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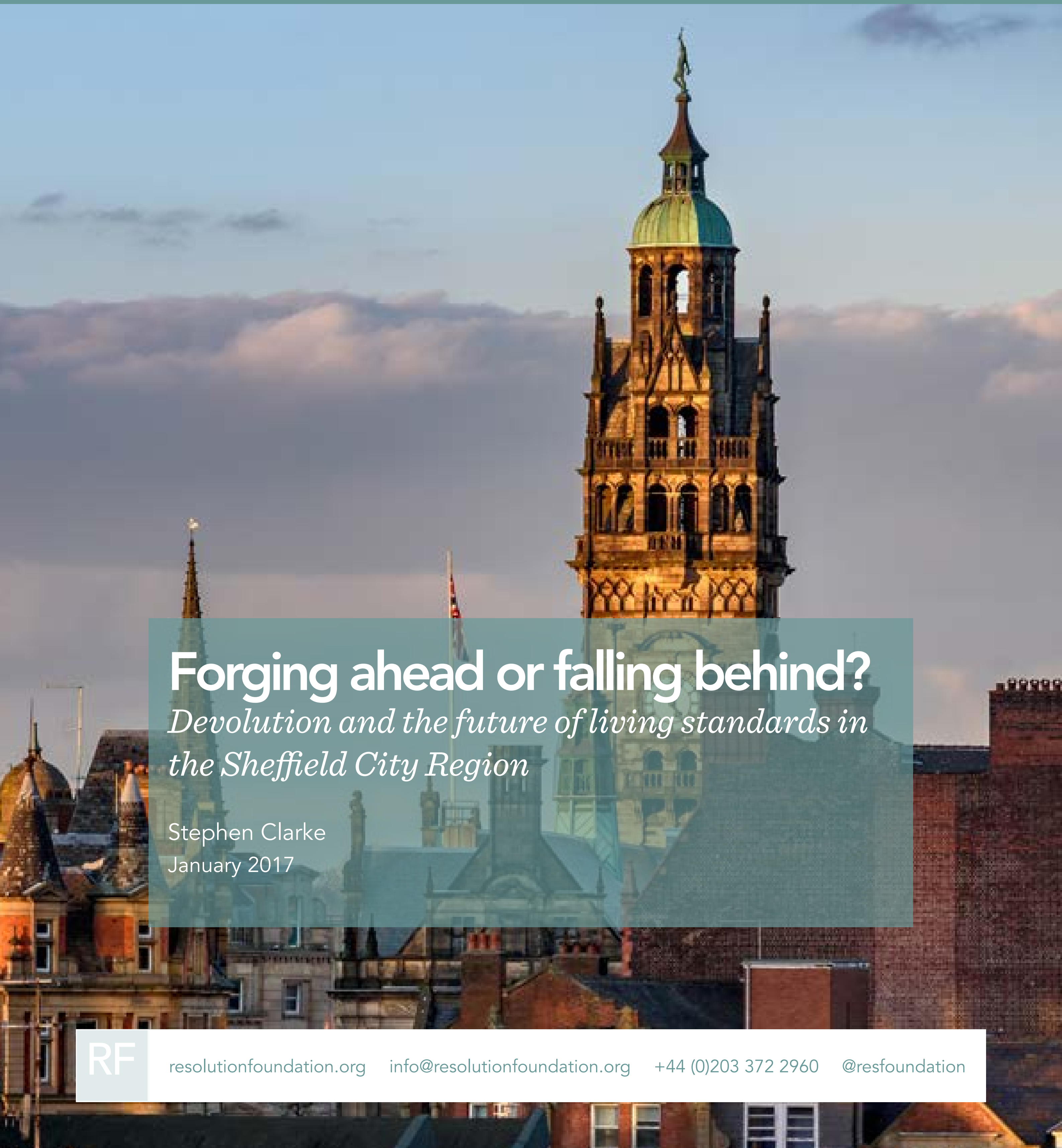
REPORT



Forging ahead or falling behind?

Devolution and the future of living standards in the Sheffield City Region

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Contents

Executive summary

From deindustrialisation to the financial crisis

The economy of the Sheffield City Region, like many in the North and Midlands, struggled to adjust to deindustrialisation and the decline of the steel and coal industries in particular. In the 1980s the economy of the region lagged behind many of those in the South and parts of the Midlands.

The 1990s and early 2000s saw the region improve its relative standing. Real GVA grew by 36 per cent between 1997 and 2007 and from 2001 the Sheffield City Region grew faster than the rest of the country and the other city regions. Furthermore from the late-1990s the employment rate in the Sheffield City Region has remained the same as the average for the other city regions, although at 70 per cent it is still some way behind the UK rate of 74.4 per cent.

Unfortunately this slow progress was disrupted by the financial crisis. GVA remains 7.8 per cent below its pre-crisis peak, hourly wages are 76 p lower than they were in 2010, and benefit cuts have lowered household incomes in the region. The one bright spot is that the region's employment rate is back above its pre-crisis peak.

The National Living Wage will raise earnings, but low pay is the biggest problem for the region

Sheffield City Region has some of the lowest pay levels of any city region. Gross hourly pay for residents, at £11.03, is the lowest of any city region and is £1.15 less than that received by the average worker in the UK. Pay for workers in the region is the second lowest of any city region, with only workers in the Nottingham city region paid less. Low pay undermines living standards. Average weekly household income, after housing costs, is £68 lower in the Sheffield City Region than in the UK generally.

The region will disproportionately benefit from the NLW. Our projections indicate that nearly one in five workers in the Sheffield City Region will be paid the legal minimum in 2020 due to planned increases in the NLW. Some workers will be more affected than others. We expect nearly one in three women and those under 30, one in two part-time workers and nearly seven in ten employees in the hotels and restaurants sector to be paid the legal minimum by 2020. As a result the NLW will provide a welcome boost to some of the lowest paid workers. However, it will also mean that it is vital that local leaders do all they can to provide support for those in most need of opportunities to progress in work, otherwise the minimum wage will become the going rate for many.

The region has more workers that tend to be low paid, but like-for-like workers are still paid £1,750 less a year

Part of the reason that pay is lower in the Sheffield City Region is because the region's economy has more workers and firms that tend to be paid, or pay, less. The office administration and retail sectors are large employers, and are overrepresented in region compared to other city regions. In all hourly pay is lower than the average for Great Britain and so these sectors drag down average pay.

To address this issue local leaders need to encourage the growth of more high-paying sectors. One way to make the region more attractive to firms in these sectors would be to improve the region's ability to retain students once they have graduated. The region has seen one of the fastest increases in the student population over the course of the last decade, unfortunately growth in the share of graduates in the population has been less impressive, and the region still retains less students than Manchester, Bristol or Leeds.

However, the overrepresentation of low paying sectors only explains half of the region's pay gap. Even when we compare like-for-like workers in the region to their counterparts elsewhere we find that they are paid 6.5 per cent or £0.91 less an hour. Over the course of a year this means that like-for-like full-time workers in the Sheffield City Region make £1,750 less than workers elsewhere in Great Britain.

Low productivity is one of the main reasons why pay is lower in the Sheffield City Region. Productivity, as measured by output per hour worked, is 17 per cent lower in the region than the UK average, and it is the lowest of all city regions. Looking at productivity across sectors within the Sheffield City Region we find that many are less productive than the English average. In particular three sectors stand out for being relatively large employers and significantly contributing to the region's productivity deficit: manufacturing, office administration, and retail and wholesale all stand out.

Local leaders need to get devolution back on track

The impetus behind devolution was flagging even before the December High Court ruling that a consultation on Chesterfield's inclusion in the combined authority was unlawful. It is now clear that the mayoral elections planned for May 2017 will not go ahead. The failure to progress on devolution is a missed opportunity for a region crying out for economic leadership.

It is important that local politicians get devolution back on track. The exact form it should take is debateable but the devolution agreement signed with the government in October 2015 provides an indication of the powers that local leaders could demand. More important though than receiving these new powers is to have a strategy for wielding them effectively.

The evidence is that local economic strategy needs to focus on the problem of low pay. Partly the problem is that the region has too many low paying firms. To address this local leaders need to attract more high-paying firms to the region – raising the student retention rate should help. However, this is only part of the solution. Retail, manufacturing, and food and drink are large sectors where productivity is significantly below the national average. Regional leaders should create a Sheffield Low Pay Commission to echo the national body. This Commission should examine low pay and productivity in the retail and leisure sectors in particular, and should explore how both existing funding and programmes, and new funding, can help encourage in-work progression. In addition to this there should be further support for firms and employees that wish to raise skills.If local leaders can come together to revive devolution, and begin to take steps to address the region's low pay problem, then the future of the region will be bright.

Section 1

Introduction

The South Yorkshire, or Sheffield City Region, like many in the Midlands and the North has had to adjust to a history of deindustrialisation, the decline of the steel industry having a particularly pronounced effect on the region. Since then the region, like the rest of the country, has had to deal with the fallout from the financial crisis and there could be further economic turbulence ahead as the country navigates its departure from the European Union.

This is the economic backdrop that has accompanied the policy of devolution pursued by the coalition and now Conservative government. In 2015 the leaders of local authorities in South Yorkshire signed a Devolution Deal with the government. The Deal planned for a range of powers to be devolved to the region which would be administered by the Sheffield Region Combined Authority and a new directly elected mayor. Following this leaders of Bassetlaw and Chesterfield also voted to join the Combined Authority.

The plan was for a regional mayor to be elected in May 2017, however a recent decision by the High Court means that the election will now not go ahead. The fate of the Sheffield City Region devolution deal and new mayor is not clear, yet there is still hope that in some form, and in the relatively near future local leaders in South Yorkshire will have an opportunity to wield new powers to improve the lives of residents in the region.

It is important that devolution gets back on track as the region is facing some daunting challenges. This, the third of the Resolution Foundation's 'deep dives' into major city regions, provides an overview of living standards in the Sheffield City Region and shines a light on these challenges.

Progress on devolution has stalled

In October 2015 the leaders of Sheffield, Rotherham, Barnsley and Doncaster signed a Devolution Deal with the government. The deal planned for powers to be devolved to the region, which would elect a new 'metro' mayor, who along with the Combined Authority, would be able to take decisions affecting the whole region. In March 2016 Bassetlaw in Nottinghamshire and Chesterfield in Derbyshire applied to be full members of the Sheffield Combined Authority and be under the mayor's jurisdiction.

It was expected that the Sheffield City Region would join Greater Manchester, Liverpool, Tees Valley, the West Midlands, Cambridge and Peterborough and possibly the West of England in electing a metro mayor in May 2017. However, following the decision by the High Court that the consultation on whether Chesterfield should join the combined authority was unlawful, the election will now not go ahead. Whether or not the election will be delayed till 2018 or abandoned altogether is not clear, even before the recent court case local leaders had questioned whether an elected mayor was necessary.[1] There is also some suggestion that members of the government are keen on a pan-Yorkshire devolution

[1] BBC News, *Sheffield City Region: Elected mayor 'not a done deal'*, 13 September 2016

deal.[2] As a result the future of devolution in the region is far from clear.

A failure to progress on devolution would be a missed opportunity. The region faces some entrenched problems and would benefit from local leaders being given the opportunity (and new powers) to tackle them. Given the government's policy of devolving certain powers, and the broad support for some form of devolution in South Yorkshire, it is hoped that political leaders in the region will, in the relatively near future, have the opportunity to exert greater influence over certain policy areas.

This is not to suggest that a radical increase in the power of local leaders is on offer from central government. In many areas Westminster and Whitehall will still take the key decisions and as a result they are just as responsible for improving the living standards of the residents of the region as local leaders are. Nevertheless devolution provides a window of opportunity for local leaders to begin to improve the performance of the region in areas where it currently lags behind. This report provides an insight into those areas.

The powers on offer

The Devolution Deal signed with central government in October 2015 made it clear that the region could look forward to greater influence over policy in a number of areas. Box 1 provides a non-exhaustive overview of the powers on offer.

[2] Financial Times, *Ministers insist on elected mayors to release devolution cash*, 14 November 2016

Box 1: The powers on offer as part of Sheffield City Region's Devolution Deal

Skills

The City Region will have control over the 19+ skills system and will be able to work with firms to ensure that the new Apprenticeship levy meets the needs of the local economy. There was also a commitment for the City Region be chair a review of the 16+ skills system in the region.

Employment

Sheffield City Region will work with the DWP in commissioning the new Work and Health Programme, although DWP will retain ultimate control. The City Region is also able to draw up plans and receive funding to run an employment support pilot to help a specific group(s) in the Region.

Housing and planning

The Devolution Deal outlined plans for the new mayor to chair a new Joint Assets Board which would oversee asset disposals in a way that adds to residential and commercial stock. It was also envisioned that the mayor would have power to create mayoral development corporations similar to those used in London.

Transport

The City Region will be responsible for a devolved transport budget, allowing the region to take control of bus franchising and possibly introducing smart-ticketing in an integrated network.

Business support

The Devolution Deal outlined a number of areas in which the City Region could influence economic policy and business support. Some of which involved support for innovative sectors in the region such as advanced manufacturing and infrastructure, and others which gave the local leaders more control over general business support. There was also a promise that the region could roll out a commercial pilot for superfast broadband and have more influence over how UKTI promoted trade opportunities in the region. There was also a proposal that the City Region could achieve Intermediate Body status for European Union funding, it remains to be seen what role local leaders will have in deciding what will happen to funding that may be repatriated from the EU.

Financial

The government committed to an additional £30 million per annum of capital and revenue funding for 30 years and to explore the possibility that the region could have more borrowing powers for the Combined Authority. Sheffield City Region will also benefit from business rate retention when plans for this are finalised.

When it is clear what form devolution will take the region may be offered further powers, similar to those offered to other regions that have agreed to elect a mayor. Regardless, some of the powers detailed in Box 1 provide an opportunity for local leaders to take decisions and raise the living standards of residents in the area. In particular local leaders will have more formal powers over business support and can use this to encourage improvements in productivity (a key weakness of the region). In addition to this a regional mayor (if elections do go ahead) would create a figurehead with the power to convene key parts of the business community and attract investment to the region – similar to the role played by the mayor of London. If devolution can help stimulate improvements in productivity, progression and ultimately pay then it will be a success.

The remainder of this paper is set out as follows:

- **Section 2** looks at the **economic performance** of the Sheffield City Region in the run-up to and since the financial crisis.
- **Section 3** Looks at **inequalities between both people and places** in the Sheffield City Region.

- In **Section 4** we look at **what effect the NLW will have on low pay** in the Sheffield City Region by 2020.
- **Section 5** looks at **why pay is so low** in the region.
- **Section 6** offers some initial thoughts as to **what local leaders can do to improve living standards** in the region.
- Section 7 sets out some **conclusions.**

We provide details of data and definitions in the Annex.

Section 2

Out of the the shadows

Britain is unusual in that its major cities tend to perform less well on a range of economic and living standards measures than do other parts of the country. Many attribute this to the legacy of deindustrialisation and the fact that the decline of manufacturing and heavy industry in many parts of the country during the 1970s and 1980s hit many cities in the North and Midlands particularly hard.

Despite there definitely being some common roots to the maladies of different areas, different cities have different strengths and weaknesses. This section looks at how the Sheffield City Region economy has performed from 1980s to the present. Analysing key living standards metrics it is apparent that although the region had somewhat shrugged off the effects of deindustrialisation by the 1990s and experienced a period of good economic growth before the crisis, this in itself has not been enough to significantly raise living standards in the region to levels experienced across much of the rest of the country. Although not the only weakness this is primarily because pay in the region is particularly low.

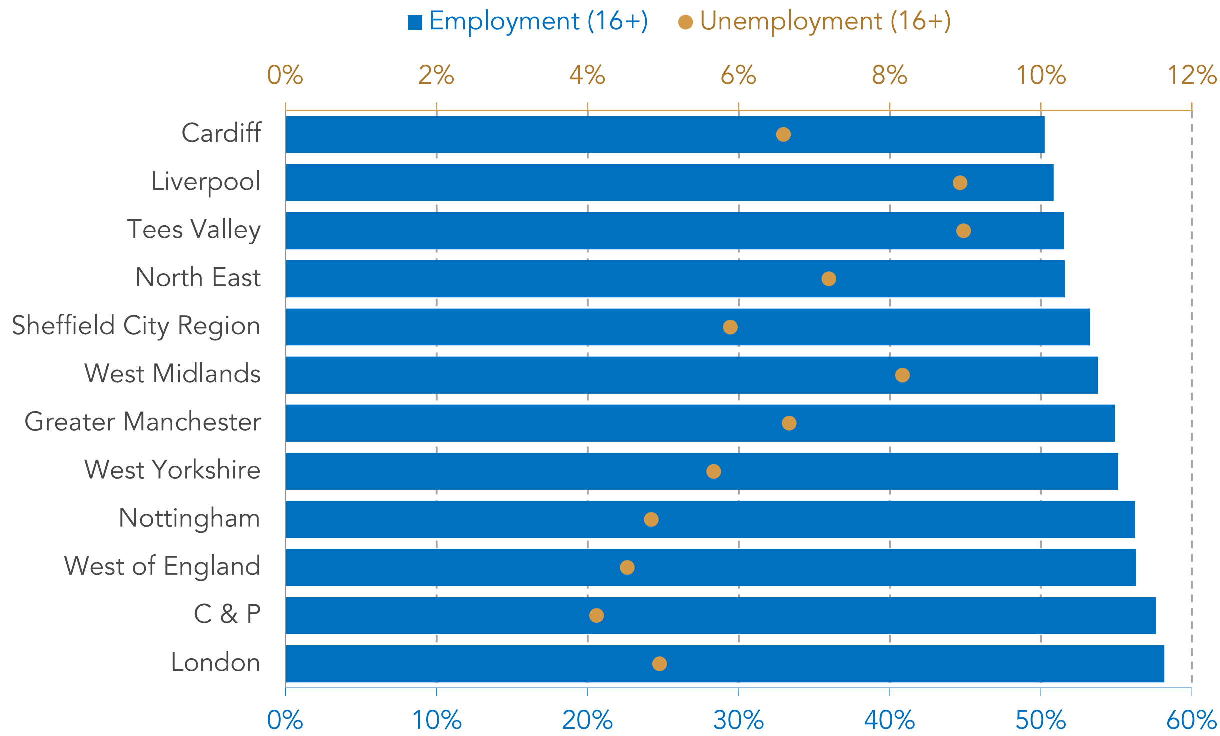
Adjusting to deindustrialisation

A region with a long industrial heritage, particularly around the steel industry, Sheffield City Region, like many others in the North and Midlands suffered significant economic fallout from deindustrialisation in the 1970s and 1980s. The decline of the steel industry, which became particularly acute in the late 1970s, wrought significant damage to the region's economy. This was followed by the decline in the coal industry in the 1980s, with significant job losses in parts of the region, particularly in Barnsley, Doncaster and Rotherham. Given this the region is still responding to the challenges that the rapid loss of these large industries created. On the one hand Sheffield City Region retains significant industrial prowess; yet on the other the region must nurture new sectors, particularly those that can sustain jobs and higher wages for residents.

Turning to the earliest period for which we have data on the major city regions it is clear that, relative to regions in the South and parts of the Midlands, Sheffield City Region lagged behind in the early 1980s. In 1981 the Sheffield City Region, during a period of elevated unemployment nationally, had an unemployment rate of 5.9 per cent. This was lower than many areas in the north – Liverpool had an unemployment rate of 8.9 per cent at the time – but significantly higher than the rates in Nottingham and parts of the South and West of the country. In terms of employment the region had an employment rate for all persons over the age of 16 of 53 per cent, compared to 58 per cent in London and Cambridge and Peterborough, 56 per cent in the West of England and 55 per cent for the country as a whole. Again Sheffield's performance was not as poor as many areas in the north of the country, nevertheless the difficulty the region was having in adjusting to the economic changes of the 1970s and 1980s is clear.

Figure 1: The jobs market for major city regions: 1981

Employment and unemployment in major city regions



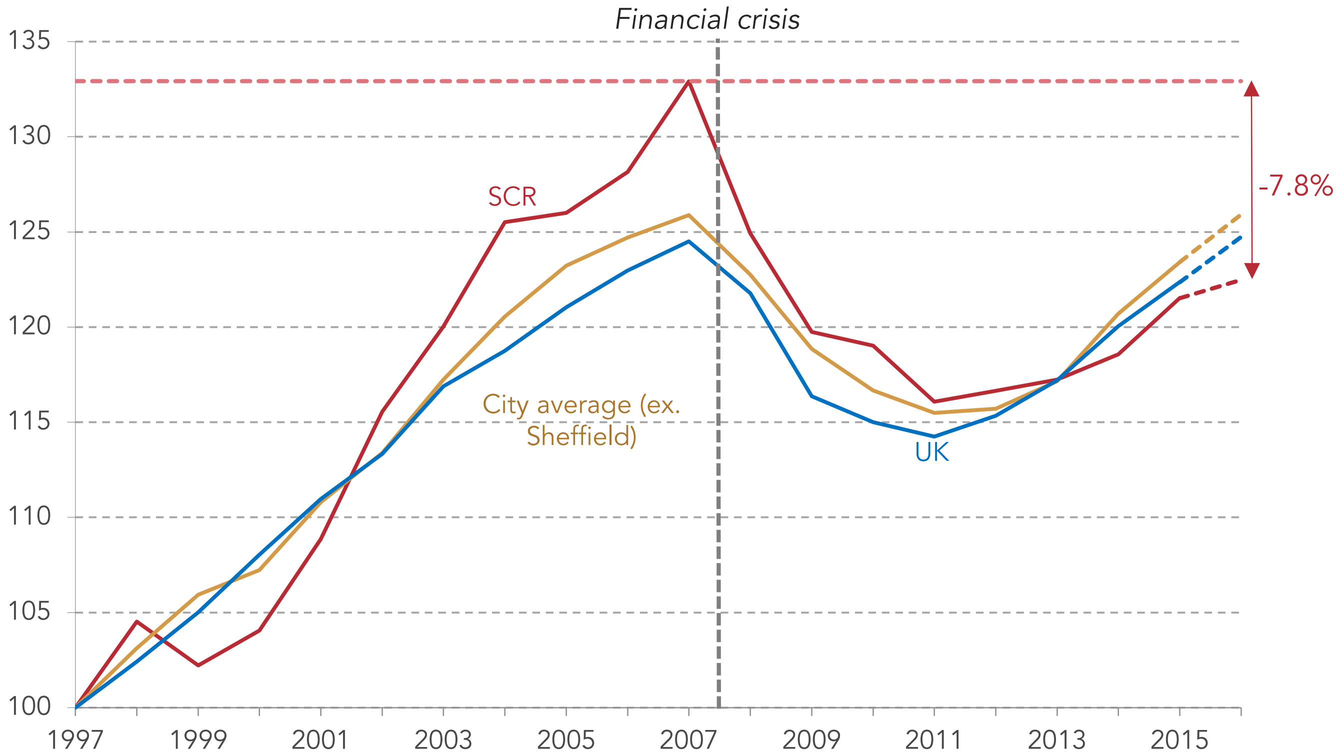
Source: RF analysis of ONS, *Census 1981*

Growth in Sheffield City Region: relatively strong performance before the crisis but the region remains significantly below its peak

In the 1990s the region's economy performed relatively strongly. Real GVA grew by 36 per cent between 1997 and 2007, with the Sheffield City Region growing faster than the rest of the country and the other city regions from 2001.

Figure 2: Economic growth in the Sheffield City Region

GVA per head at constant prices (1997=100)



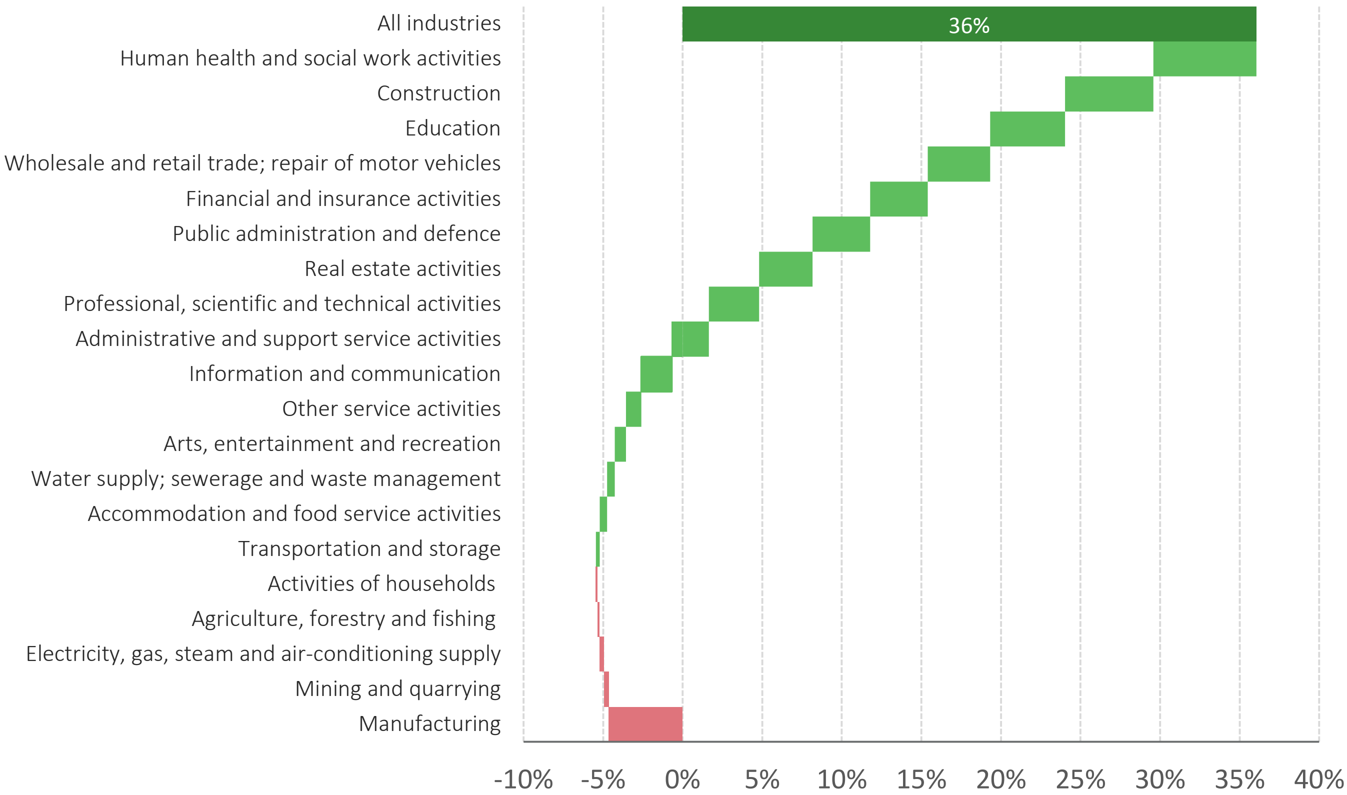
Notes: Dotted line is an extrapolation based on trend growth in GVA between 2012 and 2015.

Source: RF analysis of ONS, *Regional Gross Value Added*

This growth was driven by a range of sectors, as Figure 2 sets out. Particularly important were human health and social work, construction, and education. The role played by such sectors is evident in the expansion of the University of Sheffield and Sheffield Hallam, both of which, but particularly the former expanded during this period. Other important sectors included wholesale and retail, the financial sector, public services (other than health and education) and real estate. Based on data from the Annual Business Inquiry, the city of Sheffield saw one of the largest increases in public sector employment before the crisis. By contrast manufacturing, one of the region's historical strengths, shrank, although less so than for the rest of the country.

Figure 3: Sectoral contribution to economic growth in the Sheffield City Region: 1997 - 2007

Contribution to growth in GVA weighted by size of sector (%)



Notes: Growth in each sector is weighted by the size of that sector so as to ascertain its contribution to GVA growth over the period.

Source: RF analysis of ONS, Regional Gross Value Added

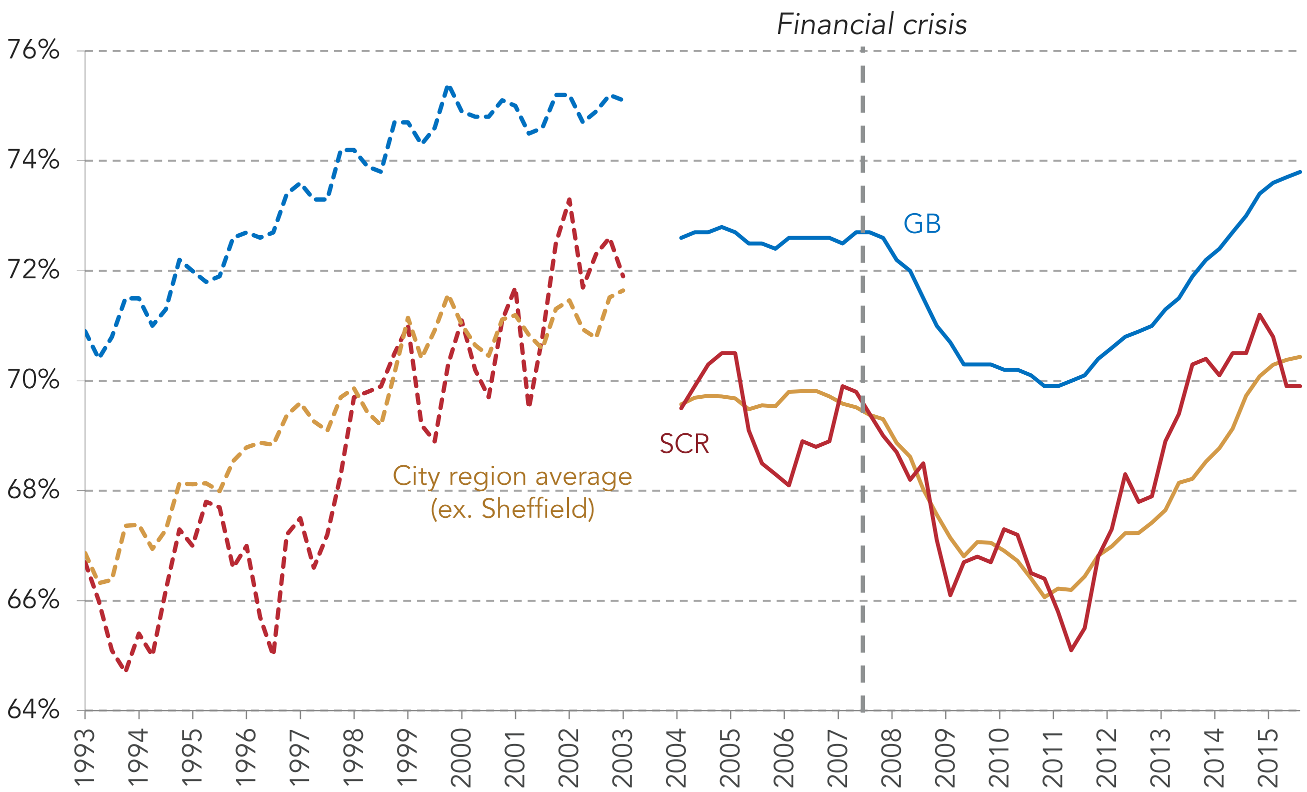
Before the crisis the region performed relatively well and there is evidence that its economy was developing strengths outside of its traditional industrial base. Unfortunately since the crisis economic growth has disappointed and the region's GVA still remains 7.8 per cent below its pre-crisis peak, one of the biggest shortfalls of any city region. This has also more than reversed the gains made by the region. In the pre-crisis years.

All work and no pay: a relatively strong labour market is undermined by low wages

Figure 4 shows that the area recorded an employment rate comparable to the other city regions in the late-1990s. In the 2000s and following the financial crisis the region's labour market continued to perform as well as the other city regions, but still below that of the rest of Great Britain.

Figure 4: Employment rates in the Sheffield City Region and the rest of the country

Employment (working-age & 16-64 year olds)



Notes: dotted line shows the working-age employment rate which during the earlier period measures the share of men aged 16-64 and the share of women aged 16-59 in work. The volatility in the pre-2003 employment rates is due to the fact that the data is not seasonally adjusted and small sample sizes in the Sheffield City Region creates greater peaks and troughs. There is a gap in the employment data for city regions in 2004. Solid line is the employment rate for all those aged 16-64 in the later period.

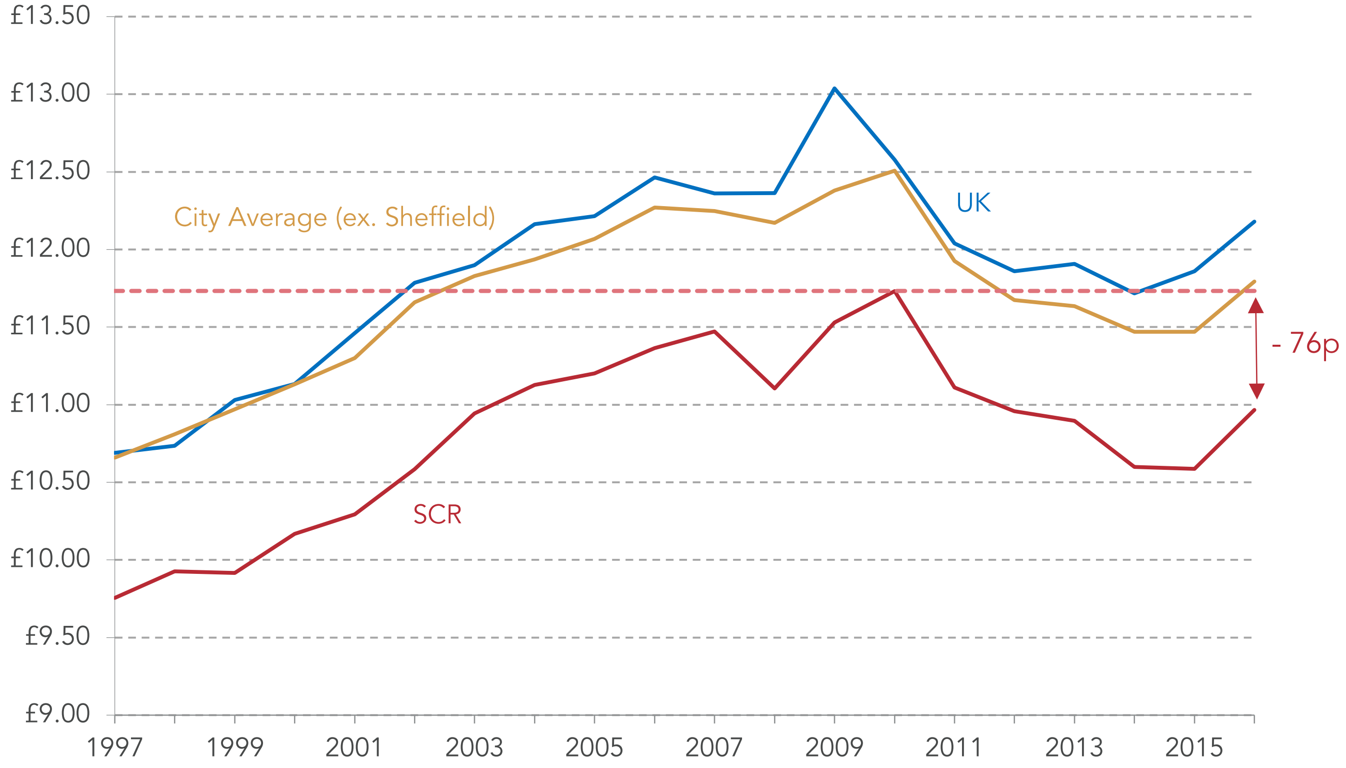
Source: RF analysis of ONS, Labour Force Survey

Sheffield City Region's jobs market then does not perform particularly poorly. Of the thirteen city regions examined in this report, the region's employment rate, of 69.9 per cent is average. Between 2011 and 2016 the region's employment rate rose by 3.5 percentage points, about 1 percentage point below the average. The jobs market could definitely improve but this is not the key economic challenge facing the Sheffield City Region. Instead the problem is pay.

On pay Sheffield City Region's poor performance stands out (see Figure 4). In 1997 real median gross hourly pay of £9.75, was 9.6 per cent lower than the median rate across the UK. Today the gap is 11 per cent. Median Gross hourly pay in Sheffield City Region is £10.96 whereas the UK median is £12.18 and the average of the medians across the other city regions is £11.79.

Figure 5: Pay in Sheffield City Region, other city regions and the rest of the country

Real gross median hourly pay (RPIJ adjusted)

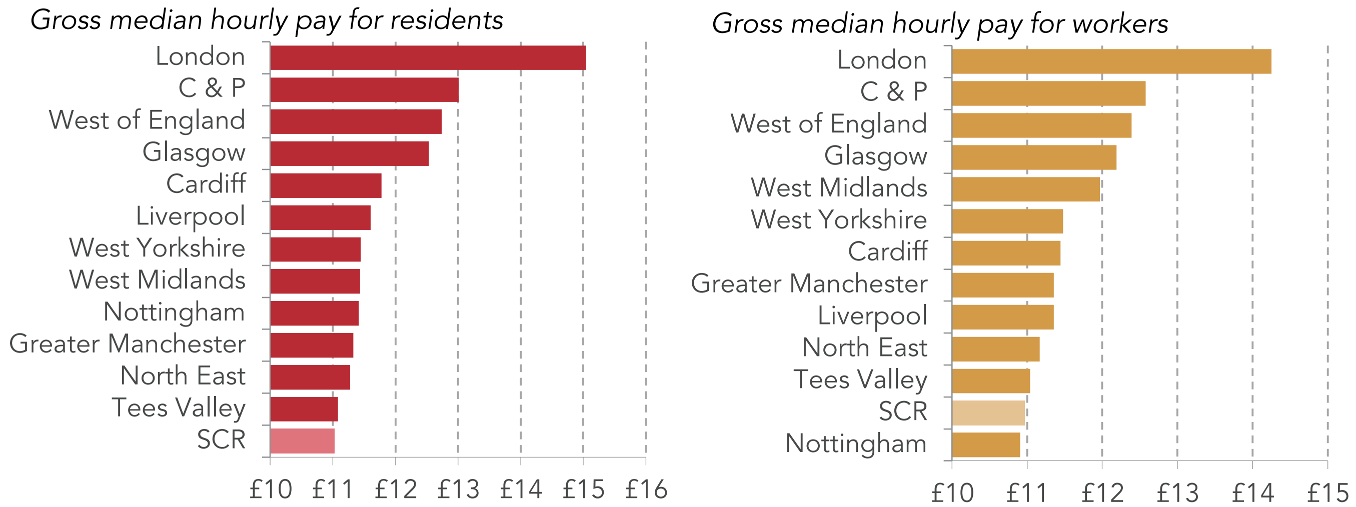


Notes: pay refers to the pay of those that work in the Sheffield City Region

Source: RF analysis of ONS, *ASHE*

As Figure 6 shows, this gap is not a simple North/South divide. The Sheffield City Region stands out as being the city region with the lowest median pay on a residential basis, and the second lowest based on workplace.

Figure 6: Pay for residents and workers: 2016



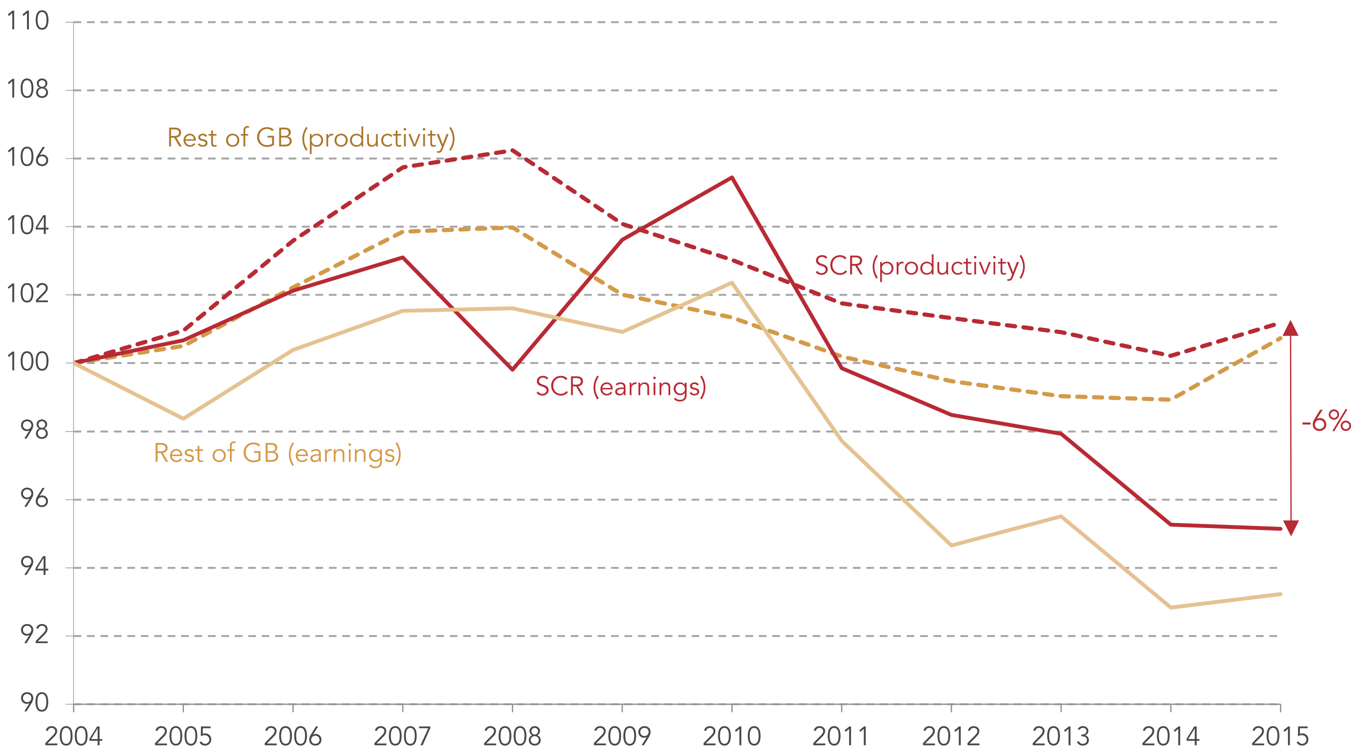
Source: RF analysis of ONS, *ASHE*

Section 5 will explore why pay is so low in the Sheffield City Region, but it is worth noting that productivity as measured by gross value added per hour worked, at £26.30, is also the lowest of any major city region. In the long-term productivity drives pay and the stagnation in productivity since the financial crisis has led to poor pay growth across the country. Yet workers have also suffered because pay growth has not tracked productivity growth in recent years.

The decoupling of pay and productivity growth began in the early 1990s but has increased in recent years.[3] This has been a feature of the UK economy but is also evident in the Sheffield City Region. Although productivity data for city regions is only available from 2004 we can see a decoupling of wages and productivity. Whereas wages are lower than they were in 2004 productivity is only flat.[4] As a result a 6 ppts gap between earnings growth and productivity growth has opened up since 2004. Flat lining productivity is the bigger problem, but it is also a concern that wages have not tracked output.

Figure 7: Productivity and pay

Growth in real productivity (GVA adjusted) and median gross hourly erarnings (RPIJ adjusted)



Source: RF analysis of ONS, *ASHE and Subregional Productivity*

[3] M Whittaker, *A recovery for all? The evolution of the relationship between economic growth and pay before, during and since the financial crisis*, Resolution Foundation, September 2015

[4] Productivity as measured by output per hour worked has been flat in Sheffield since the financial crisis, whereas output per head of population remains 8 per cent below peak. This reflects the fact that output has kept pace with hours worked but not population growth.

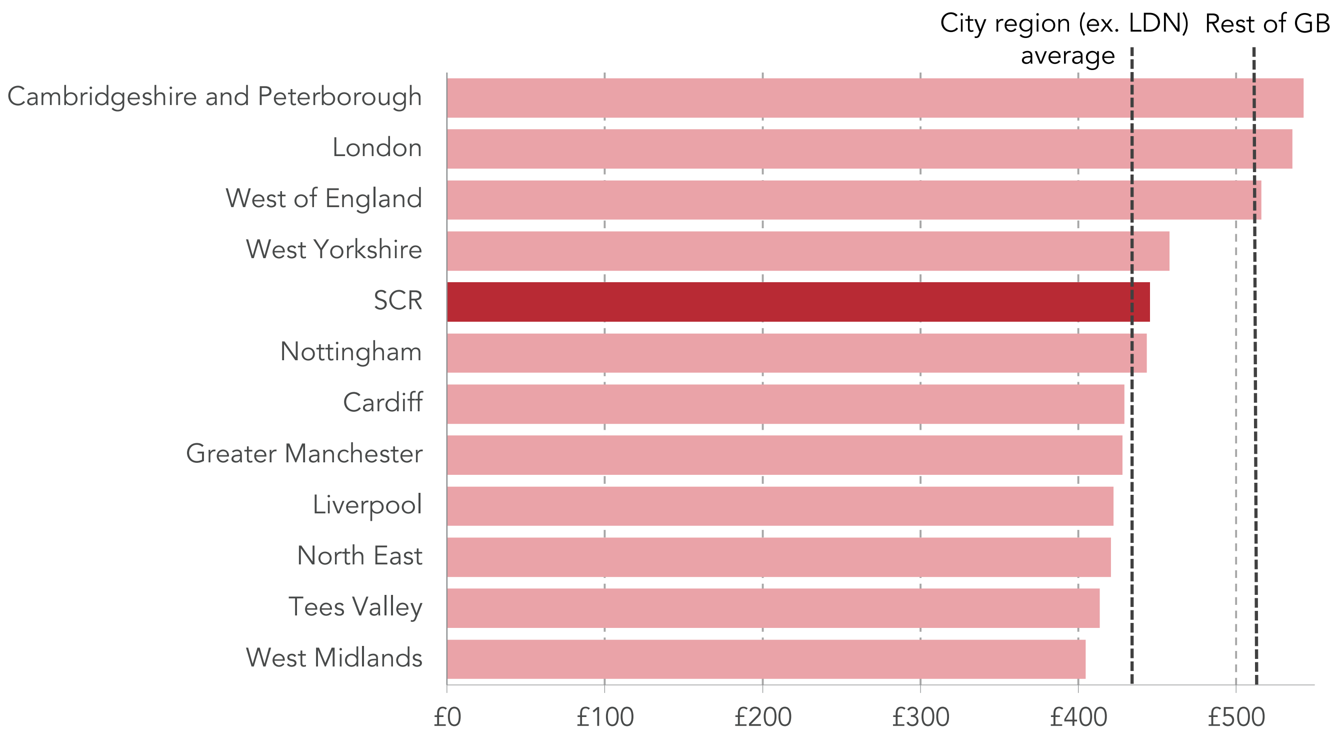
Household income in the Sheffield City Region

Output per head is lower in the Sheffield City Region than in many others, productivity is the lowest of all the major city regions and pay is low. The one bright spot has been the strong performance of the jobs market, although the region hasn't created as many jobs as in many other cities since 2011.

What does this all mean for the living standards of the average household in the Sheffield City Region? One of the most complete indicators of living standards is household income after taxes have been paid and any benefits received. Figure 8 shows that household incomes in the Sheffield City Region are marginally above the city region average once London is excluded. However, incomes are a lot lower than in the rest of the Great Britain.

Figure 8: Household incomes across England and Wales: 2013/14

Real net mean household income (RPIJ adjusted) after housing costs



Source: RF analysis of ONS, *Small Area Income Statistics*

The evidence is that Sheffield is in the middle of the pack when it comes to employment and income, although it has some of the lowest levels of pay of any city region. This however is just the aggregate picture and may conceal variations within the region itself, it is to differences in living standards between people and places within the region to which we now turn.

Section 3

You're not from New York city, you're from Rotherham

Compared to other city regions inequality in the Sheffield City Region is relatively low. This is not to suggest that inequalities do not exist however. Employment rates diverge significantly across different local authorities within the region, even when we control for the fact that populations differ. Pay also differs significantly between low and higher paid workers. Geographically, while inequalities are not as pronounced as in other city regions, there is evidence of a growing divergence between the prosperity enjoyed by some in Sheffield and the experiences of the other urban centres.

So close yet so far: employment rates vary across people and places

It would be unusual if the jobs market performed the same across city regions, and more equal outcomes may not be a good thing if it means that all areas perform equally poorly. Nevertheless there is evidence that the employment rate varies less in the Sheffield City Region than in other regions and this is not because rates are low across the region.

At present the employment rate varies by an average of 2.9 ppts across the six local authorities that make up the Sheffield City Region. By contrast the average variation across the other city regions is 3.7 percentage points.[5] There is also less variation in the employment rates of groups that are traditionally less likely to be in work. The variation in the employment rate of these 'low activity' groups is just 2.3 percentage points the other city regions is 4.2 percentage points.

Figure 9 shows the variation in employment rates for these groups and compares the performance of each local authority in the Sheffield City Region to the city region average. Some groups have far worse labour market outcomes in parts of the region. The employment rate for disabled people is 57 per cent in Chesterfield, 44 per cent in Sheffield but only 38 per cent in Rotherham. The employment rate for disabled people in Sheffield, Barnsley, Chesterfield and Bassetlaw are all higher than the city region average, whereas in Rotherham and Doncaster it is below the average.

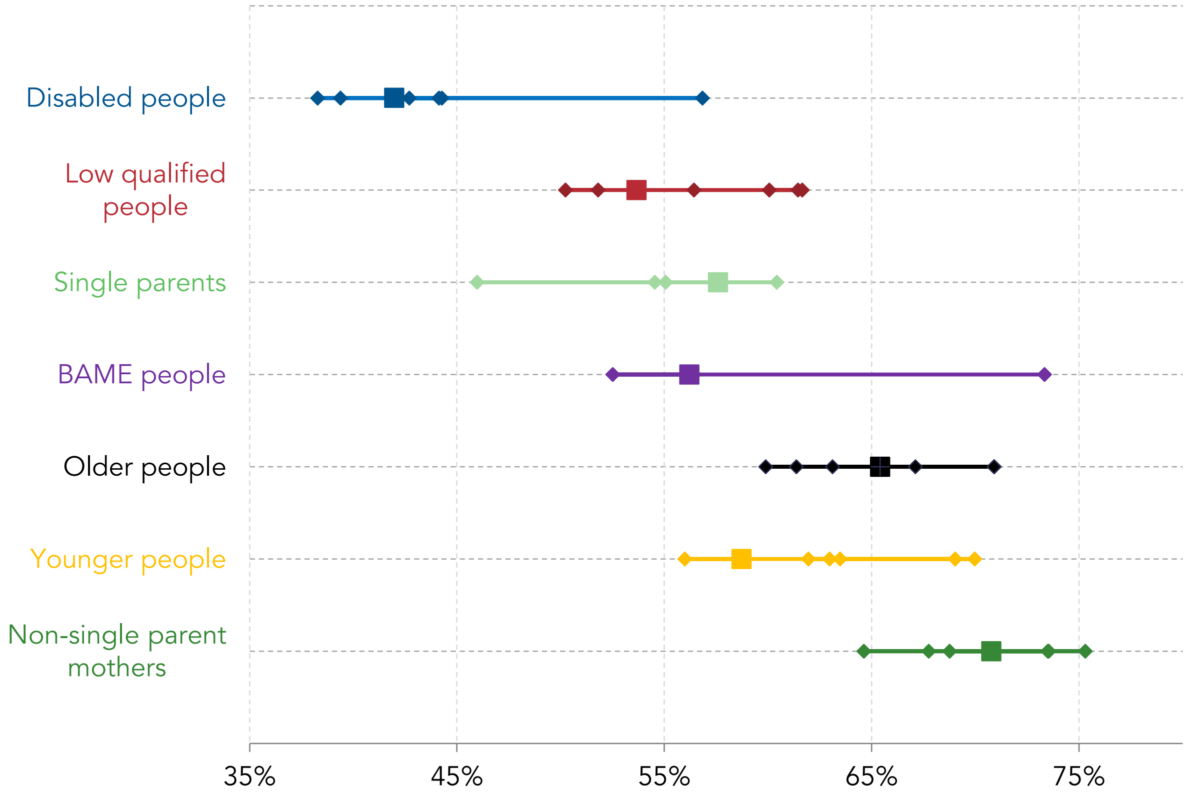
Although the region performs relatively well when it comes to disabled people, Figure 9 shows that the employment rate for single parents is particularly low in the Sheffield City Region. Nevertheless, there is still there is significant variation across the region, ranging from a high of 60 per cent in Doncaster to a low of 46 per cent in Rotherham.

While some local authorities, particularly Chesterfield, perform well across all groups. For many other local authorities there is significant variation: Sheffield, Rotherham and Doncaster all perform poorly for some groups. For example young people have an especially low employment rate (55 per cent) in Sheffield, while older people perform

[5] This is the standard deviation in the employment rate across local authorities.

Figure 9: Employment rates for different groups: 2013-15

Employment rate (% 16-64 year olds) for low activity groups across local authorities in Sheffield City Region



Notes: Each diamond represents a local authority in the Sheffield City Region. The square represents the average employment rate for that group in the other city regions. Where there are fewer than six diamonds on a line sample sizes were too small to produce reliable estimates.

Source: RF analysis of ONS, *Labour Force Survey*

poorly (employment rate of 61 per cent) in Doncaster. Addressing these gaps would significantly raise living standards in the region. We have estimated that if similar people had similar labour market outcomes across the whole of the Sheffield City Region then around 34,000 more people would be in work and the region's employment rate would be 73 per cent.[6]

Differences in pay and income: a growing divide between Sheffield and the rest?

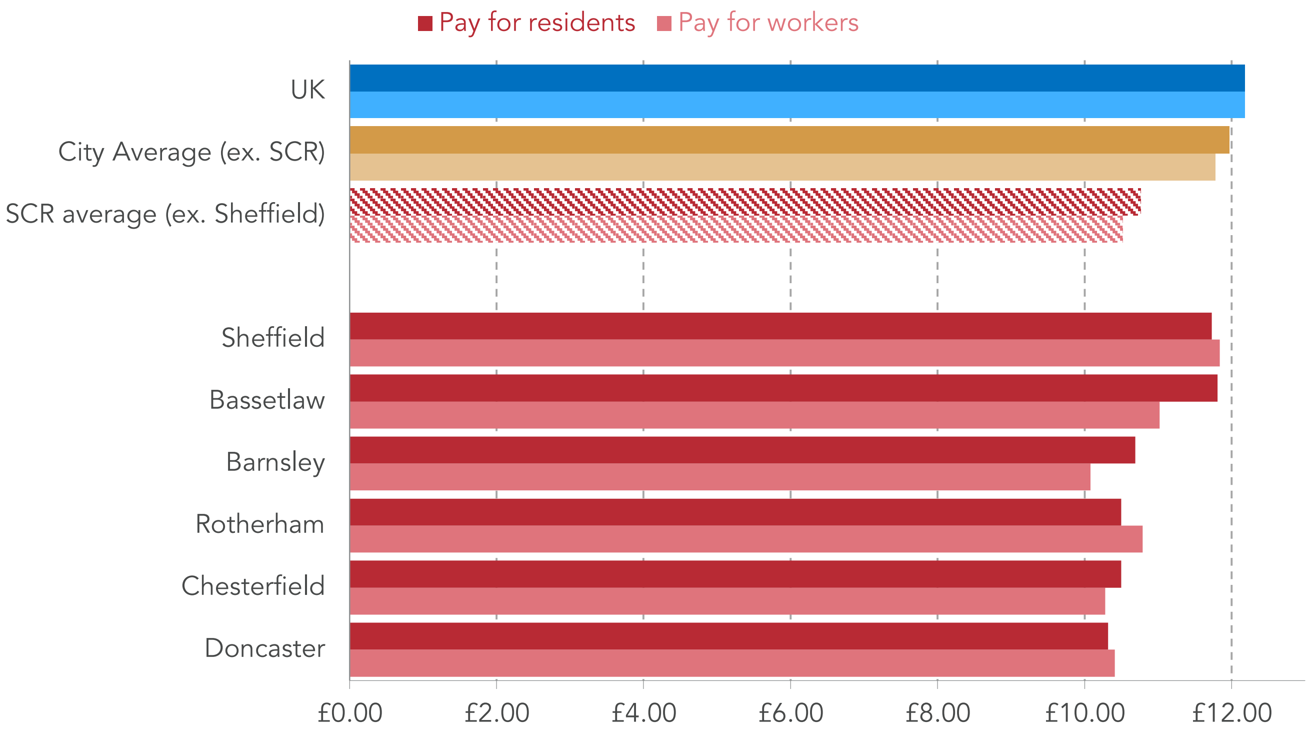
Although pay, both for residents and workers, is relatively low across the whole of the Sheffield City Region, there is a clear divide (as shown by Figure 10) between the pay of workers and residents in Sheffield and those in most of the rest of the region. Typical workers in Sheffield are paid £1.32 more per hour than workers in the rest of the region and residents of Sheffield are paid £0.97 more. Only for the residents of Bassetlaw is pay comparable.

To what extent does this pay differential translate into differences in incomes? The answer is complex. As Figure 11 shows, the local authority of Sheffield has the highest concentration of low income households, particularly concentrated in the North and

[6] S Clarke, *City living: Devolution and the living standards challenge*, Resolution Foundation, October 2016

Figure 10: Pay across the Sheffield City Region

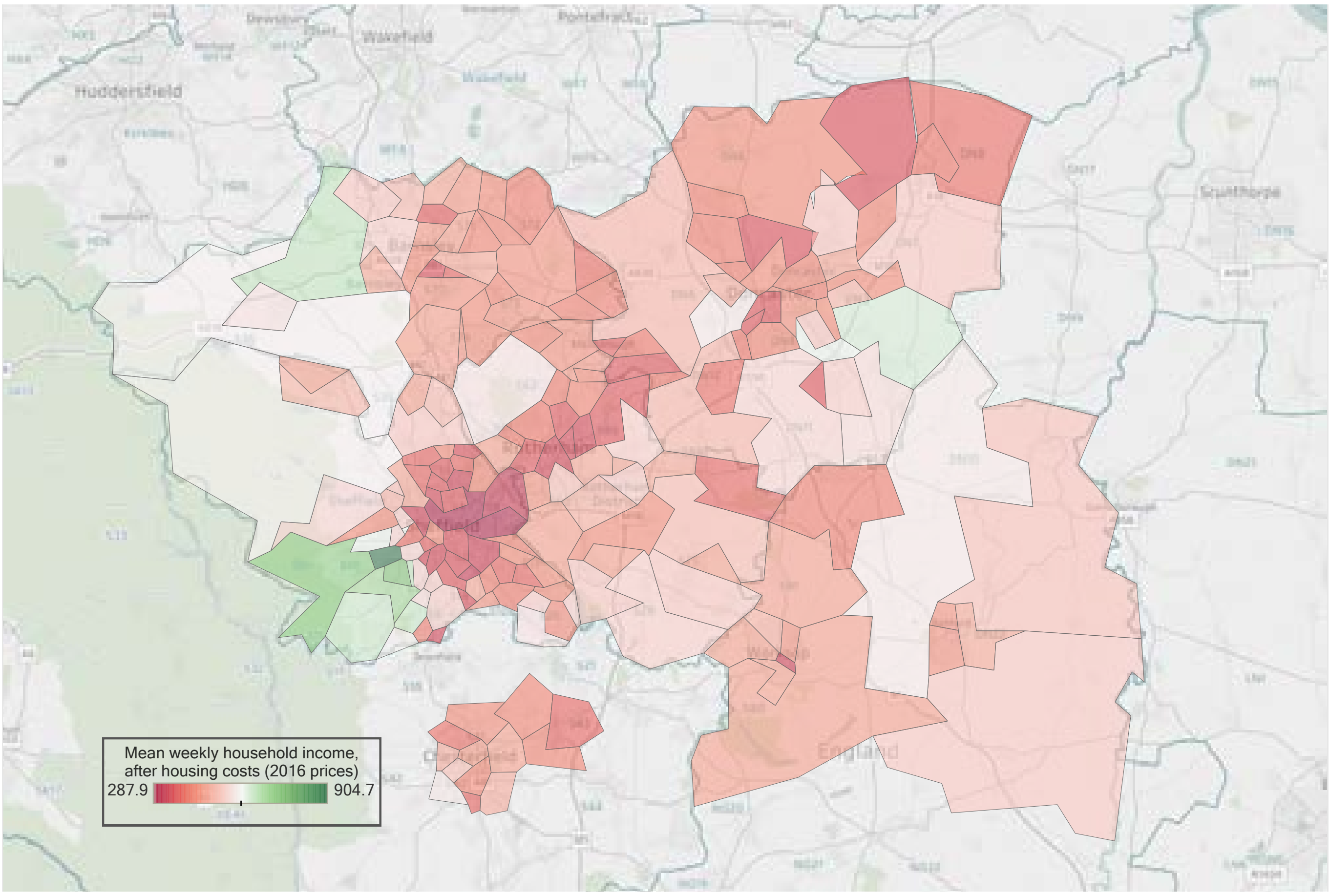
Gross median hourly pay in Sheffield City Region



Source: RF analysis of ONS, *ASHE*

East of the city. By contrast Sheffield is also home for many households at the top of the income distribution, many of which live in the West and South West.

Figure 11: Household income for neighbourhoods in the Sheffield City Region: 2013/14

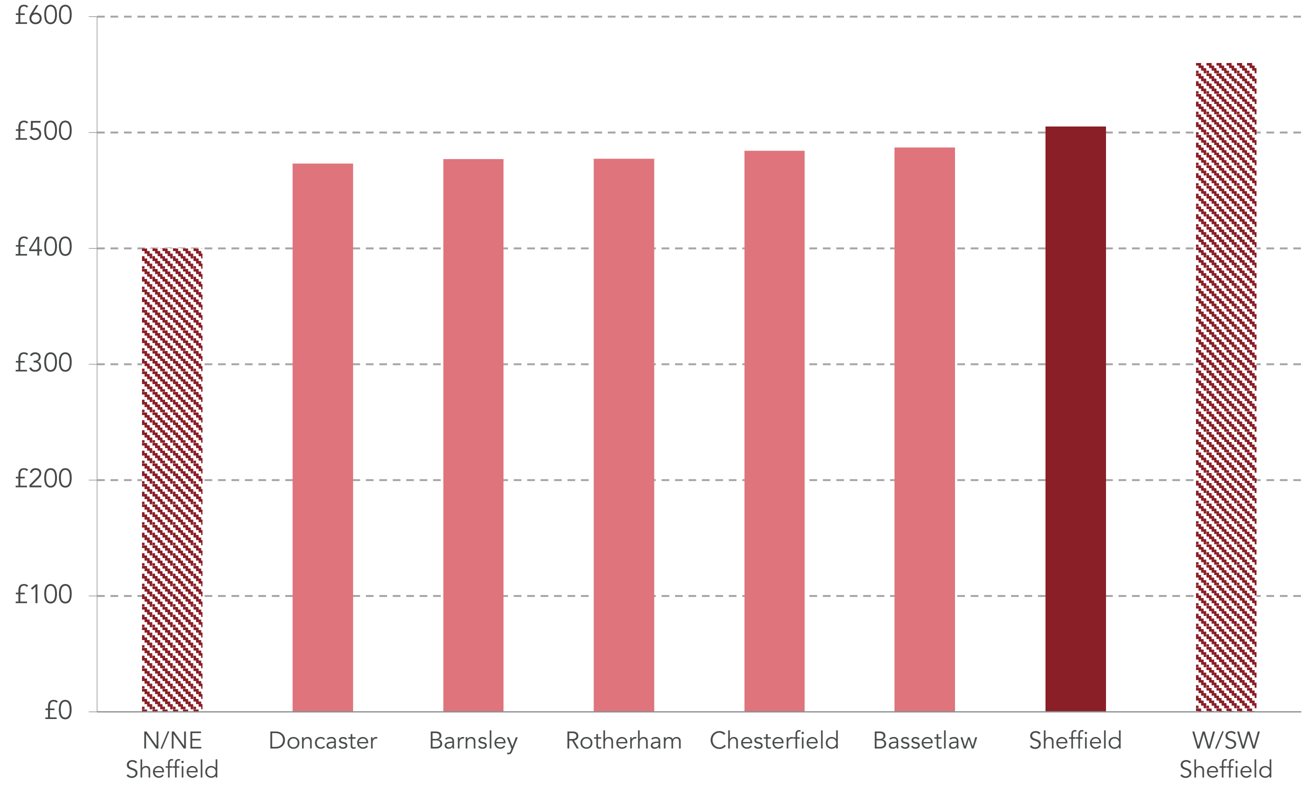


Source: RF analysis of ONS, *Small Area Income Statistics 2013/14*

The local authority of Sheffield is the largest in the region and in some respects it is possible to divide it in two based on household incomes. Outside the ring road, in an arc from Beauchief in the South to Middlewood in the North the average household income is around £560. By contrast in the rest of the Sheffield, to the East and North East, household incomes average around £400. As Figure 12 shows if the local authority were split along these lines then the North and North East part would have the lowest household income in the region, while the South and South West part would have the highest.

Figure 12: Household income in the Sheffield City Region: 2013/14

Real average weekly net household income (after housing costs)



Source: RF analysis of ONS, *Small Area Income Statistics 2013/14*

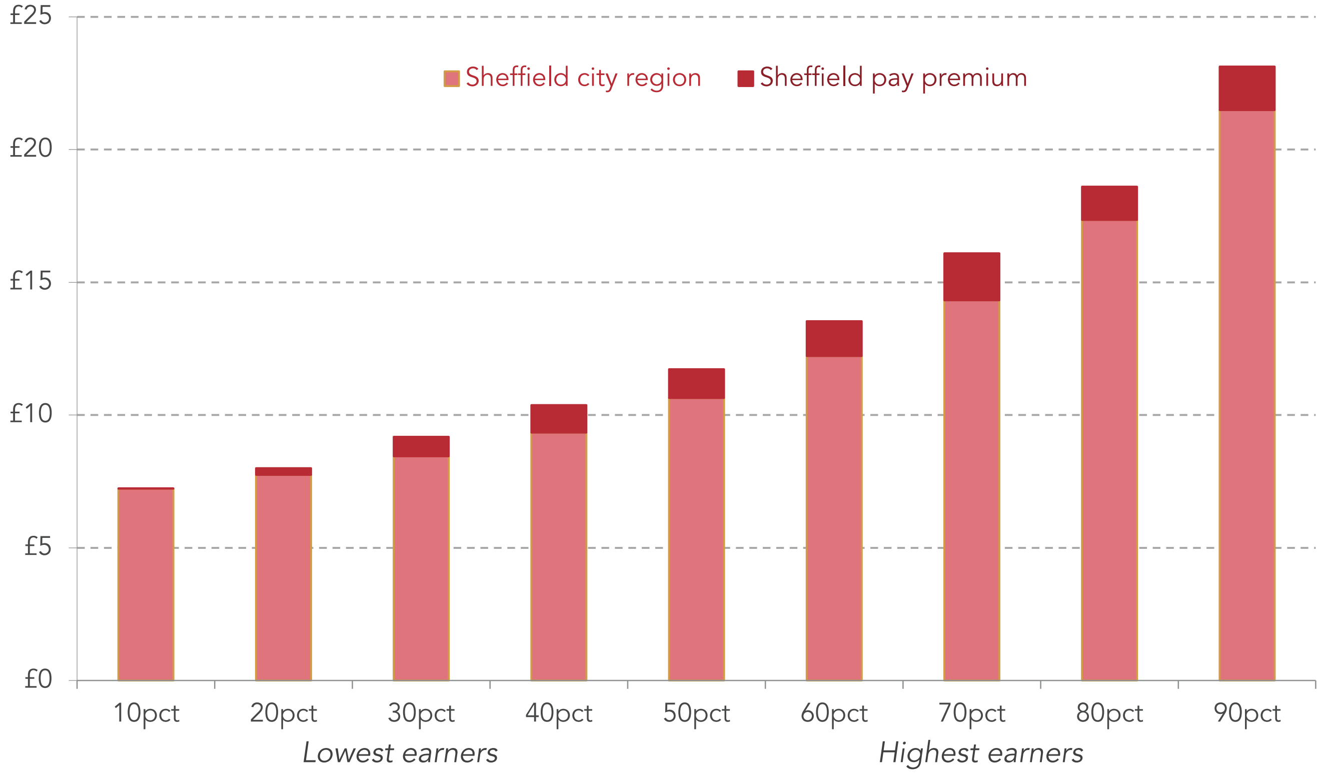
The relatively high pay in Sheffield only appears to benefit some parts of the local authority. Does it also benefit commuters? In other city regions such as Greater Manchester, commuters seem to be benefitting more than residents from high pay: pay for residents in the centre of the Manchester is far lower than that for workers, many of whom commute in from wealthier parts of the region or outside it. However, we see less of this dynamic at work in the Sheffield City Region. As Figure 10 showed residents and workers have similar levels of median pay in the local authority of Sheffield and although there is plenty of inward commuting to the city,[7] the share of people who work in Sheffield, but are resident elsewhere, is not as high as in Rotherham, Bassetlaw and Chesterfield.

As well as disproportionately flowing to residents in the West and South West of the city, Sheffield's 'pay premium' also seems to largely go to higher earners. Figure 13 shows that there is very little difference in the pay of Sheffield residents and those in the rest of the region for the lowest paid. Sheffield residents in the bottom 20 percentiles of the pay distribution earn about the same as people elsewhere. However from the 30 percentile onwards Sheffield residents earn more per hour. The pay premium is largest for residents at the 70th and 90th percentiles where residents of Sheffield earn £1.76 and £1.64 more an hour.

[7] Approximately 15 per cent of employees in the city of Sheffield come from outside the region.

Figure 13: Earnings in the Sheffield City Region and the Sheffield 'pay premium': 2016

Gross hourly pay across the pay distribution



Notes: Pay refers to the pay of residents

Source: RF analysis of ONS, *ASHE*

There is a divide between Sheffield and some other areas of the region, but there is also a divide within the local authority of Sheffield itself, both geographically and between different people. Pay is higher in Sheffield but this only seems to benefit people in specific areas and those higher up the earnings distribution.

So far our analysis of living standards in the Sheffield City Region has found that the region has a low productivity, low pay, problem. We have also seen that these problems are not limited to a particular part of the region, although important intra-regional distinctions between both people and places do exist. In the following two sections we will look first at the opportunities and challenges associated with the National Living Wage – the main national policy for addressing low pay – and then at the specific low pay problem in the Sheffield City Region.

Section 4

Folks don't laugh so loud when you've a grand in your back pocket

The introduction of the minimum wage in 1999 and its gradual, if not consistent, increase in value has had a positive effect on pay in the Sheffield City Region. The NMW and more recently the NLW has helped boost earnings for the lowest paid. In the pre-crisis period pay growth was strongest at the bottom of the earnings distribution and since the crisis pay has fallen least at the bottom. Future increases in the value of the NLW will also significantly reduce the prevalence of low pay in the region.

However, the increase in the value of the NLW will bring its own challenges. Almost one in five workers in the Sheffield City Region will be on the wage floor by 2020 and the region faces specific challenges in terms of younger and older workers, those working part-time and those working in specific sectors and for small firms.

The minimum wage has helped boost the earnings of the lowest paid

In 1999 a minimum wage of £3.60 was introduced for those 22 and older[8]. Between 1999 and 2015 further rates were introduced for different age brackets and for apprentices, but for the oldest workers the real value of the minimum wage increased by 23 per cent. By contrast the median wage, earned by the typical worker in the UK, increased by only 7.5 per cent over the same period and the pay of the typical worker in the Sheffield City Region increased by 6.8 per cent.

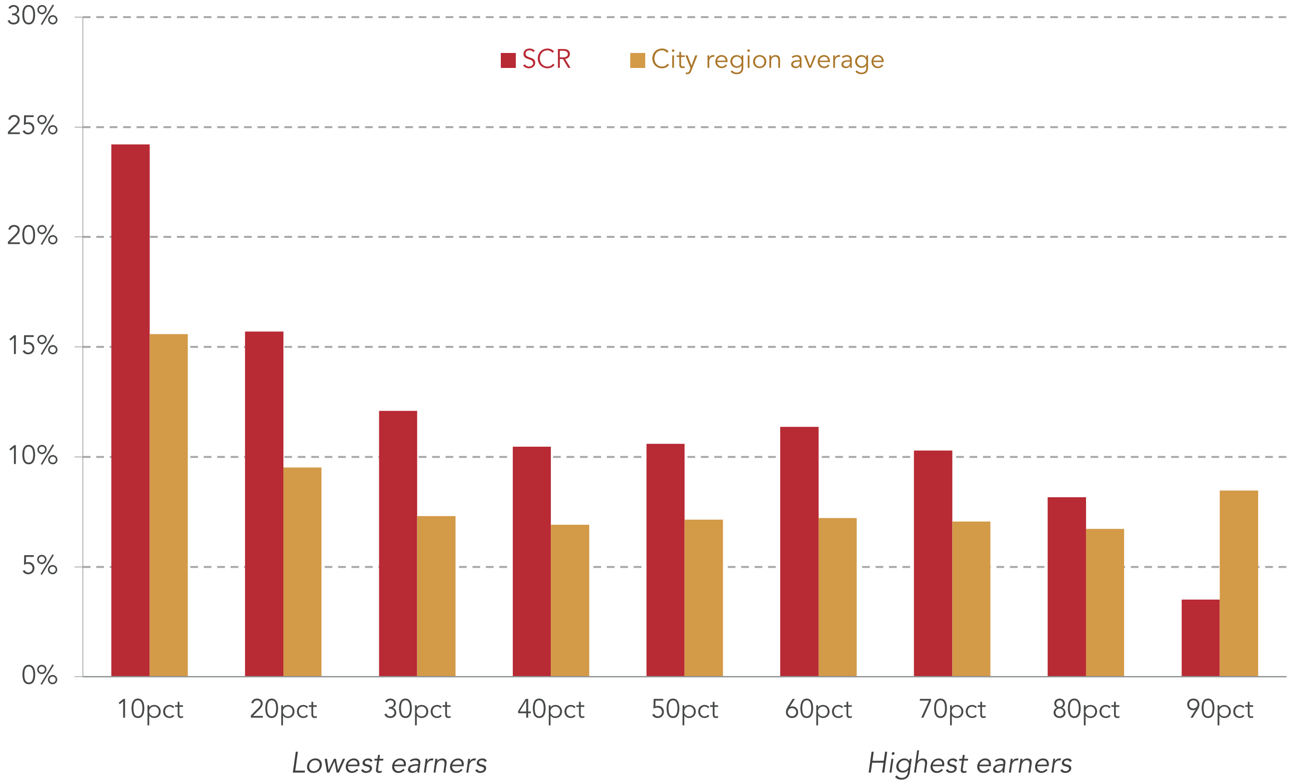
The introduction of the National Living Wage (NLW) in April 2016, which raised the minimum wage for those 25 and older by 50p to £7.20, provided a further boost to low paid workers. Looking forward the government has committed to raising the value of the NLW to £7.50 in April 2017, this will represent a real increase (taking account of inflation) of 1.8 per cent whereas average hourly wages are expected to have risen by around 1.7 per cent over the same period.

As a result of these - above average – increases, and poor pay growth at the top since the financial crisis, pay for the lowest earners rose faster in the Sheffield City Region between 1999 and 2016. Furthermore (and as shown in Figure 14) pay growth was more progressive in the Sheffield City Region than for the other city regions. This is because before the crisis pay at the bottom of the distribution rose faster in the Sheffield City Region and since the crisis pay has fallen less in Sheffield than elsewhere.

[8] The minimum wage for those below 22 was £3.

Figure 14: Progressive pay growth: 1999 - 2016

Cumulative growth in real gross hourly earnings across the earnings distribution



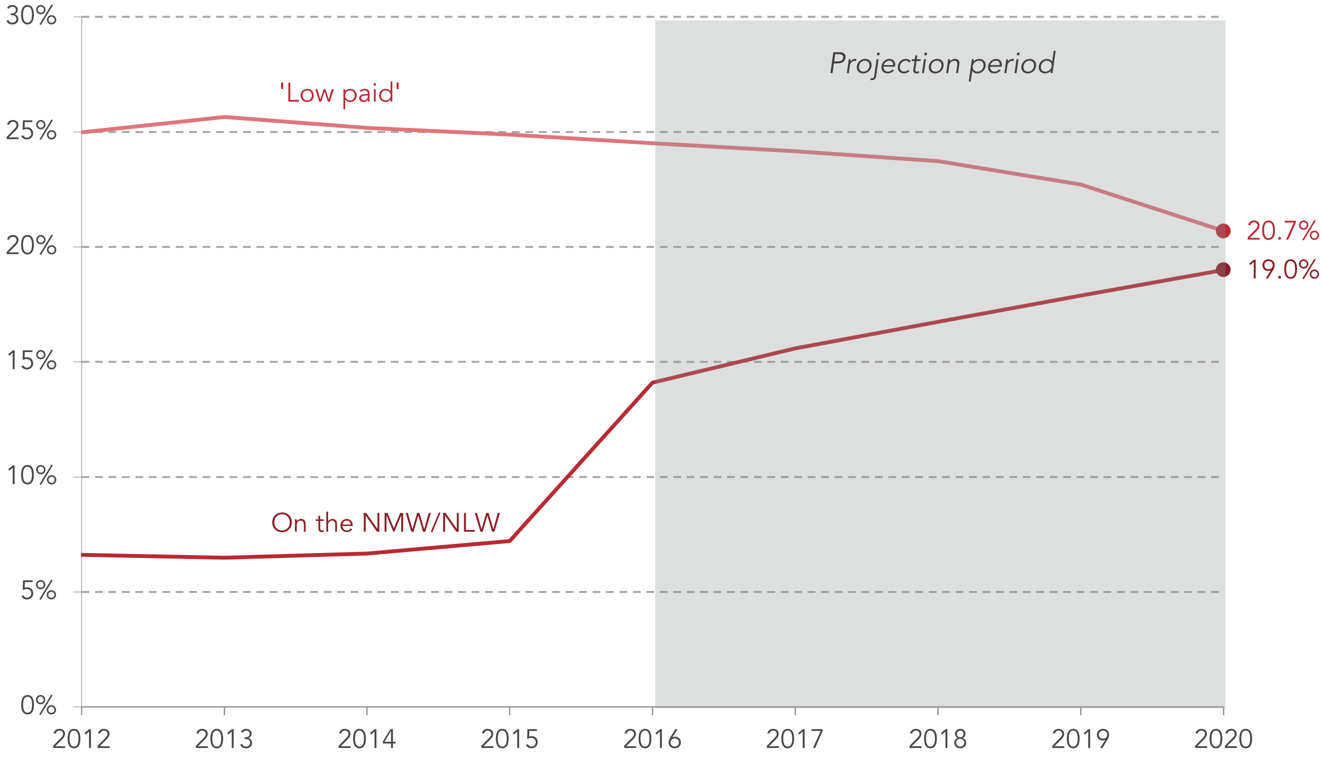
Source: RF analysis of ONS, *ASHE*

By lifting the wage floor, the NMW and NLW have helped to reduce the prevalence of low pay in the Sheffield City Region. The former eradicated extreme low pay and the latter is set to make a big dent in low pay.[9] In the Sheffield City Region the share of workers classified as low paid is projected to fall from around 25 per cent in 2016 to 20.7 per cent in 2020. This is good news but it does raise new challenges around pay progression - the share of people on the wage floor is set to rise to 19 per cent by 2020.

[9] 'Extreme low pay' is here defined as those paid less than half the median wage. 'Low pay' is here defined as those paid less than 2/3rds of the median wage.

Figure 15: Low pay and the wage floor in the Sheffield City Region

Low pay and the NMW/NLW



Notes: See Annex of S Clarke & C D'Arcy, Low Pay Britain 2016, Resolution Foundation, October 2016 for full methodological details.

Source: RF analysis of ONS, *ASHE*

This gets to the heart of the benefits and also the challenges created by the NLW. The first significant reduction in low pay in decades will provide a welcome boost to the lowest earners and will improve the living standards of some of the poorest families. However, in the Sheffield City Region it will mean that nearly one in five employees, around 130,000 people, will be on the wage floor by 2020 and it will mean that progression within work will be a big concern for a growing share of the population. The impact of the NLW will vary across the city region, we turn next to an exploration of the employees and firms set to be most affected.

Some employees and some firms will be more affected than others

We have already seen that across the whole of the Sheffield City Region economy nearly one in five workers will be on the NLW by 2020. However, this aggregate figure disguises significant variation across different types of employee and different firms.

Table 1 details different types of employees and firms. The table shows the share of people on the wage floor in both the Sheffield City Region and the UK, and the difference between these two figures.

In all the categories below more than one in five employees will be on the wage floor by 2020. Furthermore in all the categories by 2020 there will be a significant (10 percentage points or greater) difference between the share of employees on the wage floor in the Sheffield City Region compared to the rest of the UK.

Types of employees:

- Female
- 21-25 year olds
- 26-30 year olds
- 61-65 year olds
- Part-time workers

Occupations:

- Personal services (e.g. hairdressers and housekeepers)
- Sales & customer services (e.g. call centre workers, receptionists)
- Elementary occupations (e.g. construction workers, cleaners, security guards)

Industries:

- Wholesale & retail trade
- Accommodation & food services

Firms:

- Extra small firms (0-9 employees)
- Medium firms (50-249 employees)

Table 1: Share of employees on the NLW in the Sheffield City Region: 2016 & 2020

	SCR		UK		Difference	
Employees	2016	2020	2016	2020	2016	2020
All employees	14%	19%	11%	15%	*3%*	*4%*
Male	12%	17%	8%	11%	*4%*	*5%*
Female	21%	29%	14%	19%	*7%*	*10%*
21-25	24%	31%	14%	17%	*10%*	*13%*
26-30	20%	29%	13%	19%	*7%*	*10%*
31-35	12%	17%	10%	14%	*2%*	*3%*
36-40	12%	17%	9%	13%	*3%*	*5%*
41-45	14%	20%	9%	13%	*5%*	*7%*
46-50	14%	21%	9%	14%	*5%*	*8%*
51-55	13%	18%	10%	14%	*3%*	*4%*
56-60	18%	24%	10%	15%	*8%*	*9%*
61-65	19%	28%	12%	18%	*7%*	*11%*
Full time	9%	14%	6%	9%	*3%*	*4%*
Part time	32%	43%	23%	30%	*10%*	*13%*
Permanent	15%	22%	10%	15%	*5%*	*7%*
Occupations and industries						
Admin & secretarial	8%	15%	6%	10%	*2%*	*4%*
Skilled trades	13%	19%	9%	13%	*4%*	*6%*
Personal sevices	29%	40%	18%	27%	*11%*	*12%*
Sales and customer services	34%	49%	27%	37%	*8%*	*12%*
Process, plant & machine operatives	17%	26%	13%	20%	*4%*	*6%*
Elementary occupations	41%	52%	33%	43%	*8%*	*10%*
Wholesale & retail	29%	40%	19%	27%	*10%*	*13%*
Accomodation & food services	61%	67%	37%	45%	*24%*	*22%*
Education	9%	14%	6%	10%	*3%*	*4%*
Health & social work	14%	20%	9%	14%	*5%*	*7%*
Firms						
XS (0-9 employees)	42%	48%	22%	28%	*20%*	*19%*
S (10-49 employees)	21%	29%	15%	20%	*6%*	*9%*
M (50-249 employees)	19%	27%	12%	17%	*7%*	*11%*
L (250-4999 employees)	16%	22%	10%	14%	*6%*	*8%*
XL (5000+ employees)	18%	28%	14%	20%	*4%*	*8%*
Local authorities						
Sheffield	19%	24%				
Rotherham	24%	32%				
Barnsley	25%	31%				
Chesterfield	21%	26%				
Bassetlaw	21%	31%				
Doncaster	24%	32%				

Notes: where occupations and sectors are omitted it is because sample sizes were too small to make the figures robust enough for inclusion, or sample sizes were too small so as to be disclosive.

Source: RF analysis of ONS, *ASHE*

This section has highlighted who the beneficiaries of the NLW are likely to be, and which firms will need the most support in implementing the policy. Although national government has a role to play in this, it should also be priority, where possible, for local leaders. The next section looks in more detail at why pay is so low in the Sheffield City Region.

Section 5

Luxury gap

We have already seen that pay is lower in the Sheffield City Region than in the other city regions and rest of the country. The evidence is that half of the region's gap is the result of the region having more employees and firms where low pay is more prevalent. The other half reflects differences in productivity. The implication is that, apparently like-for-like workers in the Sheffield City Region are paid 6.5 per cent (or £0.91 an hour) less than workers in the rest of Great Britain.

Part of the solution is for the region to attract more productive and high paying firms and sectors to the region. Raising Sheffield City Region's graduate retention rate would be an important start. The other half of the solution involves raising productivity in existing firms. A close look at the types of firms in the region suggests that the office administration, manufacturing and retail sectors are important employers where productivity improvements could be made.

Compositional differences explain only half of the region's pay gap

In order to understand why pay is low in the Sheffield City Region it is important to estimate the extent to which this reflects the composition of the region's economy and the extent to which this reflects the performance of employees and firms. The relative importance of these two factors (which we label as 'compositional' and 'residual') influences how policy makers should respond. If compositional factors are more important, then the region's low pay problem is unlikely to be tackled unless significant changes are made to the structure of the region's economy. By contrast if 'residual' factors are more important, then it may be possible to raise productivity, and with it pay.

We assess how much each factor contributes to the pay gap by estimating the gross hourly pay for workers in the region whilst controlling for a range of employee and employer characteristics that are related to pay levels.[10] Once we do this we can compare the pay of, apparently, like-for-like workers in the region with those in the rest of Great Britain.

Our analysis suggests that, compared to the six other major city regions that we can analyse using the available data, hourly pay is 13 per cent lower in the Sheffield City Region compared to the Great Britain average.[11] Of this 13 per cent penalty, half is the result of compositional differences between the region's economy and that of the rest of the country. The other half – the 'residual' - is due to lower productivity in the re-

[10] These include gender, whether someone works part-time or full-time, a worker's occupation, the industry worked in, etc. Full details of our approach is provided in Annex 3.

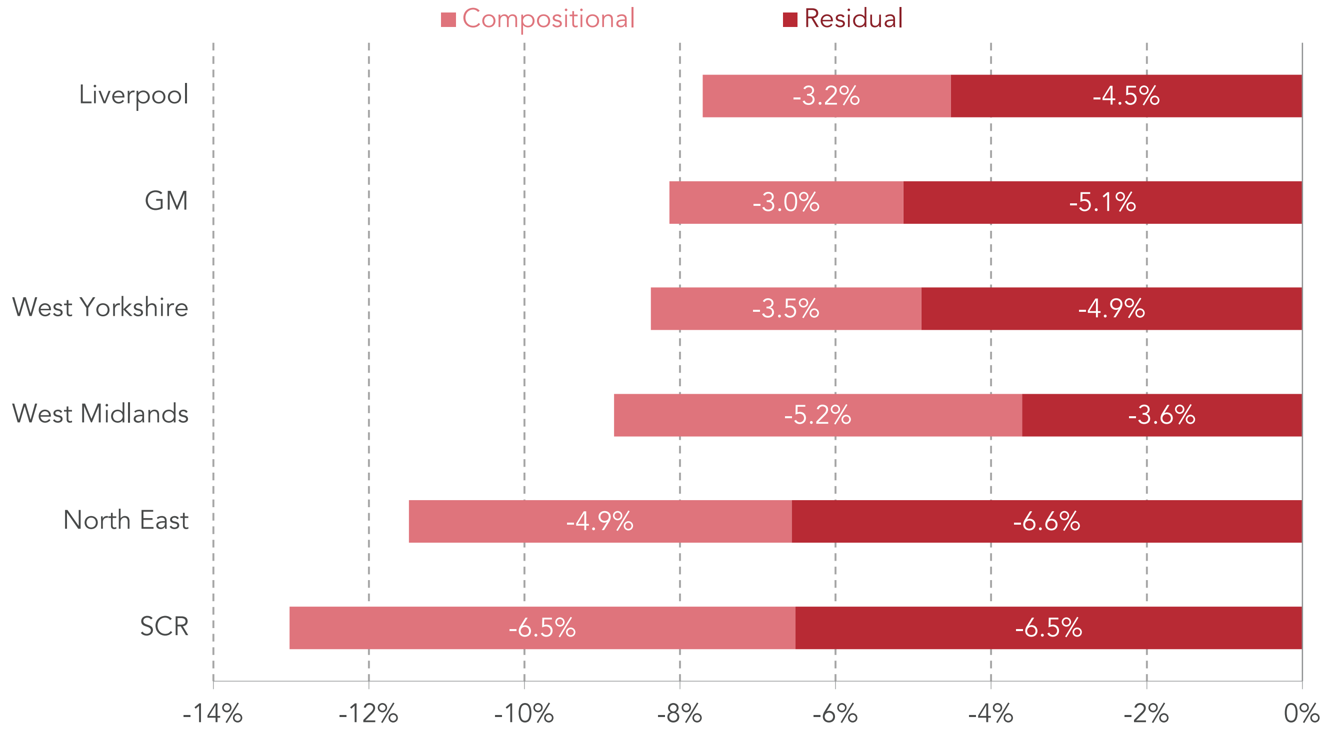
[11] This analysis was carried out using the Labour Force Survey and the geographical groupings provided in the publicly available Survey. The publicly available Survey only provides data on seven city regions (those above plus London). This 13 per cent relates to gross hourly earnings as measured in the Labour Force Survey, as a result it may differ from figures that use the Annual Survey of Hours and Earnings.

gion and other factors that cannot be directly measured, such as firms not passing on productivity improvements to people's wages (see Figure 16). However, there is strong evidence to suggest that productivity is to blame. Output per hour worked is 17 per cent less than in the region than the UK average and output per employee is 22 per cent lower than the average for England. Furthermore the vast majority of sectors in the Sheffield City Region are less productive than their counterparts in the rest of the country, something we explore further below.

Therefore even taking into account the different composition of the region's economy we find that like-for-like employees in the Sheffield City Region are still paid 6.5 per cent (£0.91 an hour) less an hour than their counterparts elsewhere in the country.

Figure 16: Pay gaps: 2012 - 2016

Difference in gross hourly pay between city regions and the UK average



Notes: Full details of the analysis are provided in Annex 3. London has been excluded from the chart because it benefits from a pay premium compared to the rest of GB. The Sheffield City Region excludes Bassetlaw and Chesterfield because these two local authorities are not part of the 'South Yorkshire' region for which data is provided for in the publicly available Labour Force Survey. The pay penalties outlined above are different from those in the Annual Survey of Hours and Earnings because the analysis above was carried out using the Labour Force Survey.

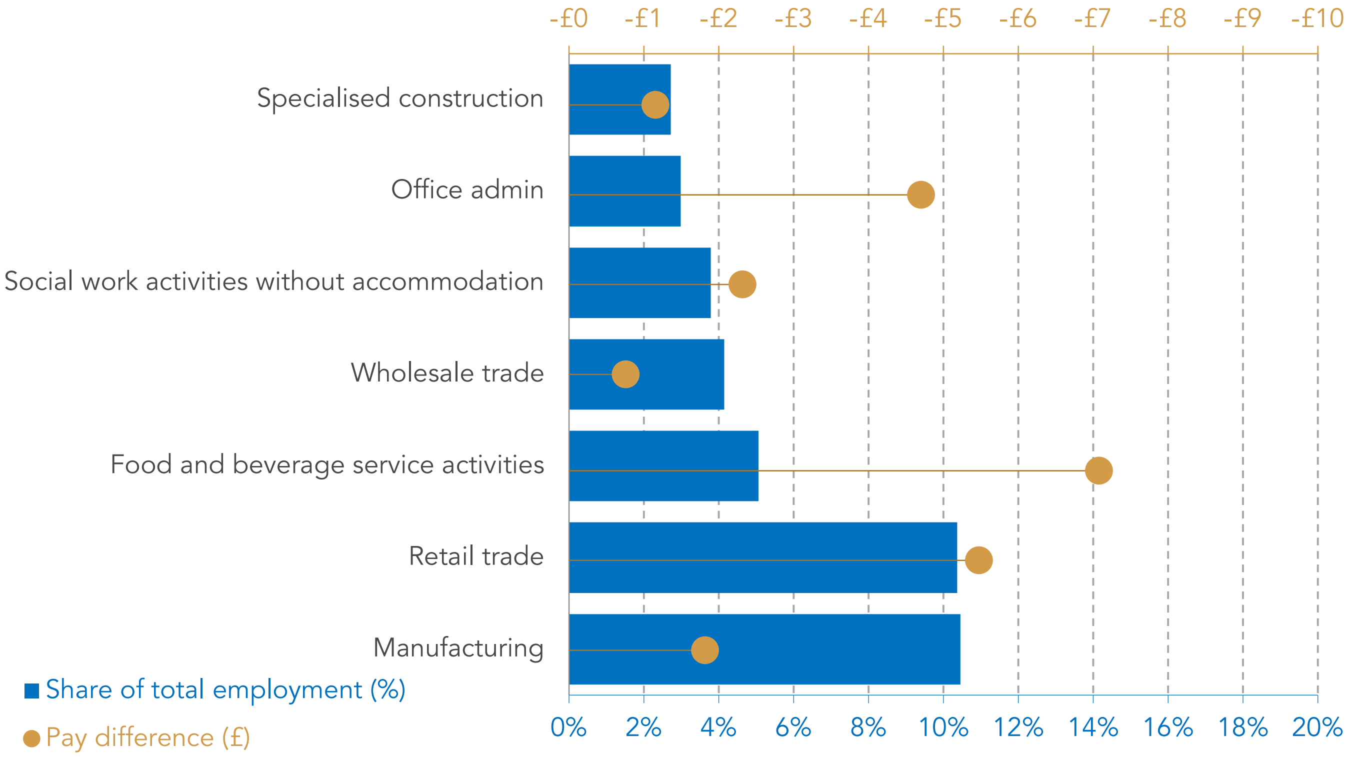
Source: RF analysis of ONS, *Labour Force Survey*

In many sectors pay is lower in the Sheffield City Region than elsewhere in the country

As explained above half of the region's earnings penalty is the result of the types of firms and employees; the 'composition' of the region's economy. Looking at the ten largest sectors in the region (which account for half of all employment) in seven of these pay is lower than the average for Great Britain (Figure 17). The difference is greatest in the food and drink sector, followed by the office admin sector. Of perhaps most concern are the larger sectors where pay is below the UK average, particularly manufacturing, retail and food and drink. Raising pay in these sectors is vitally important for tackling the region's low pay challenge.

Figure 17: Pay gaps for absolutely large sectors in the Sheffield City Region: 2012 - 2016

Industry concentration and difference in mean gross hourly pay to GB average



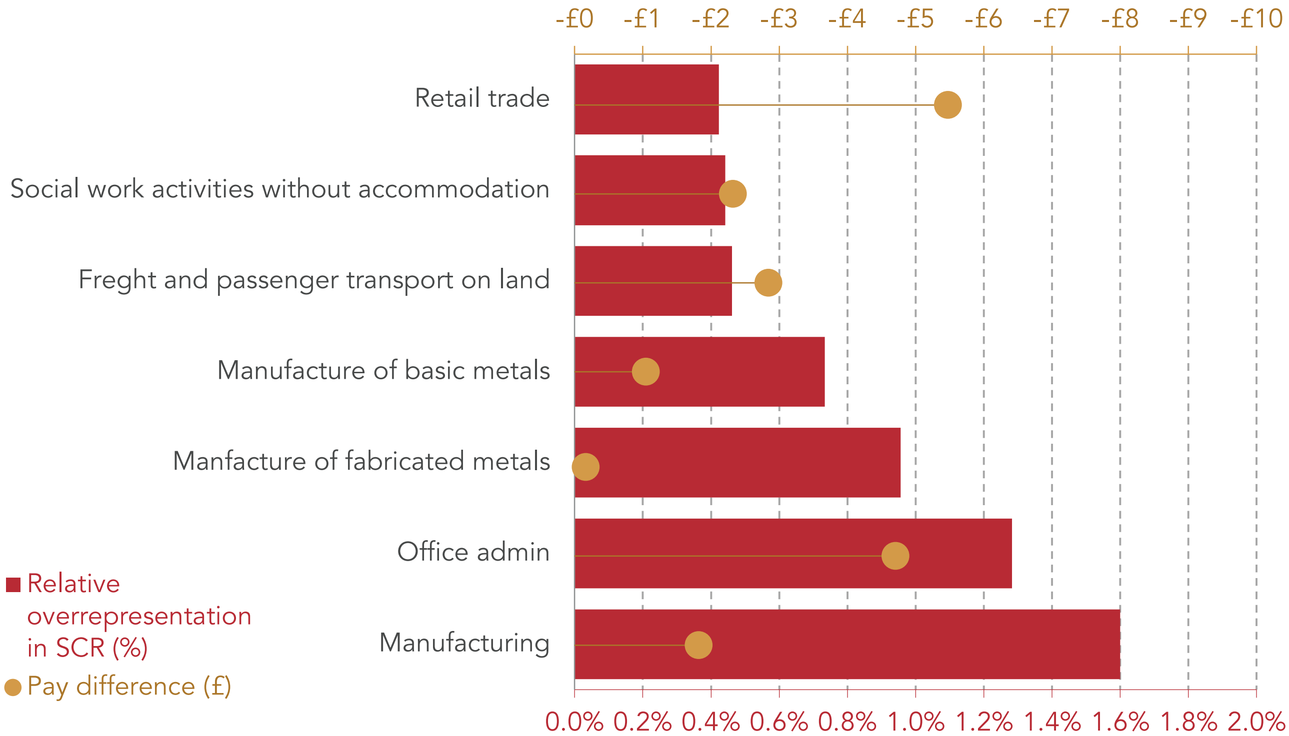
from 2010 to 2016 so as to build large enough samples so that estimates are robust. Industries with sample sizes below 75 were excluded from the analysis.

Source: RF analysis of ONS, *Labour Force Survey* and *Business Register and Employment Survey*

While the absolute size of the different sectors is important, particularly if productivity and pay is lower than in the rest of the UK, it is also essential to look at a sector's relative concentration in the Sheffield City Region. A sector's relative concentration determines how much it contributes to the compositional element of the pay penalty. Looking at the ten sectors which are overrepresented in the Sheffield City Region compared to the other city regions, Figure 18 lists the seven where pay is lower than the average for Great Britain. What is interesting is that some sectors that have a pay penalty are large in both absolute and relative terms, these include: manufacturing, retail, and office administration.

Figure 18: Pay penalties for relatively large sectors in the Sheffield City Region: 2012 - 2016

Relative industry concentration and difference in mean gross hourly pay to GB average



Notes: Relative overrepresentation is measured as the percentage points difference in the share of employment accounted for by the sector in the Sheffield City Region, compared with the other city regions. We exclude London from this due to its relatively different industrial mix. Difference in pay is compared to the average gross hourly pay in Great Britain.

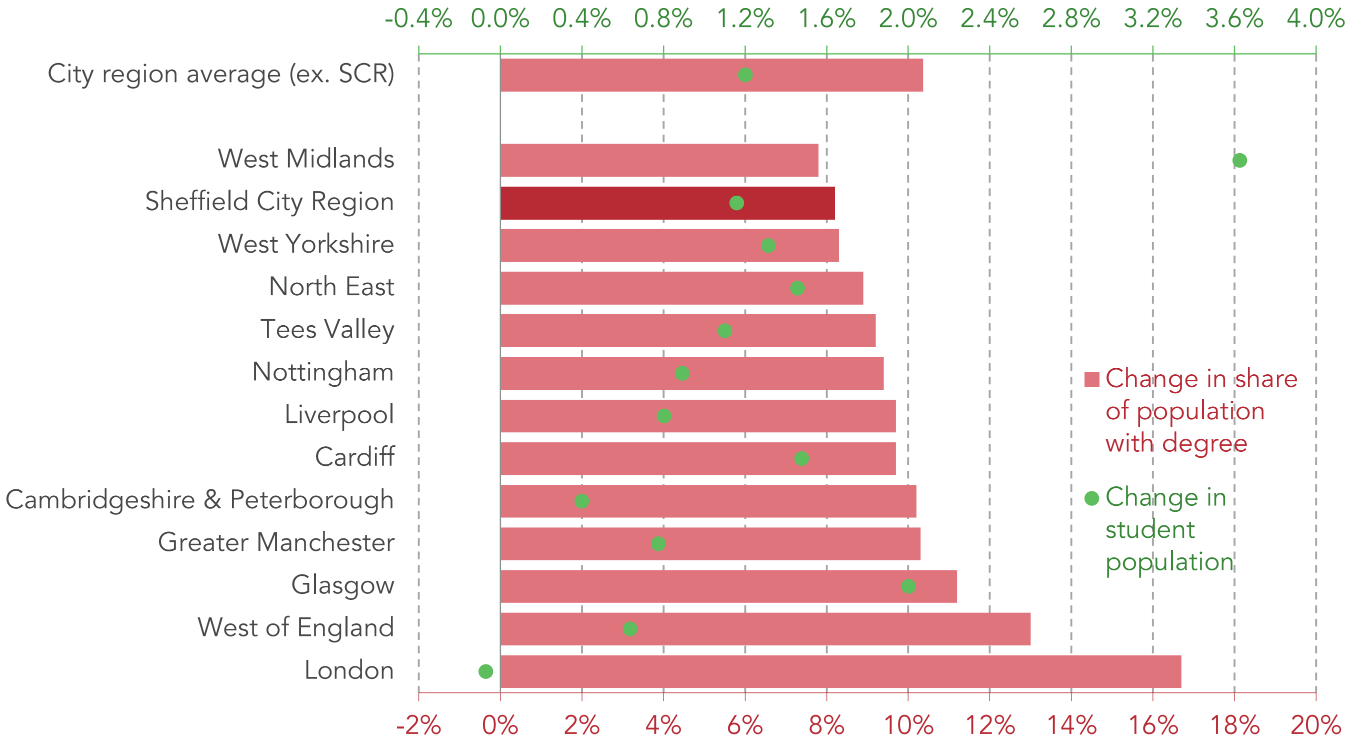
Source: RF analysis of ONS, *Labour Force Survey* and *Business Register and Employment Survey*

The picture that emerges from Figure 17 and Figure 18 is that part of the solution to the region's low pay problem is to change the industrial mix of the city. Some sectors, such as retail and manufacturing are likely to remain large employers, but it is important for the region to attract new firms and sectors.

One important strength that the region can build upon is the relatively rapid increase in the student population in the last decade or so. The student population has grown by 1.2 percentage points since 2004, although this is not the fastest increase of any city region it is above the average and reflects the growing attraction of the University of Sheffield and Sheffield Hallam. However, this relative success is contrasted with one of the smallest increases in the share of the population that possess a degree. Aside from the West Midlands the Sheffield City Region has the lowest share of people with a degree (Figure 19).

Figure 19: Growth in students and degree holders in city regions: 2004 - 2016

Change in the share of students and degree holders in the population



Source: RF analysis of ONS, *Labour Force Survey*

Part of the solution is to retain more graduates that study in the region. Recent data suggests that the region is making progress. In 2015, the latest year for which data is available, 11.3 per cent of students who didn't reside in the region before attending university, remained in the Sheffield City Region after graduating. This is lower than London (15.5 per cent), Greater Manchester (13.5 per cent), West of England (12.4 per cent) and West Yorkshire (11.4 per cent) but higher than all other city regions. The region needs to build on this progress. Unlike some other city regions housing costs are relatively low – making it an attractive place for young workers struggling to get on the housing ladder. It will also benefit from HS2, and although high speed rail may not run directly through the Sheffield city centre,[12] this will reduce travel times north and south.

There is significant scope for productivity improvements to be made in the Sheffield City Region

Having looked at the compositional element of the region's pay gap we can now turn to the other half, particularly productivity. Overall, productivity, as measured by output per worker,[13] is around 22 per cent lower in the Sheffield City Region than the England

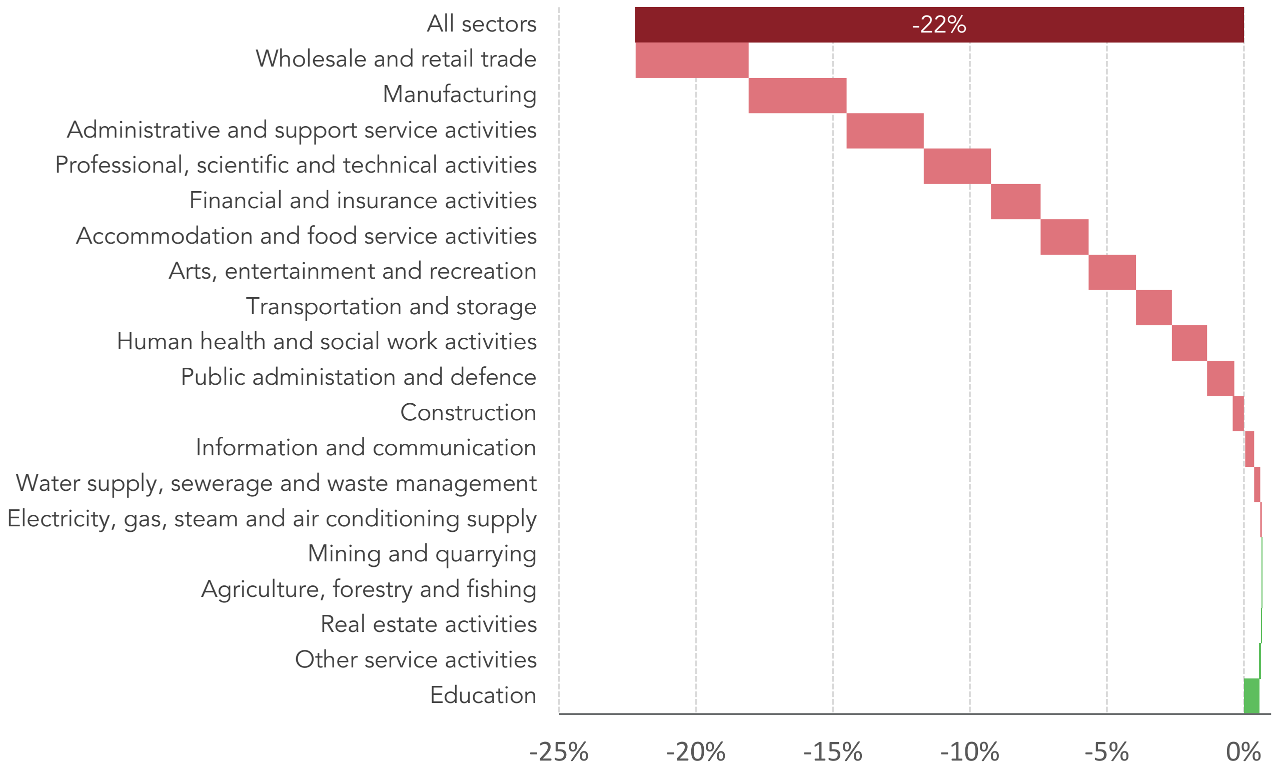
[12] BBC News, *HS2: North West and Yorkshire routes confirmed*, 16 November 2016

[13] Output per hour worked is a better measure of productivity but we do not have data on hours worked at the sectoral/sub regional level.

average.[14] Figure 20 shows that businesses in most sectors in the Sheffield City Region are less productive compared to their counterparts in the rest of England. There are many relatively unproductive sectors that are large employers in the region, particularly wholesale and retail, manufacturing, and administrative and support service activities (office admin).

Figure 20: Productivity gap in the Sheffield City Region: 2015

Contribution to GVA per employee deficit compared to the England average (%)



Notes: Productivity is calculated as sectoral gross value added divided by the number of employees in the sector. Each bar shows in percentage terms how much each sector contributes to the region's productivity deficit. Productivity is best measured as gross value added per hour worked but this is not available at the sectoral and regional level, therefore these figures should be taken as indications of productivity, rather than exact estimates.

Source: RF analysis of ONS, *Regional Gross Value Added* and *Business Register and Employment Survey*

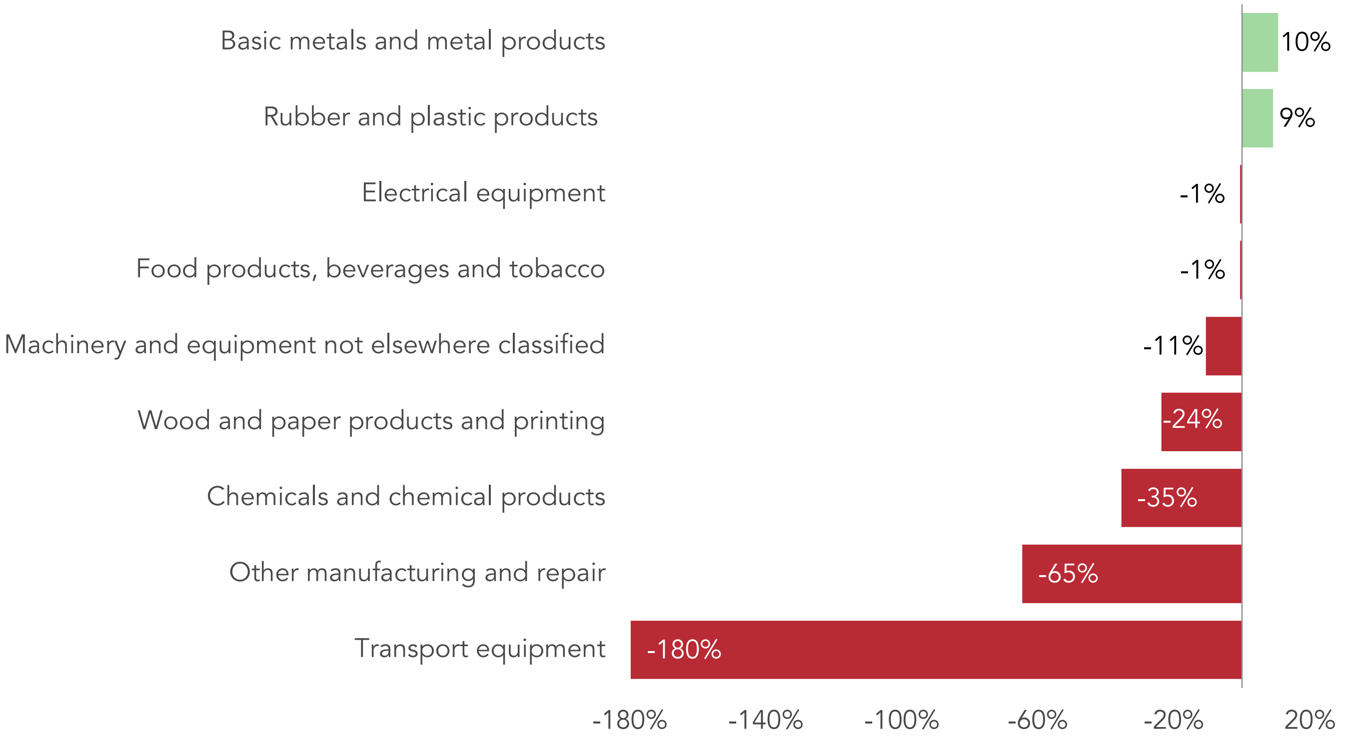
In other areas, the Sheffield City Region enjoys a productivity surplus compared to the other city regions. The education sector is the most productive sector in the region and is a large employer, with the region boasting two large universities.

Taking a closer look at a key sector – manufacturing – Figure 21 shows that the region has strengths and weaknesses. Transport equipment stands out as a weakness for the region, but this is likely to reflect the fact that the Sheffield City Region doesn't enjoy a cluster of firms as some other areas do – Rolls Royce, Toyota and Bombardier in the East Midlands for example. In other cases the region does benefit from a large cluster; around 20,000 people work in the metals industry.

[14] England rather than the UK is used as the comparator because data on the number of employees by sector, accessed through the *Business Register and Employment Survey*, is not available for the whole UK. This figure differs from the one quoted in the Executive Summary, because it is output per worker rather than output per hour worked.

Figure 21: Productivity in the manufacturing sector: 2015

GVA per employee deficit/surplus for manufacturing sectors compared to the England average (%)



Notes: Productivity is calculated as sectoral gross value added divided by the number of employees in the sector. Each bar shows in percentage terms how much lower productivity is in that sector in the Sheffield City Region than the English average. Productivity is best measured as gross value added per hour worked but this is not available at the sectoral and regional level, therefore these figures should be taken as indications of productivity, rather than exact estimates. Some manufacturing sectors have been omitted because of small sample sizes or because information may be disclosive.

Source: RF analysis of ONS, *Regional Gross Value Added* and *Business Register and Employment Survey*

Overall, manufacturing is 34 per cent less productive in the Sheffield City Region than in the other city regions. This is in spite of the fact that the region has many excellent firms and initiatives, including the Advanced Manufacturing Plant in Rotherham – a manufacturing technology park housing firms in the materials sector.

Sheffield City Region is not alone among the major city regions in having productivity below that of the English average, in fact the vast majority do. However, the scale of the pay and productivity challenge in the region should be a particular cause for concern. This section has drawn attention to large sectors of the economy where productivity is significantly below the English average, in particular manufacturing, office admin and retail and wholesale. The next section outlines these and a number of other areas where local leaders should focus their attention as they seek to raise living standards in the region.

Section 6

With a little help from my friends

As in other city regions new powers provide local leaders with an opportunity to address some of the key living standards challenges facing the Sheffield City Region. However, this requires devolution in the region to get back on track. At present there is a danger that South Yorkshire will miss out on the opportunities being provided to other city regions.

Should devolution go ahead local leaders will need to focus on raising pay and productivity, supporting both firms and employees. Although this is an extremely difficult challenge, and one which the UK economy as a whole has failed to rise to, recognising the problem is an important first step.

Number one priority should be to get devolution back on track

The fact that the Sheffield City Region will miss out on devolution this year is a missed opportunity for the region. In particular it will mean that local leaders in the region will not benefit from the increased powers available to their counterparts in other city regions. Given this the priority for local leaders should be to get devolution back on track as quick as possible.

The exact form that devolution should take is a decision for local and national politicians and it is possible that the exact powers, the new political structures, and the geographic area that they encompass, may be different from that envisaged in the devolution agreement signed with the government in October 2015. Nevertheless, both local and national politicians must ensure that the Sheffield City Region does not miss out on devolution and the opportunities to raise living standards in the region that this provides.

Productivity improvements should be focused on sectors that employ large numbers of people and where performance is particularly poor

There is a tendency for industrial policy and business support to focus on particularly innovative or 'exciting' industries. There is merit in this approach as firms in such sectors often need support to make research and development financially viable. Nevertheless from the point of view of raising living standards, significant gains could be made by raising productivity and wages in sectors where pay tends to be low and which employ lots of people. Raising productivity is far easier said than done, and the problem of low productivity is one which affects the whole UK economy, nevertheless identifying where the problem lies is an important first step.

In the Sheffield City Region three sectors stand out for both employing large numbers of people and suffering from relatively low productivity: manufacturing, office administration[15] and wholesale and retail. Although in some of these sectors big firms dominate, meaning that business models and pay will be set nationally (reducing the influence of local politicians), there may be scope for both formal and informal action by local leaders.

The city region has powers over business support through the Growth Hub and among other things provides support to firms looking to access finance, move into exporting, and improve the skills of their staff. While it is important that the Hub supports firms from a wide array of sectors there is an argument to be made to concentrate some resources where they can have the biggest impact. The evidence is that the three sectors discussed above may warrant such tailored support therefore we suggest that regional leaders should form a task force to examine low pay and productivity in these sectors.

Specific workers and firms should be provided with support to facilitate in-work progression

Our projections for the NLW suggested that it will provide a welcome boost to some of the region's lowest paid workers. Section 4 showed that women, younger, older and part-time workers will disproportionately benefit as will service sector workers, those in elementary occupations and employees of very small firms will also be affected. However, greater numbers of workers on the wage floor will also throw up new challenges, particularly around pay progression.

Because 15 per cent of workers across the whole of the UK will be on the wage floor by 2020 progression should be a priority for national government. Workers in Sheffield may therefore benefit from national initiatives. Nevertheless there is a role for local leadership in creating tailored support for segments of the Sheffield workforce that will be most affected.

Initiatives in the Sheffield City Region such as 'Skills Made Easy' and the 'Skills Bank' (see Box 2) can provide advice and financial support for firms that wish to train their workforce, hopefully creating productivity gains and wage growth.

Box 2: 'Skills Made Easy' and the 'Skills Bank'

Skills Made Easy

Skills Made Easy was launched in 2013 and provides advice to firms that wish to recruit apprentices. The initiative also provides access to training programmes, many of which are delivered at no cost to the business. As well as supporting firms the service also advertises vacancies for people aged 16 – 24.

The service is open to businesses in the Sheffield City Region and those in North East Derbyshire and Mansfield.

Skills Bank

The Skills Bank was launched in mid-2016. It is a £17 million fund. Businesses can contact the service and once the businesses' training needs have been decided the Skills Bank will assist in finding the appropriate training. Up to two-thirds of the cost of training can be funded by the Skills Bank.

The service is available to firms in the Sheffield City Region and Bolsover, Derbyshire Dales and North East Derbyshire.

[15] This includes renting and leasing equipment, providing services such as cleaning and security services to firms, the activities of call centres and the activities of employment agencies.

In addition to this there is the need for more recognition that a key part of in-work progression is moving into higher paid roles, not just increasing hours to meet the 'in-work conditionality' stipulations under Universal Credit. There is a strong argument that the current plans around in-work conditionality under Universal Credit should be reformed, however this is an issue outside of the Sheffield Combined Authorities remit.[16] Regional leaders can play a role in piloting and trialling new forms of practical support that help specifically affected workers progress. The devolution deal did make funding available for the region to pilot tailored employment support programmes and there is a strong argument to be made that local or national funding should be used to support initiatives that are shown to facilitate in-work progression given the scale of the challenge in the region.

It is important to recognise the specific challenges facing different parts of the region

Given that pay in the city of Sheffield is higher than in the other parts of the region, and the city itself is twice as large as most of the other cities, there could be a temptation to concentrate scarce resources on improving the prospects for this part of the region at the expense of other parts. The challenge for local leaders is to meet the significant challenges that the region faces without inadvertently generating further divisions.

In this regard it is important to take a nuanced look at the challenges facing each part of the region. Pay is higher in Sheffield, but the employment rate is lower and for some groups the employment rate is the lowest in the region. While it may be tempting to assume that Sheffield is the economic centre of the region it is important to bear in mind that more people commute to Rotherham. Chesterfield and Bassetlaw, two more rural areas of the region, will face specific economic challenges.

Conclusion

This report has outlined some of the key living standards facing the Sheffield City Region. Worryingly the delay to devolution means that local leaders will have fewer powers than their counterparts elsewhere to address these.

As a result it is important for the current impasse in the devolution process to be resolved. Assuming that that the shape of devolution is finalised in the relatively near future it should provide local leaders with new opportunities to take decisions that improve the lives of residents in the region. If this is to happen then both local and national political leaders need to focus on raising productivity and pay and improving the employment prospects for particular groups.

[16] D Finch, *Universal Challenge: Making a success of universal credit*, Resolution Foundation, May 2016

Annex 1: Data and definitions used in this analysis

In this annex we provide details of the various datasets used throughout this report, along with further information on the definitions used in relation to geographies and different group characteristics.

Datasets

The report draws upon a range of sources. Used most are the Annual Survey of Hours and Earnings (ASHE), Annual Population Survey (APS)/Labour Force Survey (LFS) and the Business Register and Employment Survey (BRES). In some cases data has been accessed through NOMIS and in other cases we make use of the cross-sectional micro datasets. We also use the ONS' Small area income estimates and Sub-regional Gross Value Added and productivity data.

When accessing data from NOMIS we use the available data for local authorities (the APS stretches back to 2004 and early versions of the LFS are available back to 1992), when using the LFS microdata we sometimes pool quarters. This allows us to build up a big enough sample to investigate local authorities.

Definitions

Geography

When comparing different city regions in the UK, we examine thirteen major city regions that have signed devolution deals with the government and, in some cases, may elect a mayor in 2017. The city regions and the local authorities they encompass are:

Table 2: The thirteen city regions and the local authorities they contain

City region	Local authority areas
Greater Manchester	Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford, Wigan
West Midlands	Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall, Wolverhampton
Liverpool	Halton, Knowsley, Liverpool, St.Helens, Sefton, Wirral
West Yorkshire	Bradford, Calderdale, Kirklees, Leeds, Wakefield, York
Sheffield City Region	Barnsley, Doncaster, Rotherham, Sheffield, Bassetlaw, Chesterfield
North East	County Durham, Gateshead, Newcastle Upon Tyne, North Tyneside, Northumberland, South Tyneside, Sunderland
Nottingham	Ashfield, Broxtowe, Gedling, Mansfield, Nottingham, Newark and Sherwood, Rushcliffe
Bristol	Bath and NE Somerset, City of Bristol, South Gloucestershire
Glasgow	E Dunbartonshire, E Renfrewshire, Glasgow City, Inverclyde, N Lanarkshire, Renfrewshire, S Lanarkshire, W Dunbartonshire
Cardiff	Blaenau Gwent, Bridgend, Caerphilly, Cardiff, Merthyr Tydfil, Monmouthshire, Newport, Rhondda Cynon Taf, Torfaen, Vale of Glamorgan
Tees Valley	Darlington, Hartlepool, Redcar & Cleveland, Middlesborough, Stockton on Tees
Cambridgeshire & Peterborough	Cambridge, East Cambridgeshire, Fenland, Huntingdonshire, Peterborough, South Cambridgeshire
London	32 London Boroughs and the City of London*

* In some cases the City of London is excluded from our analysis because of small samples

Low activity groups

Where we look at different groups in the labour market we define them as:

- **Low-qualified**: We use successive versions of the 'hiqual' variable in the LFS, which contains details of an individual's highest qualification, with the variable ranked in descending order. We then split the 18-69 year old UK population into three equally-sized groups (randomly distributing those individuals with qualification levels that straddle the boundaries). We define the bottom third as 'low-qualified' and the top third as 'high-qualified'. By repeating this process in each quarter, we capture 'relative' qualification levels and so control for the general improvement in the qualifications profile of the working age population over time.
- **Disabled people**: We use the old Disability Discrimination Act (DDA) definition of disability, which was the most commonly-used prior to that established by the Equality Act 2010 (the Equality Act definition excludes some specific groups from its 'core' measure that are included in the DDA definition). We do this because the DDA measure provides the longest consistent definition over time (and captures a population that tends to experience more acute labour

market disadvantage than, for example, the 'work-limiting disabled only' group also captured in the data over this time-period). Changes to question wording and questionnaire design mean that measures of disability in the LFS have discontinuities in 2010 and 2013 but as we start our analysis in 2013 this does not affect us.

» **Single parents**: Single parents are adults of either gender with dependent children and not living with partners. From 2006 onwards, this is defined using the 'type of family unit' variable - the same way as the ONS defines single-parenthood.

» **Non-single parent mothers**: Non-single parent mothers are women with dependent children living in couples.

» **BAME groups** and **younger** and **older** age groups are defined using the standard ethnicity and age variables available in the LFS.

Annex 2: Employment rates for different groups in the Sheffield City Region

In Figure 9 we present the employment rates for different groups in the six local authorities in the Sheffield City Region. The table below shows the employment rates.

Table 3: Employment rate of different groups across the local authorities in the Sheffield City Region

	Employment rate					
	Barnsley	Bassetlaw	Chesterfield	Doncaster	Rotherham	Sheffield
Disabled people	44.3%	42.7%	56.8%	39.4%	38.3%	44.1%
BAME people				73.3%	56.2%	52.5%
Single parents	55.1%			60.4%	46.0%	54.5%
Low qualified people	60.1%	61.7%	61.5%	56.4%	50.2%	51.8%
Non-single parent mothers	73.5%	68.8%	75.3%	67.8%	64.6%	73.5%
Older people	67.1%	63.1%	70.9%	61.4%	59.9%	70.9%
Younger people	69.0%	62.0%	70.0%	63.5%	63.0%	56.0%

Notes: Where no rates are shown this is because sample sizes were not big enough to produce reliable results.

Source: RF analysis of ONS, *Labour Force Survey*

Annex 3: Analysing the pay penalty in the Sheffield City Region

The approach we take in our regression analysis is based on that used by J Cribb, C Emmerson & L Sibieta, *Public Sector Pay in the UK*, Institute for Fiscal Studies, October 2014. However rather than estimate the pay differential between workers in the public and private sectors we estimate the differences in pay between workers in certain regions compared to the rest of Great Britain.[17] The 8 regions we analyse are:

- Sheffield City Region (excluding Bassetlaw and Chesterfield)
- Tyne & Wear
- West Yorkshire
- Inner London
- Outer London
- West Midlands
- Greater Manchester
- Merseyside

We run two models specified as follows:

1. Simple model with no controls

This model is used to estimate the 'raw' differential between pay in a region and the rest of the Great Britain. Results are calculated using estimated coefficients from an ordinary least squares regression of the natural logarithm of pay (CPI-adjusted to 2016 prices) on a dummy variable for each separate region above. In this model we include as controls just a series of quarterly dummies.

2. Model with full set of controls

This model is used to estimate the differential between pay in a region and the rest of the Great Britain controlling for various characteristics of the labour market that may affect pay. Results are calculated using estimated coefficients from an ordinary least squares regression of the natural logarithm of pay (CPI-adjusted to 2016 prices) on a dummy variable for each separate region above. In this model we include as controls age, age squared, qualifications, experience, country of birth, ethnicity, industry, whether an individual works in the public sector, occupation, full-time/part-time status, time in job. All variables are interacted with a sex dummy and we also include a series quarterly dummies.

Full variable definitions: education is a seven-category variable based on highest qualification; country of birth is a four-category variable; ethnicity is a six-category variable; job tenure an eight-category variable; occupation and industry are based on the standard coding at the one-digit level. Experience is measured by age minus age of leaving education, and is interacted with a three-category qualification variable (indicating higher education, secondary education or other/no education). Time in job is measured

[17] We exclude Northern Ireland from our analysis because it has the lowest pay of any region.

as the length of continuous employment.

Coefficients are converted to percentages and cash values following R Halverson & R Palmquist, 'The interpretation of dummy variables in semi logarithmic equations,' *American Economic Review* 70:3, 1979.

All standard errors are robust to heteroscedasticity, and all results were significant at the 1 per cent level.

Weighted using LFS income weights.

Full results are set out in Table 4 below.

Table 4: Estimated regional pay differential compared to rest of Great Britain: 2012 – 2016 (CPI-adjusted to 2016 prices)

Model 1 - Raw differential		
	% differential	£ differential
Sheffield city region	-13.0%	-£1.82
Tyne & Wear	-11.5%	-£1.61
West Yorkshire	-8.4%	-£1.17
Inner London	35.7%	£4.99
Outer London	18.4%	£2.57
West Midlands	-8.8%	-£1.24
Greater Manchester	-8.1%	-£1.14
Merseyside	-7.7%	-£1.08

Model 2 - Differential with controls		
	% differential	£ differential
Sheffield city region	-6.5%	-£0.91
Tyne & Wear	-6.6%	-£0.92
West Yorkshire	-4.9%	-£0.69
Inner London	18.8%	£2.63
Outer London	12.4%	£1.73
West Midlands	-3.6%	-£0.50
Greater Manchester	-5.1%	-£0.72
Merseyside	-4.5%	-£0.63

Source: RF analysis of ONS, *Labour Force Survey*

Resolution Foundation

Resolution Foundation is an independent research and policy organisation. Our goal is to improve the lives of people with low to middle incomes by delivering change in areas where they are currently disadvantaged. We do this by:

» *undertaking research and economic analysis to understand the challenges facing people on a low to middle income;*

» *developing practical and effective policy proposals; and*

» *engaging with policy makers and stakeholders to influence decision-making and bring about change.*

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