



# Uneven growth: tackling city decline

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by Andy Pike, Danny MacKinnon, Mike Coombes, Tony Champion, David Bradley, Andrew Cumbers,  
Liz Robson and Colin Wymer

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This report focuses on the scale and nature of city decline in the UK and what can be learnt from international experience. Economic and social conditions in UK cities are diverging and increasingly different. Comparatively less attention has been given to the situation and policies for cities coping with relative decline. The report details the overall findings and analysis of the key demographic and economic trends in UK cities and the main policy responses adopted internationally.

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City growth is a central focus of national economic policy in the UK. But not all UK cities are growing at the same levels; some cities are falling behind and failing to keep up with national trends. Cities coping with such relative decline have particular economic and social conditions that require policy attention.

## **The report:**

- analyses the scale and nature of long-term population and economic decline in UK cities;
- identifies and assesses the different policy responses to long-term population and economic decline in cities;
- assesses the effects and implications of different policy approaches on people at risk of poverty in declining cities;
- identifies different types of cities experiencing long-term decline in the UK and appropriate policy responses.

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# Executive summary

City growth is a key concern of national economic policy in the UK but some cities are falling behind and failing to keep up with national trends. Cities coping with such relative decline have particular economic and social conditions needing policy attention.

## Key points

- No UK cities are currently experiencing absolute population loss, but growth in many northern cities is lagging behind national levels.
- 10 of 12 cities ranked highest on the study's index of relative decline are in the north of England, while no city in southern England is among the 24 relatively declining cities identified by this index.
- The condition of relative rather than absolute decline among some UK cities signals the potential for policy intervention to foster stronger and more inclusive growth in these cities.
- Relatively declining cities in the UK require integrated programmes of policy interventions, underpinned by effective strategic leadership in bringing together key actors around a clear and shared vision for the city.
- Poverty reduction needs to be integrated into city recovery strategies as growth *per se* will not necessarily reduce poverty in cities.
- Policy interventions need to be based on an understanding of the circumstances of the different types of city experiencing relative decline and the tailored packages of policies appropriate to address them.

## What is the evidence of decline in UK cities?

There are two main types of city decline. *Absolute* decline is the outright reduction in specific indicators – such as population or employment – for a particular city over a certain period. *Relative* decline is the comparatively weaker performance of a city on certain indicators in relation to similar cities or to the national average.

While no UK cities are experiencing absolute population loss, many northern cities are characterised by relative decline or low growth: their increases in population or employment are at *relatively* low levels compared with other cities.

London has led an 'urban renaissance' and continues to out-pace smaller cities, attracting young talent and losing older people through intra-UK migration flows. Young adult migration to London and the south is a 'brain drain' detrimental to the growth of many provincial cities.

Between 2001 and 2011, job growth was lower in cities outside the south east of England, with growth fastest in London, and to a lesser extent the smallest cities. Public sector employment made a major contribution to growth in all groups of cities in 1980–2008, while the initial period of austerity in 2009–2013 has impacted most on low employment rate cities, although the differences are small.

Focusing on single indicators of population and employment trends and relatively short time periods provides only a partial picture of city decline. This study therefore developed an index of relative decline to capture the numerous factors involved in city decline over a longer time scale. The cities experiencing the highest levels of relative decline on the index were primarily in northern England: Rochdale, Burnley, Bolton, Blackburn, Hull, Grimsby, Dundee, Middlesbrough, Bradford, Blackpool, Stoke and Wigan. The next group of 12 high scoring cities includes several in the Midlands and other countries of the UK, but no city in southern England.

An analysis of the performance of employment changes in the 24 cities with the highest values on the index of relative decline (i.e. the worst performing cities) compared with the 50 better performing cities reveal a number of important differences, with the former group having:

- lower rates of net in-migration of economically active age groups;
- lower rates of employment growth in 1998–2008 and a higher rate of contraction in 2009–2012;
- substantially higher rates of poverty as measured by the Unadjusted Means-tested Benefits Rate, indicating that relative city decline is linked to a higher risk of poverty for its residents.

## What kinds of UK cities are facing relative decline?

The factors most strongly associated with relative city decline in the UK are skill levels, industrial history and location at both city-regional and national scales. City size and the reduced presence of consumer services in cities that are overshadowed by larger neighbours emerged as the key differentiating factors between the 24 relatively declining cities in the study. Three types of cities experiencing relative decline are identified:

- Core cities are the principal cities of their city regions, hosting high-level services and anchor institutions that attract investment and people. Examples include Glasgow, Liverpool and Sheffield.
- Overshadowed cities have larger neighbouring cities that host the higher-level functions, main employment sites attracting commuters and provide the principal growth opportunities. Examples of overshadowed cities include Bradford, Stoke and Sunderland.
- Freestanding cities are not overshadowed but are smaller than core cities and some distance from them. Examples include Dundee, Hull and Newport.

## What kinds of policies have been used to address city decline?

Cities across the world have been struggling with city decline and ‘shrinkage’ in recent decades. Evidence on the effectiveness of different interventions is limited and partial. However, it is still possible to identify several broad themes that characterise the more effective approaches:

- co-ordinated and integrated programmes of policy interventions to tackle the multi-faceted and inter-related problems of city decline;
- strategic leadership involving the development of a clear and shared vision for the future of the city;
- institutional innovations to support recovery strategies including special purpose agencies, research and planning institutes, and mechanisms for incorporating public, private and civic actors;
- sector-based initiatives have had some success in generating employment and earning increases, contributing to poverty reduction;
- community engagement through the active involvement of local residents in the improvement of their neighbourhoods.

While many international policy responses have sought to address absolute declines in population and employment, the broad lessons above can inform policies for UK cities facing relative decline.

## What are the implications for cities facing relative decline in the UK?

Cities facing relative decline are growing in population and employment terms but at *relatively* lower levels than other cities in the UK. *Relative decline* provides more scope for policy intervention to boost growth performance.

Given the different combinations of factors generating relative decline, ‘one-size-fits-all’ policy approaches are inappropriate and likely to be ineffective. The different types of cities facing relative decline require both general *and* tailored responses.

Addressing the shared aspects of relative decline, UK cities can:

- clarify the aims, aspirations and purposes of city recovery, based upon identifying the specific roles that cities are able to develop in the broader urban system.

- better connect and integrate poverty reduction into city recovery strategies through 'inclusive growth' strategies;
- foster greater community engagement and participation by engaging local residents in the improvement of their neighbourhoods;
- promote inclusive and responsible forms of decentralisation by offering additional powers to cities with weaker economic potential while ensuring that such areas are not disadvantaged by fiscal devolution.

Relating to the particular circumstances of the different types of cities facing relative decline, specific policies include:

- Core cities: long-term and strategic city-regional planning; prioritising inclusive growth; and co-ordinating anchor institutions.
- Overshadowed cities: developing distinctive and complementary economic roles and strategies; improving accessibility; and enhancing training and skills.
- Freestanding cities: building on internal assets and capabilities; bolstering anchor institutions; co-operating with larger cities in broad-scale functional economic areas; and repositioning and rebranding.

## Conclusions

Relative decline in UK cities is shaped by their industrial history, skill levels and location at the city-regional and national scales. The majority of relatively declining cities are in northern England, reflecting the geographically uneven legacies of economic restructuring and de-industrialisation.

Facing *relative* rather than *absolute* decline, there is scope for integrated policies to address the economic and social conditions of such cities. Tailored policies are needed based on the specific circumstances of core, overshadowed and freestanding cities.

Greater national policy recognition of the particular predicaments of cities characterised by relative decline can also play an important role in increasing their employment growth and poverty reduction.

# 1 Introduction

In recent years, the phenomenon of city decline has attracted growing international interest. Indeed, decline has been described as a 'fairly normal' pathway of urban development, affecting more than one in four cities in the world between 1990 and 2000 (Bernt, 2009, pp. 754). About 40 per cent of European cities were found to have experienced decline between 1960 and 2005 (Turok and Mykhnenko, 2007). In the US, decline has been particularly concentrated in the 'rustbelt' cities of the north east and mid-west (Beauregard, 2012), and symbolised by the plight of Detroit. City decline in the UK has received comparatively less attention in recent years, following the high profile cases of population loss in industrial cities in the 1980s and early 1990s (Martin *et al.*, 2014). While increased interest in stimulating the further growth of larger urban conurbations is driven by the expanding body of research and popular commentary on their agglomeration economies and productivity benefits (see for example Glaeser, 2012; Leunig and Swaffield, 2008; The Economist, 2015), the implications of this emphasis for smaller and economically weaker cities remain largely unexamined.

The process of urban decline is multi-dimensional, reflecting the interaction between a number of mutually reinforcing factors including population loss and outward migration especially of the young and/or qualified; economic restructuring and de-industrialisation; contracting labour markets with limited job and training opportunities; unemployment and under-employment; deprivation and poverty; ageing populations; poor health; low educational attainment and skills; vacant properties; high crime rates; declining tax bases; and rising service needs of remaining residents (see for example Haase *et al.*, 2014; Power *et al.*, 2010). Urban decline is geographically uneven, often having the most adverse effects on the economically weakest cities and their most disadvantaged social groups and neighbourhoods (Fol, 2012).

Policy responses to urban decline have typically sought to counter it through the promotion of renewed urban growth and recovery, although new strategies of seeking to manage and steer decline or 'shrinkage' have recently emerged (Hospers, 2014). Yet clear gaps in understanding, empirical evidence and policy evaluation remain. Potential learning from international experiences has yet to be systematically identified, despite the emergence of innovative approaches. The evidence base is fragmented, relying upon either case studies of transformation by 'phoenix cities' (see Power *et al.*, 2010) or continued decline and shrinkage (Bontje and Musterd, 2012).

Policy responses to urban decline in the UK go back to the identification of the inner city problem in the 1970s (HMSO, 1977). Many industrial cities and larger towns experienced decline and job loss related to de-industrialisation in the 1980s and early 1990s, prompting some discussion of the option of 'managed decline' among ministers (Gainsbury *et al.*, 2011). By the late 1990s and early 2000s, however, cities were being seen as assets rather than liabilities with some experiencing urban growth and renaissance (Urban Task Force, 1999). This 'resurgent cities' narrative drew attention away from problems of decline, given the growing disparities between London and the wider South East England region and the rest of the UK (Centre for Cities, 2013; Martin *et al.*, 2014). To address this gap in research and understanding, this report provides a detailed analysis of the scale and nature of city decline in the UK over recent decades, alongside a review of international policy responses, drawing these together to outline a number of policy recommendations for different types of UK cities.

Section 2 examines the nature of relative decline in UK cities, presents the results of the index of relative decline and explains the typology of relatively declining cities. Section 3 presents the main themes from the review of the international and UK literature on policy responses to city decline. Section 4 sets out the conclusions and policy implications for actors at the national and city levels in the UK.

## Defining decline

Reduction in population is the most common definition of city decline, using the most basic indicator (Turok and Mykhnenko, 2007). Other widely used measures include job loss, employment and unemployment rates, land and housing vacancy rates, birth rates and migration trends, and various measures of poverty and social deprivation (Haase *et al.*, 2014).



The distinction between *absolute* and *relative* decline is key. *Absolute* decline refers to the outright reduction in specific indicators – such as population or employment – for a particular city over a certain time period. *Relative* decline compares the performance of a city to similar cities or to the national average. Relative decline means that a city is under-performing in relation to these comparators. Research on declining cities has been dominated by a focus on absolute forms of decline, with less attention paid to relative decline.

The term decline – meaning to grow smaller, deteriorate or move downwards – has problematic connotations in policy discussions as it appears to impose a negative label upon individual cities (Audirac, 2015). The term is often at odds with regeneration and place promotion initiatives. Avoiding the negative connotations of decline and shrinkage (the latter emphasising physical contraction), researchers and planners in the US have coined the term ‘legacy cities’ to refer to declining ‘rustbelt’ cities that have experienced de-industrialisation and population and employment losses in recent decades (Mallach, 2012). The language of decline needs to be used with particular caution when it is the *relative* decline of cities that is being discussed. This is because *relatively* declining cities may still be experiencing increases (rather than reductions) in population or employment, but such increases are at a *relatively* low level or slow rate when compared with other cities and/or the national average. This report focuses largely upon relative decline as this is the experience of some industrial cities in the UK since at least the 1990s. Relative decline is more commonly understood by policy-makers as low or weak growth.

The distinction between absolute and relative decline is most pertinent at the city-wide scale. To some extent, the similarities in the underlying causes and symptoms of decline are more apparent at the neighbourhood scale in disadvantaged areas. Whether the city as a whole is experiencing absolute or relative decline, the residents of such areas are typically confronted with similar problems of unemployment, poverty, low skills, abandonment and dereliction, although they may be more acute in conditions of absolute decline. As such, there is considerable scope for UK cities to learn from international policy approaches, even when these were designed to address absolute decline.

## Research methodology

The research followed a three-part methodology:

1. Analysis of the scale and nature of long-term population and economic decline in UK cities. This was based upon assessments of demography, job availability and employment rates plus identification of key drivers of decline to construct an index of relative decline and a typology of relatively declining cities.
2. Review and analysis of the international and UK literature on policy responses to city decline. This involved a systematic review of the existing literature to assess key policy approaches and initiatives, particularly in relation to their effects on specific dimensions of urban decline. It also incorporated case studies of innovative policy initiatives in individual cities based on desk research with secondary sources and inputs from international research team members.
3. Assessment of the implications of the evidence for UK cities. This involved drawing out the policy ramifications of the scale and nature of long-term city decline in the UK and discussion of the lessons of the international review and case studies.

## 2 The scale and nature of city decline in the UK

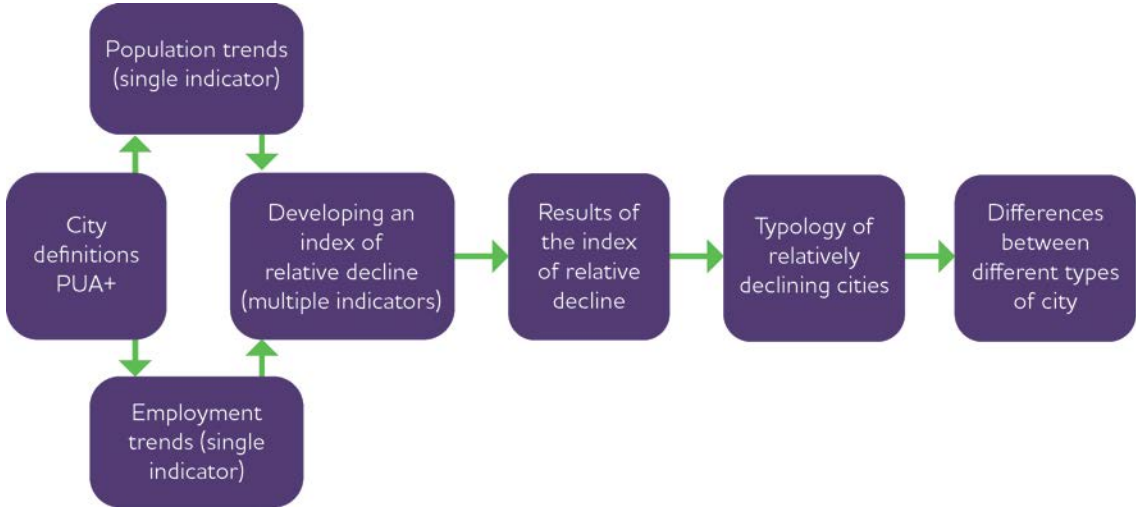
This section addresses the scale and nature of city decline in the UK and sets out the framework for analysis in the study. Establishing the particular scale and nature of city decline in the UK through a review of key demographic and employment trends, covering the supply and demand sides of the labour market, is important in providing a clearer picture of the policy problem to be addressed. One of the aims of this report is to move beyond the commonplace rejection of 'one-size-fits-all' approaches in urban policy, instead identifying specific policies that are appropriate for different types of relatively declining city. To do this for cities in the UK, it is necessary to develop a typology of the cities needing these policy responses. What are the key differences between types of relatively declining cities? What distinctive weaknesses or strengths are shared by separate types of city? This section provides the analyses which build towards identifying policy-relevant types of relatively declining cities in the UK.

There are two initial steps: identifying the cities to be analysed and producing the most appropriate measure of relative decline, moving from a range of single indicators to an approach combining multiple indicators (Figure 1). The approach builds upon the conception of relative city decline as multi-dimensional, the result of inter-related and mutually reinforcing processes, with a particular emphasis on forms of decline that increase the risk of poverty.

As outlined in Figure 1, the analytical steps comprise:

- an established set of city definitions extended to cover 74 UK cities each including an urban area with a population of more than 100,000 together with its wider labour market within which key poverty-related dynamics are framed;
- demographic analyses, starting with the possibility that a basic measure of population loss could provide an adequate measure of city decline in the UK, then moving on to consider other key demographic processes such as migration;
- shifting to more directly poverty-related measures of relative decline, reviewing a series of analyses on change in employment rate levels, and job growth or decrease, as part of a broader understanding of relative city decline;
- building upon the analyses of employment and population trends, their primary measures of potential city decline are combined to create a new index of relative decline;
- presenting the results of the index of relative decline, with a particular emphasis on the geographical distribution of the 24 cities that make up the third of cities with the highest ranking on the index (i.e. those with the strongest evidence of recent relative decline);
- investigating the factors associated with relative decline as measured by the index to support the creation of the typology of relatively declining cities;
- examining the differences in performance between the identified types of cities for selected indicators, including estimates of their levels of poverty.

**Figure 1: Framework for the analysis of relatively declining cities in the UK**

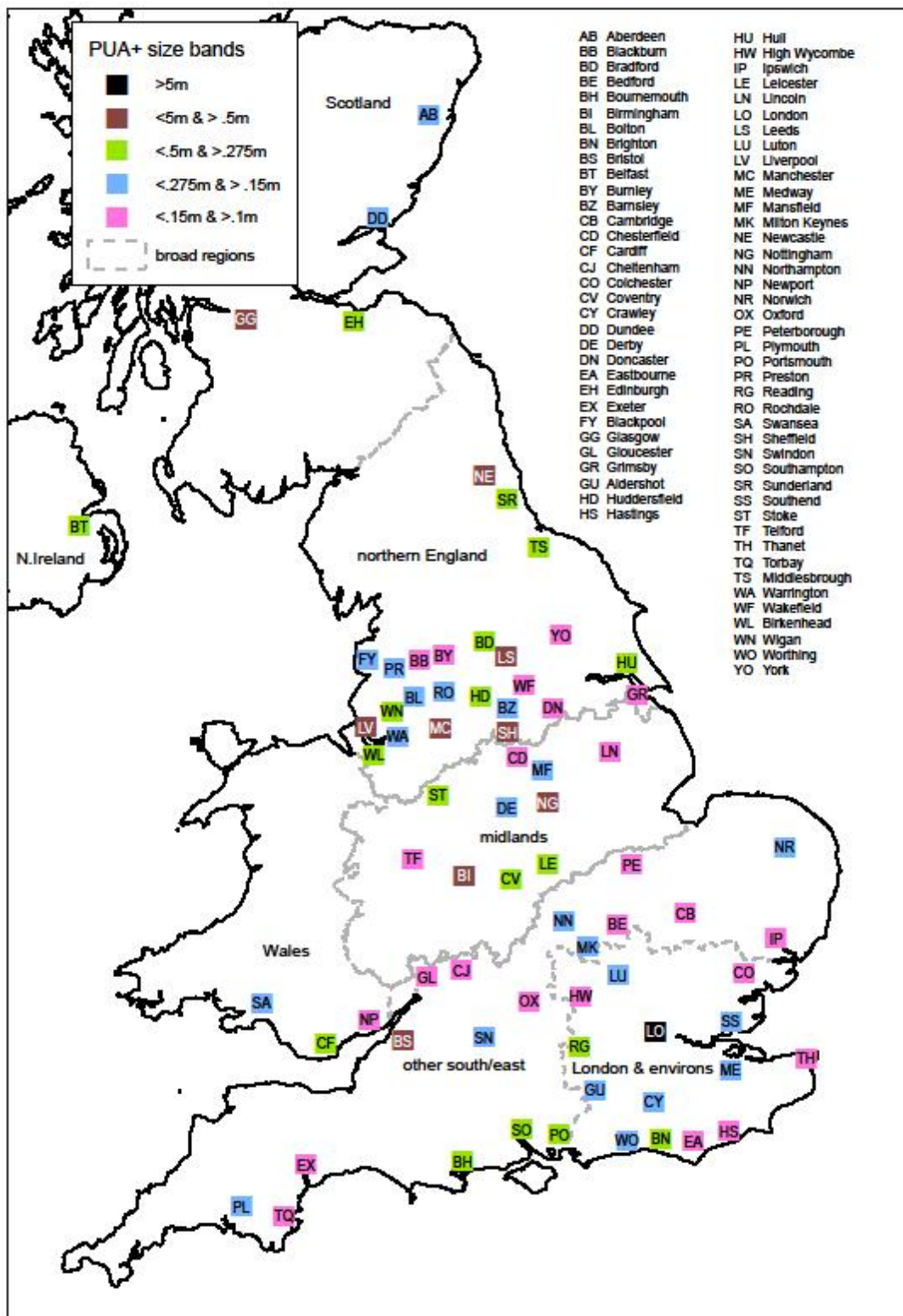


## Identifying cities in the UK

In measuring city decline, the first challenge is identifying which urban areas should be considered the ‘cities’ to be studied. Cities are distinct from other urban areas because of their larger populations. This was the key criterion defining the Primary Urban Areas (PUAs) for the State of the English Cities study (Parkinson *et al.*, 2006), areas which have become widely used (e.g. Lee *et al.*, 2014; Martin *et al.*, 2014). PUAs were defined as urban areas with at least 125,000 residents in 2001. The definition here extends to capture slightly smaller urban areas by reducing the PUA population minimum to 100,000. The additional cities mean that 74 cities are included and the term ‘PUA+’ is used to distinguish them from their more narrowly defined precursors (see Appendix 1 for definition).

The definition of the PUA+s combines each city with areas in its local labour market. This is appropriate because the level of poverty risk is shaped by labour market processes such as sectoral and occupational change in labour demand and the location of job vacancies that operate at the geographical scale of labour markets. The cities are often grouped by either their size or their broad regional location in the analysis, depending on whether one or other of these factors was found to be an important influence. Map 1 illustrates that most parts of the UK have at least one of the 74 PUA+s, and shows which of the size and broad regional groupings each city falls within

Map 1: Urban area population size and broad regional location of the 74 PUA+s



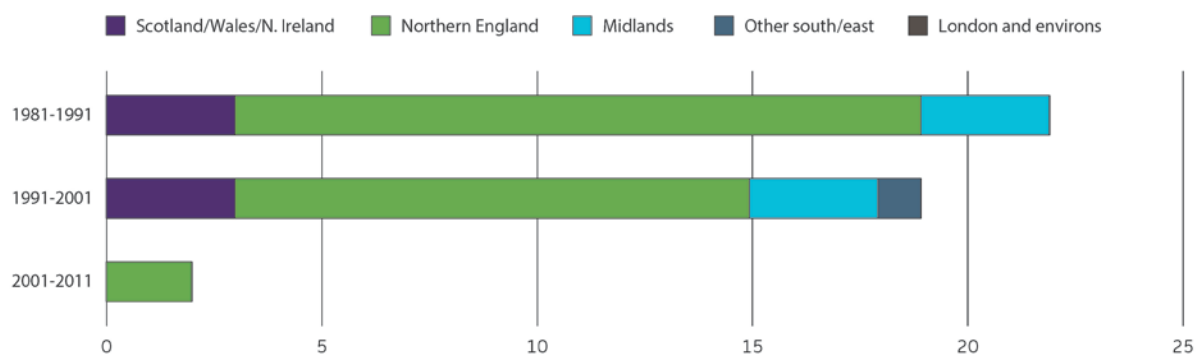
Source: Population Census 2001. Crown copyright data

## Population trends

The most common way to identify declining cities is by falling populations. However studies reveal that the *absolute* population decline recently seen in the cities of several other countries has become rare in the UK (e.g. Turok and Mykhnenko, 2007). In addition, the broad PUA+ definitions covering whole labour market areas make finding absolute decline less likely: decline in an old urban centre is often cancelled out by growth in nearby commuting areas. Absolute population decline over the 30 years up to 2011 was limited to just 10 cities. The only substantial absolute falls were seen in Glasgow and Liverpool where the recent growth has been insufficient to cancel out major losses late in the last century. The cities with marginal 30-year population losses were, apart from Dundee, all in the north of England: Sunderland, Birkenhead, Middlesbrough, Newcastle, Burnley, Grimsby and Wigan, in declining order of loss (Appendix 2 lists the datasets and variables used throughout this report).

While the 74 cities vary in their rate of population growth, none had a declining population between 2011 and 2013 and only two (Burnley and Sunderland) experienced slight population decline from 2001 to 2011. As in the cases of Glasgow and Liverpool, the trend away from *absolute* decline has been established for some time. This situation has been interpreted as an ‘urban renaissance’ fuelled by national population growth and a reversal of the tendency late in the last century for the population growth rate of cities to be lower than that of more rural areas. Figure 2 shows a rapid fall in the number of cities seeing population loss over the last three full decades. It also reveals a persistent north–south contrast in population change: of the 43 instances of a city with population loss over one of these decades, there is one solitary case in the south (Plymouth in the 1990s). Regional context shapes how national trends affect a city. Central to the north–south contrast is the impact of London and its distinctive trends. The capital preceded other large cities in seeing population *decline* early in the twentieth century, and then later led the trend towards urban renaissance (Parkinson *et al.*, 2006).

**Figure 2: Number of cities seeing *absolute* population decline by decade 1981–2011**



Source: Calculated from ONS mid-year population estimates. Crown copyright data

Although recent population loss is now uncommon among UK cities, some cities are still facing issues associated with decline which can increase the risk of poverty for their residents. The analysis therefore needs to address *relative* rather than just absolute population decline. This is measured here in terms of the *city's share of the total population of all cities in Britain* (Belfast is excluded from this one analysis due to reduced data for Northern Ireland). For any period in the analysis, around half of all cities see their *share* of total urban population decline. To highlight those cities where relative decline may be at worryingly high levels, we focus on the third of cities whose share of the national urban population declined fastest.

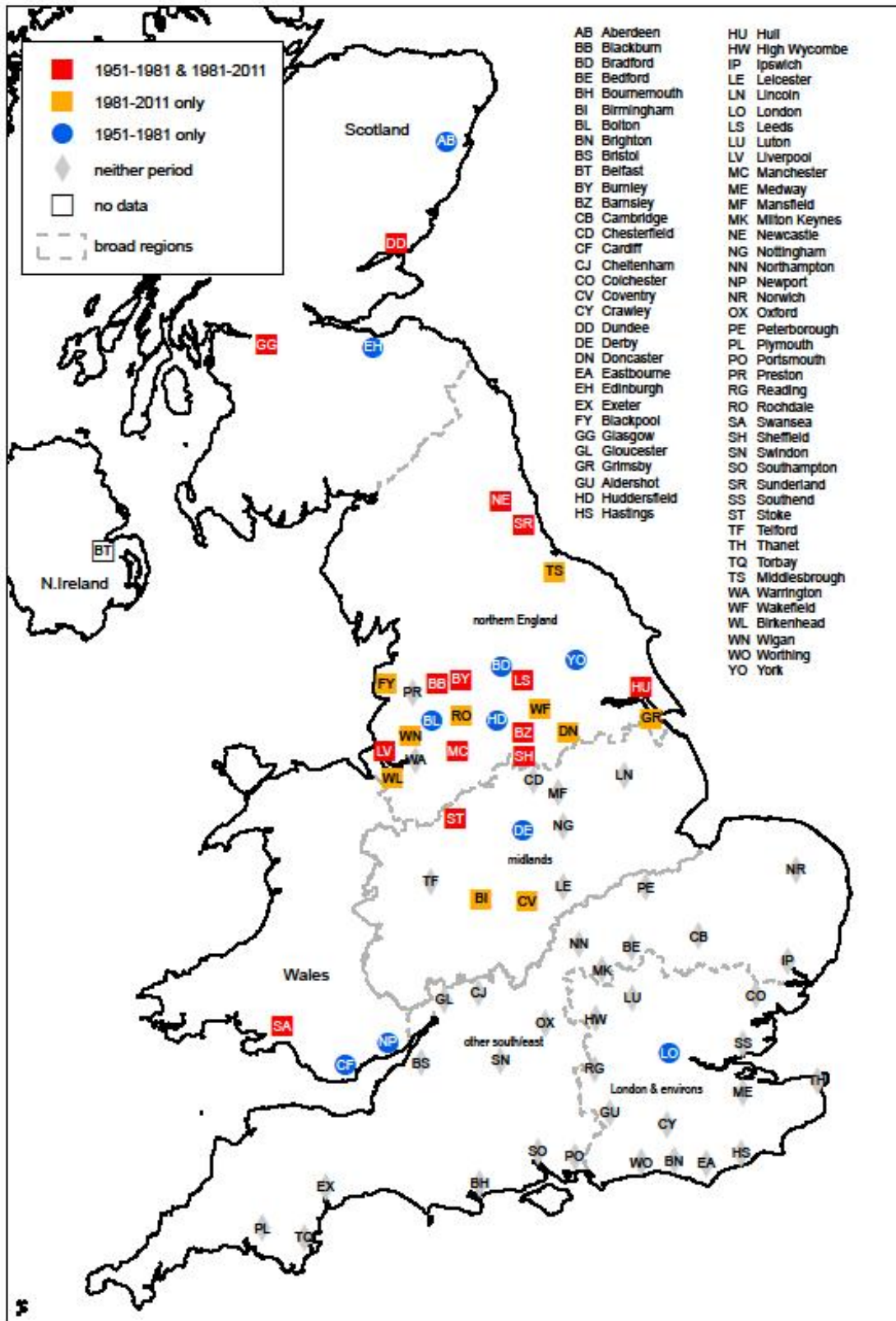
Map 2 assesses the persistence of relative population decline by comparing the last 30 years (1981–2011) with the preceding three decades (1951–81). Among the 24 cities that comprise the third whose population share declined fastest in 1981–2011, there are 14 (red squares) that were *also* among the third of cities suffering relative decline during 1951–1981. Ten of these 14 cities which experienced persistent relative population decline are in northern England.

Another 10 cities (orange squares) are the remainder of the third of the cities with the fastest rates of relative decline over the recent 30 years. These cities have slipped into relative decline recently following stronger 1951–1981 demographic trends. These cities include Birmingham and Middlesbrough, where the manufacturing-led growth of the mid-twentieth century has been followed by major de-industrialisation and job loss from the 1980s.

In contrast, 10 cities (blue circles) that experienced relative decline in the earlier 1951–81 period have 'bounced back' in recent decades. London had by far the most dramatic of turnarounds, while more modest shifts from decline to strong growth were evident in Cardiff and Aberdeen, for example. These cities have begun holding their own in terms of their share of Britain's city population and they have the most diverse regional distribution of the four categories on Map 2. It may be that each city has its own particular reasons for recovery, rather than them all being the result of some more general process. Of particular interest is that this group includes not only the national growth hub of London but also some northern cities like Bradford which are widely seen to be at the other end of the prosperity spectrum. Thus recent recovery from relative population decline is not strong evidence that a city's residents face a lower risk of poverty. Demographic growth can also lead to increased poverty risk, notably where labour supply grows more quickly than the number of local jobs.

Finally, there are the 39 cities (grey diamonds) which avoided relative population decline in both the 30-year periods. Of these steadily growing cities, only eight are outside the southern regions of England and even more remarkably this category includes every single southern city except London.

Map 2: Relative population decline 1951-1981 and/or 1981-2011



Source: Calculated from ONS mid-year population estimates. Crown copyright data

In many cities in southern England, relative population growth is the result of their prosperity stimulating net in-migration. Figure 3 breaks down recent overall population trends into key components of demographic change in 2001–2013. The natural change rates reflect surpluses of births over deaths, while the other columns show various net migration effects ('other changes' are predominantly unrecorded migration). The numbers of births in the UK exceed that of deaths, while there is also now a persistent net inflow of international migrants (Champion, 2014). London, the only city in the largest size grouping, stands apart. It has the highest natural change rate, the only high rate of net loss through migration to the rest of the UK, and the highest rate of net international in-migration.

**Figure 3: Components of population change 2001–2013 for city size groupings, % per year (compound rate)**



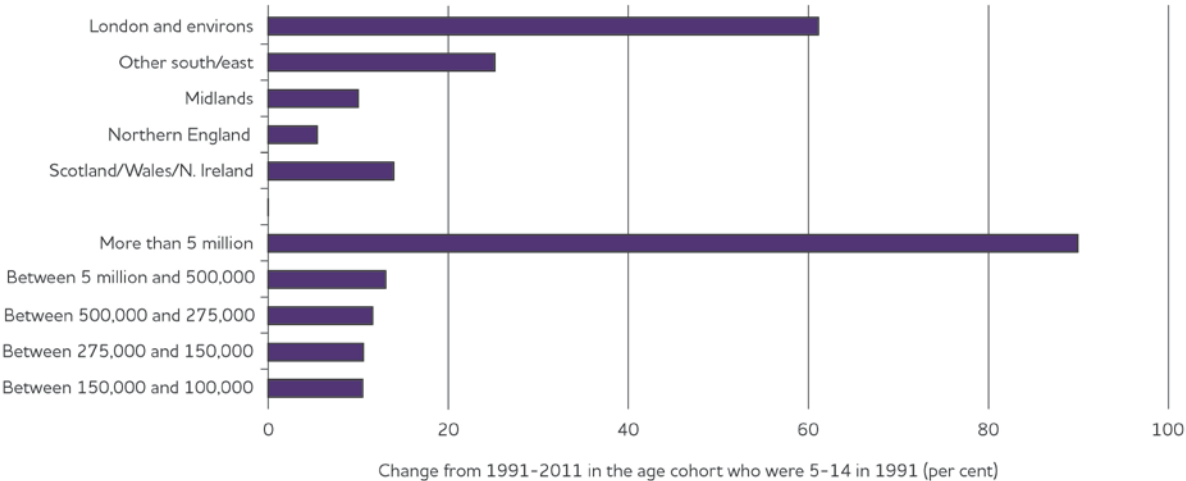
Source: Calculated from ONS mid-year population estimates. Crown copyright data

Figure 3 illustrates the role of within-UK migration in UK city population change. Internal migration flows boost or diminish cities' numbers of residents and shape who is living where. London has a very youthful age structure, reflecting the net out-migration of older people and strong net gains of young adults. This is the 'escalator' pattern originally identified in south-east England where young people migrated towards the UK's largest concentration of work opportunities to advance their careers more rapidly (Fielding, 1992).

The scale of this process is evident in changes in size of the 5–14 age group in a city over the 20-year period 1991–2011. Figure 4 compares the size of a city's 25–34 age group in 2011 with that of the 5–14 age group 20 years earlier. The changes in age group numbers are due almost entirely to migration because this age group experiences few deaths. All the city-regional and size groups saw a net inflow of this young adult group, partly because cities attracted the bulk of international migrants – who are largely young adults – but also because of the net inflows of young adults from smaller UK towns and rural areas. Figure 4 shows that after London's unique role has been recognised, it is the regional rather than the city size contrasts that are the more pronounced.



**Figure 4: City group per cent change 1991–2011 in the age cohort who were 5–14 in 1991**



Source: Calculated from ONS mid-year population estimates. Crown copyright data

These specific population flows have cumulative effects on different cities. Champion *et al.* (2007) show that better qualified young people, such as graduates, are more likely to migrate. A city with strong net intra-UK inflows of young people gets a boost to its skill levels. Selective migration thus reinforces the uneven geography of job opportunities: young skilled people respond to the personal benefits of the regional ‘escalator’ while collectively they fuel the skills gaps between cities.

The finding that young adult migrants are often from the better educated end of the spectrum means that cities with net inflows benefit not only through the quantitative growth of their labour supply gains, but also in qualitative terms. Here, the focus is on more highly qualified labour supply because of the sustained reduction in numbers of the middle stratum of jobs (Goos and Manning, 2007). Table 1 shows for both 2001 and 2011 the proportion of the economically active age population (EAA, taken as 16–64) with at least a degree. It reflects strong growth in this proportion across all 74 cities over the decade, mainly due to the transition into retirement of the age group who had left school by the early 1960s (i.e. before the expansion of higher education opportunities). If recent migration flows of young adults were a new phenomenon then the relative skill levels of whole city labour forces would be little affected. However, the recent pattern continues a longstanding brain drain towards the capital and the cumulative effect of these migration flows is that the London, Oxford and Cambridge ‘golden triangle’ is firmly established at the top of the EAA skill ranking (Table 1). Edinburgh also has a persistently well-qualified EAA, and in 2011 is joined by York as a northerly city with one of the ten best qualified labour forces. The national trend towards a more highly qualified labour force ‘lifted all boats’ but the relativities are largely unchanged: nine of the ten cities with the lowest share of their EAA having degrees in 2001 remained in the equivalent list in 2011 (Table 1). These low-skill cities include some southern resorts that have some of the highest young adult out-migration rates, together with cities such as those in former coalfield areas where a continuous brain drain has been recognised for decades (Beatty *et al.*, 2007).

**Table 1: Cities ranked on the proportion of 16 to 64-year-olds with a degree, 2001 and 2011**

2001	%	Rank	2011	%
Cambridge	33.3%	1	Cambridge	43.3%
London	31.1%	2	Oxford	40.2%
Oxford	30.9%	3	London	39.5%
Reading	29.7%	4	Reading	39.1%
Aldershot	28.1%	5	Aldershot	38.3%
Edinburgh	27.1%	6	High Wycombe	37.0%
High Wycombe	26.6%	7	Cheltenham	36.6%
Brighton	26.3%	8	Edinburgh	36.4%
Cheltenham	25.2%	9	Brighton	36.2%
Cardiff	25.2%	10	York	35.3%
Torbay	13.9%	65	Thanet	21.6%
Burnley	13.7%	66	Stoke	21.2%
Thanet	13.5%	67	Burnley	21.0%
Stoke	13.2%	68	Rochdale	20.9%
Wakefield	13.0%	69	Southend	20.8%
Doncaster	12.2%	70	Wakefield	20.0%
Southend	12.0%	71	Barnsley	19.3%
Barnsley	11.6%	72	Doncaster	18.4%
Grimsby	10.9%	73	Grimsby	17.6%
Mansfield	9.8%	74	Mansfield	17.5%

Source: Calculated from data extracted from 2001 and 2011 Population Censuses. Crown copyright data

So do population trends identify the UK cities in relative decline? Absolute population decline is almost non-existent now, but there are still cities with poverty-related problems associated with decline so a different way to measure decline is needed. Relative population decline highlights the important north–south contrast in growth which has persisted since at least the de-industrialisation period from the 1980s. But there are northern cities such as Bradford whose relative population stability or even growth may increase the risk of poverty due to it outstripping the growth in local job opportunities. In other cities, the brain drain loss of younger well-qualified migrants towards London in particular can entrench local disadvantage because residents with low skills are less able to move to opportunities elsewhere. These diverse patterns mean that no single measure of population change can consistently identify the cities experiencing the forms of decline likely to be associated with increased risk of poverty.

## Employment trends

According to the European Commission (2010), increasing employment rates are key to reducing poverty. For many of the 74 cities over the decade 2001–2011, there was a positive change in employment rates (see Table 2). Those cities with lower employment rates in 2001 experienced the faster increases, while the third of cities with the highest employment rates in 2001 had a near static average employment rate. More economically buoyant cities tended to see high net in-migration both from within the UK and from abroad, and this produced similar levels of growth on both the supply and demand sides of the labour market.

**Table 2: Average employment rates of cities classified by employment rate in 2001**

Cities classified by employment rate in 2001	% employment rate		
	2001	2011	change 2001-2011
Highest third	72.1%	72.0%	- 0.1%
Middle third	67.0%	67.5%	+ 0.5%
Lowest third	62.8%	64.4%	+ 1.6%

Source: Population Censuses 2001 and 2011. Crown copyright data

While helpful for poverty reduction, this convergence in employment rates only marginally reduced the gap between cities with higher and lower employment rates. Most of the cities with low growth in employment rates had high rates to start with, and they still had the highest rates in 2011, so their poverty risk level remained low. Their stable employment rates reflect strong net in-migration linked to job growth. This suggests that job trends could be a better indicator of relative city decline.

Recent job trends have seen dramatic shifts between two periods: significant growth in the decade before 2008, after which came the global financial crisis and recession followed by austerity and public sector cuts. Such divergent trends would be averaged out over the 2001–11 period used for much of the analysis in this study. Table 3 shows the main difference that remains, in which city size plays a key role. Job growth was fastest in London (the only five million-plus city) and, to a lesser extent, in the smallest cities, many of which are also in southern England.

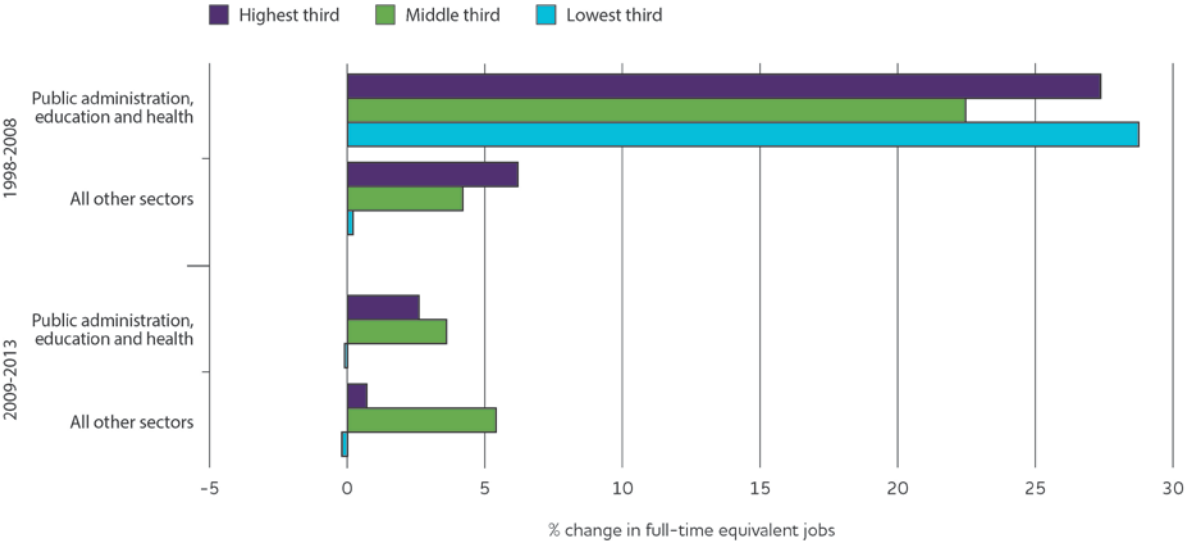
**Table 3: Change in total number of workplace jobs by city size category, 2001–2011**

Cities classified by urban size	% change 2001–2011
Greater than 5 million	17.7
Between 5 million and 500,000	8.2
Between 500,000 and 275,000	8.7
Between 275,000 and 150,000	9.3
Between 150,000 and 100,000	12.4

Source: Population Censuses 2001 and 2011. Crown copyright data

To unpack this pattern of employment change in greater detail it is necessary to look at the periods before and after the crisis of 2008, and separate the public services of public administration, education and health from all other sectors. Figure 5 provides the results using full-time equivalent job numbers to indicate the amount of paid work available and grouping the cities by their employment rates in 2001. The 1998–2008 period saw a rate of growth in public service jobs which made a major contribution to jobs growth in all three groups of cities, with little variation according to their relative need for more jobs, as implied by employment rates. Job growth in other sectors was virtually nil across the low employment rate cities over this period. Even the more successful higher employment rate cities only saw growth through this 'long boom' decade amount to just over 5 per cent across the sectors other than public services. This period was one of slight convergence and relatively little variation in the employment trends of cities and the patterns do not consistently identify relatively declining cities.

**Figure 5: Change in broad sector full-time equivalent jobs by city employment rate**



Sources: Annual Business Enquiry; Business Register and Employment Survey

The 2009–2013 period shows very different trends in the context of recession and public sector job cuts. The low employment rate cities have again seen virtually no change in job numbers outside the public service sectors. The same stagnation occurred in the high employment rate cities. This initial period of austerity has been having more impact on the low employment rate cities with an end to public service job growth, whereas the cities with less acute need for jobs still had some growth in the public services. Having said that, Figure 5 does show that the differences in these relatively short-term trends between whole categories of cities are not very large.

In general, it is clear that employment trends exhibit contrasting sub-periods, while public services have been more volatile than other sectors. The implication is that there is no single measure of employment trends which robustly identifies relatively declining cities. This conclusion is reinforced by looking at data for individual cities whose trends underlie the summary patterns in Figure 5. Table 4 lists the ten cities with the most positive and the most negative trends over each of the periods before and after 2008. Over the period 1998–2008, High Wycombe was one of the ten cities with the least positive results, while in the 2009–2013 period one of the worst trends was experienced by Exeter. It is notable that Exeter was also the city with the most positive trend in the earlier period. Such highly volatile trends are due to this dataset relying on sample surveys, making it less robust than data from the Census. This confirms the unreliability of the employment rate as the sole criteria for identifying relatively declining cities, while recognising its value as an indicator which generally provides the best available measure of one important aspect of decline.

**Table 4: Change in total full-time equivalent jobs, best and worst ten cities**

1998–2008 FTE	% change		2009–2013 FTE	% change
Exeter	31.8%		Cheltenham	12.6%
Milton Keynes	26.6%		Milton Keynes	9.5%
Northampton	24.5%		London	8.9%
Preston	21.9%		Chesterfield	7.1%
Eastbourne	20.3%		Mansfield	5.2%
Wakefield	20.1%		Barnsley	5.1%
Cambridge	18.6%		Coventry	4.8%
Cardiff	18.6%		Aberdeen	4.6%
Swansea	18.2%		Warrington	4.6%
Brighton	17.9%		Burnley	4.5%
<i>National total</i>	<i>8.7%</i>		<i>National total</i>	<i>1.9%</i>
Huddersfield	-0.3%		Wigan	-3.3%
Telford	-1.4%		Lincoln	-3.8%
High Wycombe	-2.3%		Grimsby	-3.8%
Chesterfield	-2.6%		Glasgow	-5.7%
Birkenhead	-3.3%		Blackpool	-5.8%
Blackburn	-3.4%		Dundee	-5.9%
Barnsley	-4.0%		Exeter	-7.1%
Swindon	-5.1%		Gloucester	-7.5%
Burnley	-8.8%		Swindon	-8.1%
Stoke	-9.3%		Rochdale	-8.8%

Sources: Annual Business Enquiry, ONS; Business Register and Employment Survey, ONS

## An index of relative decline

On their own, population and employment trends do not provide adequate single measures by which to identify the cities most affected by relative decline. The multi-faceted nature of relative city decline emphasises the need to bring several key indicators together in an overall index (see Figure 1), rather like the widely used Index of Multiple Deprivation (McLennan *et al.*, 2011). Such an approach provides a more analytically robust measure, drawing strength from several indicators. To produce the index in a transparent way, each indicator is transformed into a ranking, and the final index score for each city is then derived by adding together its indicator rank values. Choice of the indicators included in the index is the primary influence on the results. Indicators which on their own failed to identify UK cities in relative decline can still be key inputs to the overall measure of city decline.

Recent total population growth or decline remains a central concern. The earlier analyses of demographic change emphasised that much longer-term change continues to have an impact on cities, so a measure of relative population decline over a century is also included. The analysis above emphasises the importance to cities and their economic potential of the migration of younger people – particularly those with high skills who are the most mobile – so the index includes a measure of net flows by those in the age group most likely to graduate within the decade analysed. Finally, the analysis of the importance of skills in the workforce leads to the inclusion of an indicator with a direct focus on the proportion of the economically active age group with high qualifications. The four population indicators included in the index are:

- per cent change in total population 2001–2011;
- change in city size ranking position 1901–2001;
- estimated net in-migration rate 2001–2011 of those aged 15–19 as at 2001;
- percentage point change in the share of those aged 16–64 with a degree or higher qualification 2001–2011.

Given the importance of employment as key to poverty reduction, decline or low growth in the number of FTE jobs is a central concern, requiring a separate analysis of the pre-recession and subsequent periods. Drawing also upon the above analysis of employment rates, the following three employment indicators are included in the index:

- percentage point change in the level of employment rate 2001–2011;
- per cent change in full-time-equivalent jobs at local workplaces 1998–2008;
- per cent change in full-time-equivalent jobs at local workplaces 2009–2012.

Appendix 2 lists the data sources used for the indicators. Appendix 3 provides the ranking of all 74 cities on each of these 7 indicators. The final step in producing the Index of Relative Decline is to sum the rankings on the seven indicators for each city, and then rank the cities on this value. The city ranked number one has the highest score on the overall index. As a result, this index follows the convention of the Index of Multiple Deprivation: the areas of highest policy concern have the highest ranking on the index.

## Results of the index of relative decline

The focus of the analysis of the index of relative decline is on the third of the 74 cities whose scores put them top of the ranking. The *higher* the score on the index then the *stronger* the evidence that the city is experiencing relative decline. Table 5 lists the 12 cities scoring highest on the index, and the 12 with the next highest scores which make up the rest of the third of the cities at the top of the ranking. Map 3 shows the location of these 24 cities which on this evidence are experiencing signs of relative decline.

**Table 5: The 24 cities with the highest scores\* on the index of relative decline**

Highest 12 scores		Next 12 high scores	
1 Rochdale	7 Dundee	13 Nottingham	19 Liverpool
2 Burnley	8 Middlesbrough	14 Huddersfield	20 Newport
3 Bolton	9 Bradford	15 Sunderland	21 Sheffield
4 Blackburn	10 Blackpool	16 Glasgow	22 Barnsley
5 Hull	11 Stoke	17 Belfast	23 Telford
6 Grimsby	12 Wigan	18 Birkenhead	24 Birmingham

\* Where two cities had identical index scores, the ranking reflects the lower value on the key indicator '%-point change in level of employment rate 2001-2011'

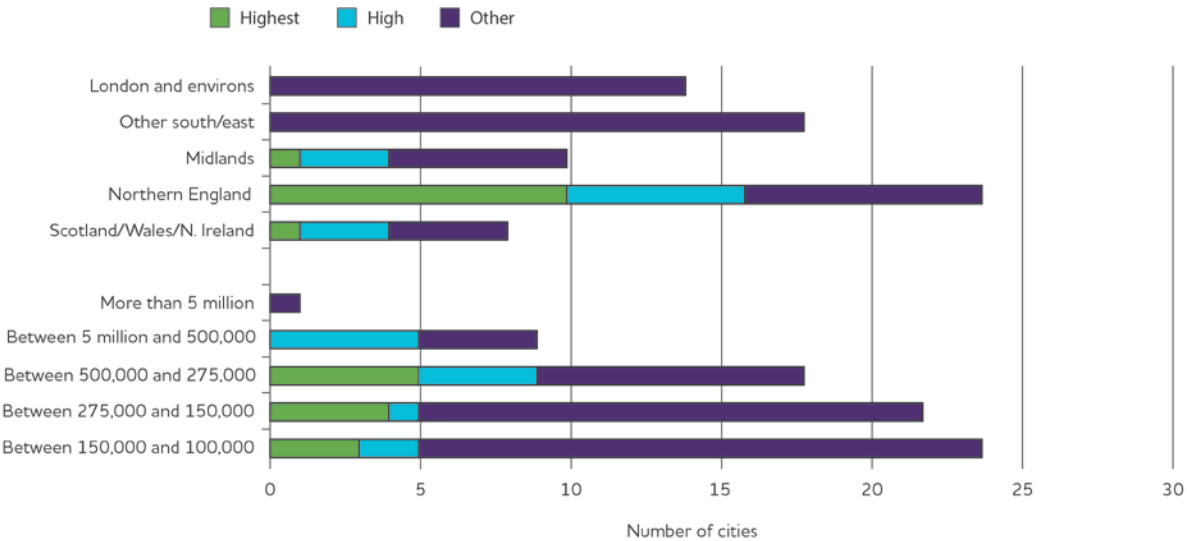
Source: Calculations based on datasets listed in Appendix 2

Each country of the UK includes at least one of these 24 relatively declining cities. There is a clear north/south contrast: none of the 32 cities in the southern regions of England are among the 24 cities of primary concern (see Figure 6). All but 2 of the highest ranked 12 cities are located in northern England. They account for over 40 per cent of all cities in this northern region, and this proportion reaches two-thirds when considering all 24 cities with high scores (see Figure 6). Looking at the top 24 rather than the top 12 cities on the index broadens the geographical coverage from northern England to

the Midlands, plus the other countries of the UK. Each of these broad regional categories had just one city among the highest scoring 12, but they become over-represented when the analysis is extended to the 24 cities with high scores.

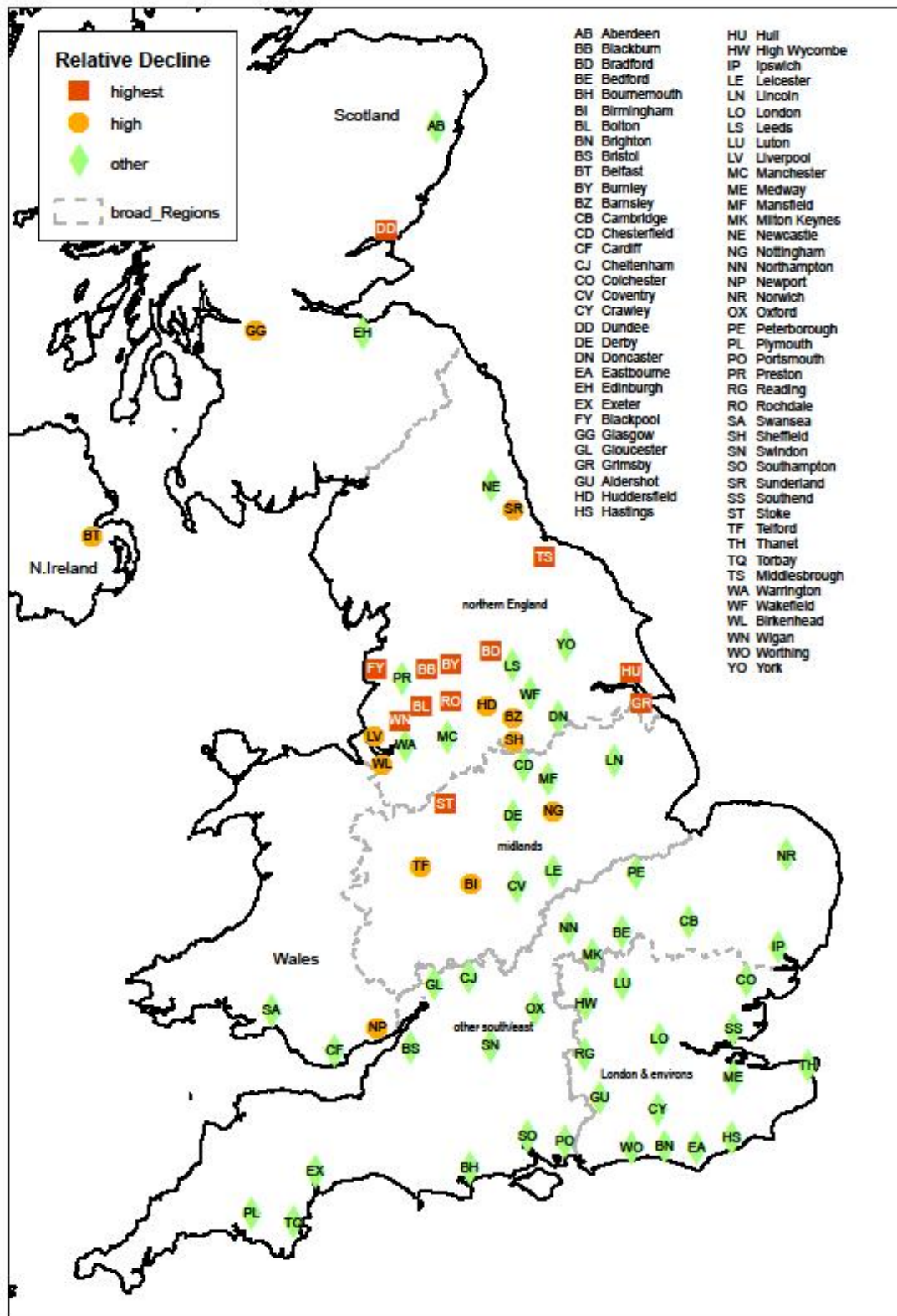
Setting aside London as the one case in the largest size category, smaller city size categories have lower proportions of cities among the third with high index scores (see Figure 6). Over half of the cities in the second largest size category have high index scores, but it is also noteworthy that *none* of them has a score placing them among the highest 12, perhaps due to recent urban renaissance trends being strongest in the largest cities. Many of the 12 cities which do have the highest scores are close neighbours of these large cities, including several near Manchester. In such city regions, the central city is performing better than some of its near neighbours.

**Figure 6: Distribution of cities on the index of relative decline by city category**



Source: Own calculations based on datasets listed in Appendix 2

Map 3: Results of the index of relative decline



Source: Own calculations



## Typology of relatively declining cities

Creating a typology of different kinds of relatively declining cities needs analysis of key differences between the 24 cities with high scores on the index of relative decline and this depends upon having identified the key factors in relation to city decline from the wider literature (see Appendix 4). For each such factor an appropriate measurement was identified, and then for each such measurement data for the 74 cities was compiled. This dataset provided the input to a statistical model to identify which factors were the most closely associated with higher or lower values on the index of relative decline (see Appendix 4).

The model results suggested the risk of recent relative decline was lower for cities with:

- more highly qualified people among its working age group;
- no nearby larger city attracting away service trade;
- faster rail access to London (representing the broader issue of peripherality);
- little history of dependence for work on mining/manufacturing.

The skill level of the workforce is a longstanding and widely accepted key factor (Moser and Scott, 1961). Highly skilled people tend to have higher incomes, creating positive economic multipliers and other job opportunities. The importance to cities of the migration patterns of more highly qualified people has been a recurring focus for this study.

Historical and geographical legacies are apparent here. History is most evident in the last factor, but it has also bequeathed a closely spaced urban system which leaves some cities overshadowed by a nearby larger city which has negative impacts on local services (McGough and Thomas, 2014). While being close to a larger city offers the potential benefit of access to a larger labour market, this is of limited benefit if the larger city can fill these jobs locally: few cities beyond London have surplus jobs needing lower skill commuters from nearby cities. The other geographical factor, journey time by rail to London, is used here as a proxy for more general peripherality and has no direct implications related to high-speed rail facilities. The legacy of de-industrialisation means that cities with little previous dependence on manufacturing and/or mining employment are less likely to now suffer relative city decline.

In using the results of the model, the key issue for the identification of city types relevant to policy targeting is whether some of the 24 declining cities have distinct strengths in terms of the four significant variables listed above. This can be tested by asking whether any of the 24 cities with high decline index scores ranked among the *best* 24 in terms of highly skilled labour force, speed of train access to London or lack of earlier dependence on heavy industry. Almost without exception the answers are negative, meaning that these three variables are not sufficient to differentiate between different types of relatively declining city (the exceptions are due to details of the indicators, such as the low measure for Blackpool on the indicator of historic dependency on heavy industry, which masks the city's dependence on what proved to be a similarly vulnerable tourist trade).

The remaining significant variable in the model is a 'yes/no' issue for cities: whether they are overshadowed by larger neighbours. Cities which are overshadowed have seen reductions in their higher-order services and their attractiveness as a result, a trend also noted as a major concern by the Commission for Underperforming Towns and Cities (2015). This is the one factor in the model to affect only some relatively declining cities, with their closeness to core cities putting them among the category Coombes *et al.* (1982) previously termed 'sub-dominant'.

The development of a typology is also informed by the recent international literature on declining cities. The most directly related study is Power *et al.* (2010) which identified recovery factors among 'weak market' cities in Europe that had experienced severe de-industrialisation. City size emerged as an important factor, with the ongoing concentration of services in main regional centres playing a role. Accordingly, the first type of relatively declining city identified is that of core cities which are the principal cities of conurbations and in some cases wider regions. Core cities host high-level services and anchor institutions which attract investment and people. As demonstrated above, these large cities had recently followed London in experiencing urban renaissance, and the index results echoed this by finding none of these core cities among the 12 cities with the highest relative decline scores.

### **Box 1: Core cities**

The 24 declining cities include several core cities but exclude three in northern England. Strong relative population decline over a lengthy period (see Map 2) may make it surprising that Manchester and particularly Newcastle are excluded. This partly reflects the role of such core cities as the principal cities not only of conurbations but also their wider regions. As a result, they host high-level service facilities, and both also hold strong attractions for students. Major education, health or other anchored institutions can support the renewal of cities where they are based, boosting the inflows and restraining the outflows of high-skill migrants while increasing demand for consumer services. Manchester and Newcastle have gained from such processes to a greater extent than other core cities outside the south including Sheffield and Liverpool.

The second type of relatively declining city is the overshadowed city with larger neighbouring cities and a reduced level of consumer services. Overshadowed cities persistently lose higher-level functions to their larger neighbours and this provides much of the extra growth opportunities enjoyed by those cities. The links that bind the core and the overshadowed cities together include strong net commuting flows towards the core cities.

### **Box 2: Over-shadowed cities**

The issue of overshadowing sees contrasting rates of growth in neighbouring cities. This can be charted over time in changing commuting patterns, as with neighbouring Preston and Blackburn (Lancashire) and Leeds and Bradford (West Yorkshire). Hall et al. (2001) showed that Leeds and Preston became service centres when better-paid jobs replaced those in old industries, while their slightly smaller neighbours struggled to make the transition from their old industrial base. The 1921 Census gives the earliest commuting data, revealing that the flow from Leeds to Bradford of 1,635 was larger than that in the opposite direction (847). Similarly the flow from service centre Preston to manufacturing-based Blackburn outnumbered that the other way. However, the decline in the manufacturing centres meant that even by 1951 flows from Leeds to Bradford and from Preston to Blackburn had fallen, while those from Bradford and Blackburn to their more successful neighbours nearly doubled. The 2011 Census reveals flows to strongly growing Leeds and Preston from their overshadowed neighbouring cities had become roughly twice as high as flows in the opposite direction, massively reversing the position of nearly a century earlier.

The third type of relatively declining cities covers those which are too small to be core cities, while also not being overshadowed. These freestanding cities are characteristically located some distance from the largest urban conurbations of the UK.

### **Box 3: Freestanding cities**

Middlesbrough (Teesside) and Grimsby are relatively freestanding cases among the 24 relatively declining cities. They are neither locally overshadowed nor core cities themselves, illustrating some features of a third declining city type. Both were in the city category Donnison and Soto (1980) highlighted because their relatively higher paying manual jobs fostered diverse benefits like social mobility. Since that analysis de-industrialisation has reduced skilled manual work, reducing demand for level 2 and 3 skills. Teesside grew rapidly in the 1960s and 1970s, but former growth industries declined as the children of earlier in-migrants entered the labour force. In this it was far from unique but – apart from Grimsby and Coventry – all the other cities among the 74 in this study which Donnison and Soto had been optimistic about were in the southern regions of England, where de-industrialisation in cities like Swindon occurred along with a diversification which has been largely absent in Middlesbrough and Grimsby.

Table 6 identifies which of the 24 relatively declining cities has the characteristics of each of the three types defined here, grouped by urban size. The key factor that differentiates between core and overshadowed cities is their level of local service provision. Overshadowed cities have lower level services than would be expected for their size due to the impact of larger cities nearby. There is one city – Stoke – which is less close to a large city, but it has the same characteristic of low service provision due to its distinctive industrial development history. The third category covers the freestanding cities whose service

provision is at the level expected for their size; they are all also freestanding in the sense that they are neither in nor near to a major urban conurbation.

**Table 6: Typology of the 24 relatively declining cities**

Urban population size ranges	Types of relatively declining cities		
	Core	Overshadowed	Freestanding
More than 5 million			
Between 5 million and 500,000	Glasgow Birmingham Liverpool Nottingham Sheffield		
Between 5 million and 275,000		Bradford Sunderland Birkenhead Stoke Huddersfield	Belfast Middlesbrough Hull Wigan
Between 275,000 and 150,000		Bolton Rochdale	Dundee Blackpool Barnsley
Between 150,000 and 100,000		Burnley Blackburn	Newport Telford Grimsby

The typology helps understanding of the different challenges faced by low-skill residents seeking employment, and so reducing their risk of poverty. Locally accessible work is especially important for the low-skill workforce because the jobs they are more likely to get would not pay enough to make longer distance commuting affordable (Champion *et al.*, 2009).

Core cities showed evidence of urban renaissance in recent years. Many of these cities also saw rapid growth in working students who form a flexible inner city labour force for low pay city centre jobs (Munro *et al.* 2009). As a result, low-skill local residents may not always benefit from core city growth in entry-level jobs.

The expansion of core city service sectors is partly at the cost of similar opportunities in the overshadowed cities nearby. Low-skill residents of such cities will see little local job growth, and commuting to the core city – with its competitive low-skill job market – may not be feasible given the low wages for low-skill work. This is why a low level of commuting from such overshadowed cities to nearby core cities is often the rational response to real-world constraints rather than due to limited travel horizons (compare with Beatty *et al.*, 2007).

The low-skill workforce in freestanding cities is likely to face a less complex labour market but also one with a narrower range of available jobs. Given the focus here on relatively declining cities, any growth in low-skill job opportunities will be at best sluggish, and the low employment rates in such cities means that the low-skill workforce faces continuing competition from those with slightly higher skills who are seeing a decline in the mid-range work they were previously doing (Goos and Manning, 2007).

## Differences between types of city

Focusing on the 24 cities scoring highest on the index of relative decline, the final stage of analysis in this section assesses their performance through a brief review of selected statistics. This uncovers important differences between the three types of relatively declining cities and the other cities.

Table 7 presents average values of the cities in each of the three types of relatively declining cities, and the 50 other cities analysed in this study. The first two variables reflect the importance of skill levels as an enduring and reinforcing factor behind divergent urban and regional trends. Starting with the situation in 2001, Table 7 shows the substantial gap in the proportion of the potential workforce with a degree between each of the three types of relatively declining cities and the 50 other cities – an average value across cities ranging from London to very different places like Hastings or Warrington – and each of the three declining city types. There is a stronger presence of higher skills in the core cities, but the differences between the three types are slight compared with the gap between them and other cities of the UK. The second set of values shows that through the decade following 2001 there was a strong increase in the proportion of all people in the labour force who have degrees. The differences between the four groups of cities are far less marked here, but the gaps between the relatively declining city types and the other cities has widened rather than narrowed, due to the growth in high skills being less where the 2001 skill levels were already lower.

**Table 7: Selected indicators for cities grouped by typology of relative decline**

	Average values for city groupings			
	Types of relatively declining cities			<i>Other 50</i>
	Core	Over-shadowed	Free-standing	
Proportion of the economically active age group with a degree 2001 (%)	17.1	16.0	15.7	<i>23.7</i>
Percentage point increase 2001–2011 in the economically active age group with a degree	8.1	7.8	8.3	<i>8.9</i>
2001–2011 estimated proportion of net in-migration of economically active age group (%)	3.9	1.5	3.1	<i>7.6</i>
1998–2008 change in number of workplace jobs (FTE) (%)	6.3	0.1	2.7	<i>9.9</i>
2009–2013 change in number of workplace jobs (FTE) (%)	-0.8	-0.8	-2.3	<i>3.8</i>
2011 employment rate (%)	63.9	64.6	66.4	<i>69.3</i>
UMBR 'poverty proxy' 2010 (%)	31.0	28.7	27.3	<i>21.8</i>

Source: Own calculations based on datasets listed in Appendix 2

Net in-migration rates of the working-age group are all positive due to the widespread effect of net international in-migration overlying the intra-UK net flows which tended to be away from declining cities. Migration can potentially reduce labour market mismatches through unemployed people moving to cities where jobs are unfilled, but severe hurdles limit labour mobility for people seeking the low -skilled jobs that are most likely to be open to the unemployed, particularly due to constraints posed by the UK housing market (Beatty *et al.*, 2007). This indicator reveals notable differences across the four types of cities, with lower levels of in-migration among relatively declining cities, particularly in the overshadowed cities which also saw the smallest increase in the skill level of the workforce.

The next two indicators from the index itself confirm the weaker employment trends of relatively declining cities, while demonstrating evidence of the core cities sharing in the urban renaissance of the early 2000s. There is a similar pattern of higher and lower values in employment trends from 1998–2008 to that shown by the preceding indicator on workforce migration over the decade. The evidence is that migration is not rebalancing labour market inequality but tends to reinforce it by generally echoing

the redistribution of job opportunities. In contrast to growth in the other cities, relatively declining cities experienced a decline in employment in 2009–2013, with the freestanding cities seeing the largest fall. Despite the slight convergence in employment rates over 2001–2011, the declining cities still lagged other cities on this key measure in 2011.

The gap between labour market conditions is likely to be understated by the differences in employment rates, because where jobs are scarcer they are also very often mostly insecure and low paid (Shildrick *et al.*, 2010). For people in low employment rate cities seeking work, there is also the growing impact of austerity on the public sector jobs which had provided some growth in the early 2000s. All these factors combine to increase the risk of poverty. Lee *et al.* (2014) adopted a 'proxy' measure of poverty, the Unadjusted Means-tested Benefits Rate (UMBR), which provides an objective check on whether the analyses have succeeded in identifying types of city whose relative decline is linked to higher poverty risk. The last line of Table 7 gives these values, which confirm the effectiveness of the analyses here in meeting that objective. It shows significantly higher rates of poverty in declining cities, with the core cities having the largest proportion of households claiming means-tested benefits.

## Summary

This section has provided a wide-ranging analysis of the scale and nature of city decline in the UK. Its findings include key points on population and employment trends:

- few if any cities are seeing absolute population loss, but growth in many northern cities is lagging behind national levels;
- the major change in recent demographic shifts has been the strong net inflow of migration from abroad, boosting an urban renaissance led by London;
- young adult migration centres on London especially but is southward generally as it fuels a high skills gap between cities;
- there was a general increase in employment rates, with some convergence as rates rose in 2001–2011 more quickly in cities where they had been low;
- faster job growth in 2001–2011 was seen in London and to a lesser extent the smallest cities which are predominantly in southern England;
- there is a dramatic contrast between trends in the sub-periods before and after the 2008 global crisis, with public service job trends changing most;
- low employment rate cities saw a steeper decline in public service job growth, but the differences between city types were relatively slight.

Drawing upon the analyses of the scale and nature of city decline in the UK, this section developed a typology of relatively declining cities to identify appropriate policies for distinctive types of city. This was achieved through three steps that break new ground in this research field:

- a new definition of 74 cities covers the local labour markets of urban areas in the UK with populations over 100,000;
- an innovative index of relative decline reflects the multi-faceted nature of city decline that leads to raised levels of poverty. This index was used to identify the 24 cities with the highest levels of relative decline. Regional contrasts were marked with 10 of the highest scoring cities located in the north of England. While the next group of 12 high-scoring cities includes three in the Midlands and one in each of the other three countries of the UK, no city in southern England is among the 24 relatively declining cities;
- a policy-relevant typology of relatively declining cities in the UK is informed by a statistical model of the factors most associated with relative decline in the international literature on declining cities. City size and overshadowing as measured by the reduced presence of consumer services were the key factors that differentiate between the 24 relatively declining cities. This is the basis for the identification of core cities, overshadowed cities and freestanding cities as the three types.

# 3 Responding to city decline: the international and UK evidence

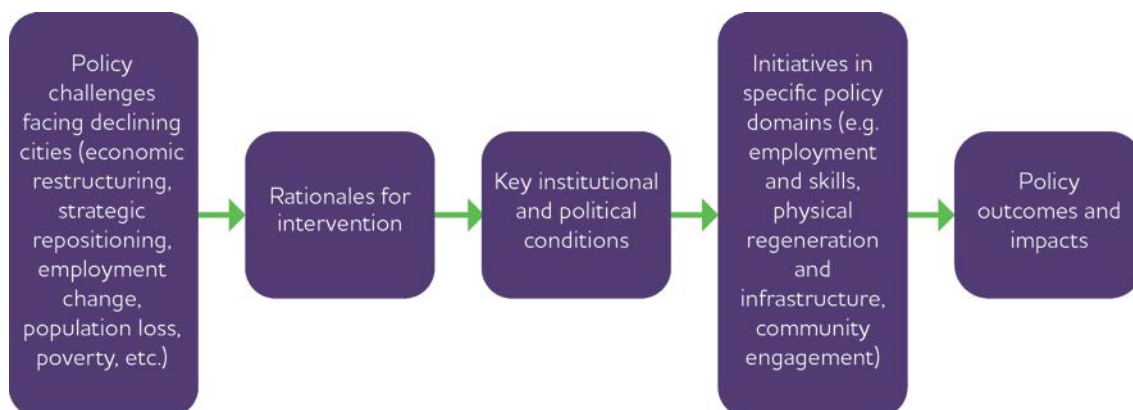
This section explains the review methodology and identifies and assesses the main policy approaches to city decline by reviewing the findings from the academic, grey and policy literatures. The review of international policy responses concentrated on declining cities in Europe and the US where decline was often absolute, but driven by similar processes to those in the UK. This section:

- identifies and discusses the main policy responses to city decline in Europe and the US;
- highlights several key themes and implications from the international and UK literature;
- reviews available evidence on the effectiveness of different approaches and initiatives.

The reviewed material is organised according to a framework that views city recovery strategies as responses to the challenges facing declining cities (both absolute and relative) (Figure 3.1). These challenges include economic restructuring and the need for strategic repositioning to develop new economic functions and roles, employment change, population loss, poverty, the often limited availability of public funding and the need for civic engagement and community involvement (Hospers 2014; Power *et al.* 2010; Schlappa and Neill 2013).

Policy-makers' assessments of the challenges facing declining cities generate particular rationales for intervention which inform specific policy responses and initiatives. The formulation and implementation of these initiatives is, in turn, dependent upon the development of certain institutional and political conditions and attributes, particularly strategic leadership and effective governance which emerged as key themes from the review (Figure 7). Such leadership and governance underpin and inform the development of initiatives in specific policy domains. Here, the analysis concentrates on employment and skills, physical regeneration and infrastructure and community engagement, which have been prioritised in city recovery strategies internationally, and reflect the objectives of this report. Finally, this section summarises the evidence on the outcomes and impacts of selected policy measures in these domains.

**Figure 7: Framework for analysis of city recovery strategies**



## Literature review method

Based upon the principles of systematic review (Bambra, 2011), a comprehensive search used electronic databases (e.g. Google Scholar, Scopus and Web of Science). The broad definition of policy here contrasts with the narrower policy impact type of systematic review based solely on quantitative evaluation evidence and exacting selection criteria (e.g. What Works Centre for Local Economic Growth, 2013). Focusing on urban decline, Boolean keywords and combinations of key terms (e.g. 'declining

cities', 'shrinking cities', 'urban shrinkage') were used to find relevant outputs. This electronic search was then supplemented by complementary methods including sense checking, reference follow-up and organisational searches. This activity resulted in a total of 583 entries. This 'global' list was then reviewed and refined through the removal of duplicates, false positives and the grading of outputs according to their relevance. The 526 outputs were assigned a priority (high, medium or low), in relation to the following criteria:

- covering policy responses to city decline in Europe or the US;
- published after 2003 and focused on specific policy programmes or initiatives;
- offering analysis of both policy responses and the shaping circumstances.

This process yielded 195 high priority outputs which were summarised and coded with key characteristics entered onto the review database. Concurrently, non-English language material was scrutinised by the international project team members, producing a further 43 outputs. Analysis of the different policy approaches is organised around the main themes evident in the literature.

## City recovery strategies and initiatives

Three main types of urban recovery strategy can be identified: inaction; trying to counter decline and stimulate growth; and more radical approaches involving the acceptance and management of decline (Rink *et al.*, 2012). While combinations between them may be possible, here the focus is largely upon the second approach which is most relevant to cities facing relative decline and low growth in the UK. This section makes some reference to the 'smart shrinkage' initiatives designed to manage decline that have been introduced in a few cities recently (Hospers, 2014), particularly in the strategic positioning section below, and in terms of drawing out broad implications for UK cities.

## Rationales and targets for intervention

The rationales and targets for policy intervention are shaped by the explanation and diagnosis of city decline and typically incorporate people- and place-based approaches (Table 8). Addressing high levels of unemployment and poverty is often prioritised, generating initiatives to promote new businesses as well as local training and welfare-to-work schemes. City centres and downtown areas are major targets for intervention, particularly through various forms of property-led regeneration (Power *et al.*, 2010).

The neighbourhood level is a key target of policy, and two contrasting approaches can be identified, representing a key dilemma confronting policy-makers. The first is to focus resources on the most disadvantaged areas through area-based initiatives, as in many European countries and the UK before 2010 (Leunig and Swaffield, 2008). The other strategy directs resources towards intermediate areas offering more potential for growth (Lawless, 2011). This approach was a feature of property-led regeneration in the UK in the late 1980s and 1990s and is particularly apparent in the US, reflecting pressures of limited resources in the face of large-scale abandonment and the key role of private funding (Thompson, 2013). The same dilemma has been identified at the city level in recent years, particularly in the US and UK, prompting some commentators and policy-makers to argue that policy should focus on the largest cities with the strongest growth prospects (City Growth Commission, 2014; Glaeser and Gottlieb, 2008).

High vacancy rates and low house prices represent another key set of rationales for intervention. Indeed, this highly visible manifestation of city decline has resulted in large-scale national programmes in several countries (e.g. Housing Market Renewal Pathfinders in England and the *Stadtumbau Ost* initiative in Germany). This issue was given additional impetus by the mortgage foreclosure crisis in the US from 2008, prompting the introduction of the federal Neighbourhood Stabilisation Programme as well as local land bank initiatives (where land banks are defined as public entities specialising in converting abandoned and vacant properties back into use). By 2011, there were 79 operating land banks in the US (Hackworth, 2014).

**Table 8: Selected rationales and targets for intervention**

Types	Examples
Job creation and poverty reduction	New start-up programme (Bremen)
	Cluster development (Bochum, Leipzig)
	Southside Empowerment Zone (Chicago)
	Work and Development Centres (Malmo)
	Clauses d'insertion in construction and funding contracts (Roubaix)
Neighbourhood disadvantage and geographical targeting	Programme for Deprived Neighbourhoods (Bremen)
	New Deal for Communities (England)
	Healthy Neighbourhoods Initiative (Baltimore)
City centre renewal and upgrading	Culture-led regeneration (Bilbao)
	Waterfront regeneration (Pittsburgh)
	Revitalisation strategy (St. Etienne)
High vacancy rates and low house prices	Detroit Land Bank Authority (Detroit)
	Housing Market Renewal Pathfinder (England)
	Stadtumbau Ost (East Germany)
Foreclosure (home repossessions by lenders)	Neighbourhood Stabilisation Programme (US)
	Hardest Hit Fund (US)
	Land Banks (US)

Source: Authors' research

## Leadership and strategic repositioning

Place-transforming leadership typically involves the articulation of a clear vision and a strong commitment to realise that vision (Southern, 2011). In the context of city decline, leadership and strategic positioning has four key aspects. First is the recognition of decline, diagnosis of its specific nature (absolute or relative) and identification of the most pressing associated challenges facing the city. Second is the formulation of a vision for the city, often based upon a rethinking of its economic function and strategic repositioning towards a different role. Third is the development of a long-term strategic plan and tailored programme of policy initiatives to make the desired changes. Fourth, the transformative leadership of places requires the engagement, mobilisation and co-ordination of a range of groups from the public, private and civic sectors, including local communities, alongside the support of national and regional governments and leading private sector businesses.

The challenge of strategic repositioning has been particularly acute for industrial cities hit by de-industrialisation from the 1970s and 1980s. Spurred by the recognition of decline, city governments developed strategic responses that sought to counter decline by attracting new forms of investment in strategic growth sectors and redeveloping the urban landscape, not least through 'flagship' projects (Power et al., 2010). Lille, for example, benefitted substantially from sustained political leadership from mayors Pierre Mauroy (1973 –2001) and Martine Aubry (2001 –), feeding into a number of flagship initiatives including the Eurostar station and associated Euraille renewal area (Kuklowsky and Provan, 2011). More recently, the Ruhr city of Bottrop has sought to re-position itself in the emerging 'green economy' through a new vision of energy-efficient innovation (see Box 4).



#### **Box 4: Leadership and strategic re-positioning: Innovation City Ruhr, Model City Bottrop (North Rhine-Westphalia, Germany)**

The Innovation City Ruhr project was developed by the Ruhr Initiative Group or *Initiativkreis Ruhr (IR)*, an association founded in 1989 of 64 leading international companies with a strong regional presence, including manufacturers, consultancies, banks and a leading football club. The aim was to support the Ruhr to overcome its economic crisis as part of their corporate social responsibility activities. Businesses are represented by their leading managers in the region. During the last 25 years, the IR has sponsored a wide range of Ruhr related projects, including an energy related initiative from 2010 called Innovation City Ruhr. In a multi-stage selection process, the city of Bottrop became the model city for this initiative.

The initiative aims to energy-efficiently rebuild the declining former industrial city of Bottrop. The city has a population of around 70,000 people and 14,000 buildings. Focusing on energy innovation, Bottrop is being used as a model city for the Ruhr to develop innovative ideas and concepts of how Ruhr cities can cope with climate and structural change and enhance the quality of life for their citizens. Aims include cutting CO<sub>2</sub> emissions by 50 per cent by 2020. The initiative is expected to mobilise more than 1 billion Euros of investment from regional enterprises and EU, federal and land policy programmes.

Since 2010, more than 200 projects have been started. Innovation City Management GmbH integrates the stakeholder groups, promotes new partnerships and offers expertise in minimising the impacts on climate change of city development to other places and companies. The citizens of Bottrop were engaged with the ideas and visions for the future of the city to build a strong foundation of citizen involvement for the climate change-proofed urban redevelopment masterplan. More than 300 individual suggestions were collected from six citizen and planning workshops across the city.

The Centre for Information and Consultation (*Zentrum für Information und Beratung: ZIB*) was created as the central contact point. Apart from consultancy opportunities, interested parties can also visit the 'climatic protection marketplace' where specialist companies present their innovative products and solutions. Energy consultants of the ZIB and its partner networks demonstrate restoration possibilities and provide information and assistance. A detailed dataset on the local infrastructure is being generated from consultations, interviews, and the analysis of energy consumption data, feeding into the development of individual concepts and refurbishment proposals.

Apart from the energy-related goals of the initiative and its impacts on reducing fuel poverty, the integrative and systemic approach is at the core of potential learning. While such approaches to renovation are being used by local authorities in the UK, the Innovation City Ruhr provides lessons in connecting such initiatives to a long-term strategic plan as well as engaging local people, businesses and property owners in sustainable transition and renovation.

In recent years, leadership and strategic repositioning has become associated with strategies to manage and steer decline: so-called 'smart shrinkage' or 'rightsizing' (Rink *et al.*, 2012). Rather than passively accepting decline, such strategies seek to harness and manage it to enhance quality of life for the remaining population (Hospers, 2014). Approaches typically involve the demolition of vacant properties and various 'greening' projects. Youngstown has pioneered 'rightsizing' in the US through its much-heralded 'Youngstown 2010 Strategy' developed through a collaborative planning process between the City of Youngstown and Youngstown State University. Elements of this approach have subsequently been adopted by cities such as Cleveland and Buffalo. Several east German cities such as Dresden, Magdeburg and Halle have also adopted strategies stressing compact development and population stability rather than growth (Zingale and Riemann, 2012).

While such 'smart shrinkage' strategies are generally designed to address problems of absolute city decline not found in the UK, they do nonetheless have some broad implications for relatively declining cities in the UK. First, there is a need to develop a clear shared vision of the future of the city in question, based upon collaborative planning and civic engagement. Second, this should be based on a realistic appraisal of the economic assets, role and prospects of the city. Third, UK cities can also learn from the increased emphasis on community participation evident in many 'smart shrinkage' strategies, actively involving local residents in the improvement of their neighbourhoods.

## Governance and institutional structures

Local governments are lead actors in formulating city recovery strategies within the context of national and sub-national policy frameworks. While German, French and US cities have greater decentralised powers and resources than UK cities (Slack and Côté, 2014), their effectiveness in addressing structural problems of decline depends on the exercise of powers and deployment of resources by local institutions. In more decentralised systems, the role of elected mayors has often been important in providing strategic leadership, negotiation with partners and engaging businesses and community groups.

Relations between city authorities and regional and national government are important in supporting and resourcing city recovery strategies. The benefits of greater city–regional co-operation are apparent in a number of European cases including Bilbao, Bremen and Lower Saxony Länder, Leipzig and Roubaix/Lille. The role of national government in addressing city decline is most evident through large integrated urban renewal programmes such as *Stadtumbau Ost* in Germany and the Neighbourhood Stabilisation Programme in the US.

Partnerships between public and private sectors are common, reflecting the need for integrated approaches to mobilise a range of actors. Three main institutional innovations can be identified. First is the establishment of specialist arm's length agencies by local or regional government, for example Bilbao Ría 2000, Detroit Land Bank Authority and STU (Società di Trasformazione Urbana), Taranto. Second is the development of institutional capacity for research, strategy and planning. Universities, specialised research institutes (e.g. Bremen Economic Research Institute and Cleveland Land Lab) and consultants play an important role in providing analytical capacity to inform the development of city recovery strategies and initiatives. Third, the involvement of a wider range of actors, particularly business and community groups, is evident in prominent responses to city decline including Youngstown, Cleveland, Leipzig and Genoa. Anchor institutions such as universities and hospitals ('eds and meds') as well as large private sector employers, play a significant broader role, providing employment, investment and assets for recovery. In particular, universities have played an important part in supporting economic recovery through the growth of knowledge-economy jobs and student numbers (see Box 5).

### **Box 5: Creating an anchor institution: establishment of a new university campus, Lincoln**

The city of Lincoln in England experienced a period of stagnation leading up to the 1990s, in particular losing higher order services to larger neighbours including Nottingham. Lincoln was a city without its own university. Major local employer GEC Alstom (now Siemens) was considering leaving the area due to difficulties in attracting good quality graduate engineers. In the early 1990s, the city and county councils and local businesses sought to attract a university. An investment of £32 million was made bringing together the parcels of land on which to build the new university campus. The site was marketed to universities as a potential satellite location. The initial investment was secured from two universities, De Montfort and Humberside.

Humberside University initially seconded staff to the new campus. The ability of the historic city to attract high calibre staff and students led Humberside University to incrementally expand the Lincoln campus. Eventually it relocated altogether from Hull and rebranded as the University of Lincoln. De Montfort University's Lincoln satellite proved less successful. In 2001, the De Montfort University Lincoln campus was transferred to the University of Lincoln.

In a city of 95,000, the University now has around 13,000 students and 1,350 staff. It has invested more than £150 million in its city centre campus, including the UK's first purpose-built engineering school in 25 years developed in collaboration with Siemens. Such investment has attracted further city centre investment from the retail, leisure and property sectors. In terms of wider impact, the University of Lincoln estimates it has created more than 3,000 new jobs and been worth more than £250 million to the local economy.

The local authority and partners' plan was to attract one or more expanding university satellites. Instead, the University of Lincoln has become a significant independent university and anchor institution. The local authorities helped secure an attractive regeneration site and funding to pump prime the new campus. Close working between the local authority and leading local employers – especially Siemens – helped attract further public and private investment. The attraction and development of an anchor institution such as a medium-sized university generated significant positive effects on the economic performance and prosperity of a freestanding city in confronting decline.

## **Employment and skills**

Measures to increase employment and skills are a key element of recovery strategies in declining cities, particularly through supply-side measures to enhance employability. At the pre-employment stage of the employment pathway, these involve basic skills training, often focusing on young people and the unemployed, alongside a range of information, advice and guidance and other support services including mentoring (Green et al., 2015). At the employment entry and in-work stages this tends to give way to a greater emphasis on vocational skills, job specific training and workplace learning (Green et al., 2015). Evidence indicates that the personalisation of information, advice and guidance to meet individual client needs can deliver better outcomes, alongside the use of labour market data to match clients to available openings, outreach through trusted advisors to engage those furthest from the labour market, and integration with related services including health, housing and financial support (Hirst, 2011). While such interventions often increase access to employment for individuals, evaluations indicate that this rarely translates into marked aggregate improvements at the neighbourhood scale (Crisp et al., 2014).

Employer engagement is a key theme of recent policy to align training, job preparation and job placement with business needs, and potentially changing recruitment practices to increase opportunities for people from disadvantaged backgrounds (Green et al., 2015). This approach is particularly well developed and effective in the US where many initiatives are sector-focused, seeking to integrate pre-employment services with local economic development by identifying key sectors (see Box 6).

### **Box 6: A sectoral employment initiative: The Wisconsin Regional Training Partnership**

The Wisconsin Regional Training Partnership (WRTP) is a non-profit, sectoral employment training programme formed in Milwaukee in 1992. Like many other cities in the Midwest of the US, Milwaukee was devastated by de-industrialisation in the 1980s, losing a third of its industrial base (Bernhardt et al., 2004). As manufacturing firms recovered in the early 1990s, a growing skills shortage became apparent, leading to the establishment of WRTP as a partnership between the city government, business and trades unions.

As a labour market intermediary, WRTP provides three core services: pre-employment training, manufacturing modernisation and worker training (Vidal, 2009). It adopts a sectoral approach, focusing initially on manufacturing, but subsequently moving into construction and healthcare. Since 2001, WRTP has worked closely with the Building Industry Group Skilled Trades Employment, becoming known collectively as WRTP/BIG STEP. Its model is 'employer driven, worker centred', operating within a membership-based organisational structure (Maguire et al., 2010). Crucially, the WRTP has followed a 'high road' strategy of modernisation and upskilling that actively targets high-wage, family-supporting jobs and career paths. 'High road' economic development strategies focus on the promotion and upgrading of economic activities to create the virtuous circle of higher skills, productivity, wages, growth and investment.

Between 1992 and 2009, WRTP placed more than 4,000 Milwaukee residents into family supporting jobs, with average annual earnings raised by 165 per cent in the first year of the job and a 12-month retention rate of over 70 per cent (Vidal, 2009). Along with initiatives in Boston and New York, WRTP was evaluated by the Sectoral Employment Impact Study. This highlighted a number of successful programme outcomes, with participants:

- earning significantly more than their control group counterparts, largely as a result of working more hours and earning higher wages;
- significantly more likely to work in jobs that paid higher hourly wages;
- significantly more likely to be offered benefits and hold union jobs than control group members.

(Maguire *et al.*, 2010)

The combination of the flagship pre-employment training programme with company modernisation and the training of existing workers in the WRTP-BIG STEP model stands in stark contrast to the separation in the UK between employee training and support for the unemployed. The sectoral focus and membership base enables jobseekers to be placed in accordance with employers' demands for particular skills. The 'high road' model is of particular relevance to UK cities with substantial manufacturing and construction sectors confronting relative decline, given its capacity to increase earnings, tackle poverty and engage marginalised young people (Cumbers et al., 2009).

Many active labour market initiatives are targeted on particular groups, usually defined on the basis of benefit receipt or area-based measures. For example, the 'Perspective 50plus' programme in Germany requires local and regional actors to form regional employment pacts to develop instruments for the re-integration of long-term unemployed workers above the age of 50 (Aster and Heurmann, 2013).

Between 2005 and 2011, the programme activated more than 580,000 older workers with more than 160,000 of these helped into regular employment. Unemployed young people are another common target group. Local government and other actors in the declining Dutch city of Heerlen, for example, launched an action plan for youth unemployment in 2009 (Gemeente Heerlen, 2015). The three main activities were: a youth office to provide advice; supporting young people to stay on in school or search for work; and a so-called 'boostcamp' organised by eight entrepreneurs to prepare participants for the labour market. From 2009 to 2015 almost 12,000 local young people were involved in these activities, leading to concrete results for 7,393, while the number of unemployed young people in Heerlen decreased from 3,000 in 2009 to 2,198 in 2012 (Gemeente Heerlen, 2015).

Sissons and Jones (2014, pp.14) draw out a number of key themes from the international literature on skills policy, including: granting a key role to employers; meeting and shaping the demand for skills; ensuring the support and commitment of major stakeholders; integrating policy areas, particularly education and skills with economic development; maximising the use of incentives such as training levies

and government subsidies; and harnessing the power of the public sector; for example as an employer and procurer of goods and services. While employer involvement is a central component of a more demand-oriented approach, tensions can sometimes arise between poverty reduction and business engagement objectives. An analysis of Chicago's sectoral workforce centres, for example, found some evidence of centre staff 'creaming' the better workers from the pool of jobseekers regardless of whether they were from disadvantaged groups (Schrock, 2013).

The challenge of developing more integrated skills policies is often particularly acute for relatively declining cities, many of which are characterised by a low supply of and low demand for skills (Green, 2012). Local skills-based strategies are starting to address these issues with City Deals in England, for instance, offering combinations of local authorities increased powers to enable them to tailor provision to local needs (City Growth Commission, 2014). The Sheffield City Deal, for example, aims to create a demand-led skills system through the creation of an additional 4,000 apprenticeships and the training of 2,000 employees (Sheffield City Region, 2012). While representing a welcome step towards a more localised and integrated approach, the City Deal seeks only to meet the local demand for skills, rather than increase demand, despite evidence of the under-use of skills in the workplace and weak employer demand (Sissons and Jones, 2014).

A tension also exists between such place-based strategies and more people-oriented approaches that aim to support individuals in disadvantaged areas to access economic opportunities in more buoyant local economies through skills and transport initiatives (Green, 2012; Overman, 2011). For example, WorkWise schemes in the UK provide unemployed people in disadvantaged areas with help to overcome transport barriers to employment, coupled with personalised transport planning (Green *et al.*, 2015). A review of such initiatives identified three broad lessons: policy should focus on the needs of different individuals and places; integrating existing services and helping individuals to use them can be effective in linking people to jobs; and transport schemes should work alongside initiatives in related policy areas such as employment support and planning (Clayton *et al.*, 2011).

Finally, cities have sought to address low wages and in-work poverty through the introduction of living wage ordinances. This movement has been led by the US where a living wage had been adopted by 77 cities of more than 25,000 people by 2006, including Baltimore, Detroit and Buffalo (Swarts and Vasi, 2011), with a wave of renewed growth over the past three years. Research on the effects of the living wage in the US reveals evidence of increased wages at the bottom of the income distribution, leading to modest reductions in poverty (Neumark *et al.*, 2012).

## Physical regeneration and infrastructure

One of the most widespread international policy responses to city decline is the introduction of physical regeneration initiatives, typically focused on city centres or disadvantaged neighbourhoods (Lawless, 2011). The experience of declining cities indicates that different kinds of investment instruments have been deployed in the different stages of the regeneration process. In the early stages, investment is aimed at remediation, publicly funded and focused on addressing market failures in land markets, for example by reclaiming former industrial sites or demolishing abandoned housing through national and federal urban renewal programmes and/or municipal and local initiatives (see Table 9) (Leather *et al.*, 2012). Flexibilities and temporary arrangements in planning and land use regulations have both stimulated private investment in vacant sites and allowed community use if such investment is not forthcoming (Rink *et al.*, 2012).

The next regeneration stage is focused on market creation and stimulation and often seeks to involve private investment, for example pulling together fragmented land parcels with multiple owners into single sites and ownership structures, and providing gap funding to engage private developers and prepare sites for market sale (Hackworth, 2014). New and reformed funding and financing tools such as Tax Increment Financing (TIFs) have been used at this stage to benefit from, and borrow against, increases in land values following initial public investments (see Box 7). As such, funding is increasingly investment-led rather than grant-based, moving beyond established approaches towards newer and innovative mechanisms and practices (O'Brien and Pike, 2015).

The introduction of these new mechanisms overlaps with more established growth enhancing investments, for example city centre-led economic development, special economic zones and supporting

anchor institutions (see Box 5). In the US, private sector actors and foundations play a much greater role in regeneration initiatives (Thompson, 2013). In France, the regeneration of disadvantaged neighbourhoods is supported by contractual agreements between local and regional authorities and the central state (Table 9). Such integration tends to be provided at the municipal scale in Germany and Italy.

**Table 9: Types of investment frameworks and instruments**

Types of investment frameworks	Examples
Support for vacant lot re-use	Vacant property reclamation (Blueprint Buffalo and Living Lab for Vacant Property Reclamation)
	Multiple land use zoning (Vacant and Abandoned Properties Action Council, Cleveland)
	Planning regulations (Detroit)
National and federal urban renewal programmes	<i>Stadtumbau Ost</i> and <i>Stadtumbau West</i> and the Social City (Germany)
	National Programme for the Regeneration of Old Decayed Districts (France)
	Neighbourhood Stabilisation Programme (US)
Interim use	Temporary use contracts ( <i>Gestattungs-vertrag</i> ) (Leipzig) Blueprint Buffalo (Buffalo)
New and reformed funding and financing tools	Revolving infrastructure funds (Liverpool)
	Tax increment financing (Chicago, Atlanta)
	Spatially targeted tax exemptions and reductions (IBA, Ruhr)
Special economic zones	Empowerment zones (US)
	Special economic zones (Walbrzych)
	Free-tax zones (France)
Role and financing of/by public, private and voluntary sectors	Community development corporations (Cleveland, Detroit)
	Private foundations (Baltimore, Youngstown)
	<i>Contrats de plan état-région, contrats de ville and contrats d'agglomération</i> , France
Municipal and/or local initiatives	Special Investment Programme (Bremen)
	STEP ( <i>Stadtentwicklungsplan</i> ) and INSEK ( <i>Integratives Stadtentwicklungskonzept</i> ) (Leipzig)
	Salinella neighbourhood contract (Taranto)

### **Box 7: Funding regeneration through Tax Increment Financing in a blighted residential area: the Westside Tax Allocation District (Atlanta, Georgia, US)**

The Westside Tax Allocation District (TAD) was established in 1992 to address blight across the Westside of Atlanta through redevelopment projects funded by Tax Increment Financing (TIF). While the population of Atlanta has grown since 1990 after a period of decline in the 1970s and 1980s, the Westside TAD is an example of the use of TIF to stabilise a declining residential area characterised by entrenched poverty, abandonment and disinvestment (City of Atlanta, 1998).

As a funding model, the Westside TAD has been highly effective. Around 1,080 housing units have been built, along with four hotels, 300,000 square foot of retail space, and 500,000 square foot of office space (City of Atlanta, 2012). Training and job creation opportunities for local people have been connected to the construction activity. Over \$116 million of TAD funds have been invested in the Westside TAD, leveraging an estimated \$926 million investment in new development (InvestAtlanta, 2013).

As a programme of urban regeneration, however, 'this investment has not had a significant impact on the revitalization of the area' (InvestAtlanta, 2013, pp. 14). The Westside still suffers from major economic and social challenges with the neighbourhoods of Vine City and English Avenue, for example, remaining particularly disadvantaged. The Westside TAD illustrates that even with significant levels of public and private capital investment over a sustained period, major problems can persist.

Despite these limitations, the Westside TAD demonstrates that this kind of TIF can channel investment into a residential area of high deprivation more severe than found in the UK, where recent TIF schemes have focused on areas with commercial growth potential. This case demonstrates that TIF can be aligned strategically with a broader range of regeneration goals rather than just focusing on supporting new business developments in city centres with limited spillovers to declining urban neighbourhoods. Adaptation to the UK context would need greater fiscal decentralisation, alongside institutional innovation to enable local government to hedge against the risks involved in borrowing against future increases in tax revenue in disadvantaged areas (e.g. special purpose vehicles, development agencies).

Investment in infrastructure has been important for regeneration in declining cities internationally, particularly transport infrastructure to provide increased connectivity and generate new investment (Savitch, 2011). Improved links between neighbouring cities encourage their economies to be more complementary and attract new residents and investment. St. Etienne, for example, has developed more frequent train connections with Lyon (Ollivier-Tragalo and Barone, 2011), and the Sheffield City Deal includes provision to construct a new tramline to Rotherham (Sheffield City Region, 2012).

## **Community engagement**

In the context of increasing public sector austerity and the withdrawal of private investment from many declining cities, a key component for city recovery strategies is community engagement and empowerment (Haase *et al.*, 2012). Community engagement is critical democratically in giving communities and citizens a voice, and pragmatically in engaging the resources of urban communities, especially their detailed knowledge of the problems facing their neighbourhoods. Community engagement is often more effective when connecting bottom-up and top-down initiatives in a positive two-way interaction.

Many declining cities have recently been trying to initiate greater community engagement and participation. In Altena, an old industrial city in Western Germany with one of the highest rates of absolute population decline in Europe, an entrepreneurial mayor has stimulated a new vision for the city by emphasising the reality of shrinkage and focusing on using existing resources to improve the quality of life for the remaining population (Schlappa and Neill, 2013). This generated extensive public debate through two-years of research and consultation, resulting in an integrated development plan. As part of this, the mayor established a budget for small projects that could only be accessed if residents were directly involved. Initial projects to pedestrianise the market square and revitalise the waterfront involved collaborative work with residents and traders. These were followed by the establishment of local retail co-operatives and an EU-funded scheme to build a lift connecting the city to local tourist attraction the

Altena Schloss. US cities have also attempted to foster increased community engagement, with the central idea of 'managed decline' in Youngstown, for example, emerging from a top-down community engagement process, reflecting how previous growth based initiatives lacked credibility among residents (Schatz, 2013).

In addition, a recent profusion of bottom-up initiatives from local residents and activists is evident. This has been characterised as a new wave of 'do-it-yourself urbanism' where urban residents take it upon themselves to provide services, bypassing municipal authorities (Finn, 2014). This trend is particularly evident in the US where recent austerity measures have led to the withdrawal of services from some declining neighbourhoods. In Detroit, for example, residents of certain neighbourhoods have acted to secure abandoned houses against crime (Kinder, 2014). The temporary use of vacant spaces by residents and community groups, found in eastern Germany and some US cities, is another form of 'do-it-yourself urbanism'. In cities such as Leipzig, the authorities have responded by introducing interim use regulations permitting the temporary use of the land for a set period of time, often ten years (Plöger, 2007). This highlights the challenge of DIY urbanism for urban planning, perhaps requiring the support of lighter more flexible regulations that some term 'lean urbanism' (Flint, 2014).

Among the most effective community engagements are those where communities self-organise in attempting to reshape city redevelopment agendas. In 2004, activists in Leipzig set up an urban forum to oppose the demolition of older housing in the city (Haase *et al.*, 2012). The forum has been influential in both halting demolition and developing alternative proposals through the establishment of the Integrated Urban Development Concept for Leipzig, involving the conservation, redesign and reuse of historic neighbourhoods. The forum has also had national influence in preventing demolition of listed buildings under the Federal *Stadtbau Ost* programme. In some cases, community-based agendas can conflict with the redevelopment visions of city governments. This was evident in relation to Templehof airport in Berlin where support for retaining temporary uses of the redundant airfield led to the defeat of the city's proposals for redevelopment in a city-wide referendum in 2014 (Dubeaux and Cunningham-Sabot, 2015).

## Policy outcomes and impacts

In general, evaluation evidence on the effects of specific interventions in declining cities uncovered by the review is limited and partial. Systematic assessment of inputs, outputs, outcomes and impacts is lacking. This evidence gap is widely acknowledged within the international literature and recent reviews (e.g. Green *et al.*, 2015; Lee *et al.*, 2014) and hampers efforts to answer questions of what works – or not – where, when and under what conditions.

At the city scale, a variety of pathways are apparent, ranging from successful turnaround to continued decline. Echoing the importance of city size identified in Section 3 above, Power *et al.* (2010) identify three types of post-industrial city in Europe: regionally dominant cities including Bremen and Bilbao with populations of more than 500,000 which have recovered strongly; secondary cities of a medium size (300,000–500,000) which have often demonstrated substantial recovery (e.g. Leipzig and Sheffield); and struggling cities which tend to be small, older and more specialised industrially, although there are a few examples of 'turnaround' in this category such as Greifswald, Germany.

National-level programmes generally provide more evaluation evidence than local initiatives (Table 10). Evaluations of the federal empowerment zones programme in the US, for example, have indicated a substantial positive impact, for example in reducing unemployment by 8.7 per cent and poverty by 8.8 per cent (Ham *et al.*, 2011). Such outcomes are not inherent features of the programme itself, but a reflection of the quality of local governance, particularly in terms of local civic capacity, community participation and programme integrity (minimising waste and corruption) (Rich and Stoker, 2014). Matching the type of employment created to the skills of local residents is crucial (Crisp *et al.*, 2014, pp. 25).

Another area-based initiative evaluated is the New Deal for Communities (NDC) programme in the UK. The evaluations demonstrate that more positive change was seen in the 39 NDC areas than similarly deprived comparator areas (Batty *et al.*, 2010). More positive change was evident in relation to the place-based outcomes (community, crime, housing and the physical environment) than the people-based ones (education, health and worklessness), although it is important to recognise the inter-relations between



these categories (Batty *et al.*, 2010, pp.8). At the same time, only a limited amount of the change occurring in neighbourhoods can be directly attributed to the programme itself, given the important role of broader economic and social changes (Crisp *et al.*, 2014).

There is a particular lack of evidence on the impact of localised policy initiatives within cities. One exception is the Leeds Financial Inclusion initiative, which generated £26 million extra disposable income for recipients and an extra £28 million benefit to the regional economy with a budget of £3.3 million (Dayson *et al.*, 2009). While the city is not one of the 24 with the highest scores on the index of relative decline (see Section 3), the benefits accrued largely to people living in disadvantaged areas of Leeds. There is scope for such an approach to be adopted in other cities given its demonstrable economic benefits and limited input costs compared with traditional regeneration programmes (Adam *et al.*, 2014). In the US, several local employment and poverty reduction initiatives have been subject to national-level evaluation in recent years (see Table 10).

**Table 10: Selected urban regeneration initiatives and outcomes**

Initiative	Outcomes
US empowerment zones	Reduced poverty and unemployment
UK New Deal for Communities programme	More positive change than comparator areas; more change in relation to place-based outcomes; only limited amount of change attributable to programme itself
UK National Strategy for Neighbourhood Renewal (NSNR)	Partial narrowing of gap between NSNR and non-NSNR areas in relation to worklessness and educational attainment, but not for other indicators such as crime and health
Family Employment Initiative (FEI), England	Helped 2,421 residents into employment from 2008 to 2011 at a cost of around £1,813 per client supported; generated benefits to the Treasury of £38.13 million through reduced benefits and increased tax receipts, compared with a programme cost of £4.39 million
UK Housing Market Renewal Pathfinders programme	Refurbishment of 108,000 dwellings, 15,000 new properties, clearance of 31,000 obsolete dwellings; reduced vacancy rates though still higher than the average levels within their wider local authority areas; rising house prices and costs prior to the financial crisis of 2007–2008
Leeds Financial Inclusion Initiative	£26 million extra disposable income for recipients; an additional £28 million benefit to the regional economy
Sectoral employment initiatives in Milwaukee, Boston and New York City	Programme participants earned significantly more than control group members; they were more likely to work than control group members; and more likely to be work in jobs with higher wages and which offered benefits
Employment Retention and Advancement project assessment of 12 local programmes	Increases in participation in retention and advancement services beyond control group levels were not consistent and often were not large; three of the 12 ERA programmes generated consistent increases in individuals' employment retention and advancement; almost all ERA sample members remained poor or near-poor at the end of the follow-up period.

Source: Authors' research based on: Amion Consulting, 2010; Batty *et al.*, 2010; Crisp *et al.*, 2014; Dayson *et al.*, 2008; Eskogen, 2011; Ham *et al.*, 2011; Hamilton and Scrivener, 2012; Leather *et al.*, 2012; Maguire *et al.*, 2010.

## Summary

The key implications of this review of international policy responses to urban decline for relatively declining cities in the UK are:

- the multi-faceted problem of city decline requires multiple and integrated programmes of policy interventions;
- the importance of the strategic leadership often exercised by mayors and other elected leaders in bringing together key actors and institutions around a clear and shared vision and strategy for the city.
- the key role of institutional innovations in supporting recovery strategies include special purpose agencies, the use of specialist research and planning institutes and mechanisms for incorporating a wide range of actors;
- the potential value of sector-based initiatives in generating employment and earning increases, contributing to poverty reduction, as demonstrated by the US experience of employment and skills;
- community engagement is particularly effective where bottom-up initiatives are enabled and supported by local and national government policies and funding frameworks;
- the evidence on the effectiveness of different interventions is limited; in general, national programmes have rather mixed results, leading to modest improvements in some areas but not others, while evidence on the effectiveness of local initiatives is generally lacking.

# 4 Conclusions and policy implications

Cities have become the UK government's focus for tackling key inter-related challenges (Centre for Cities, 2015). The first challenge is to foster more sectorally and spatially balanced growth throughout the UK in the light of long-term economic, demographic, environmental, social and technological change. The dynamics of the urban system are favouring larger, denser and more productive urban agglomerations. Government aspirations towards sectoral and spatial rebalancing are based on the idea of creating economic 'powerhouses' to address the untapped growth potential of the UK's urban network outside London and the Greater South East (City Growth Commission, 2014). Yet disparities in economic potential and social conditions between and within cities remain marked throughout the UK urban hierarchy (Martin *et al.*, 2014). Unequal urban growth is generating poverty – for those both out of work and in work (Lee *et al.*, 2014) – and disadvantaging people and places across the UK. Balancing the realisation of economic potential alongside tackling social and spatial disparity is a central task for local city and national actors.

The second challenge is to undertake governance reform and policy innovation to unlock the economic and social potential of cities and city regions. Here, the UK government's approach is focused on the further decentralisation of powers and responsibilities, extending cities' scope over existing, and into new, policy areas, and increasing the uptake of new arrangements including combined authorities, city and devolution deals and 'metro mayors'. Stronger leadership, greater co-ordination and integration of policy as well as the identification of local priorities, tailoring of policy and more effective use of scarce resources, are articulated as the benefits for cities of this bottom-up approach. Yet this decentralisation agenda is being developed in the context of unclear rationales, complex geographies, centre–local deal-making, public sector restructuring and expenditure reductions. This is likely to make it difficult for cities to achieve objectives such as improving education and skills provision, and its effectiveness in linking people not in work to jobs and those in work to better and more productive jobs (Green *et al.*, 2015), and resolving how new and upgraded infrastructure, especially transport will be funded, financed and governed (O'Brien and Pike, 2015).

Addressing a relatively neglected dimension of the cities debate, this report has reviewed the UK evidence on long-term population and economic decline and international policy responses. The specific objectives were to:

- analyse the scale and nature of long-term decline in UK cities;
- identify and assess the different policy responses to long-term population and economic decline;
- assess the effects and implications of different policy approaches on people at risk of poverty in declining cities;
- identify the different types of cities experiencing long-term economic decline in the UK and appropriate policy responses.

This section summarises the main findings, draws out some broad conclusions and policy lessons and identifies policy recommendations for different types of relatively declining cities in the UK.

## Summary of main findings

Echoing the international research and evidence, the analysis of cities in the UK (Section 2) demonstrates the strong influence of geography and history in shaping the cities experiencing relative decline. It highlights the persistence of regional differences in city performance between the north and south of England in particular, extending the findings of other recent studies (Martin *et al.*, 2014, Townsend and Champion, 2014).

Only 10 of the 74 UK cities included in this analysis experienced absolute population loss during 1981–2011 and the only substantial losses were in Glasgow and Liverpool where recent growth has been

unable to cancel out earlier decreases. The shift away from absolute decline is apparent when this longer period is broken down into decades, with no cities seeing absolute population loss during 2011–2013, compared with 2 in 2001–2011, 19 in 1991–2001 and 22 in 1981–1991. This shift away from absolute decline can be seen as a form of urban renaissance, but growth in many northern cities continues to lag behind levels in the south. Many of the key population trends, such as the migration drift from north to south, have persisted since at least the de-industrialisation of the early 1980s. Strong net inflows of international migrants are the key recent demographic shift. Starting earlier, London led the ‘urban renaissance’ and continues to outpace smaller cities. Young adult migration centres on London and the south and the selectivity of its flows fuels a high skills gap between cities detrimental to future growth (OECD, 2009).

Employment rates saw a general increase, with some convergence in 2001–2011 as rates rose more quickly in cities with previously lower rates. This is likely to be associated with the correspondingly modest convergence in poverty rates between cities that occurred between 2001 and 2008 (Lee *et al.*, 2014, pp. 39). Between 2001 and 2011, job growth was lower in cities outside the south east of England, with growth fastest in London, and to a lesser extent the smallest cities. Public sector employment made a major contribution to jobs growth across all groups of cities in 1998–2008. In the 2009–2013 period, austerity can be seen to have more impact on the low employment rate cities with an end to public service job growth, although the differences between categories of cities are relatively small.

Combining 7 relevant indicators to capture the multi-dimensional nature of city decline, the index of relative decline reveals that 10 of the 12 cities with the highest levels of relative decline are in northern England. The next group of 12 high-scoring cities on the index of relative decline broadens the focus to the Midlands and the three other countries of UK alongside the north of England. No city in southern England is among these 24 relatively declining cities.

An analysis of employment changes in these 24 cities compared with the 50 better performing ones shows a wide gulf with the relatively declining cities (particularly the top 12) having a lower rate of employment growth in 1998–2008 and a higher rate of contraction in 2009–2013. Substantially higher rates of poverty are evident in relatively declining cities as measured by the UMBR ‘poverty proxy’, reflecting the association between employment growth and poverty reduction (Lee *et al.*, 2014).

Informed by identification of the factors most associated with relative decline, the typology identified three kinds of cities experiencing relative decline: core cities, overshadowed cities and freestanding cities. Core cities are the principal cities of their city regions, hosting high-level services and anchor institutions that attract investment and people. Overshadowed cities persistently lose high-level functions to larger neighbouring cities, while linking to core cities through commuting flows. The other cities are sufficiently freestanding not to be overshadowed, are smaller than core cities and located some distance from the UK’s main urban conurbations.

The review of international policy responses reveals several key lessons. First, tackling the multi-faceted and entrenched problem of city decline requires integrated and long-term programmes of policy interventions that can connect the fields of economic development, employment and skills, poverty reduction, physical infrastructure and regeneration and community involvement.

Second, strategic leadership is critical to bring together key actors and institutions from the public, private and civic sectors around a clear and shared vision and strategy for the city.

Third, institutional innovations are integral to supporting recovery strategies. New and reformed institutions have been established in declining cities to create fresh and creative forums for research, action and civic engagement (e.g. Cleveland Living Lab).

Fourth, sector-based initiatives have proved effective for employment and skills development. While people-oriented support for employment, skills and connectivity may be better suited to contribute to poverty reduction than traditional physical regeneration schemes (Overman, 2011), these remain place-based in the sense of requiring local design and delivery, so they can be tailored to address local needs and identify opportunities. Sector-based initiatives such as the Wisconsin Regional Training Partnership can generate increased employment and earnings, contributing to poverty reduction among out-of-work groups in particular (Maguire *et al.*, 2010). The type of employment created needs to be closely matched to the skills of the local residents.

Fifth, a growing emphasis on community engagement is also apparent, with local government and other agencies directly working with local residents and community groups to improve their neighbourhoods. This is most effective when supported by local and national government policies and funding frameworks.

Beneath the level of these broad lessons, it is important to acknowledge that the evidence on the effectiveness of different interventions in city decline is limited and partial with little systematic assessment of inputs, outputs, outcomes and impacts. The evaluation evidence that does exist shows that national programmes generally tend to have mixed results, leading to modest improvements in some areas but not others, while evidence on the effectiveness of local initiatives is often lacking.

## Policy implications and recommendations

As with any public policy intervention in complex economic and social phenomena at the sub-national scale (OECD, 2008), successful outcomes and impacts are not guaranteed. The limited evaluation evidence on approaches to city decline constrains more definitive and systematic assessments of exactly what kinds of interventions work where, when and under what circumstances.

One response to such challenging and difficult circumstances in cities experiencing relative decline is policy inaction or a solely people-based approach to encourage outward labour mobility to areas of greater economic opportunity. This echoes the controversial internal government debate on the absolute population decline of Liverpool in the early 1980s. At this time, then Chancellor Geoffrey Howe wrote in a note to then Prime Minister Margaret Thatcher: 'I cannot help feeling that the option of managed decline ... is one which we should not forget altogether...We must not expend all our resources in trying to make water flow uphill' (quoted in Gainsbury *et al.*, 2011).

Yet any twenty-first century version of such an approach, underpinned by the contemporary emphasis upon encouraging the further growth of the largest productive urban agglomerations (e.g. Leunig and Swaffield, 2008; The Economist 2015), fails to recognise the key finding that in the current period such cities in the UK are experiencing *relative* rather than *absolute* decline. These cities are still growing in population and employment terms but at *relatively* lower levels compared with other cities. This condition of relatively weaker growth signals the potential for policy intervention to boost their growth performance to more sustainably higher levels that could enable them to close the gap, address their development challenges and contribute to wider policy agendas. Absolute decline among such cities would signal a more deep-seated lack of potential and raise difficult questions about the viability and aims of policy interventions to support them.

Importantly, the UK government's cities policy (HM Government, 2011) remains focused on 'unlocking growth in cities' and stimulating their economic growth potential. There is particular emphasis upon non-capital or 'second tier' cities that are interpreted as not 'punching their weight' in relative economic terms compared with those in countries such as France and Germany. International analysis demonstrates how investing in a wider range of cities can be more conducive to growth than just investing in the capital city where congestion and other diseconomies of scale constrain further economic growth potential (Dijkstra, 2013; OECD, 2009). Reflecting ideas from the City Growth Commission (2014) and other European research (Parkinson *et al.*, 2012), the UK government has emphasised the important role of city regions in northern England, especially Greater Manchester and Leeds, in a bid to create a 'northern powerhouse' to mobilise under-used economic potential and promote recovery, widen economic opportunities for people and places, and help 'rebalance' the UK economy as a transformative urban economic counterweight to London (Osborne, 2014).

As the UK national policy agenda and focus shifts toward a greater recognition of under-used economic potential and the interventions required to stimulate its development, cities experiencing relative decline can take centre stage. The inequalities and poverty they experience are a cost to them and the national public sector, operating as a drag upon further growth. Policy interventions to help them grow more strongly and address their inequalities and poverty would increase their contribution to the national economy and reduce costs and constraints upon further growth. Crucially, as explained below, such policy interventions need to be based on an understanding of the specific circumstances of the different kinds of cities facing relative decline and the tailored packages of policies appropriate to address them. As the JRF Cities, Growth and Poverty programme research is revealing (Lee *et al.*, 2014; Stott and Campbell,

2014), city economic growth on its own is necessary but insufficient because its transmission through the labour market is highly unequal, with low-quality and low-paid work doing little to ameliorate poverty; targeted and integrated programmes of policy measures are required (Green *et al.*, 2015).

Working at the city and national levels, the specific policy recommendations for cities experiencing relative decline are:

- Clarifying the aims, aspirations and purposes of city recovery: UK cities experiencing relative decline need to find their most viable approach to sustainable economic and social development. Three potential routes can be identified. First, policy inaction and some contemporary form of managed decline or even unmanaged decline. Second, seeking to slow the rate of relative decline and prevent its further acceleration. Third, attempting to reverse the relative decline and close the gap with selected other cities and/or the national average through faster growth. Clarifying the aims and purposes for city recovery in this context is vital. While attempting to reverse decline and close the gap is seen by some as overly ambitious in the light of previous policy initiatives (e.g. Overman, 2011), there is scope to reduce the rate of relative decline and foster growth through the introduction of more tailored packages of support (see below). Identifying the specific roles and distinctive positions the cities want and are able to develop within the broader urban system in the UK and beyond is a task for the cities and their city-regional partners, requiring the harnessing of existing economic assets and targeting of emerging growth opportunities. At the same time, in the context of the government's aspirations and strategy, city recovery is a national policy issue. How does the national UK cities policy deal with relative decline in cities? Target those cities with most growth potential as the powerhouses of future growth? Effectively relegate those with lower and weaker growth potential to continued relative decline? While both courses of action involve substantial costs and uncertain benefits from investment, there are risks in an overly selective approach that aims to support only a small number of designated powerhouses and neglects those with lower rates of growth.
- Better connecting and integrating poverty reduction into city recovery strategies through 'inclusive growth': The emerging international and UK policy aspiration for more and better jobs can be articulated through the idea of inclusive growth defined as a combination of increased numbers of employment opportunities across age, gender, social and spatial divides with higher quality in terms of wages, productivity, progression, terms and conditions (Rodríguez-Pose and Wilkie, 2014). Pursuing inclusive growth at the city and city-region scale can contribute to addressing the national problem of weak productivity, help raise living standards and address income inequality (OECD, 2015). Critical to the pursuit of inclusive growth is the identification and support of the kinds of growth and sectors that could alleviate poverty and be inclusive because of their skill content, productivity and wage levels, such as construction and manufacturing (Benner and Pastor, 2012). Building upon the idea of inclusive growth, the international policy review demonstrates how more can be done in the UK context – especially given enhanced and appropriate decentralisation of powers and resources – to embed poverty reduction into packages of integrated interventions to address relative city decline in several areas. First, articulating a high-level strategic commitment and leadership for more inclusive growth and/or anti-poverty or poverty reduction. This could involve 'high road' strategies such as that adopted by the Wisconsin Regional Training Partnership (Box 6), based on the targeted support of 'family supporting jobs' and out-of-work and in-work skills development. Second, developing ways more closely to co-ordinate policy interventions aimed at job creation and poverty reduction within the holistic and longer term programmes of city recovery among key anchor institutions including local government, further and higher education, and private and civic sectors (Katz and Wagner, 2014). For example, developing a sectoral focus that links labour market information and guidance to the kinds of economic activities targeted within city recovery strategies, skills development and inserting living wage clauses in public procurement contracts. Third, making more and better jobs a priority by strengthening the emphasis on the quality as well as the quantity of jobs, thus addressing issues of skills acquisition and use, low wages and precarious employment generating in-work poverty. Examples include engaging employers and local communities in shaping training, skills development and support services to increase opportunities for local people, and establishing living wage compacts.
- Fostering greater community engagement and participation: As the international policy review of responses emphasises, community participation and action is a key theme in recent city recovery strategies. This reflects not only the effects of fiscal austerity programmes on municipal service

provision, but also the impetus generated by a new wave of urban activism (Finn, 2014). While previous regeneration programmes in the UK have sought to encourage community input, research shows that the extent and scope of such input has often been limited in practice (Lawless, 2011). This means that there is considerable scope for UK policy to learn from best practice internationally in fostering community engagement and participation in relatively declining cities and disadvantaged neighbourhoods (Haase *et al.*, 2012; Schlappa and Neill, 2013). A greater focus on the people-based aspect of city growth and recovery must go beyond encouraging local residents to access economic opportunities elsewhere, instead recognising often deep attachments to place, particularly in terms of housing markets and local social networks. As such, local and indeed national institutions in the UK could do more to engage the commitment and knowledge of local residents in addressing the symptoms of relative decline such as out-of-work and in-work poverty and blight and vacancy in affected neighbourhoods. There are examples from the UK, such as Liverpool and Middlesbrough, of local communities leading on social enterprise development to provide skills development opportunities and taking ownership of derelict properties through vehicles such as community land trusts (Moore and McKee, 2012). While such initiatives have sometimes come into conflict with official regeneration schemes, their growth emphasises the need to align the bottom-up activities of community and voluntary groups with top-down policy frameworks and funding sources so that local and national agencies play a greater role in supporting and facilitating community engagement and action.

- Decentralising to relatively declining cities responsibly: The decentralisation of powers and resources to the city and city-regional scales is a central focus of the cities agenda in the UK, especially following the referendum on Scottish independence in September 2014 and the general election in May 2015. Decentralisation has the potential to enhance the abilities of cities to address problems of relative decline by granting them some of the additional powers and flexibilities held by their continental European and US counterparts. Yet, in the UK decentralisation has been marked by a piecemeal approach of incremental reform, limited fiscal localisation and bespoke arrangements. Early analysis of the emergent forms of decentralisation reveals unclear rationales, complex geographies and geographically uneven allocations of public resources across the 29 City Deals (O'Brien and Pike, 2015). The cities with greater economic potential and stronger tax bases can benefit disproportionately from the new forms of decentralisation. With this 'trailblazer' model in which other cities are left to follow where possible, there are calls for further decentralisation to those cities furthest ahead and travelling fastest (City Growth Commission, 2014). This approach risks the creation of a governance gap between cities that reinforces existing economic and social disparities. This gap will emerge because cities experiencing relative decline have more limited economic potential, weaker tax bases, higher levels of poverty and a greater need for public service provision.

As part of the need for greater coherence and a 'road map' for decentralisation in the UK and especially England (Martin *et al.*, 2015), further decentralisation to cities and city regions needs to be more inclusive in offering additional powers to cities with weaker economic potential (see, for example, IPPR North, *in press*). At the same time, it needs to ensure that such areas are not disadvantaged by fiscal devolution, given their weaker local tax bases, while maintaining the safeguards of existing transfer and equalisation mechanisms (Industrial Communities Alliance, 2014). This is not a call for a uniform and one-size-fits-all approach to decentralisation, but rather a more planned and structured approach with different packages tailored to particular circumstances (see also IPPR North, 2014).

## What sorts of policies for what kinds of cities?

Connecting the policy recommendations above to the particular situation of the different types of cities experiencing relative decline requires the tailoring of packages of policies. First, each policy intervention tailored for the specific types of cities might have certain common and crosscutting elements – for example education and training for skills development, abandoned property reclamation and community engagement – but can incorporate elements of adaptation specific to particular city circumstances. Second, the policy mix of the *packages* of policy interventions need to be designed within integrated programmes to address the specific issues of each city type and individual city. This kind of differentiated approach can better match their particular experiences, enabling more realistic appraisals of their assets, capabilities and options and development of more appropriate packages of policy responses set within

strategic and long-term programmes. The policy recommendations for each type of city are set out below.

## Core cities

The core cities have the size, city-regional focus and reach that mark them out as a distinct type of city experiencing relative decline. Certain policy options are open to them compared with smaller cities including:

- Long-term and strategic city-regional planning: As the Core Cities (2013) interest group recognises, core cities provide a strong basis of economic potential and hold a leadership role within their wider city regions. Developing long-term and strategic plans recognises that this potential and hub role is important in fostering and spreading economic opportunities across their city regions by, for example, establishing economic strategies with neighbouring authorities as part of co-ordinated policy efforts and integrated governance arrangements, and emphasising skills development and poverty reduction as integral parts of city growth strategies.
- Prioritising inclusive growth: Core cities facing relative decline have perhaps the strongest potential of the three types for increased economic growth rates *and* poverty reduction. As part of this growth and development potential, clearly stating the strategic ambition and priority of focusing upon inclusive growth would signal the kind of growth sought. For example, demonstration projects could be established between major city employers for labour market integration and upskilling for residents both out of work and in work, municipal enterprises could be incentivised to deliver public services while retaining model employer practices, and sectors with the greatest potential for poverty alleviation could be supported while being mindful of job quality.
- Connecting and co-ordinating anchor institutions: Core cities have multiple anchor institutions. Encouraging co-operation and trying to co-ordinate their activities offers a fruitful route for unlocking growth potential. Examples might include designing graduate retention programmes involving key anchor institutions to enable placement and skills enhancement in local businesses, supporting continuing education and professional development programmes to create skills development opportunities for city residents both out of work and in work, and focusing their local procurement to stimulate local and regional supply chains and business upgrading.

## Overshadowed cities

Overshadowed cities have for many decades lost high-level service activities to larger nearby and typically core cities. Particular policy options for these kinds of cities include:

- Developing distinctive and complementary economic roles and strategies: While core cities have more urban functions than expected given their size, overshadowed cities face an 'agglomeration shadow' and have fewer urban functions than would be expected. The larger cities in urban systems are more able to 'borrow size' (host more urban functions than its own size could normally support) from nearby smaller places (Burger *et al.*, 2015), but their strength can also stimulate the development and growth of these nearby cities. Critical for overshadowed cities is understanding their distinctive strategic role and niche in relation to their adjacent core cities, emphasising complementary rather than competitive development and building upon their particular assets and capabilities. For example, they may provide surplus land for the development of specialised advanced manufacturing that benefits the broader city region in terms of investment, job creation and skills development, avoiding the wholesale conversion of employment land into housing land that would cement the dependency of the overshadowed city on commuting to jobs in the core city.
- Improving accessibility and connectivity: Core cities offer higher levels of economic opportunities, and have stronger connectivity to wider national and international markets. This makes it important for residents and employees in overshadowed cities to have good access to employment and training opportunities in the core cities, with these transport links also connecting exporting firms to their markets. Accessible and affordable transport can work both ways by encouraging core areas to disperse activity to overshadowed cities in response to rising agglomeration diseconomies and costs of increased geographical concentration such as congestion and housing and labour market bottlenecks and inflation, rather than simply one way through commuting from the overshadowed cities to the core cities.



- Enhancing training and skills development opportunities: As part of carving out a distinctive role and attracting activities dispersing from core cities, overshadowed cities need a strong emphasis on training and skills development. While this is a crosscutting concern for all types of relatively declining cities, higher levels of qualifications and skills among the city's residents both out of work and in work are important in supporting the overshadowed city to achieve its desired economic role. This should be accompanied by efforts to increase the local demand for skills among employers (Sissons and Jones, 2014).

## Freestanding cities

The freestanding cities are smaller cities, not overshadowed and some distance from the main urban conurbations. They are cities that are the main centres of smaller sub-regions and have managed to retain more high-level activity despite the draw of larger and core cities. Their particular policy options include:

- Building upon internal assets and capabilities: The lack of a large and/or dominant neighbouring city opens up some strategic policy options. Building upon city assets and capabilities provides one route for economic development with job creation and training provision. This would involve, for example: identifying distinctive economic niches locally with growth potential; encouraging diversification into new but related economic activities; providing specialised and targeted business support for start-ups in conventional and social enterprises; targeting support for the growth and expansion of small and medium size enterprises; commercialisation and spin-offs from existing large public and private sector firms; and ensuring education and skills development is embedded for both those in and out of work to work towards poverty reduction. The aspiration is to build a clear and distinctive role able to underpin longer-term city reinvention and recovery.
- Bolstering and/or constructing anchor institutions: Freestanding smaller cities have some anchor institutions which can provide a focus for activity and investment, for example hospitals and universities as well as large private sector companies (Stott and Campbell, 2014). Bolstering the role and size of existing anchor institutions aims to enhance their developmental role locally. This could involve supporting the acquisition of higher-level functions such as innovation, research and technological development and the upgrading of private sector businesses to enhance their positions and roles, for example manufacturers moving from subcontracting to producing their own-brand products and services. Where such cities lack such anchor institutions, efforts might be targeted at trying to attract and embed them, for example through attracting inward investment and/or establishing them from scratch (see Box 5). More and stronger anchor institutions can then be co-ordinated and connected to enhance their contribution to city recovery and poverty reduction.
- Co-operating with larger and stronger cities within and beyond functional economic areas: Working with strong core cities need not lead to freestanding and smaller cities being overshadowed if the other cities have clear economic roles, strategies and identities that can benefit from wider co-operation. They can then try to connect in positive ways to the growth opportunities generated in core cities to underpin their transformative long-term recovery. Inspired by cross-border collaborations such as the Øresund city region between Denmark and Sweden, Newport is working with Bristol and Cardiff to create a 'great western powerhouse super city-region' initiative. This is focused on shared interests in transport links, renewable energy, business start-up and growth, and skills development as a counterpart to the 'northern powerhouse' of national rebalancing efforts (Morris, 2015).
- Repositioning and rebranding: Where the legacy of de-industrialisation and past economic specialisation frames the development path of freestanding and smaller cities, attempts can be made to reposition and rebrand. Such efforts focus on breaking free from a past which limits the ability of cities to formulate and follow new growth paths. For example, post-industrial transition has been sought in former industrial cities such as Bilbao, Leipzig and Pittsburgh, often based upon the attraction, embedding and nurturing of new growth sectors such as the cultural economy and technology.

## Conclusions

Relative decline in UK cities is shaped by their industrial history, skill levels and location at the city-regional and national scales. The majority of relatively declining cities are located in northern England, while no city in southern England is among the 24 relatively declining cities identified by this study. This

reflects the geographically uneven legacies of economic restructuring and de-industrialisation. As such, the study provides further evidence of an entrenched north–south divide in the economic performance of cities in England particularly (Martin *et al.*, 2014).

At the same time, it is important to re-iterate the relative nature of the under-performance of certain UK cities. Compared with more acute problems of absolute decline found in parts of Europe and North America, this means that the development of policy for such cities has a stronger basis to work from in the UK. International policy experience emphasises the need to develop co-ordinated and integrated policies to address the economic and social conditions of relatively declining cities. A combination of common policies and tailored initiatives are needed to address the specific circumstances of core, overshadowed and freestanding cities. These should be based on the development of a clear and shared vision for the future of the city in question, incorporating a realistic appraisal of its assets, capabilities and economic prospects.

In addition to local strategies, greater national policy recognition of the particular predicaments of cities characterised by relative decline can also play an important role in supporting them to foster increased employment growth and poverty reduction. This will help them to make a stronger contribution to wider UK government policies of city growth and geographical rebalancing.

# Appendix 1: Definition of the PUA+s

A first task was to extend the coverage of urban areas beyond those in a recent study for the Foundation (Lee *et al.*, 2014) that is, 64 UK PUAs (Primary Urban Areas). PUAs were in fact originally identified by CURDS for the State of the English Cities (Parkinson *et al.*, 2006) and then these definitions were extended to the rest of the UK. Further extension here adds smaller urban areas based on the same definition principles.

The three main alternative approaches to identifying cities in the UK – and indeed in many similar countries – with each having advantages and disadvantages, are:

- local authorities (LAs)
- functional areas
- built-up areas or settlements.

PUA definitions involved all three principles, prioritising them in the opposite order to the listing above.

Each of the defined PUAs includes not only at least one substantial settlement but also its functional area: these are defined by the Travel-to-Work Area as at 2003. PUAs are each also defined in terms of 'best-fit' LAs as at 2003 (singly or grouped, with reasonable accuracy in boundary matching).

To be consistent with the existing PUA definitions the additional cities are identified using data as at 2003. The minimum population size for urban areas is here lowered to 100,000. The reasons for this choice were:

- it is the most intuitively reasonable of all inevitably arbitrary levels to identify cities;
- smaller cities are not appropriately analysed alongside cities like Liverpool;
- the problems of poor LA 'best-fits' (to access data) become much worse with smaller cities;
- more small cities are in fact part of the labour market areas – and hence PUAs – of larger cities.

There are an additional ten cities identified by this lower threshold.

This produces a set of 74 cities for this study and they are termed 'PUA+s' to emphasise their difference from the original set of PUAs. In total the 74 PUA+s house approaching 75 per cent of the population of the UK.

Each of the 74 PUA+s is allocated to one of five 'regions' and one of five urban size classes (see Map 1); these groupings are used in the analyses, and are specified in Table A1.

**Table A1: Cities classified by size and broad region**

Urban population size ranges	London and environs	Other south/east	Midlands	Northern England	Scotland/Wales/ N. Ireland
Greater than 5 million	London				
Between 5 million and 0.5 million		Bristol	Nottingham Birmingham	Newcastle Manchester Liverpool Sheffield Leeds	Glasgow
Between 0.5 million and 0.275 million	Reading Brighton	Portsmouth Southampton Bournemouth	Leicester Coventry Stoke	Middlesbrough Sunderland Birkenhead Wigan Bradford Huddersfield Hull	Edinburgh Cardiff Belfast
Between 0.275 million and 0.15 million	Southend Aldershot Luton Medway Worthing Crawley	Norwich Northampton Milton Keynes Plymouth Swindon	Derby Mansfield	Preston Blackpool Bolton Rochdale Warrington Barnsley	Aberdeen Dundee Swansea
Between 0.15 million and 0.1 million	Hastings Colchester Eastbourne Thanet High Wycombe	Ipswich Peterborough Cambridge Oxford Bedford Gloucester Cheltenham Torbay Exeter	Chesterfield Lincoln Telford	Burnley Blackburn Wakefield Grimsby York Doncaster	Newport

# Appendix 2: Data sources

**Table A2.1: Indicators in the relative decline index**

%-point change EAA employment rate 2001-11	Population censuses
% change workplace FTE jobs 1998–2008	Annual Business Inquiry
% change workplace FTE jobs 2009–12	Business Register and Employment Survey
Total population change 2001–11	Mid-year population estimates
Change in city size rank 1901–2001	Population census 1901 data via Mounsey (1982) <sup>1</sup> plus estimate for Belfast; mid-year population estimates 2011
% net in-migration 15–19-year-olds 2001–11	Mid-year population estimates
%-point change share EAA with degree 2001–11	Population censuses

1 Helen Mounsey (1982) The cartography of time-changing phenomena: the animated map. PhD Thesis. Department of Geography, Durham University.

**Table A2.2: Potential independent variables**

1931 mining/manufacturing	Population census (derived from <a href="http://www.visionofbritain.org.uk">www.visionofbritain.org.uk</a> )
1981 employment rates	Population census
% public services	Business Register and Employment Survey
% EAA with degrees	Population census
Workforce size	Population census
% out-commuting	Population census
Firms/workforce	VAT registrations; population census
1961 overshadowing	Population census & census of distribution (see Carruthers, 1967)
GVA/head	Regional Gross Value Added (Income Approach)
London train time	shortest time departing before 0900 (see Parkinson <i>et al.</i> , 2006)

## Appendix 3: Ranking of cities on the indicators in the index of relative decline

PUA+	Ranking on indicators in the relative decline index [1=least decline]							Sum of rankings on individual indicators [1=least decline]	Final ranking on the index of relative decline [1=highest i.e. most decline]
	%-point change EAA employment rate 2001–11	% change workplace FTE jobs 1998–2008	% change workplace FTE jobs 2009–12	Total population change 2001–11	change in city size rank 1901–2001	% net in-migration 15-19s 2001–11	%-point change share EAA with degree 2001–11		
Aberdeen	2	25	7	18	64	13	20	149	71
Aldershot	65	31	43	40	14	56	7	256	40
Barnsley	4	71	45	41	50	35	63	309	21
Bedford	53	26	41	38	7	46	66	277	34
Belfast	18	46	46	56	71	60	27	324	17
Birkenhead	14	69	28	67	39	73	34	324	17
Birmingham	60	62	21	34	45	29	47	298	24
Blackburn	38	70	60	58	73	55	45	399	4
Blackpool	28	52	70	68	13	69	46	346	10
Bolton	57	64	64	43	69	38	65	400	3
Bournemouth	29	14	54	24	15	22	8	166	66
Bradford	52	63	62	10	66	25	69	347	9
Brighton	41	11	11	26	35	5	14	143	72
Bristol	51	13	66	19	42	7	10	208	54
Burnley	50	73	4	74	74	61	67	403	2
Cambridge	35	8	20	4	23	11	11	112	73
Cardiff	37	9	22	12	37	12	32	161	67

Cheltenham	24	49	1	44	24	17	1	160	69
Chesterfield	16	68	3	60	43	63	42	295	25
Colchester	56	16	19	11	17	27	26	172	64
Coventry	62	51	17	57	9	43	49	288	29
Crawley	47	27	12	22	4	42	3	157	70
Derby	32	61	18	31	49	24	39	254	43
Doncaster	12	40	69	52	5	32	73	283	32
Dundee	3	56	68	59	72	44	55	357	7
Eastbourne	26	5	52	21	21	66	12	203	56
Edinburgh	8	32	23	27	53	4	24	171	65
Exeter	17	1	72	51	30	64	2	237	48
Glasgow	1	24	71	66	70	36	59	327	16
Gloucester	48	55	74	9	33	9	38	266	38
Grimsby	22	43	65	70	22	65	71	358	5
Hastings	30	19	15	49	47	68	36	264	39
High Wycombe	39	67	13	53	8	70	6	256	40
Huddersfield	63	65	33	16	63	39	50	329	14
Hull	23	53	57	55	51	62	57	358	5
Ipswich	31	29	42	8	44	40	35	229	49
Leeds	64	20	31	54	62	15	23	269	36
Leicester	73	54	32	6	34	20	68	287	30
Lincoln	36	33	63	5	31	16	17	201	58
Liverpool	6	28	51	69	68	59	41	322	19
London	27	37	2	7	57	1	44	175	63
Luton	74	58	58	13	6	8	28	245	46
Manchester	45	36	36	28	67	10	25	247	45
Mansfield	5	12	27	35	25	33	61	198	59
Medway	55	35	37	15	28	49	30	249	44
Middlesbrough	13	48	53	72	38	71	56	351	8
Milton Keynes	72	2	6	1	2	6	4	93	74

Newcastle	11	22	25	62	65	34	19	238	47
Newport	21	57	48	48	41	45	58	318	20
Northampton	61	3	44	17	26	31	29	211	53
Norwich	40	44	24	20	29	23	13	193	60
Nottingham	69	60	39	36	40	30	64	338	12
Oxford	46	38	14	23	16	19	22	178	62
Peterborough	54	17	30	2	10	2	74	189	61
Plymouth	44	15	55	30	60	48	15	267	37
Portsmouth	71	34	35	39	32	37	37	285	31
Preston	33	4	26	37	48	50	21	219	52
Reading	59	30	16	50	11	18	18	202	57
Rochdale	68	50	67	65	58	52	72	432	1
Sheffield	58	21	56	42	56	28	48	309	21
Southampton	49	41	34	29	18	41	16	228	50
Southend	43	23	49	32	1	26	31	205	55
Stoke	25	74	10	64	61	57	54	345	11
Sunderland	7	18	40	73	54	74	62	328	15
Swansea	19	10	59	33	52	51	52	276	35
Swindon	70	72	73	3	12	3	60	293	26
Telford	66	66	8	47	20	58	40	305	23
Thanet	34	7	38	45	36	67	53	280	33
Torbay	20	39	29	71	19	72	43	293	26
Wakefield	10	6	50	61	46	47	70	290	28
Warrington	15	45	5	46	27	54	33	225	51
Wigan	9	42	61	63	59	53	51	338	12
Worthing	42	59	9	25	3	14	9	161	67
York	67	47	47	14	55	21	5	256	40



# Appendix 4: Modelling relative decline

The aim of the modelling is to take the pattern of the results of the index of relative decline and seek the strongest statistical relationship between this pattern and a shortlist of factors that past research suggests are likely to have influenced which cities have high values and which low.

The index values – the dependent variable in the models – are a synthesis of diverse trends, mostly relating to the first decade of this century. As a result the independent – ‘predictor’ – variables for the models should reflect the condition of cities either at the start of that period (*c.*2001), or some process well underway before 2001. The model aims to find out which of the prior trends or conditions is most associated with subsequent relative decline.

In practice most of the available research refers to factors shaping relative city growth rather than city decline, and it might be argued that some factors are specific to declining cities over and above the absence, or inverse, of growth promoting factors. This is less of a problem in the UK where no city experienced the severe absolute decline that raises such questions elsewhere (see Duranton and Puga, 2013). A greater concern when selecting factors for these models is that they must not be closely linked to indicators used in the relative decline index. As one example, in-migration in the 1990s meets the requirement of covering a period prior to 2001 but in fact migration patterns like the net flows to the London region are so persistent that in practice the patterns in the 1990s are not independent of those in the following decade.

A factor increasingly emphasised by recent urban and regional economic modelling (e.g. Martin *et al.*, 2014) is the skill level of the economically active age group (EAA). The importance of the highly skilled in the workforce is linked to a polarisation in the labour market: there is increasing demand for people with degree-level or above qualifications but also a decline in jobs suited to those with the lower qualifications (Goos and Manning, 2007). There is little variation between cities in the proportion of the workforce with middle-level qualifications (NVQ Level 2 or 3), which means that cities with a more highly qualified workforce tend to have the additional advantage of having few people with low or no qualifications. As a result the model will only need a single variable on skills, *% EAA with degrees* (note that if a date is not included in a variable name then the measure relates to 2001). Appendix 2 identifies the sources of the data used for the model variables.

A highly influential study by the OECD (2009) linked the presence of higher skills with higher productivity levels and hence future growth which can bring more job opportunities. *GVA/head* is widely accepted as the best available local measure of productivity levels (note, for any local analysis some estimation was needed due to the scale at which the dataset is available). Another development factor emphasised by the OECD neo-classical regional economic modelling is the level of entrepreneurship. At the local area level this means using data on firm registrations for VAT: the model uses a *firms/workforce* ratio in which the counts of local firms are divided by the number of people working in the city.

A potential corollary to entrepreneurship is high dependence on the public sector (Brinkley *et al.*, 2010), as approximated here by a *% public services* measure which uses data on public administration, education and health services. The concern is that the inherited structure of the local economy constrains its development and similarly Simmie *et al.* (2008) note that many UK cities have a long-term industrial legacy. The model assesses this directly with the variable *1931 mining/manufacturing* which measures the share of the 1931 workforce with jobs in what were then key employment sectors, but that subsequently bore the brunt of de-industrialisation.

It may also be relevant to assess longer term influences in labour market trends more directly related to poverty. Amor and Manning (2015) observe a high level of continuity in the geography of joblessness in the USA and so to test for similar patterns in the UK *1981 employment rates* were calculated and used in the model.

A more geographical economic factor attracting much recent interest is scale of agglomeration (e.g. Fujita *et al.*, 1999). The key measure is city *workforce size* (logged here, as is customary). In the specific case of the UK the agglomeration benefits of London are widely recognised, making access to the capital a potentially relevant issue. *London train time* is used to reflect how readily accessible the place is to the economic centre of the country.

Being a dominant city at a more regional level is associated with attracting higher-order services and other amenities, as emphasised in research on relative urban decline by Hoekveld (2014). Increasing mobility has enabled the concentration of many specialised facilities in fewer places, a long-term process which Carruthers (1967) recognised in cities whose small retail sector implied lost trade to nearby larger centres (a pattern found by Coombes (2010) to have been strengthened subsequently). Carruthers' measure is the basis for the *1961 overshadowing* variable which is the one binary variable made available to the models here.

The issue of interaction between cities is also related to aspects of the local labour market. Green and Owen (2006) discuss the reasons for some areas being more self-contained in terms of commuting: high levels of interaction with nearby areas signal a 'connectedness' to a wider set of job opportunities – and jobs paying well enough to justify a long commute – but it can also indicate a dependence on other areas due to a weak localised supply of jobs. Here the variable *% out-commuting* measures one way cities can be integrated within their regions (note, the city definitions here are labour market areas, so the variable reflects longer distance commuting).

Table A4.1 provides an inter-correlation matrix between the 10 independent variables which have just been described. Table A4.2 tabulates the bivariate correlations between each of the 10 predictor variables and the dependent variable (that is, 'scores' on the index of relative decline). All ten variables were entered in the models. (There is some inter-correlation among the variables – as shown in the Table A4.1 – so alternative analyses used a reduced variable set, but this produced identical results.) Tables A4.3–6 report the detailed results from the three variants of standard linear regression modelling undertaken to verify that the results are robust.

As was expected due to it having the highest bivariate correlation with the dependent variable, *% EAA with degrees* is the first variable which the stepwise regression model has included. This foregrounding of high-level skills echoes existing research (e.g. Swinney and Thomas, 2015). The other variables in this model, *London train time* and *1961 overshadowing*, are rather less familiar (and included at the expense of more frequently emphasised factors such as the agglomeration variable *workforce size*). One of the types of model adds to these variables *1931 mining/manufacturing*, reflecting a long-term industrial legacy in many cities. All of the three models 'account' for over 50 per cent of the variation in the relative decline index values.

**Table A4.1 Correlation of the potential independent variables**

1981 employment rate	% public services	% EAA with degrees	Workforce size	% out-commuting	Firms/workforce	1961 overshadowing (binary variable)	GVA/head	London train time	
-0.115	-0.137	-0.434	0.035	0.198	-0.417	0.453	-0.308	0.310	1931 mining/manufacturing
	-0.579	0.561	0.110	0.158	0.485	-0.110	0.555	-0.513	1981 employment rates
		-0.169	-0.257	-0.168	-0.189	-0.053	-0.560	0.462	% public services
			0.381	-0.209	0.385	-0.234	0.658	-0.404	% EAA with degrees
				-0.523	0.021	-0.098	0.412	-0.169	Workforce size
					0.291	0.191	-0.213	-0.263	% out-commuting
						-0.138	0.150	-0.498	Firms/workforce
							-0.291	0.213	1961 overshadowing
								-0.542	GVA/head

**Table A4.2 Correlations between model variables and the relative decline index**

	<b>Correlation (R)</b>
% EAA with degrees	-0.541
1961 overshadowing	0.526
1931 mining/manufacturing	0.520
GVA/head	-0.497
London train time	0.490
1981 employment rates	-0.438
Firms/workforce	-0.344
% public services	0.223
Workforce size	-0.132
% out-commuting	0.065

## Tables A4.3–6 Regression results

Backward elimination model

**Table A4.3**

Model	R	R square	Adjusted R square
1	.748 <sup>a</sup>	.560	.506
2	.748 <sup>b</sup>	.560	.514
3	.748 <sup>c</sup>	.559	.519
4	.744 <sup>d</sup>	.554	.521
5	.735 <sup>e</sup>	.540	.513

**Table A4.4**

Model	Unstandardised coefficients		Standardised coefficients	t	Sig.	
	B	Std. Error				
1	(Constant)	54.937	139.256		.395	.695
	1931 mining/manufacturing	.846	.512	.191	1.654	.103
	% public services	2.429	1.652	.151	1.470	.146
	% EAA with degrees	-4.422	1.829	-.296	-2.417	.018
	Workforce size	18.713	20.602	.086	.908	.367
	1961 overshadowing	69.736	19.579	.338	3.562	.001
	London train time	45.272	28.373	.178	1.596	.115
	(Constant)	178.164	63.118		2.823	.006
5	1931 mining/manufacturing	.739	.443	.167	1.670	.099
	% EAA with degrees	-4.333	1.426	-.290	-3.038	.003
	1961 overshadowing	67.893	18.962	.329	3.580	.001
	London train time	63.640	23.059	.251	2.760	.007

Forward /stepwise models (identical final models, with independent variables entered in the order given in last model)

**Table A4.5**

Mode	R	R Square	Adjusted R Square
1	.541 <sup>a</sup>	.293	.283
2	.679 <sup>b</sup>	.461	.446
3	.722 <sup>c</sup>	.521	.500

**Table A4.6**

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	412.461	28.424		14.511	.000
	% EAA with degrees	-8.072	1.479	-.541	-5.457	.000
2	(Constant)	372.101	26.400		14.095	.000
	% EAA with degrees	-6.597	1.337	-.442	-4.935	.000
3	1961 over-shadowing	87.117	18.466	.423	4.718	.000
	(Constant)	206.226	61.611		3.347	.001
	% EAA with degrees	-5.093	1.369	-.341	-3.722	.000
	1961 over-shadowing	80.179	17.698	.389	4.530	.000
	London train time	68.318	23.178	.269	2.947	.004

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