclusion

Hull city centre is the largest single contributor of employment opportunities to the wider Humber economy. It has the highest share of total jobs – 6.2 per cent, despite accounting for only 0.04 per cent of all land. And it has an even higher share of knowledge intensive business services jobs, which tend to be higher-skilled and better paid – it is home to just over 18 per cent of all of the Humber's jobs in this area.

However, the city centre underperforms when compared to other city centres in Britain. Its industrial structure tends to be much less knowledge-focused than other city centres in England and Wales, and its weak economic performance in recent years means that had fewer private sector jobs in 2014 than it did in 1998.

This underperformance presents a threat to the future growth on the wider Humber economy. High-paid, knowledge-based jobs are increasingly clustering in our most successful city centres. If the Humber LEP economy – which also has below average shares of these types of jobs – is to attract such activity in the future, then it needs a city centre that is attractive to such activity. This means that improving the pull of the city centre – through principally improving the skills levels of residents, but also through transport, commercial space and the location of the public sector – should be a key aim of local policymakers if they not only want to increase the number of jobs overall but crucially also increase the number of higher-paid jobs available.

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