Cities Outlook

2017

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EXPRESS

Across the UK, many businesses are seeing the current period of transition and change as an opportunity, and are enhancing the resources they commit to exporting their goods and services. Other firms have serious concerns, or don't engage with the language of 'export'. In all cases, accredited Chambers of Commerce are first ports of call for advice and support.

Each year, Cities Outlook is an indispensable tool for all of us whose mission is to promote the growth and prosperity of places. Without successful cities, towns and counties, the future success of the UK is in doubt.

Adam Marshall, Director General, British Chambers of Commerce

As we prepare to leave the European Union, our cities are more important than ever to the future of our economy and society. A major challenge for the Government will be to ensure that the UK remains connected, relevant and able to act on behalf of our citizens at every level from the international to the neighbourhood.

Understanding the opportunities and challenges facing different cities will be critical in determining how best to boost international trade and to maximise cities' contribution to the national economy. The analysis and evidence presented by the annual Cities Outlook is therefore very welcome.

Cities Outlook 2017 recognises that cities must have the tools they need to compete effectively and that place-based growth will be necessary to translate economic success into prosperity for all. It also endorses the view of many city leaders and mayors that the devolution agenda must step-up a gear in 2017.

Cllr Judith Blake, Chair, Core Cities Group and Leader, Leeds City Council

Cities Outlook 2017 brings home the urgency of the task we face. Cities are the lifeblood of the British economy and will no doubt feel the effects of the decision to leave the EU. Even as we try to generate well-paying and fulfilling jobs for our residents, nine in 10 of our cities have lower productivity than their European counterpart. This report is a timely reminder that we need to focus on those fundamentals. Our economy works when we can integrate skills, transport systems, and housing. That's what draws businesses to our cities, and that's what we need to improve in the coming years.

Centre for Cities has done an excellent job in arguing that the UK needs to build strong places that attract investment because of their access to knowledge and skilled workers. That is our future as a country, and this report urges us to seize this opportunity.

Cllr Paul Watson, Chair, Key Cities and Leader, Sunderland City Council

The focus of this year's Centre for Cities report, on exporting and the opportunities and challenges that presents, is timely. In the wake of the EU referendum, this report shows that it is more important than ever that we continue to strengthen London's ties with cities across Europe, and the rest of the world. It also reinforces the growing role of cities in the UK's future success.

As the UK looks to increase exports in the years ahead, I hope that we will see many more London based SMEs trading overseas. Through my International Export programme, I will support businesses to scale up on an international level, bringing benefit to themselves, London and the wider UK economy.

Cities Outlook also rightly highlights the fact that the outcome of Britain's forthcoming negotiations to exit the EU and to secure an ongoing trading relationship with the Single Market will have huge implications for all of the UK's cities, and those that work in them. I will work to ensure that the voice of London, the engine of Britain's economy, is heard – making it clear that we need a deal which allows us to maintain our place as Europe's leading financial and commercial centre, with a form of access to the Single Market, and to global talent, that protects our competitiveness. To achieve this, I will work closely with other cities, as well as with Scotland, Wales and Northern Ireland – working together to secure the best possible Brexit deal for London and the whole country. I will also press the Government for further devolution, to give our city the tools it needs to rise to the challenges of the future.

Meanwhile, we must also seek to make the most of any opportunities that may come from being outside the EU. My #LondonIsOpen campaign will ensure that everyone knows that London is and always will be well and truly open for business, investment, ideas and talent. There is no doubt that despite the challenges around Brexit, London can continue to be the best place in the world to do business.

It is a great pleasure to see Cities Outlook 2017 focus on the trade performance and potential of places across the UK. As the analysis makes clear, our towns and cities are at the front line of the long-running battle to improve the UK's export performance - and with it, our balance of payments.

Sadiq Khan, Mayor of London

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Acknowledgements

All views expressed are those of Centre for Cities.

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Cities Outlook 2017

Brexit, cities and a local government revolution

Cities Outlook 2017

Last June the UK took the momentous decision to leave the European Union. Since then, the national debate has focused on how Brexit will affect economic growth and the UK's international trade relationships once Article 50 is triggered. Yet this is not only a national issue. Leaving the EU has implications for different parts of the UK and their relationship with the UK Government, the EU and beyond.

Whatever the specifics, the arrangement the UK comes to with the EU and other trading partners will affect cities across the UK in quite different ways, depending on the make-up of their economy. This means that future economic growth up and down the country, and the devolution agenda, will be dependent on the trade deals struck.

The national picture

There are two big themes that have guided the current Government's approach to the economy. The first is a redoubling of efforts around improving the productivity performance of the UK economy, which formed the core of Philip Hammond's 2016 Autumn Statement, and the second is to encourage growth across the country, a central theme of Theresa May's first speech as Prime Minister on the steps of Downing Street. Centre for Cities' research in 2016 has shown both of these to be pressing issues. Figure 1 below highlights some key findings from our recent research.

Figure 1:

Key findings from Centre for Cities' 2016 research

Sources: EU productivity - data for 2011 in Bessis H (2016), *Competing with the continent: How UK cities compare with their European counterparts*, London: Centre for Cities; Graduates data for 2013/14-2014/15 in Swinney P and Williams M (2016) *The Great British Brain Drain: Where Graduates Move and Why*, London: Centre for Cities; Taxes - data for 2014/15 in McGough L and Piazza G (2016) *10 years of tax: How cities contribute to the national exchequer*, London: Centre for Cities. Tax data refers to economy taxes including: labour taxes, capital taxes and property taxes.

While some feared that a change in Prime Minister and Chancellor would lead to a reduced appetite for local economic growth policies, the vote to leave appears to have further strengthened the resolve of politicians to create 'an economy that works for everyone', recognising that many of the places that voted to leave have not felt the benefits of globalisation.

Yet since July 2016, policy has shifted to focus on economic growth everywhere. While the current Government has reaffirmed its commitment to Osborne's favoured project, the Northern Powerhouse, this has become part of a UK-wide approach to economic growth, encapsulated by plans to develop an industrial strategy that is 'place-based'.

The Government has shown it is keen to consult widely on what the most effective industrial policy would be. Our evidence suggests that, for any strategy to be successful, it must have a much greater focus on place than is usual in industrial strategies, which tend to preference sectors. The Secretary of State for Business, Energy and Industrial Strategy has echoed this, stating that being place-based will be vital to the industrial strategy's success.

"The truth is economic growth does not exist in the abstract. It happens in particular places when a business like yours is set up, or takes on more people, or expands its production. And the places in which you do business are a big part of determining how well you can do."

Speech by Greg Clark, Secretary of State for Business, Energy and Industrial Strategy, to the Institute of Directors annual conference 2016.

There are two main reasons why place will be important to the overall industrial strategy. Firstly, no one knows which sectors will drive future growth. For example, 10 years ago very few people knew what smart phone app development would be. Yet, as you read this, you are likely to have numerous apps within arm's length on at least one device. In the same way that it was near impossible for those outside the sector to predict the emergence of this industry a decade ago, it is difficult to predict in 2017 which industries will be growing – or declining – by 2027.

Secondly, the economy is not flat. As our recent report *Trading Places*[1] showed, different places offer different advantages to businesses. Where businesses choose to locate depends on the trade-off they make between access to workers with particular skills and to other businesses (which a city offers) and the cost of land (which, in general, becomes cheaper the further from a city it is).

While we do not know the specific industries that will drive growth in the future, global competition is likely to mean continuing growth in knowledge-focused businesses. And we know that these businesses have increasingly preferred city centre locations in recent years, because of the advantages that such locations offer.

Some cities, however, have been much more successful at attracting these businesses than others, mainly because they offer greater access to skilled workers and networks. If the fastest growing industries of the future continue to preference access to such benefits, then those cities that do not offer these benefits to the same extent will find it harder to attract investment in the future, with implications for the number and type of jobs available. These cities will need to consider how best to build on their strengths, how they complement those of neighbouring areas, and what this means for residents.

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1 Serwicka I & Swinney P (2016) *Trading Places: why firms locate where they do* London: Centre for Cities

There are several implications for the forthcoming industrial strategy: a focus primarily on sectors will neither support the growth sectors of tomorrow, nor help different places provide the business conditions to attract investment. In contrast, a focus on place will help both the growth sectors of today and tomorrow.

Where there are specific market failures within individual industries, there is a case for intervention in that industry. But most businesses are looking for very similar things – skilled workers, good transport, housing for their employees and a planning system that supports growth. Availability of these things varies across the country (which can be seen in Chapter 3); resolution of these issues also requires a place-focused approach.

A successful policy to support growth at the national level, whether through the Northern Powerhouse, Midlands Engine or place-based industrial strategy, is one that focuses on making the most of city regions, creating jobs and opportunities for the people that live not only in them, but around them too.

The local picture

Last year was a momentous year for national politics. This year will see radical political change at the local level too, and this will have very big consequences for efforts to improve the economic performance of our largest cities. In May we will see the election of six new metro mayors in Greater Manchester, Liverpool City Region, Tees Valley, West Midlands, the West of England and Cambridgeshire and Peterborough, representing a significant shift in the way England is governed.

In the aftermath of the referendum vote, some leave voters said their decision was guided by a feeling of being ignored or neglected by national government. The new metro mayors could help to address this. While their specific responsibilities will vary from place to place, the new mayors' ability to tailor the powers that they are given to address the specific challenges and opportunities facing their city regions has the potential to greatly improve the effectiveness of decision-making in these places.

The new mayors, whoever they may be, will also be crucial in making place-based industrial policy a success in their area. For too long, the discourse about policies aimed at supporting economic growth – for example, the productivity plan and the industrial strategy - has been led by national politicians and framed in a national context. Devolution will change this. It puts powers in the hands of directly elected

mayors and local politicians. And while we would like to see the mayors be given more powers than they will have on their first day in office, from May 2017 they will have the opportunity to implement policies to support their economies, rather than being entirely beholden to the whims of Whitehall.

This doesn't mean national government is off the hook. It will of course need to continue to play a big role. The announcement by Philip Hammond in the Autumn Statement of the £23 billion National Productivity Investment Fund (NPIF) is the latest – and welcome - example of this. But such initiatives will need to work closely with metro mayors and with city regions across the UK to set out how they will complement local efforts and resources. National government needs to use its resources to help cities adapt to the changes brought about by globalisation and technology which places and the UK as a whole must deal with if they are to be successful in the future.

It also requires a new and more equal relationship between national government and city regions. Given the UK's continued poor productivity performance and the Government's desire to support growth across the country, it will be vital that the Chancellor and Ministers work with metro mayors on any ideas about how money can be better spent in their area.

This year's focus

The triggering of Article 50 will have direct implications for the trading relationships that the UK has with the EU and the rest of the world. This in itself presents a challenge for all cities and for the new mayors specifically - their role as figurehead of a city region will no doubt involve brokering trading relationships around the world. To contribute to the debate about Britain's new role in the world, the next chapter presents estimates on exports for each city in Britain, looking at both the goods and services that cities specialise in, and where they send their exports to.

Box 1: Defining cities

The analysis undertaken in *Cities Outlook* compares Primary Urban Areas (PUAs) – a measure of the built-up areas of a city, rather than individual local authority districts or combined authorities. A PUA is the city-level definition first used in the Department for Communities and Local Government's *State of the Cities* report. The definition was created by Newcastle University and updated in 2016 to reflect changes from the 2011 Census.

The PUA provides a consistent measure to compare concentrations of economic activity across the UK. This makes PUAs distinct from city region or combined authority geographies. You can find the full definitions table and a methodological note on the recent PUA update at this page: www.centreforcities.org/puas.

02

Where do UK cities export to?

Where do UK cities export to?

In light of the UK's decision to exit the EU, trade has become a hot topic. To inform discussions at a national and local level about the UK's trading arrangements in a post-Brexit world, this chapter sets out estimates of how much our cities exported in 2014, and the destination of those exports.

By setting out the size of their exports and their markets, this analysis shows cities where their challenges and opportunities lie as the UK looks to increase exports in the years ahead. It reviews the extent to which cities depend on individual industries for their exports and what proposed trade deals are likely to mean for them.

For national government, it provides insights about the geographic impact of potential trade deals. It also considers the relationship between exports and productivity at the city level, and the implications this has for both the attempts by the Government to raise productivity, and for its place-based industrial strategy.

Cities and their exports

Cities account for the bulk of Britain's exports

In total, cities accounted for 62 per cent of Britain's total exports in 2014. The dominance of cities was particularly marked for services – they accounted for 51 per cent of goods exports, but 74 per cent of services exports.

In absolute terms, London was the largest contributor, responsible for 28 per cent of all of the nation's exports to other countries. Yet the picture looks somewhat different when accounting for city size. As Figure 2 shows, Sunderland exported by far the largest amount of goods and services on a per job basis of any British city – it exported one third more than second-placed Worthing.

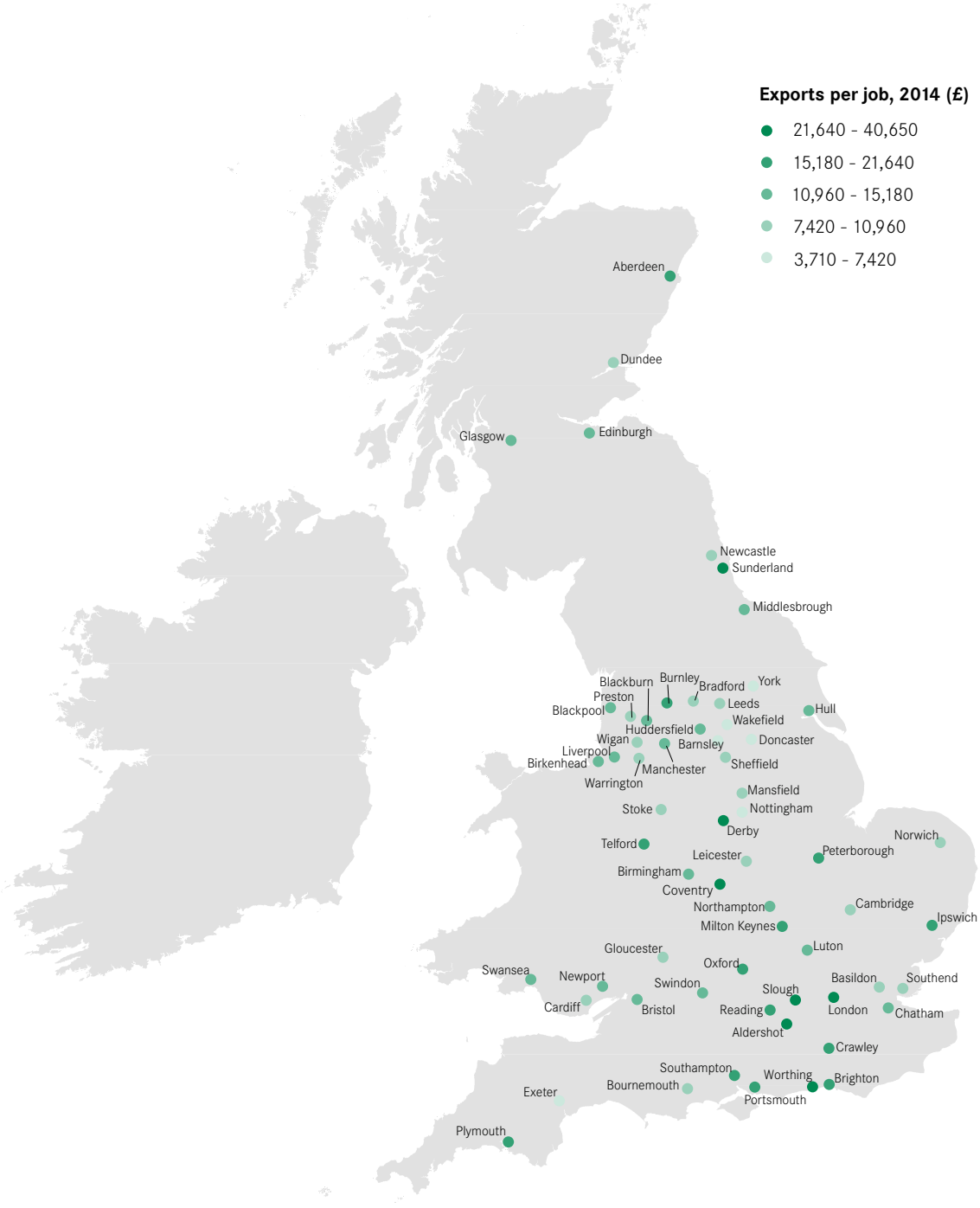
York, meanwhile, exported the least on this measure. On a per job basis, Sunderland exported 11 times as much as York did in 2014. Four other Yorkshire cities were also in the bottom 10 (Doncaster, Wakefield, Barnsley and Leeds), reflecting Yorkshire's low exports per job overall.

Figure 2:
Total value of exports by city

	City	Total exports per job, 2014 (£)	Total exports, 2014 (£m)
10 cities with the highest exports per job			
1	Sunderland	40,650	4,850
2	Worthing	29,640	1,390
3	Slough	27,560	2,180
4	Aldershot	24,660	2,470
5	London	23,470	127,370
6	Coventry	23,430	3,650
7	Derby	23,390	2,930
8	Reading	21,630	3,740
9	Ipswich	20,650	1,440
10	Burnley	20,340	1,390
10 cities with the lowest exports per job			
53	Norwich	8,540	1,140
54	Leeds	8,260	3,480
55	Preston	8,160	1,450
56	Mansfield	7,910	710
57	Barnsley	7,420	580
58	Wakefield	6,680	970
59	Exeter	5,940	540
60	Nottingham	5,770	1,820
61	Doncaster	5,410	620
62	York	3,710	400
	Great Britain	15,690	448,080

Source: ONS 2016, Regionalised estimates of UK service exports; HMRC 2016, Regional Trade Statistics; ONS 2016, Business Register of Employment Survey

Figure 3:
Exports per job



Source: ONS 2016, Regionalised estimates of UK service exports; HMRC 2016, Regional Trade Statistics; ONS 2016, Business Register of Employment Survey

Services exports play a larger role in southern cities

The contribution of goods and services to total exports varied across cities. Goods exports tended to dominate in cities in the North and Midlands (see Figure 5). This was greatest in Derby and Hull, where nearly 90 per cent of exports from these two cities were goods. Meanwhile southern cities tended to have a much greater reliance on services. The exception was Edinburgh – the city most reliant on services exports - where 87 per cent of exports were services. Box 2 looks at the top services-exporting cities.

Box 2: Top services-exporting cities

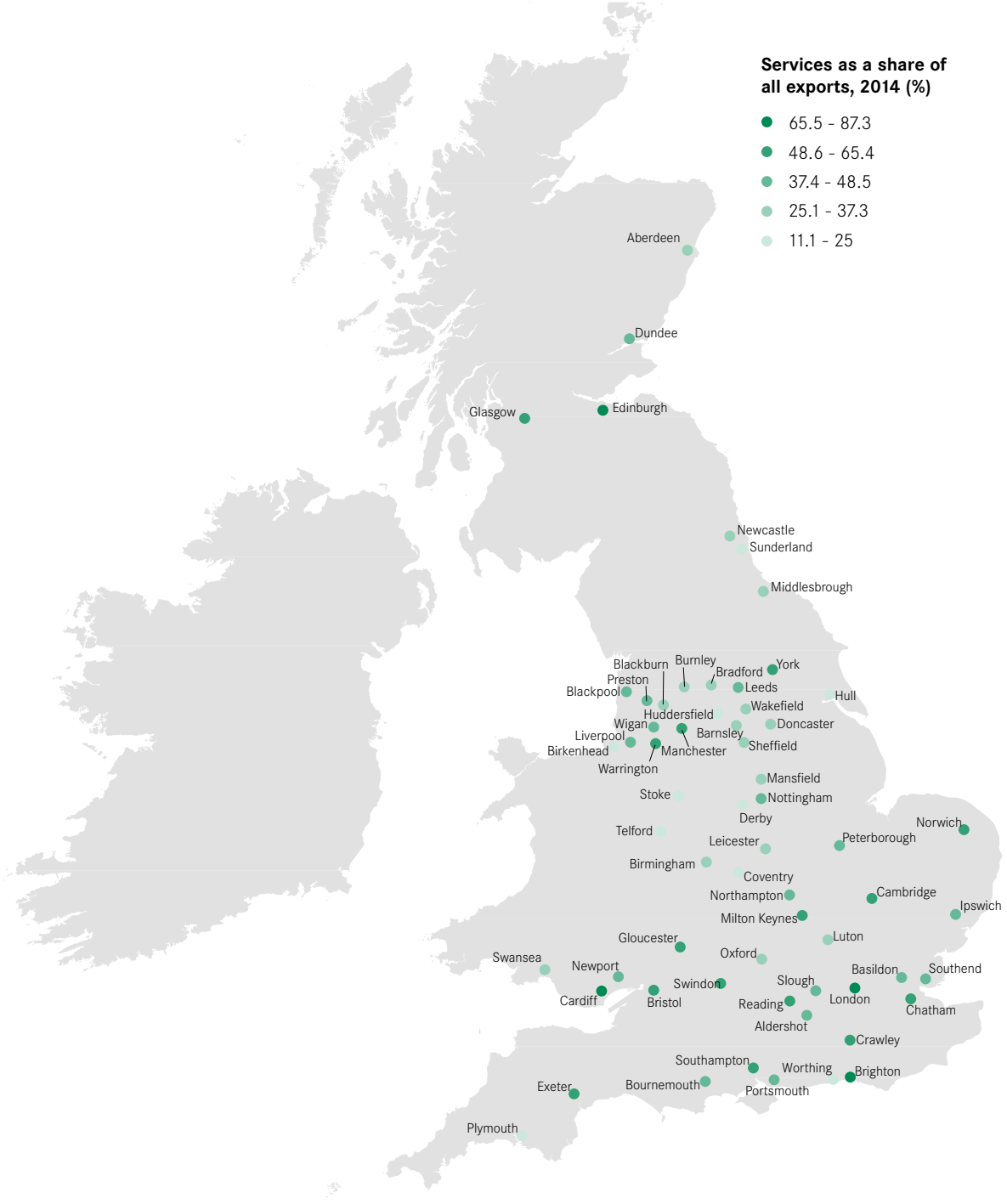
Services exports per job (i.e. the total amount of services sold abroad relative to all jobs in a city) tended to be much higher in southern cities than elsewhere in Britain. At just under £18,000 for every job in the city, London had the highest output. Edinburgh was the only city outside the South to appear in the top 10 (see Figure 4). Hull had the lowest services output per job, with all of the bottom 10 cities being in the North or Midlands.

Figure 4:
Services exports per job

	City	Services exports per job, 2014 (£)	Total services exports, 2014 (£m)
1	London	17,710	96,090
2	Edinburgh	13,100	4,210
3	Brighton	11,620	1,740
4	Slough	11,500	910
5	Reading	11,460	1,980
6	Crawley	10,910	930
7	Milton Keynes	10,520	1,700
8	Aldershot	9,400	940
9	Southampton	9,360	1,650
10	Ipswich	8,070	560

Source: ONS 2016, Regionalised estimates of UK service exports; ONS 2016, Business Register of Employment Survey

Figure 5:
Services as a share of all exports



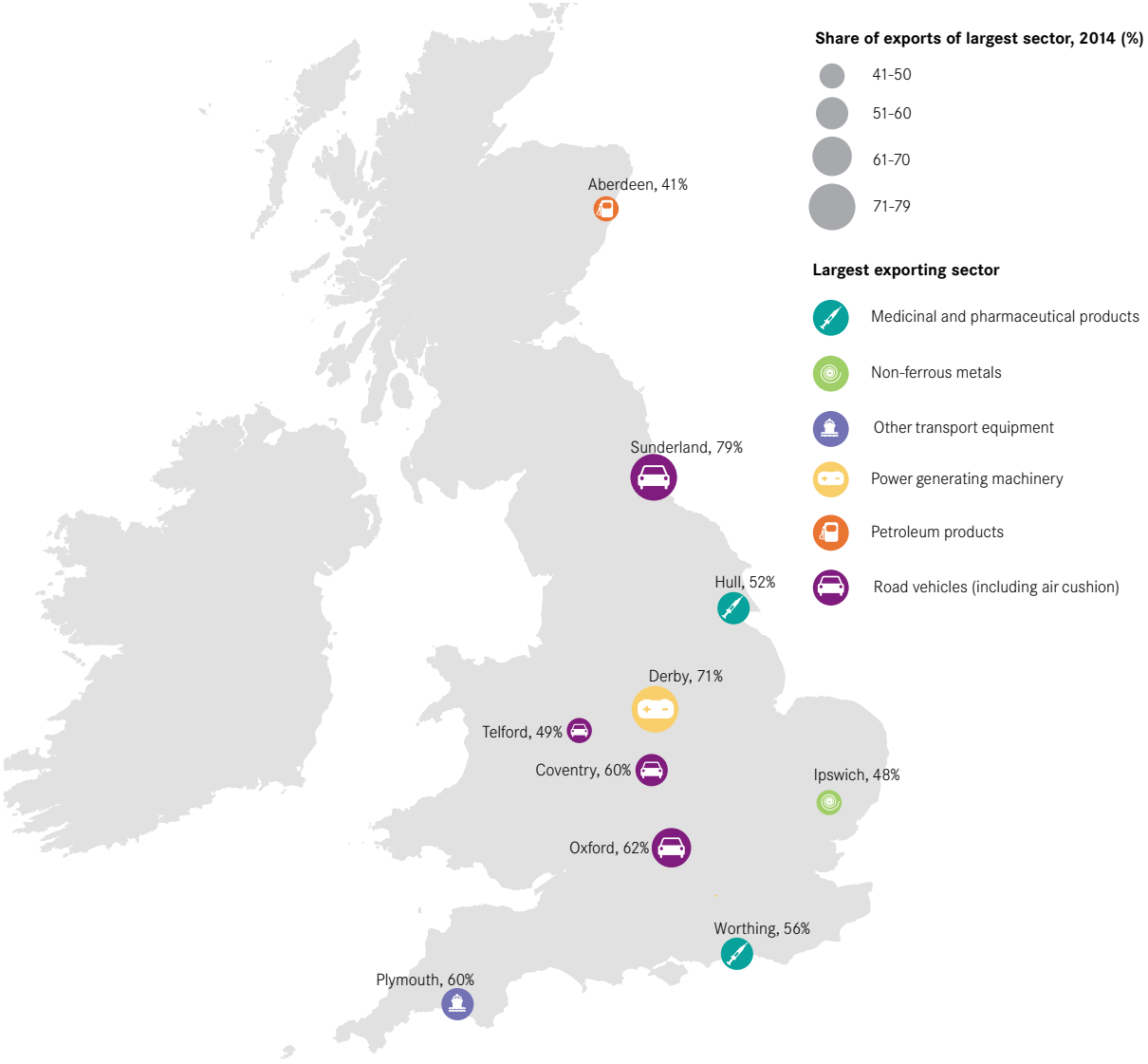
Source: ONS 2016, Regionalised estimates of UK service exports; HMRC 2016, Regional Trade Statistics; ONS 2016, Business Register of Employment Survey

In some cities single industries account for the majority of exports

For most cities, their exports are generated by a range of industries. In total 35 cities had less than one-fifth of their exports concentrated in one industry. Portsmouth was the city that had the most diversified export base, with its top exporting industry - information and communications - accounting for just 9 per cent of exports.

Figure 6:

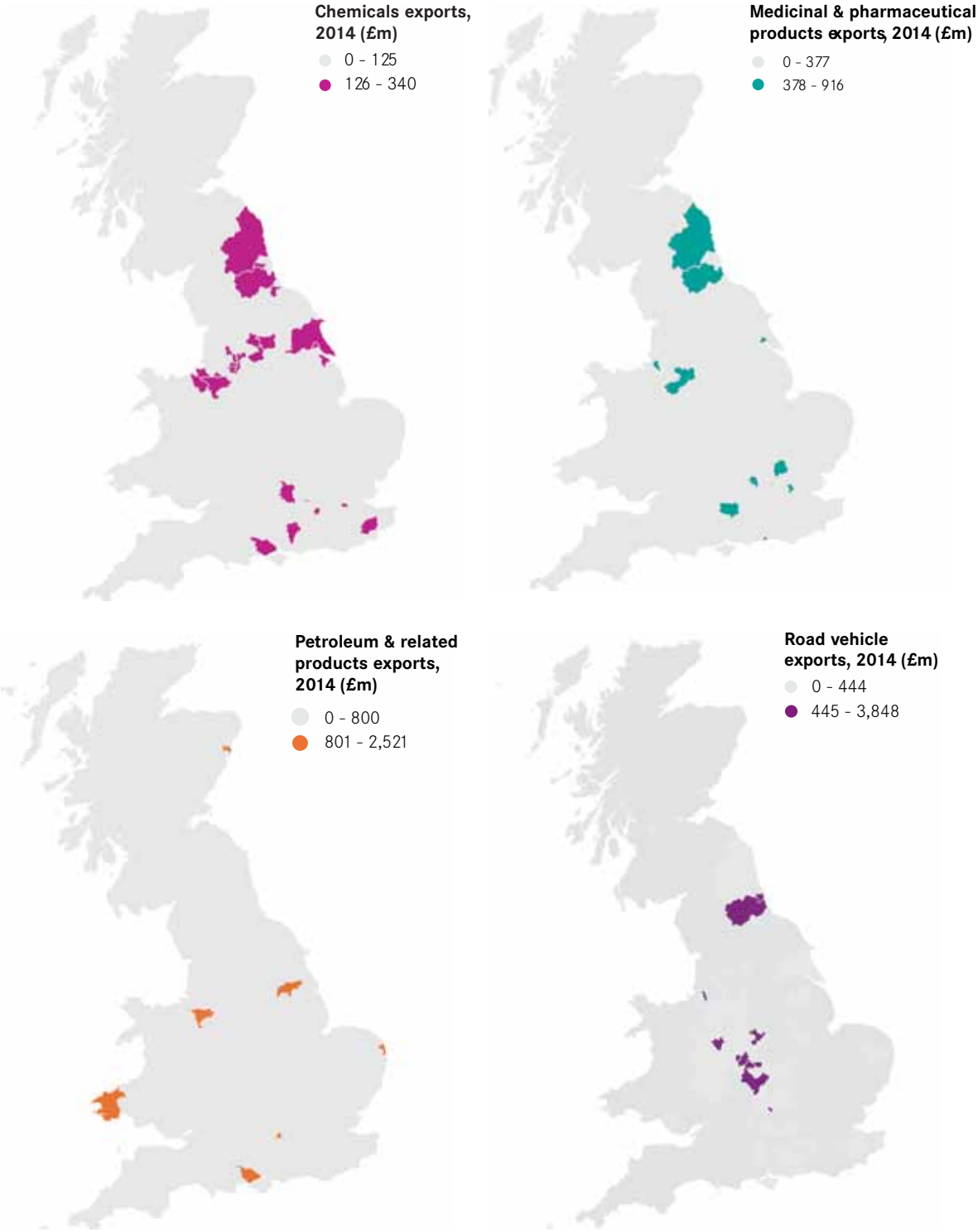
The largest single sector contributor to total exports



Source: ONS 2016, Regionalised estimates of UK service exports; HMRC 2016, Regional Trade Statistics; ONS 2016, Business Register of Employment Survey. Sectors are defined according to the Standard International Trade Classification for goods and the broad industrial Standard Industrial Codes for services.

Figure 7:

The location of exports from selected industries



Source: ONS 2016, Regionalised estimates of UK service exports; HMRC 2016, Regional Trade Statistics; ONS 2016, Business Register of Employment Survey. A more detailed set of images is available on the web version of this report.

But as Figure 6 shows, a handful of cities are heavily reliant on one industry for their exports, which leaves their export base particularly vulnerable to changes in either demand for that product or a change in any trade agreements. Sunderland leads this list. Its impressive export performance was driven by car making, which accounted for four-fifths of all of the city's exports. Without auto manufacture, Sunderland would have had the 12th lowest exports per job of all cities, rather than the highest.

Sunderland is not alone on this measure. Seven cities relied on one single industry to produce over half of their exports. In Derby, an estimated 71 per cent of exports were a result of power generating machinery and equipment (led by Rolls Royce), and Oxford's car industry accounted for 62 per cent of its exports.

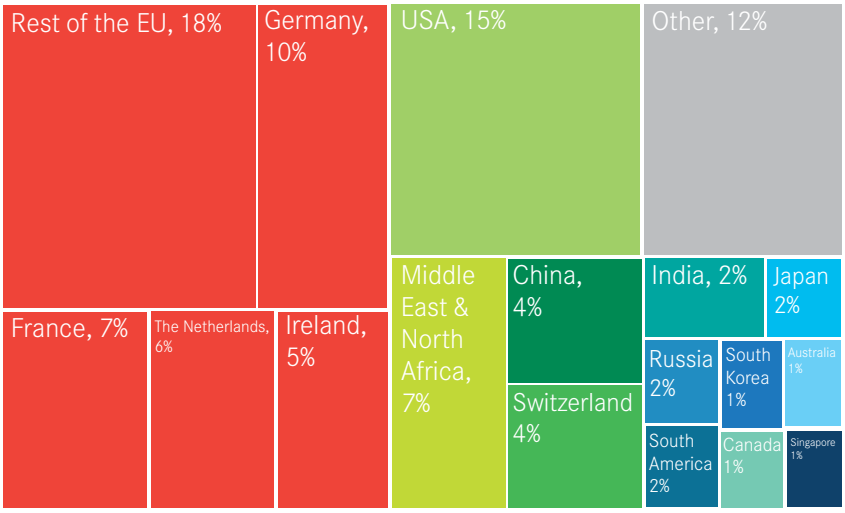
The dominance of some industries in particular cities reflects their concentration in particular places. Figure 7 shows the geography of chemicals, petroleum, pharmaceuticals and road vehicles exports. As can be seen, they were produced in a very small number of places across Britain.

The EU is the largest market for almost all cities

Of course, knowing where these exports are sold to is also vital, particularly as the UK's trading relationship with the EU changes, alongside its ambitions to grow relationships with emerging markets such as China and India.

Figure 8:

Selected destinations of exports from British cities



Source: ONS 2016, Regionalised estimates of UK service exports; HMRC 2016, Regional Trade Statistics; ONS 2016, Business Register of Employment Survey. Figures may not sum up to 100% due to rounding.

The EU is by far the biggest destination for exports from British cities. Figure 8 shows that EU countries accounted for 46 per cent of Britain's urban exports – three times more than the USA. China was the third largest single-market buyer, but at 4 per cent this was considerably smaller than the EU or the USA, and on a par with Switzerland.

The importance of the EU as the primary market for exports holds across most cities. In 37 of Britain's 62 cities, more than half of exports headed to the EU (see Figure 9). The EU was the largest export market for every city in Britain with the exception of Hull.

Figure 9:
Share of exports to the EU

	City	Share of exports to the EU, 2014 (%)	EU exports per job, 2014 (£)
10 cities with the largest share of exports going to the EU			
1	Exeter	70	4,160
2	Plymouth	68	11,780
3	Bristol	66	7,490
4	Mansfield	63	4,950
5	Cardiff	61	5,790
6	Aberdeen	61	11,090
7	Swansea	60	7,140
8	Nottingham	59	3,430
9	Sunderland	59	24,090
10	Warrington	59	5,600
10 cities with the smallest share of exports going to the EU			
53	Reading	40	8,670
54	Glasgow	40	4,840
55	Birmingham	39	5,560
56	Edinburgh	37	5,590
57	Blackpool	36	4,850
58	Telford	35	6,680
59	Coventry	32	7,480
60	Ipswich	31	6,420
61	Hull	29	4,390
62	Derby	25	5,840

Source: ONS 2016, Regionalised estimates of UK service exports; HMRC 2016, Regional Trade Statistics; ONS 2016, Business Register of Employment Survey

Exeter's exports were the most dependent on the EU, with 70 per cent of all of its exports going to EU countries (led by Germany and France, which received half of all of the city's exports). It was followed by Plymouth and Bristol.

Derby, on the other hand, was least dependent, with just 25 per cent of its exports going to EU countries. North America was instead a much more important source of custom for Derby than in other cities. Exports to the USA accounted for 22 per cent of all of the city's exports, with Canada accounting for a further 4 per cent (the highest of any city). Singapore was also an important market, accounting for £1 in every £10 spent on Derby's exports.

Figure 10:
Dependence on foreign markets

Destination	Most reliant city	Share of total exports from that city, 2014 (%)
EU	Exeter	70
France	Plymouth	26
Germany	Plymouth	32
Ireland	Nottingham	12
The Netherlands	Aberdeen	20
Switzerland	London	7
Russia	Sunderland	12
USA	Hull	46
Canada	Derby	4
South Korea	Aberdeen	3
China	Coventry	25
India	London	4
Japan	Ipswich	7
Singapore	Derby	9
Australia	Worthing	3
Middle East & North Africa	Blackpool	24
South America	Huddersfield	5

Source: ONS 2016, Regionalised estimates of UK service exports; HMRC 2016, Regional Trade Statistics; ONS 2016, Business Register of Employment Survey

The USA bought the largest share of Hull's exports, with almost half of the city's goods and services heading across the Atlantic. This made Hull by far the most reliant on the USA of all British cities, as shown in Figure 10.

Figure 10 also shows that:

- Coventry was the city most reliant on China, with a quarter of all of its exports heading there (almost exclusively road vehicles).
- Blackpool was most dependent on markets in the Middle East and North Africa.
- 12 per cent of exports from Sunderland went to Russia, higher than any other city. Again, this was almost exclusively cars.

How exports relate to wider economic performance

The UK needs to increase its exports to improve its productivity

Exports matter because exporters tend to be the drivers of productivity growth as a result of their greater ability to generate and absorb new innovations. To take an extreme example for illustrative purposes: while a barber is unlikely to be much more productive than he or she would have been 50 years ago (the time to cut a head of hair is unlikely to have reduced a great deal over that period), someone working in a car factory is now many times more productive than half a century earlier, and computers have vastly increased the value of work that someone working in cinema special effects, for example, can do in a day.

This can be seen in the productivity growth of different sectors in the UK. Since 1990, productivity has more than doubled in the manufacture of computer and electrical equipment and information and communications, and has almost tripled in chemicals and pharmaceuticals. But very little growth has been seen in a number of sectors that tend to sell to local markets only. For example, productivity increased by just 0.7 per cent in food and accommodation, and has declined in real estate.[2]

Given the ongoing policy imperative to increase the productivity of the UK economy, encouraging the growth of exporting firms will be important. And understanding how this plays out across the country will also be important in helping the Government support economic growth everywhere.

But at a city level, having high exports does not automatically mean it is a more productive place – the type of exports matters too

While there is a link between exporting industries and productivity at the national level, the impact that exporting has at the city level is much less clear cut. As

2 Source: ONS 2016, Blue Book

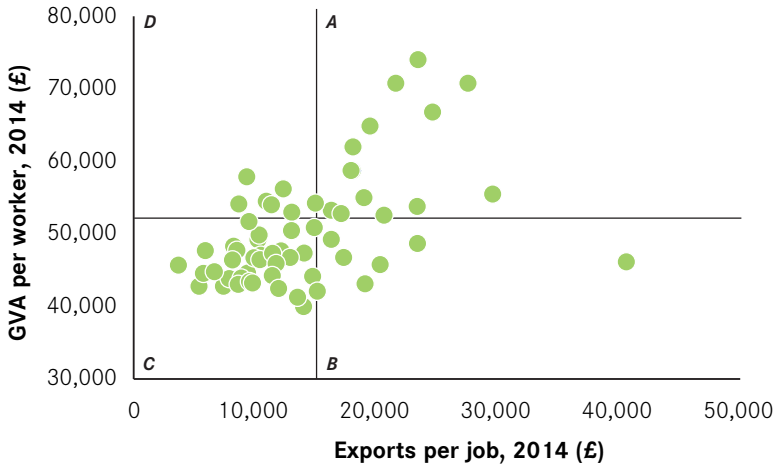
Figure 11 shows, there does appear to be some relationship between exports per job and productivity[3] for cities (a very similar relationship is also seen between exports per job and wages). However, this appears to be driven by services exports – there is very little relationship between goods exports and output per worker (See Figure 12).

This is likely to arise because of the way that manufacturing supply chains work relative to services and the impact that this has on measuring exports. To take Nissan's *Qashqai* car as an example: it was designed in Paddington, engineered in Cranfield and is assembled in Sunderland. So while the car is assembled and exported from Sunderland, much of the 'value add' is carried out elsewhere. The relationship between services exports and productivity suggests that where the value add of services takes place is more closely aligned to where it is exported from than with goods exports.

This means that a UK strategy to boost productivity cannot simply focus on boosting exports; it needs to consider how to boost the value add of those exports. A place-based industrial strategy provides a good opportunity to ensure that policies to boost exports and productivity are tailored to city circumstances, looking at their productivity and export performance.

Figure 11:

The relationship between exports and productivity



Source: ONS 2016, Regionalised estimates of UK service exports; HMRC 2016, Regional Trade Statistics; ONS 2016, Business Register of Employment Survey; ONS 2016, Regional Value Added (income approach)

3 Defined as GVA per worker

Figure 12:

The relationship between services exports, goods exports and productivity

Source: ONS 2016, Regionalised estimates of UK service exports; HMRC 2016, Regional Trade Statistics; ONS 2016, Business Register of Employment Survey; ONS 2016, Regional Value Added (income approach)

Industrial policy options for different cities

To help policymakers consider how this might work, we have split cities into four groups according to their performance in terms of exports and productivity. Figure 11 does this by looking at city performance relative to the national average for both indicators, and Figure 13 shows which cities fall into which categories.

Quadrant A has the top performers – those that have both above average exports per job and productivity. All but two of the 12 cities in this category (Derby and Aberdeen) are in the Greater South East. A policy focus on helping already successful businesses to expand into new markets would be the best way to support higher exports and contribute to higher productivity in these cities.

Cities in **Quadrant D** are likely to require a similar policy approach. That they have below average exports per job may suggest that businesses in their cities are successful at selling to businesses elsewhere in the UK, but are less successful at selling abroad. Again, support to export may be helpful in boosting growth.

Those cities in **Quadrant B** have less productive economies despite their high exports. This suggests that much of the 'value add' of the goods and services exported takes place outside these cities. While the exporting activity is important for local jobs, if these cities are to see an increase in both wages and productivity in the future, then the focus on policy should be on building on existing strengths to attract higher-value business investment and jobs.

It is notable that **Quadrant C** contains the most cities – 37 of 62 cities underperform the national average on both indicators. This urgently needs to improve if we are to boost the performance and productivity of the national economy. Policy should focus on improving the attractiveness of these cities as places for business investment for exporters through improving skills, local infrastructure and looking at existing strengths on which those cities can capitalise.

Figure 13:
Grouping of cities according to exports per job and productivity

Exports per job	Productivity	Quadrant	Cities
Above average	Above average	A	Aberdeen, Aldershot, Crawley, Derby, London, Milton Keynes, Oxford, Portsmouth, Reading, Slough, Southampton, Worthing
Above average	Below average	B	Brighton, Burnley, Coventry, Ipswich, Peterborough, Plymouth, Sunderland, Telford
Below average	Below average	C	Barnsley, Birkenhead, Birmingham, Blackburn, Blackpool, Bournemouth, Bradford, Bristol, Cardiff, Doncaster, Dundee, Exeter, Glasgow, Gloucester, Huddersfield, Hull, Leeds, Leicester, Liverpool, Luton, Manchester, Mansfield, Middlesbrough, Newcastle, Newport, Northampton, Norwich, Nottingham, Preston, Sheffield, Southend, Stoke, Swansea, Wakefield, Warrington, Wigan, York
Below average	Above average	D	Basildon, Cambridge, Chatham, Edinburgh, Swindon

Source: ONS 2016, Regionalised estimates of UK service exports; HMRC 2016, Regional Trade Statistics; ONS 2016, Business Register of Employment Survey; ONS 2016, Regional Value Added (income approach)

Summary and policy implications

Policy implications for trade deals

The EU was by far the biggest market for city exports in 2014, being three times larger than the USA and 11 times larger than China. While this of course is a static picture, to make up even a 10 per cent drop in current levels of UK cities' exports to the EU would require more than a doubling in trade with China or increasing trade with the USA by nearly a third. And the variation seen across cities means that those negotiating the Brexit deal, as well as trade deals with other countries, will need to consider the geographical impact of the deals struck.

To make the most of city economies and boost UK productivity, trade deals will need to ensure they do not solely focus on one or two sectors but look more broadly. Many high profile sectors, such as the car industry, are concentrated in a small number of places. For example, striking a deal on cars would benefit Swindon and Sunderland, and deliver a tangible political win, but it would do little for many other cities where there are few jobs related to the car industry.

It will be important to ensure that places that are heavily reliant on one industry are considered and supported, but given that large parts of the export base are spread across the country, negotiators should consider how they can reach an agreement for all goods and services to support UK cities to continue exporting to the EU and beyond.

Implications for place-based industrial policy

Given the role of exporters in increasing productivity of economies, part of the Government's efforts to increase the UK's productivity will require a better understanding of why some places export so little. Many export policies in the past have been focused on attempting to encourage existing businesses to export more, through interventions such as export credit. There is a role for this. But the bigger question in many places may be about asking why exporters do not choose to locate in these cities in the first place. This means that part of a plan to increase the exports of a city has to be about improving its economic fundamentals, particularly skills, to make it more attractive to business investment.

Having high exports does not necessarily go hand in hand with having a more productive economy; while some cities with low productivity have been successful at exporting, to improve their economies they will need to attract in higher-value business investment. The problem is not that these cities don't export, but that their contribution to the product that they export is not necessarily that large. For these cities, while celebrating their success in exporting is important, it should not be done at the expense of addressing the underlying challenges in their economies that limit the number of higher-paid jobs available to the people who live in and around them.

Box 3: Methodology

To estimate exports by city, two data sources were used – HMRC's regional trade data and the ONS' estimates of services exports by region.

To move from regional to city level estimates, the regional data was apportioned according to the regional share of jobs in each city. So if Birkenhead, for example, was home to 15 per cent of the North West's car manufacturing jobs, then it was assumed that it also accounted for 15 per cent of the region's car exports. To match the export classifications to sectors, the following was done:

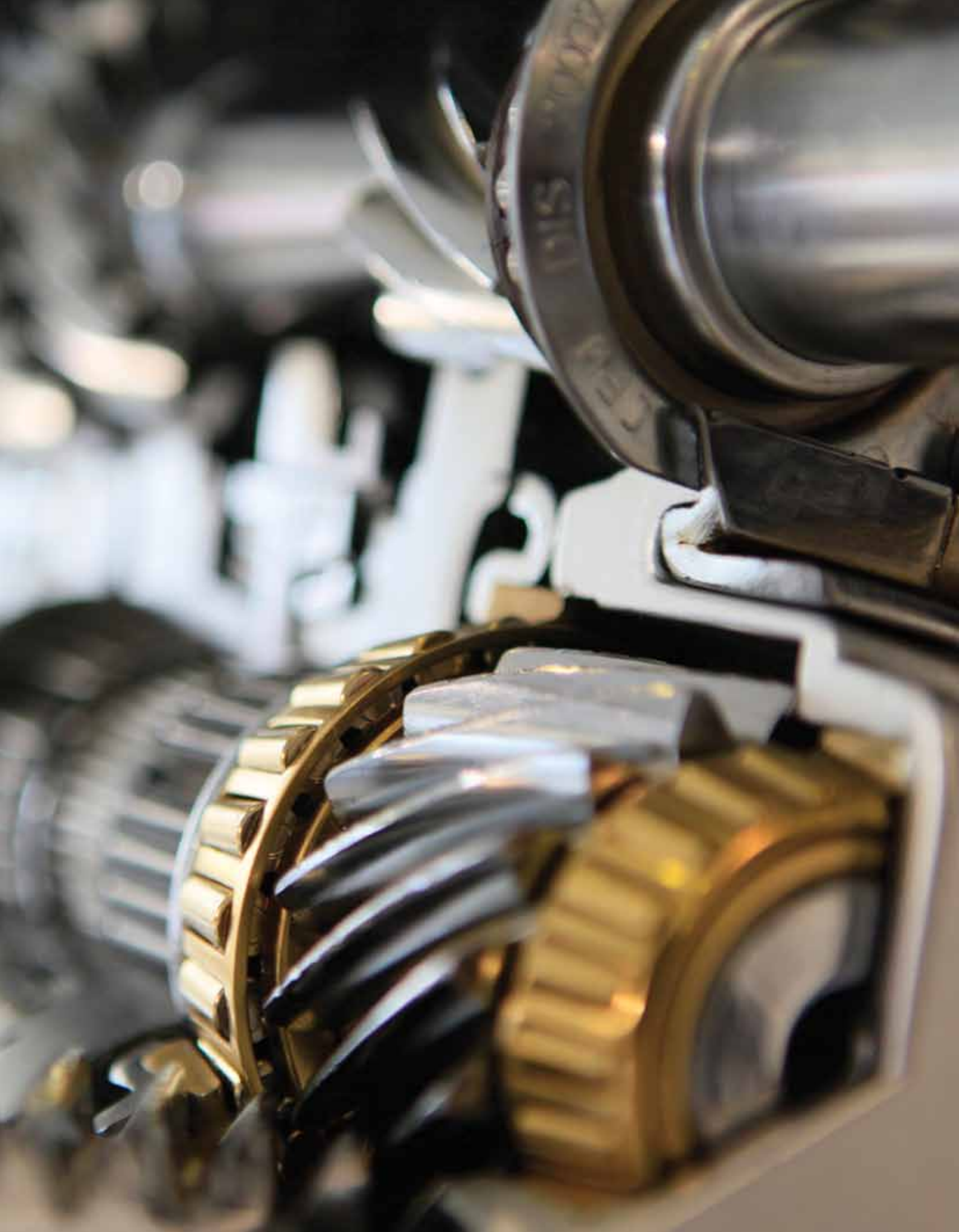
- For services, the apportionment was straightforward, using the broad Standard Industrial Classification codes that roughly match the sectors ONS used to present the regional services export data.
- For goods, the Standard International Trade Classification (which classifies goods exports) was mapped on to the Standard Industrial Classification codes (which are used to classify jobs by industry).

The goods data is cut by country of destination, but the services exports data is not. To create estimates of where cities export to, it was assumed that the proportion of services exported to a country was the same as the proportion of goods sent to that country. Analysis of national trade data suggests that this assumption broadly holds.

03

City monitor

The latest data



City monitor: the latest data

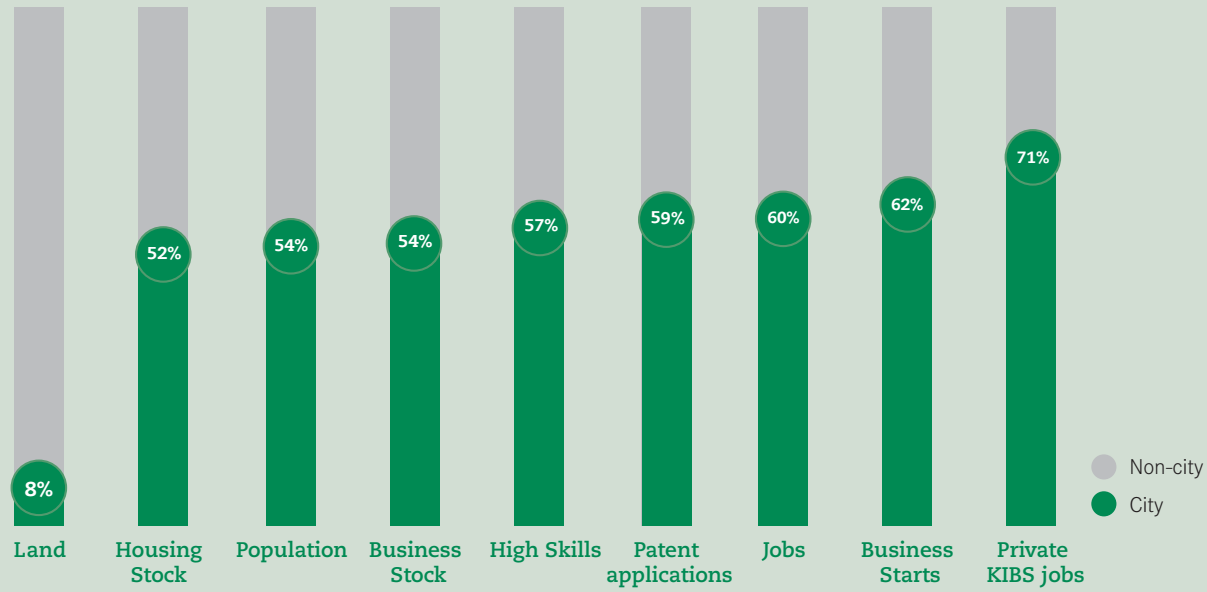
There is considerable variation in the economic performance of cities across the UK. The purpose of this chapter is to show the scale and nature of this variation by highlighting the performance of cities on 18 indicators covering:

- Population
- Business dynamics
- Productivity
- Innovation
- Employment
- Skills
- Wages
- Inequality
- Housing
- Environment
- Digital connectivity

For most indicators the 10 strongest and 10 weakest performing cities are presented. Interactive charts, maps and tables of the full list of cities can be found at www.centreforcities.org/data-tool

Figure 14:

Cities as a share of the national average



Sources: Land: ONS Census 2011; Housing: Department of Communities and Local Government (DCLG), 2016, Dwelling stock estimates by local authority district 2014 and 2015 data. Scottish Neighbourhood Statistics 2016, Dwelling stock estimates 2014 and 2015 data. Northern Ireland Neighbourhood information service 2016, Land and Property Services, 2014 and 2015 data; Population: ONS 2016, Population estimates, 2005 and 2015 data; Business: ONS 2016, Business Demography, 2015 data; Patents: PATSTAT 2016, Autumn Edition; Intellectual property office 2016, Patents granted registered by postcode, 2015 data. ONS 2016, Population estimates, 2015 data; Skills: ONS 2016, Annual Population Survey, residents analysis, 2015 data; DETINI 2016, District Council Area Statistics for Belfast, 2015 data; Jobs: ONS 2016, Business Register and Employment Survey, 2014 and 2015 data.Note: Northern Ireland data not available; Exports: ONS 2016, Regionalised estimates of UK service exports; HMRC 2016, Regional Trade Statistics; ONS 2016, Business Register of Employment Survey

Population

Growing populations can give an indication of the economic opportunity that is available in cities. Cities that provide more job and career opportunities are likely to retain and attract more people.

- In 2015, 53.8 per cent of the UK population (around 35 million) lived in cities.
- The four biggest cities (London, Birmingham, Manchester and Glasgow) accounted for almost a quarter of the total UK population (24.3 per cent) and 45 per cent of the total population living in cities.
- London alone was home to 15.2 per cent of the UK population and accounted for 28.1 per cent of the population living in cities.
- 28 out of 63 cities experienced a higher population growth than the national average between 2014 and 2015. Among the top 10 fastest-growing cities, eight were located in the south of England.
- On the other hand, nine of the 10 slowest-growing cities were located in Northern England and in Scotland. Birkenhead and Blackpool were the only two cities that did not record population growth between 2014 and 2015. In Birkenhead the population remained stable, while it decreased by 0.3 per cent in Blackpool.

Table 1:
Population growth

Rank	City	Growth rate, 2014-2015 (%)	Population, 2014	Population, 2015	Change, 2014-2015
10 fastest growing cities by population					
1	Exeter	2.4	124,300	127,300	3,000
2	Coventry	2.4	337,400	345,400	8,000
3	Cambridge	1.9	128,500	130,900	2,400
4	Peterborough	1.8	190,500	194,000	3,500
5	Luton	1.8	211,000	214,700	3,700
6	London	1.5	9,752,200	9,896,000	143,800
7	Bristol	1.4	714,100	724,000	9,900
8	Northampton	1.4	219,500	222,500	3,000
9	Brighton	1.3	344,300	348,700	4,400
10	Gloucester	1.3	125,600	127,200	1,600
10 slowest growing cities by population					
54	Aldershot	0.3	182,800	183,400	600
55	Wigan	0.3	321,000	322,000	1,000
56	Middlesbrough	0.3	468,200	469,600	1,400
57	Burnley	0.2	177,100	177,500	400
58	Doncaster	0.2	304,200	304,800	600
59	Sunderland	0.1	276,900	277,200	300
60	Blackburn	0.1	146,700	146,800	100
61	Dundee	0.1	148,100	148,200	100
62	Birkenhead	0.0	320,900	320,900	0
63	Blackpool	-0.3	217,500	216,900	-600
	United Kingdom	1.0	64,596,800	65,110,600	513,800

Source: ONS 2016, Population estimates, 2014 and 2015 data

Business Dynamics

City economies are predominantly driven by their businesses. The overall number of businesses in a city, as well as the number of new business start-ups and closures, are all good indicators of the strength of a city's economy.

Business starts and closures

- More than three out of five businesses (62 per cent) that started up in 2015 were located in cities. This has increased in recent years: in 2014, 61 per cent of business starts were in cities, while this was 58 per cent in 2010.
- Between 2014 and 2015 the number of business start-ups increased by 9.3 per cent in the UK. 52 out of 63 cities had more start-ups in 2015 than in 2014. Crawley, Slough and Doncaster recorded the highest increases in business start-ups with 29, 35 and 42 per cent growth respectively.
- Meanwhile, in 2015, 59 per cent of UK business closures occurred in cities.
- The number of business closures increased by 2.1 per cent nationally, with Edinburgh, Aberdeen and Northampton experiencing the highest increases in closures (11.9, 19.9 and 40.9 per cent respectively). However almost half of the cities (31 out of 63) had fewer closures in 2015 than in 2014, with Ipswich (-13.3 per cent), Sunderland (-16.5 per cent) and Mansfield (-18.1 per cent) seeing the largest fall.
- London had the highest number of start-ups per 10,000 population in 2015 (112.4), followed by Northampton (100.4) and Slough (86.5). At the other end of the spectrum Belfast (32.6), Dundee (32.4) and Sunderland (30.7) were the lowest ranked cities.
- London and Northampton were also the two cities with the highest number of closures (64.2 and 54.2).
- Doncaster, Slough and Northampton had the highest churn rate (14.1, 11.9 and 11.5) – these cities saw the greatest difference between new businesses setting up and current businesses closing.

Table 2:

Business starts and closures per 10,000 population

Rank	City	Business start-ups per 10,000 population, 2015	Business closures per 10,000 population, 2015	Churn rate*
10 cities with the highest start-up rate				
1	London	112.4	64.2	8.7
2	Northampton	100.4	54.2	11.5
3	Slough	86.5	41.2	11.9
4	Milton Keynes	85.0	47.4	8.4
5	Reading	75.4	46.3	6.3
6	Doncaster	70.0	29.7	14.1
7	Brighton	69.5	47.2	5.0
8	Luton	66.4	34.0	11.3
9	Basildon	66.0	41.0	6.5
10	Aldershot	63.8	42.0	5.0
10 cities with the lowest start-up rate				
54	Telford	37.1	27.2	3.7
55	Stoke	36.7	26.3	4.3
56	Barnsley	36.4	24.7	4.9
57	Swansea	33.6	26.6	3.0
58	Hull	33.6	24.3	4.1
59	Plymouth	33.3	29.7	1.7
60	Mansfield	33.2	20.6	5.5
61	Belfast	32.6	16.7	5.4
62	Dundee	32.4	27.0	2.5
63	Sunderland	30.7	19.1	5.8
	United Kingdom	58.8	38.7	5.4

Source: ONS 2016, Business Demography, 2015 data. ONS 2016, Population estimates, 2015 data.

*Difference between business start-ups and business closures as a percentage of total business stock.

Business stock

- Cities were home to 54 per cent of all UK businesses in 2015. Between 2014 and 2015 the stock of businesses increased by 5 per cent in the UK, and by 6 per cent in cities as a whole. Looking at the past 10 years, business stock increased by almost a quarter nationally, and by a third in cities.
- Doncaster was the city with the fastest year on year growth in business stock (17.2 per cent between 2014 and 2015) followed by Slough (12.5 per cent). Over the last five years Slough has been the strongest performer, seeing growth of 42 per cent.
- London alone accounted for 23 per cent of the total UK business stock, far larger than Manchester and Birmingham (both accounting for 3 per cent of the total business stock).
- London also ranked first for business stock per capita, with 552 businesses per 10,000 population, followed by Reading (464), Milton Keynes (448) and Brighton (447).
- Dundee (220), Plymouth (217) and Sunderland (200) had the lowest levels of business stock per 10,000 population in 2015.

Table 3:
Business stock per 10,000 population

Rank	City	Business stock per 10,000 population, 2015	Business stock per 10,000 population, 2014	Change, 2014-2015 (%)
10 cities with the highest number of businesses				
1	London	552	519	6.3
2	Reading	464	441	5.2
3	Milton Keynes	448	415	8.1
4	Brighton	447	430	3.8
5	Aldershot	433	414	4.6
6	Northampton	403	364	10.7
7	Aberdeen	398	403	-1.3
8	Basildon	385	363	6.1
9	Southend	384	367	4.7
10	Bournemouth	381	372	2.5
10 cities with the lowest number of businesses				
54	Middlesbrough	245	234	4.5
55	Stoke	243	235	3.5
56	Barnsley	241	232	4.0
57	Newport	239	228	4.9
58	Mansfield	231	222	3.9
59	Swansea	231	224	3.3
60	Hull	225	219	2.5
61	Dundee	220	217	1.3
62	Plymouth	217	216	0.4
63	Sunderland	200	191	4.6
	United Kingdom	372	357	4.2

Source: ONS 2016, Business Demography, 2015 and 2014 data. ONS 2016, Population estimates, 2015 data.

Productivity and Innovation

Productivity and innovation are drivers of long-run economic growth. Finding new and better ways of making goods and delivering services improves the performance of businesses, which in turn increases the productivity of city economies.

Productivity

- Only 15 cities out of 62 had levels of productivity above the British average in 2015. This is two cities fewer than in 2014.
- London, Slough and Reading were the three cities with the highest levels of productivity, with GVA per worker over 30 per cent above the British average of £54,700.
- Between 2014 and 2015 productivity increased in 48 out of 62 cities, with Luton recording the highest growth in GVA per worker (8.6 per cent), followed by York (5.7 per cent) and Swindon (5.4 per cent).
- In contrast, Middlesbrough, Stoke and Northampton experienced the largest fall in productivity, falling by at least 2 per cent.

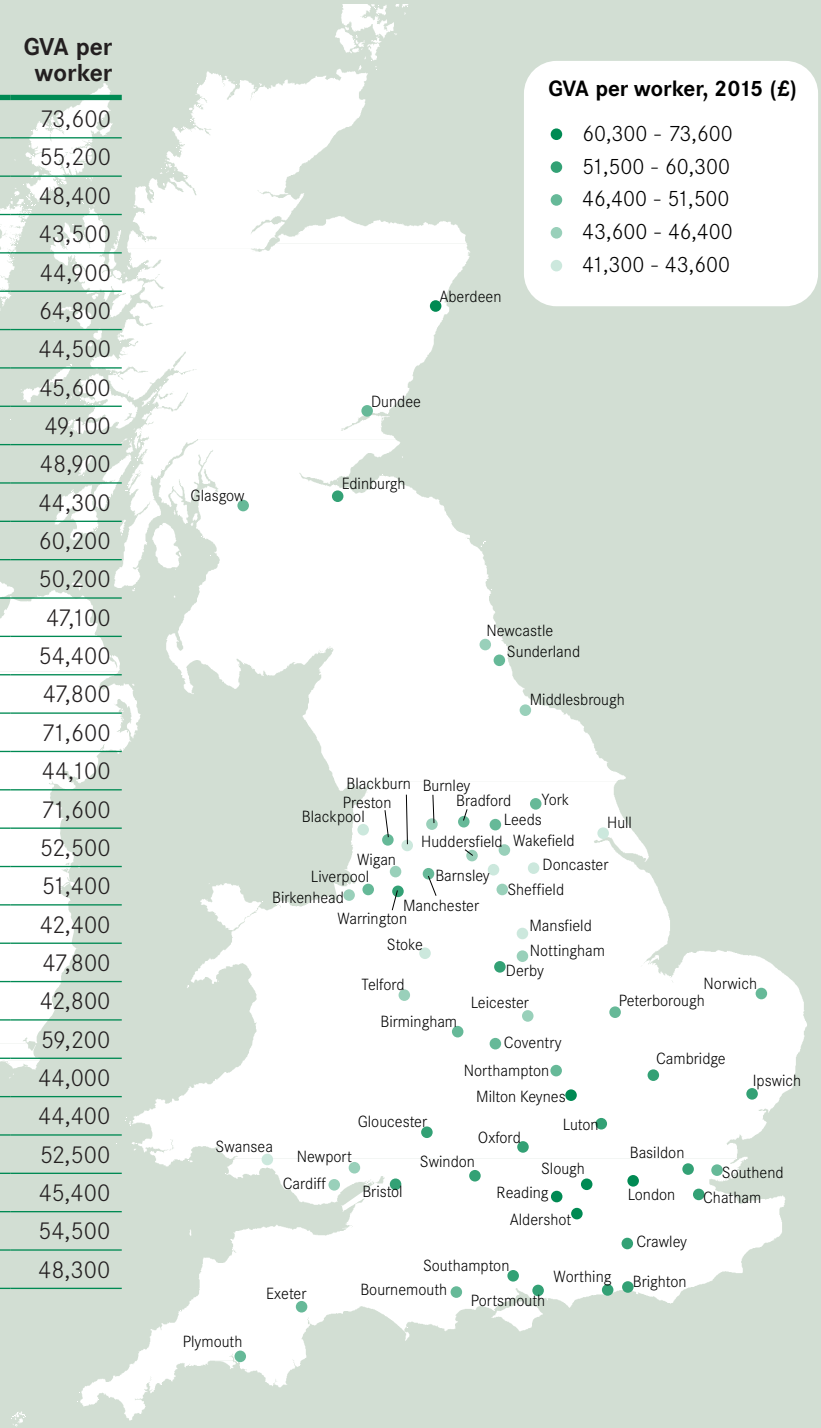
Table 4:
GVA per worker

Rank	City	GVA per worker, 2015 (£)
10 cities with the highest GVA per worker		
1	London	73,600
2	Slough	71,600
3	Reading	71,600
4	Aldershot	67,000
5	Milton Keynes	64,800
6	Aberdeen	62,800
7	Oxford	60,200
8	Crawley	59,500
9	Cambridge	59,200
10	Swindon	59,200
10 cities with the lowest GVA per worker		
53	Sheffield	44,100
54	Telford	44,000
55	Mansfield	43,500
56	Barnsley	43,100
57	Doncaster	43,100
58	Swansea	42,800
59	Hull	42,500
60	Stoke	42,400
61	Blackburn	41,500
62	Blackpool	41,300
	Great Britain	54,700

Source: ONS, Regional Value Added (Income Approach), 2015 data. ONS 2016, Business Register and Employment Survey, 2015 data.
Note: Data for Northern Ireland not available so Great Britain figure is shown.

Figure 15:
GVA per worker

City	GVA per worker	City	GVA per worker
Aberdeen	62,800	London	73,600
Aldershot	67,000	Luton	55,200
Barnsley	43,100	Manchester	48,400
Basildon	57,100	Mansfield	43,500
Birkenhead	45,300	Middlesbrough	44,900
Birmingham	48,500	Milton Keynes	64,800
Blackburn	41,500	Newcastle	44,500
Blackpool	41,300	Newport	45,600
Bournemouth	51,100	Northampton	49,100
Bradford	47,900	Norwich	48,900
Brighton	52,500	Nottingham	44,300
Bristol	54,900	Oxford	60,200
Burnley	45,500	Peterborough	50,200
Cambridge	59,200	Plymouth	47,100
Cardiff	44,800	Portsmouth	54,400
Chatham	54,100	Preston	47,800
Coventry	49,000	Reading	71,600
Crawley	59,500	Sheffield	44,100
Derby	54,700	Slough	71,600
Doncaster	43,100	Southampton	52,500
Dundee	47,300	Southend	51,400
Edinburgh	56,900	Stoke	42,400
Exeter	48,700	Sunderland	47,800
Glasgow	47,900	Swansea	42,800
Gloucester	55,200	Swindon	59,200
Huddersfield	45,000	Telford	44,000
Hull	42,500	Wakefield	44,400
Ipswich	53,600	Warrington	52,500
Leeds	48,500	Wigan	45,400
Leicester	46,300	Worthing	54,500
Liverpool	48,100	York	48,300
Great Britain	54,700		



Source: Change source: ONS, Regional Value Added (Income Approach), 2015 data. ONS 2016, Business Register and Employment Survey, 2015 data. Note: Data for Northern Ireland not available so Great Britain figure is shown.

UK patent applications

- In total, about 12,000 patent applications from the UK were published in 2015. Of this, 59 per cent of all patent applications published were registered in cities in 2015.
- Cambridge had the highest number of patent applications published per 100,000 residents in 2015 (341). This was almost three times more than Coventry, the second city (118.4 applications published per 100,000 residents).
- London had the highest absolute number of patent applications published in 2015, with 2,105 publications. Relative to its resident-base the capital ranked 20th nationwide, with 21 applications published per 100,000 residents.
- Seven of the top 10 cities with the highest number of published patent applications are located in the South of England, with the exceptions of Coventry, Derby and Aberdeen.

Box 4: Measuring innovation

Patent data is widely used to measure innovation. The data is based on the number of patent applications, at their date of publication (in 2015). Applications are usually published about 18 months after the application is submitted to the patent authority, but this does not necessarily mean the patent will go on to be granted. There are some limitations with this data:

- Patents only demonstrate more technical innovations and exclude process innovations, trademarks and creative innovation, much of which takes place within service sector businesses.
- The address of the patentee does not confirm that the innovative activity occurred at this address.

That said, the data still offers some insight into where innovation occurs across the UK.

For the first time we have included patent applications made to the European Patent Office (EPO) as well as the UK Intellectual Property Office (IPO). While firms that only seek protection in the UK tend to apply to the IPO, those who want international protection are likely to apply through the EPO. EPO published patent applications represented 47 per cent of the total number of published patent applications from the UK in 2015.

Table 5:
Patent applications published

Rank	City	Patent applications published per 100,000 residents, 2015
10 cities with the highest number of patent applications published		
1	Cambridge	341.1
2	Coventry	118.4
3	Oxford	79.9
4	Derby	67.7
5	Swindon	61.6
6	Aberdeen	57.3
7	Crawley	55.8
8	Aldershot	51.5
9	Slough	45.4
10	Reading	40.3
10 cities with the lowest number of patent applications published		
54	Stoke	8.7
55	Hull	8.5
56	Wakefield	8.4
57	Birmingham	8.2
58	Plymouth	7.8
59	Chatham	6.9
60	Luton	6.8
61	Southend	6.0
62	Barnsley	5.3
63	Wigan	4.8
	United Kingdom	18.2

Source: PATSTAT 2016, Autumn Edition; Intellectual property office 2016, Patents granted registered by postcode, 2015 data. ONS 2016, Population estimates, 2015 data.

Employment

High employment rates, employment growth and low unemployment point to well-functioning labour markets, where demand for workers among employers is high. Low employment rates and high unemployment suggest weaker employer demand and potentially lower skills available locally.

Employment rate

- 43 out of 63 cities across the UK improved their employment rate in 2016, and 17 did so by two or more percentage points.
- Overall, UK employment increased by 0.8 percentage points between 2015 and 2016, from 72.9 per cent to 73.7 per cent. The cities' average remains slightly lower than the national average, at 71.9 per cent.
- 29 cities had employment rates below the national average. To bring these cities up to the current UK average a further 549,200 residents would need to find employment.
- Dundee, the UK city with the lowest employment rate in 2016 (63.5 per cent), would need almost 9,800 of its residents to find employment to reach the UK average. Birmingham (the city with the highest deficit in absolute terms) would need 146,100 of its residents to find jobs to match the UK average.
- Southern cities tend to perform better than cities elsewhere. Warrington and Northampton were the only cities outside the South of England to feature in the top 10.
- Big cities tend to fare worse than the average, with only three (Bristol, Portsmouth and London) of the 12 biggest cities having employment rates above the national average.

Table 6:
Employment rate

Rank	City	Employment rate, Jul 2015-Jun 2016 (%)	Employment rate, Jul 2014-Jun 2015 (%)	Percentage point change
10 cities with the highest employment rate				
1	Crawley	84.9	74.8	10.1
2	Aldershot	83.9	83.4	0.5
3	Gloucester	80.7	74.0	6.7
4	Worthing	80.5	73.4	7.1
5	Norwich	79.2	75.5	3.7
6	Swindon	79.1	76.3	2.7
7	Northampton	78.7	78.6	0.1
8	Warrington	78.5	76.9	1.6
9	Southend	77.7	74.2	3.5
10	Reading	77.4	75.6	1.9
10 cities with the lowest employment rate				
54	Belfast	68.0	66.2	1.8
55	Leicester	67.7	68.1	-0.4
56	Hull	67.3	64.1	3.2
57	Sunderland	66.9	63.7	3.2
58	Coventry	66.3	66.1	0.2
59	Blackburn	65.4	65.6	-0.2
60	Bradford	65.1	64.9	0.3
61	Birmingham	64.2	64.3	0.0
62	Liverpool	63.9	61.2	2.7
63	Dundee	63.5	64.1	-0.6
	United Kingdom	73.7	72.9	0.8

Source: ONS 2016, Annual Population Survey, residents analysis, July 2014 – June 2015 and July 2015 – June 2016; DETINI 2016, District Council Area Statistics for Belfast, January 2014 – December 2014 and January 2015 – December 2015 data.

Claimant count

- Almost two thirds (64 per cent) of those claiming unemployment benefit lived in cities in 2016.
- Between 2014 and 2015, 27 out of 63 UK cities experienced a reduction in their share of working age population claiming unemployment benefit.
- However in most cities (48 out of 63), the variation in the number of persons claiming unemployment benefit was below 10 per cent.

Private sector jobs growth

- 49 of 62 cities increased their level of private sector employment between 2014 and 2015, and 21 did so by more than the British average (2.5 per cent).
- 13 cities saw reductions in their private sector employment, and in five cities, it dropped by more than 2 per cent (Aberdeen -5.4 per cent, Barnsley -4.3 per cent, Worthing -3.6 per cent, York -3.1 per cent and Blackburn -2.6 per cent).

Public and private sector jobs

- In 2015 the private to public sector employment ratio in Great Britain was 2.8.
- Of 62 cities, only 19 had private to public employment ratios above the British average.
- Crawley, Slough and Swindon had the highest ratios, recording respectively 7.2, 4.3 and 4.3 private sector jobs for every publicly-funded position.
- In the bottom 10 cities, Oxford had almost the same number of private and public sector employees, mainly as a result of its universities. This highlights that higher levels of publicly-funded jobs do not necessarily mean a less successful economy.

Table 7:
Claimant count

Rank	City	Claimant count rate, Nov 2016 (%)	Claimant count rate, Nov 2015 (%)	Percentage point change
10 cities with the lowest claimant count				
1	York	0.7	0.7	0.0
2	Cambridge	0.7	0.7	0.0
3	Aldershot	0.7	0.7	0.1
4	Oxford	0.9	0.8	0.1
5	Exeter	1.0	0.8	0.2
6	Reading	1.1	0.9	0.1
7	Southampton	1.1	1.1	0.0
8	Portsmouth	1.2	1.2	0.0
9	Bournemouth	1.2	1.0	0.2
10	Norwich	1.2	1.3	0.0
10 cities with the highest claimant count				
54	Bradford	2.7	2.7	0.0
55	Newcastle	3.0	2.7	0.3
56	Blackpool	3.0	2.9	0.1
57	Belfast	3.2	3.7	-0.5
58	Sunderland	3.2	2.8	0.3
59	Liverpool	3.2	3.3	-0.1
60	Dundee	3.3	2.9	0.4
61	Hull	3.5	3.9	-0.4
62	Birmingham	3.6	3.3	0.3
63	Middlesbrough	3.8	3.8	0.1
	United Kingdom	1.8	1.8	0.1

Source: ONS 2016, Claimant count, November 2015 and November 2016 data; Population estimates, 2015 data.
Note: data differ to ONS claimant count rates as latest available population estimates are used to calculate the figures above.

Table 8:

Private sector jobs growth

Rank	City	Change, 2014-2015 (%)	Private sector jobs, 2014	Private sector jobs, 2015	Net job gains or losses
10 cities with the highest net private sector jobs growth					
1	Leeds	6.1	312,000	331,100	19,100
2	Gloucester	5.5	39,100	41,200	2,100
3	Nottingham	5.1	222,800	234,300	11,500
4	Newcastle	5.0	264,900	278,100	13,200
5	London	4.4	4,224,200	4,410,300	186,100
6	Birmingham	4.3	748,700	780,800	32,100
7	Wakefield	4.2	103,800	108,100	4,300
8	Middlesbrough	3.9	122,200	127,000	4,800
9	Reading	3.9	134,900	140,100	5,200
10	Doncaster	3.9	79,000	82,000	3,100
10 cities with the lowest net private sector jobs growth					
53	Northampton	-0.5	94,400	93,900	-500
54	Crawley	-0.6	75,500	75,000	-400
55	Slough	-1.1	65,400	64,700	-700
56	Luton	-1.6	67,600	66,500	-1,100
57	Dundee	-1.8	44,900	44,100	-800
58	Blackburn	-2.6	42,900	41,800	-1,100
59	York	-3.1	74,700	72,400	-2,300
60	Worthing	-3.6	30,100	29,000	-1,100
61	Barnsley	-4.3	55,700	53,300	-2,400
62	Aberdeen	-5.4	146,600	138,700	-7,900
	Great Britain	2.5	20,879,305	21,407,540	528,235

Source: ONS 2016, Business Register and Employment Survey, 2014 and 2015 data.
Note: Northern Ireland data not available so Great Britain figure is shown.

Table 9:

Ratio of private sector to publicly-funded jobs

Rank	City	Private to public ratio	Private sector jobs, 2015	Publicly-funded* jobs, 2015
10 cities with the highest proportion of private sector jobs				
1	Crawley	7.2	75,029	10,444
2	Slough	4.3	64,651	14,888
3	Swindon	4.3	91,415	21,433
4	Warrington	3.9	98,929	25,078
5	Milton Keynes	3.9	133,640	34,363
6	Aldershot	3.8	82,263	21,854
7	Peterborough	3.8	84,613	22,499
8	London	3.6	4,410,275	1,228,313
9	Reading	3.4	140,134	41,724
10	Basildon	3.3	64,371	19,230
10 cities with the lowest proportion of private sector jobs				
53	Swansea	1.8	101,292	55,384
54	Plymouth	1.8	70,889	39,289
55	Gloucester	1.8	41,234	22,909
56	Blackburn	1.8	41,834	23,810
57	Worthing	1.7	29,019	16,611
58	Exeter	1.7	58,091	33,475
59	Birkenhead	1.6	63,017	39,941
60	Cambridge	1.5	60,520	41,546
61	Dundee	1.4	44,063	30,872
62	Oxford	1.0	62,448	59,482
	Great Britain	2.8	21,407,540	7,712,605

Source: ONS 2016, Business Register and Employment Survey, 2014 and 2015 data. Note: Northern Ireland data not available so Great Britain figure is shown.

*Publicly-funded jobs are defined as those jobs that fall into the sectors of public administration and defence, education, and health. This means that this definition captures private sector jobs in these sectors but also captures jobs such as GPs and those in universities that the standard ONS definition does not.

Skills

Skills levels are critical to the success of a city economy. Those cities that have a high proportion of graduates tend to have stronger economies than those that have a large number of people with no formal qualifications.

High level qualifications

- While cities were home to 55.5 per cent of the UK working age population in 2015, they were home to 57.3 per cent of those with a degree or equivalent qualification.
- 15 cities out of 63 had a higher share of high-skilled population than the country average.
- The UK's highly skilled population is concentrated in a few cities. The top 10 cities combined accounted for almost 30 per cent of the total UK highly skilled population (and 22 per cent of the working age population), whereas the bottom 10 only accounted for 2.6 per cent of the population with high level qualifications (but 4 per cent of the working age population).
- Northern cities fare poorly on this measure. Six of the top 10 cities with the highest proportion of graduates are located in the South, while only two southern cities (Southend and Ipswich) are in the bottom 10.
- Scottish cities perform relatively well when compared with the rest of the UK, with Edinburgh, Aberdeen and Glasgow ranking in the top 10 and Dundee in 14th position.

No formal qualifications

- Cities were also over represented for people with no qualifications, being home to almost 59 per cent of the population with no formal qualifications.
- More than half of the cities (33 of the 63) had a higher share of population with no formal qualification than the national average in 2015.
- Most of the best performing UK cities were small or medium sized, while three of the UK's 12 biggest cities – Liverpool, Birmingham and Bradford – were in the bottom 10.
- Some cities have very polarised skills profiles: Glasgow had the 5th highest share of working age population with high level qualifications (47.2 per cent), but also a very high share of population with no formal qualifications (11.1 per cent). Similarly, Belfast was 22nd in the UK for highly skilled population (34.9 per cent), but had the fourth highest share of population with no formal qualifications (14.9 per cent).

Table 10:
Residents with high level qualifications

Rank	City	Working age population with NVQ4 & above, 2015 (%)
10 cities with the highest percentage of high qualifications		
1	Cambridge	66.5
2	Oxford	63.4
3	Edinburgh	57.6
4	London	48.9
5	Glasgow	47.2
6	Reading	47.1
7	Aberdeen	46.5
8	Brighton	44.6
9	Bristol	44.3
10	Cardiff	43.5
10 cities with the lowest percentage of high qualifications		
54	Stoke	25.5
55	Sunderland	25.4
56	Southend	24.1
57	Mansfield	24.0
58	Wakefield	23.3
59	Barnsley	22.9
60	Doncaster	22.7
61	Ipswich	22.5
62	Hull	22.2
63	Burnley	21.8
	United Kingdom	36.9

Source: ONS 2016, Annual Population Survey, residents analysis, 2015 data; DETINI 2016, District Council Area Statistics for Belfast, 2015 data.

Table 11:

Residents with no formal qualifications

Rank	City	Working age population with no formal qualifications, 2015 (%)
10 cities with the lowest percentage of no formal qualifications		
1	Exeter	1.5
2	Worthing	4.2
3	Cambridge	4.5
4	Oxford	4.6
5	York	4.6
6	Reading	4.8
7	Crawley	4.9
8	Mansfield	4.9
9	Edinburgh	5.2
10	Norwich	5.2
10 cities with the highest percentage of no formal qualifications		
54	Burnley	13.2
55	Swansea	13.8
56	Liverpool	14.2
57	Stoke	14.5
58	Blackburn	14.5
59	Luton	14.8
60	Belfast	14.9
61	Bradford	15.0
62	Coventry	15.0
63	Birmingham	16.5
	United Kingdom	8.8

Source: ONS 2016, Annual Population Survey, residents analysis, 2015 data; DETINI 2016, District Council Area Statistics for Belfast, 2015 data.

Figure 16:
Residents with no formal qualifications

City	No formal quals, 2015 (%)	City	No formal quals, 2015 (%)
Aberdeen	5.6	London	7.2
Aldershot	6.6	Luton	14.8
Barnsley	11.0	Manchester	10.3
Basildon	7.6	Mansfield	4.9
Belfast	14.9	Middlesbrough	10.4
Birkenhead	8.9	Milton Keynes	9.1
Birmingham	16.5	Newcastle	9.2
Blackburn	14.5	Newport	10.9
Blackpool	8.4	Northampton	12.2
Bournemouth	5.8	Norwich	5.2
Bradford	15.0	Nottingham	11.0
Brighton	5.5	Oxford	4.6
Bristol	5.9	Peterborough	9.1
Burnley	13.2	Plymouth	6.1
Cambridge	4.5	Portsmouth	7.6
Cardiff	8.8	Preston	10.3
Chatham	8.2	Reading	4.8
Coventry	15.0	Sheffield	10.0
Crawley	4.9	Slough	8.0
Derby	8.1	Southampton	5.9
Doncaster	10.0	Southend	9.4
Dundee	10.5	Stoke	14.5
Edinburgh	5.2	Sunderland	10.2
Exeter	1.5	Swansea	13.8
Glasgow	11.1	Swindon	6.5
Gloucester	8.1	Telford	7.2
Huddersfield	10.5	Wakefield	11.3
Hull	12.5	Warrington	5.5
Ipswich	11.2	Wigan	8.4
Leeds	8.8	Worthing	4.2
Leicester	9.8	York	4.6
Liverpool	14	UK	8.8

Source: ONS 2016, Annual Population Survey, residents analysis, 2015 data; DETINI 2016, District Council Area Statistics for Belfast, 2015 data.

Wages

Wages reflect the types of jobs available in cities. Those cities that have higher workplace wages typically have a greater number of high skilled jobs in them than those that have lower wages.

- In 2016, the average weekly workplace wage in cities was equal to £560, compared to the UK average of £525.
- However in only 18 cities did workers earn more than the UK average. The average London weekly wage was £697, this was 70 per cent higher than in Southend (£405).
- Compared to 2015, real weekly earnings increased by 2.7 per cent, or £14, in the UK overall (from £511 to £525). Despite this, 17 cities saw their weekly salaries decrease in real terms between 2015 and 2016. Slough recorded the largest fall (-£50 per week) but still had one of the highest average salaries (£588 in 2016 prices). Interestingly other high wage cities are in the bottom of the rank for real weekly wage growth, including Oxford (-£13), Aberdeen (-£26) and Aldershot (-£31).
- Southampton experienced the largest increase in wages, with a real growth of £57 per week between 2015 and 2016, followed by Newcastle (+£49), Milton Keynes (+£46), Burnley (+£40) and Ipswich (+£31).

Table 12:
Average workplace wages

Rank	City	Wages, 2016 (average £ per week, 2016 prices)	Wages, 2015 (average £ per week, 2016 prices)	Real wages growth 2015-2016 (£ per week)
10 cities with the highest weekly workplace wages				
1	London	697	679	18
2	Reading	634	622	12
3	Crawley	634	642	-7
4	Milton Keynes	626	580	46
5	Cambridge	603	584	18
6	Aberdeen	593	619	-26
7	Slough	588	638	-50
8	Derby	579	592	-14
9	Edinburgh	578	570	8
10	Oxford	576	588	-13
10 cities with the lowest weekly workplace wages				
54	Barnsley	452	464	-13
55	Swansea	450	444	7
56	Stoke	441	433	8
57	Doncaster	440	440	0
58	Worthing	437	467	-30
59	Norwich	437	435	2
60	Birkenhead	428	431	-3
61	Huddersfield	421	395	26
62	Wigan	419	420	0
63	Southend	405	408	-3
	United Kingdom	525	511	14

Source: ONS 2016, Annual Survey of Hours and Earnings (ASHE), average gross weekly workplace-based earnings, 2016 data; DETINI 2016, Annual Survey of Hours and Earnings (ASHE), average gross weekly workplace-based earnings, 2016 data. Own calculations for PUA-level weighted by number of jobs, CPI inflation adjusted (2005=100). Earnings data is for employees only, whereas the rest of the tables use employment data.
Note: ASHE statistics are based on a sample survey, so the statistical significance of the results should be treated with caution.

Inequality

As the UK economy has recovered from the last recession, there has been an increasing focus not just on achieving growth but ensuring this is 'inclusive' growth. This has become ever more prescient in light of the EU Referendum vote.

Experimental data on incomes of residents in England and Wales (which includes wages, pensions, benefits and other income) released by the ONS using administrative data sources, allows us to create a Gini coefficient for each city to measure what inequality looks like across our cities. The Gini coefficient gives a value between zero and one, with zero representing perfect equality and one representing a very unequal society. The estimates for cities show that:

- The most equal cities tended to be in the North of England or Wales. Burnley, Stoke and Mansfield were the most equal of all English and Welsh cities.
- The top 10 least equal cities were dominated by those in the Greater South East, with Cardiff and York being the only two exceptions. Cambridge was the least equal, followed by Oxford and London.
- Those cities that were most equal also tended to have weaker economies, for example having lower average incomes and fewer knowledge-based services jobs. This means that although these cities were more equal, they were poorer overall.
- Just 10 cities were more unequal than the English and Welsh average. This is likely to reflect the greater preference of higher income people to live in the hinterland around cities, rather than in cities themselves.

Table 13:
Gini coefficient

Rank	City	Gini coefficient, 2013/14
10 least equal cities		
1	Cambridge	0.460
2	Oxford	0.453
3	London	0.444
4	Reading	0.439
5	Brighton	0.433
6	Basildon	0.430
7	Southend	0.430
8	Aldershot	0.430
9	York	0.423
10	Cardiff	0.422
10 most equal cities		
49	Wigan	0.383
50	Wakefield	0.382
51	Swansea	0.382
52	Barnsley	0.382
53	Sunderland	0.382
54	Newport	0.381
55	Hull	0.380
56	Mansfield	0.379
57	Stoke	0.379
58	Burnley	0.379
	England and Wales	0.419

Source: ONS 2016, Research Outputs: Income from PAYE and benefits for tax year ending 2014, 2013/14 data; ONS 2016, Research outputs estimating the size of the population in England and Wales: 2016 release, 2015 data

*0 = perfect equality, 1= perfect inequality

Housing

Housing stocks and prices together provide useful insights into cities' housing markets, highlighting both supply and demand measures and their impact on house affordability.

Housing stock growth

- The UK's dwelling stock increased by 0.7 per cent between 2014 and 2015, consistent with previous years (0.6 per cent between 2013 and 2014).
- In 26 cities housing stock growth exceeded the UK average, with Peterborough experiencing the highest growth (1.7 per cent), followed by Telford (1.5 per cent) and Cambridge (1.4 per cent).
- About 30,000 net new dwellings were built in London between 2014 and 2015. This represented a housing stock growth of 0.8 per cent, ranking London 21st nationally.

House prices

- 13 out of 62 cities saw average house prices decrease between 2015 and 2016.
- While house prices grew by an average 3.2 per cent in Great Britain, half of the cities (31) experienced higher growth in house prices.
- In 2016 Basildon experienced the highest house price growth, with average prices increasing by 15.1 per cent, followed by Luton (13.5 per cent) and Bristol (10.6 per cent).
- House prices in London (£561,400) were more than twice the British average (£267,800) and the highest of all cities. Oxford and Cambridge were second and third with £491,900 and £475,800, considerably above third-placed Reading (£375,200).
- At the other end of the spectrum, Burnley had the lowest average house price with £102,600, however it rose by 2.7 per cent compared to last year. The prices in Burnley were 5.4 times lower than in London, and 2.7 times lower than the British average.
- The cities that recorded a decrease in house price were located in Northern England and in Scotland.

Table 14:
Housing stock growth

Rank	City	Change, 2014-2015 (%)	Housing stock, 2014	Housing stock, 2015	Change, 2014-2015
10 cities with the highest housing stock growth					
1	Peterborough	1.7	79,140	80,480	1,340
2	Telford	1.5	70,880	71,960	1,080
3	Cambridge	1.4	50,400	51,120	720
4	Exeter	1.4	52,110	52,830	720
5	Milton Keynes	1.3	106,130	107,550	1,420
6	Preston	1.1	157,580	159,290	1,710
7	Gloucester	1.0	54,220	54,780	560
8	Southampton	1.0	156,680	158,260	1,580
9	Slough	0.9	52,610	53,080	470
10	Northampton	0.9	93,260	94,090	830
10 cities with the lowest housing stock growth					
54	Birkenhead	0.4	146,270	146,810	540
55	Blackburn	0.4	60,070	60,290	220
56	Swansea	0.4	174,800	175,410	610
57	York	0.3	86,930	87,210	280
58	Blackpool	0.3	107,230	107,540	310
59	Huddersfield	0.3	183,660	184,190	530
60	Cardiff	0.3	149,580	149,960	380
61	Luton	0.2	76,910	77,100	190
62	Dundee	0.2	73,580	73,690	110
63	Burnley	0.1	79,600	79,710	110
	United Kingdom	0.7	27,919,010	28,079,280	197,620

Source: Department of Communities and Local Government (DCLG), 2016, Dwelling stock estimates by local authority district 2014 and 2015 data. Scottish Neighbourhood Statistics 2016, Dwelling stock estimates 2014 and 2015 data. Northern Ireland Neighbourhood information service 2016, Land and Property Services, 2014 and 2015 data.

Table 15:
House price growth

Rank	City	Annual growth, 2015-2016 (%)	Average price, 2015 (£)	Average price, 2016 (£)	Difference in average prices, 2015-2016 (£)
10 cities with the highest rises in house prices					
1	Basildon	15.1	261,900	301,400	39,500
2	Luton	13.5	198,100	224,900	26,800
3	Bristol	10.6	249,600	275,900	26,300
4	Chatham	10.4	207,300	228,800	21,500
5	Aldershot	9.7	328,600	360,400	31,800
6	Reading	9.3	343,200	375,200	32,100
7	Brighton	8.7	338,400	367,900	29,500
8	Oxford	8.5	453,200	491,900	38,700
9	Southend	8.2	261,500	282,900	21,500
10	Peterborough	8.1	169,100	182,800	13,700
10 cities with the lowest rises in house prices					
53	Glasgow	-0.7	155,500	154,300	-1,200
54	Blackpool	-0.9	147,800	146,400	-1,400
55	Middlesbrough	-1.3	140,500	138,800	-1,800
56	Warrington	-1.3	195,800	193,200	-2,600
57	Edinburgh	-1.7	238,200	234,100	-4,200
58	Preston	-1.8	166,500	163,500	-3,000
59	Wigan	-2.1	131,700	128,900	-2,700
60	Sunderland	-2.4	126,500	123,400	-3,000
61	Liverpool	-2.5	134,300	131,000	-3,300
62	Aberdeen	-8.2	220,800	202,700	-18,100
	Great Britain	2.8	260,600	267,800	7,200

Land Registry 2016, Market Trend Data, Price Paid, 2015 and 2016 data. Simple average used. Scottish Neighbourhood Statistics 2016, Mean house prices, 2015 and 2016 data.
Note: 2016 prices in Scotland are an average of the first two quarters of the year. 2016 house prices in England and Wales are an average of the period January to November. Difference in average prices may not add up due to rounding of figures

Housing affordability

- In 2016, house prices in Britain were 10 times the annual salary of residents.
- Oxford was the least affordable city, with house prices being 16.7 times higher than annual earnings, on a par with London. In total, only 14 out of 62 cities were less affordable than the British average.
- Burnley was the most affordable city, with an affordability ratio of 4.1.
- All the top 10 least affordable cities were located in the South of England. The majority of the most affordable locations were in the North West and Yorkshire regions.

Table 16:
Housing affordability ratio

Rank	City	Affordability ratio	Average house price, 2016 (£)	Yearly wages, 2016 (£)
10 cities with the highest affordability ratio				
1	Oxford	16.7	491,900	29,400
2	London	16.7	561,400	33,700
3	Cambridge	15.8	475,800	30,100
4	Brighton	13.7	367,900	26,800
5	Bournemouth	12.5	309,300	24,700
6	Aldershot	11.6	360,400	31,200
7	Reading	11.3	375,200	33,300
8	Worthing	10.7	279,100	26,100
9	Exeter	10.5	253,500	24,100
10	Bristol	10.4	275,900	26,600
10 cities with the lowest affordability ratio				
53	Dundee	5.7	130,500	23,100
54	Stoke	5.6	125,300	22,300
55	Glasgow	5.6	154,300	27,500
56	Blackburn	5.5	118,700	21,700
57	Liverpool	5.4	131,000	24,200
58	Wigan	5.4	128,900	23,900
59	Barnsley	5.2	123,900	23,700
60	Sunderland	5.2	123,400	23,900
61	Hull	4.9	103,900	21,100
62	Burnley	4.1	102,600	25,000
	Great Britain	9.8	267,800	27,400

Source: Land Registry 2016, Market Trend Data, Price Paid, 2015 and 2016 data. Simple average used. Scottish Neighbourhood Statistics 2016, Mean house prices, 2015 and 2016 data. ONS 2016, Annual Survey of Hours and Earnings (ASHE), average gross weekly workplace-based wages, 2016 data.

Environment

Accounting for over 80 per cent of total greenhouse gas emissions, CO_2 emissions are one way to gauge how 'green' a city is, and the size of its carbon footprint.

- In 2014, cities accounted for 54 per cent of the UK population but only 46 per cent of the UK's total CO_2 emissions.
- Average UK emissions per capita in 2014 totalled 6.3 tonnes (down from 6.9 tonnes in 2013), but the city average was as low as 5.4 tonnes
- Swansea and Middlesbrough are significant outliers and they were two of only eight cities to emit more CO_2 per capita than the national average. This was driven by large industrial installations – most likely their steel plants – which accounted for more than three quarters of total emissions in each city.
- Every single city except Swansea reduced their emissions level per capita in the year between 2013 and 2014.
- Big cities are significant emitters, but they are very efficient when emissions are considered on a per capita basis. London for example accounted for 10.6 per cent of total UK emissions in 2014, but was 15th out of 63 cities for per capita emissions with only 4.4 tonnes emitted for every resident (down from 5.1 tonnes in the previous year).

Table 17:

Total CO_2 emissions per capita

Rank	City	Total CO_2 emissions per capita, 2014 (t)	Total CO_2 emissions per capita, 2013 (t)
10 cities with the lowest emissions per capita			
1	Chatham	3.6	4.2
2	Ipswich	3.7	4.2
3	Luton	3.7	4.3
4	Southend	3.7	4.3
5	Brighton	3.8	4.3
6	Worthing	3.9	4.4
7	Plymouth	4.0	4.7
8	Southampton	4.2	4.8
9	Portsmouth	4.2	4.8
10	Birkenhead	4.2	4.9
10 cities with the highest emissions per capita			
54	Crawley	5.4	6.8
55	Preston	6.3	6.9
56	Aberdeen	6.2	6.9
57	Barnsley	5.7	7.0
58	Wakefield	6.5	7.1
59	Doncaster	7.1	7.7
60	Warrington	6.8	7.8
61	Newport	7.5	8.4
62	Swansea	26.8	26.7
63	Middlesbrough	26.2	29.3
	United Kingdom	6.3	6.9

Source: Department of Energy and Climate Change (DECC) 2016, CO_2 emissions per capita, 2014 data. ONS 2015, Population Estimates, 2013 and 2014 data.

Digital connectivity

Broadband connection is a key component of the infrastructure offer that a city can make to businesses and entrepreneurs. The development of optical fibre has considerably increased broadband speeds across the country, now allowing more places to access 'superfast' (above 30 Mbps) and 'ultrafast' (above 100 Mbps) connections.

- In 2016, half of UK properties (51.4 per cent) were covered by ultrafast broadband.
- 55 out of 63 cities had more than half of their properties covered by ultrafast broadband.
- Among the top 10 cities, eight were located in the south of England, with the Derby (East Midlands) and Dundee (Scotland) the exceptions.
- In the bottom 10 cities, only two cities were in the south of England (Southend and Milton Keynes). However six of the bottom 10 cities still had high superfast coverage (above 30 Mbps), covering more than 90 per cent of properties.

Table 18:

Properties achieving ultrafast broadband speeds (above 100 Mbps)

Rank	City	Properties achieving ultrafast broadband, 2016 (%)
10 cities with the highest ultrafast broadband penetration rate		
1	Worthing	93.3
2	Luton	92.9
3	Cambridge	91.8
4	Brighton	91.1
5	Plymouth	90.8
6	Ipswich	89.8
7	Portsmouth	89.8
8	Derby	89.5
9	Dundee	89.4
10	Exeter	88.7
10 cities with the lowest ultrafast broadband penetration rate		
54	Sunderland	53.2
55	Newport	52.9
56	Hull	46.4
57	Barnsley	42.6
58	Southend	41.8
59	Sheffield	39.8
60	Doncaster	37.1
61	Wakefield	35.4
62	Milton Keynes	12.9
63	Aberdeen	0.1
	United Kingdom	51.4

Source: Thinkbroadband.com, percentage of properties covered with ultrafast broadband (>100 Mbps) as at end of 2016. https://labs.thinkbroadband.com/local/postcode-search. Ultrafast coverage figures do not include business grade leased line services and other on-demand connectivity solutions.

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