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The Fluctuating Record of Economic Regeneration in England's Second-Order City Regions, 1984-2007

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Abstract
This study examines how far and in what way ‘Our cities are back’, as claimed by England’s Core Cities Group. It focuses on 1984-2007 employment changes for the eight Core Cities and their city regions: Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham and Sheffield. City regions are defined on a consistent functional basis and allowance is made for discontinuities in the jobs time-series. These provincial city regions are found to have suffered relatively less than London in the early 1990s recession, but then recovered more slowly to achieve their greatest rates of growth in 1998- 2002 and only then did the Core Cities outpace the rest of their city regions. Employment growth slowed after this, though their population recovery continued.

Keywords: Urban regeneration, employment data, city regions, Core Cities, England
JEL Classifications: J21, O18, R11, R12, R23

Introduction

A great deal of attention – politically and in the media as well as academically – has been given to the revival of the fortunes of cities in the developed world that were haemorrhaging people and jobs in the 1970s when 'counterurbanisation' and the 'rural population turnaround' were first recognised (Champion and Townsend, 1990; Cheshire, 2006; Montgomery, 2006). In the English context, in the mid 1990s it was London that saw the earliest and most substantial recovery, prompting eight of the country's other cities to band together as the Core Cities Group to lobby central government for more support (www.corecities.com/dev07/Introduction/mission.html). The next few years saw claims of a wider 'urban renaissance', most notably by the cities themselves (see, for instance, Core Cities Working Group, 2004) but also in the *State of the English Cities* (SOTEC) report (Parkinson *et al*, 2006), though the latter was forced to conclude that the record was patchy and the scale of recovery generally modest.

The time is ripe for a further assessment of the economic progress of England's largest regional centres, with an extra four years' worth of evidence now available. The current time is all the more appropriate because the sharp downturn in the national economy in 2008 has profoundly altered the context for urban regeneration in this country as elsewhere. According to the official estimates, employment in the UK peaked in December 2007 and within 12 months had already dropped by 291,000, or 1.1%, with many commentators suggesting that unemployment was likely to rise by a further million people or more. By tracking the performance of cities up to the eve of recession, the aim is to assess how strong and sustained their revival had been till then, while disaggregation of their overall economic trends by sector can provide some insight into how they will fare in the current economic storm and whether they will be able to resume their revival afterwards.

This paper is not designed as a direct updating of the SOTEC report. In the first place, it deals very largely with employment change rather than the much wider set of indicators used there. Secondly, instead of the latter's coverage of 56 cities, the present study is focussed on the eight members of the Core Cities Group, namely Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham and Sheffield. Thirdly, rather than defining these cities in terms of their built-up area, it adopts a city-region basis, reflecting the economic underpinnings of this study and the need to take a functional area perspective. The paper also includes a comparison of the Core Cities themselves with their city regions in order to test whether their local authority areas are now the main 'drivers' of growth outside London, as the Group and others have claimed (see below). Before proceeding to document the results, the next two sections provide more detail on the intellectual and policy-related justification for this study and on its methodology.

Background and justification

This paper is designed as a contribution to the growing debate about the significance and sustainability of the recent revival of city growth. It uses England as its laboratory and thereby taps into a fertile area of academic and political discourse that, while not started by the election of a Labour administration in 1997, was certainly given a

powerful boost by it. Its establishment of the Urban Task Force and the publication of its report *Towards an urban renaissance* (Rogers Report, 1999) was followed by the government's action plan *Delivering an urban renaissance* (DETR, 2000) and its promise of a review of progress five years later, which became the SOTEC report.

This revival is seen to be related very largely to the changes taking place in the structure of the economy, both in the UK and internationally. The period since the mid 1980s is now identified with the growth of financial and business services (Townsend and Tully, 2004). More recently, there has also been a realisation that, 'The labour market has changed dramatically under Labour, with public services jobs playing a much more crucial role' (*Financial Times*, 24 November, 2008, p.3). Identifying health care services as a key driver, 'the public sector remains much more hospitable to women than the private sector, particularly in the case of older women with childcare responsibilities who want to work part-time' (*ibid*.). Even in the former coalfields which surround most Core Cities, the effects of national decline in manufacturing jobs, including in coal replacement industries, have been masked by the growth in these two sectors (Townsend and Hudson, 2006). The key spatial factor here is that these latter sectors have placed their strongest growth at relatively high levels of the urban hierarchy: they are inherently more *centralistic* in their location patterns and benefit from agglomeration economies (Hoyler et al, 2008).

But what does this imply about the prospects for the successful regeneration of England's second-order cities? London is one of the major players in financial and business services on the world stage: to what extent can other English cities compete against its huge weight of agglomeration economies? Can the regional cities benefit from any spill-over effect of London's growth and, if so, are the greatest gainers likely to be those that are closest to it or those with the strongest structural similarities and/or functional linkages?

Certainly a major part of the policy rhetoric of the past decade seems to have been predicated on the capacity of these second-order cities to participate in, and contribute to, national growth and thereby lead the regeneration of their wider regions. In particular:

- Government ministers have repeatedly claimed that cities are the 'drivers' of growth outside London, implying that the growth of cities provides the trigger for development in their surrounding areas; 'our cities are very much back in business…. They are engines of growth once again' (Foreword to Parkinson *et al*., 2006a, p.5).
- The Core Cities Working Group (2004) has claimed that their eight local authority members should, as a result, receive proportionately more investment than surrounding areas: with their higher growth, they represent the more fertile ground for implanting new seeds of growth.
- National economic departments have argued the case for concentrating on large projects rather than spreading investment over many more 'blackspots', a viewpoint that England's Regional Development Agencies have on the whole accepted (DBERR, 2005).

Such views have been of great importance in replacing the previous 'welfarist' approach to regional development policy which had prioritised the most deprived and lagging areas of the country.

Moreover, at least some of the available evidence would seem to back up this line of reasoning, not least the big picture of employment trends reported in the SOTEC summary document (ODPM, 2006, p.17-18). This highlighted that, while over the period 1991-2003 England's 56 cities contributed only 54 per cent of the nation's total non-farm job growth compared to their 63 per cent share of the total stock of jobs, their trajectory was an upward one, with their share rising from just under 52 per cent in 1991-98 to 58 per cent for 1998-2003. The progress is even more marked if London is taken out of the equation. Along with Boddy and Parkinson (2004) and Buck *et al*. (2005), Parkinson *et al*. (2006, p.9) felt able to conclude that, 'There has been a sea change in how cities are regarded. Governments, the private sector and researchers increasingly see them as the dynamos of national and regional economies rather than economic liabilities'.

At the same time, however, there is also evidence that strikes a more cautionary note. For instance, in their labour market accounting analysis of the long-term trends in city employment, Turok and Edge (1999) saw the male shortage of jobs arising from the two earlier recessions persisting in cities long into the 1990s. It is also salutary to note that, even before the recent banking crisis, the financial sector had not been growing uniformly and consistently. Between 1991 and 1998 employment in financial services *sensu strictu* grew by only 1.4 per cent in the London city region and declined in other parts of the country, while the business services element increased its job numbers by over 50 per cent in London at this time (Townsend and Tully, 2004). Then, just after the turn of the millennium, there was the bursting of the 'dot com' bubble. The SOTEC report shows that London's contribution to England's job growth almost halved between 1991-98 and 1998-2003, falling from 26.5 to 13.7 per cent (ODPM, 2006, p.18). More generally, SOTEC recognized that the process of economic resurgence had so far been very uneven across the country, with London and most other cities in the south and east performing better than those in the north and west. Indeed, even while many of the latter were found to be picking up in terms of absolute numbers, in relative terms they were generally falling further behind their southern counterparts and still facing considerable challenges in achieving sustainable growth (Parkinson *et al*., 2006).

There has also been a shift in the policy discourse of recent years from Core Cities to city regions, serving as an alternative prospectus to regional government following the failure of the referendum on devolution for North East England. Both government and opposition papers (CLG, 2008, 2009; Conservative Party, 2009) recognise that economic life readily transcends local government boundaries. The government's sub-national review (HM Treasury, DBERR and CLG, 2007; Townsend, 2009) faced rival academic and political claims as to whether or not sub-regions, including city regions, should take over the role of the Regional Development Agencies, leaving Core Cites with perhaps only one vote among a group of local authorities making up a city region joint committee for certain purposes. In addition to proposing Integrated Regional Strategies, the Government set out a choice of tools to reform sub-regional government arrangements (CLG, 2009). Local authorities, voluntarily, can establish boards responsible for economic development and 'transport, skills provision and community regeneration', though 'so far little research has been directed towards the issue of social cohesion at the scale of polycentric regions' and costs of mobility across these regions may increase (Hoyler at al, 2008, p.1061).

Against this background, the present study aims to address what it sees as a major gap in our knowledge of the geography of economic regeneration in England. Despite the new inter-party convergence towards the value of organised governance at some type of city-region level, little effort has so far been put into measuring the economies of these prospective areas on consistent boundaries and over a long period. In what follows, our city definition extends beyond the main built-up areas (or 'Primary Urban Areas') used in SOTEC, and indeed beyond the Travel to Work Area basis used for some of its economic analyses, in order to include as much as possible of their commuting fields and the region for which they are the principal providers of high-order services to residents and businesses. In terms of time span, we not only update to 2007 but also look back as far as the end of the early 1980s recession. Our primary goal is to see how well the eight city regions centred on the Core Cities have performed compared to London and the rest of England. To what extent have these proved able to drive England's regional economies in the period before the onset of the current recession and how far does their performance match that of the national capital? A secondary aim is to look at the geography of growth within these city regions in order to test the claims of the Core City local authorities. How strong is the evidence that the Cities themselves are leading the economic regeneration of the regions that they serve?

Approach and data

Given the aims described above, this study faced two main sets of challenges. One was the definition of the city regions for the eight Core Cities and London. The other was to select the data on which to monitor and compare the trends in economic regeneration for these places since the 1980s. The former could rely on an existing approach that had been commissioned by the Core Cities Group itself, so here we provide just a brief description of it. By contrast, there are no consistent series for annual economic monitoring at sub-regional level and no previous study has attempted to estimate one for our full study period 1984-2007. Later in this section, we summarise the principal obstacles to doing this and how we have tackled them.

As regards defining the city regions, we adopt the approach developed by CURDS (1999) for the seven original Core Cities and extended on the same functional principles by Coombes (2003) to include Nottingham when it joined the Group and also, for comparative purposes, the London city region. These city regions are defined to comprise unitary and metropolitan single-tier authorities together with selected second-tier districts from surrounding counties. The definition process involved taking four key studies of commuting and migration linkage at this geographical scale and, for each city in turn, identifying which areas are grouped with it in at least two instances. The city regions are shown in Annex 1.

The choice of data was circumscribed by what is available at the local-authority level on a consistent basis from the 1980s. In the absence of suitable data on production and value added, we use employment as our measure. For this, while there is a continuous series at the level of historical Regions (available in the National Online Manpower Information System, NoMIS), this is not the case at sub-regional level. Use of the Labour Force Survey is ruled out because, for much of our study period, it operated too low a sample size to allow publication of statistics at local-authority level. The

nearest to a continuous local record is provided by the Annual Business Inquiry, along with its predecessors the Annual Employment Survey (1991-98) and the Census of Employment (1981-91). This is derived from information provided by employers, with sampling just for smaller establishments, and is available under licence for a variety of geographies. Here we use the local-authority geography that came into being in 1998 and continued with only minor boundary changes until April 2009, on which basis data are available back as far as 1984.

In opting to use this source, however, it is important to note some weaknesses. Firstly, data are available for only every three years up to 1987 and then alternate years to 1995, though annually since then. Secondly, while it is the only source of local data on employment that covers our study period in full, it enumerates only employees (i.e. jobs) and excludes the self-employed. Thirdly, while it distinguishes between full-time and part-time jobs, this is only on the basis of whether or not they involve at least 30 hours of work a week: the exact number of hours is not collected. Because of this, given that we wish to measure 'full-time equivalent' (FTE) work so as to allow for the substantial and important variation in the share of part-time work between places and over time, we adopt previous practice (see, for instance, Townsend, 1986) of treating part-time jobs as 50 per cent of a full-time one on average.

By far the biggest challenge to using this source for monitoring employment trends over the longer term is posed by the fact that, as partly reflected in its name changes, it has undergone several changes in methodology. The biggest change took place in 1998, with lesser changes in 1991 and 2006. The treatment of jobs in the farming sector has altered over time, being totally suppressed from the sub-regional counts between 1989 and 1996 inclusive and thereafter included only if the count for an area reached a threshold that was deemed non-disclosive. The data are also affected by a major change in the Standard Industrial Classification (SIC) in 1991 and a smaller one in 2003. Coping with these methodological and definitional changes constitutes a major contribution of this paper: no previous sub-regional study has attempted to bridge all these discontinuities. More detail of how we deal with these is provided in Annex 2.

Finally, our approach to studying change over time is primarily to divide the study period into five segments for comparative study of rates of change, although some of our analyses are based on all the years available in the data. The segments are based on periods chosen to reflect national economic trends as well as some of the discontinuities in the data series. The dates chosen for the breaks are: 1984 (the nearest year to the low point of recession in 1983), 1989 (the high point year in the data series for the 1980s), 1993 (the low point year in the data series for the early 1990s recession), 1998 (the year of the switch to ABI methodology and a convenient break in the recent long growth cycle), 2002 (again a convenient break in the recent long growth cycle and close to the end of the dot-com recession) and 2007 (the latest year of data). These breaks yield a combination of four-year and five-year periods, with the difference being allowed for by calculating annual change rates on a compound or exponential basis.

Overall employment change for the eight city regions combined

This first section of results addresses the question of how dynamic the economies of the city regions of the eight Core Cities have been in employment terms since the 1980s and, in particular, whether they have seen an upturn in more recent years. Table 1 presents the data for the sum of all sectors except farming, forestry and fishing for the eight city regions in aggregate for the five selected periods (see above), as well as for the full 23 years and for the three periods since the 1989-93 recession combined. Change is represented in three ways: the total absolute change for each period, the annual average change and the annualised rate of change. Data is provided on the basis of both total jobs and Full Time Equivalents (FTE, see above).

Table 1. *Change in total jobs and FTEs in all sectors except farming, forestry and fishing, 1984-2007, for 8 city regions*

Periods	000s for period		000s per annum		% pa (compound)	
	Total jobs	FTEs	Total jobs	FTEs	Total jobs	FTEs
1984-1989	279.0	192.4	55.8	38.5	0.97	0.75
1989-1993**	-306.6	-356.5	-76.7	-89.1	-1.31	-1.75
1993-1998	388.2	340.5	77.6	68.1	1.34	1.36
1998-2002	340.7	242.8	85.2	60.7	1.32	1.11
2002-2007*	235.1	200.1	47.0	40.0	0.70	0.70
1984-2007*	936.3	619.1	40.7	26.9	0.66	0.50
1993-2007*	964.0	783.4	68.9	56.0	0.91	0.77

Notes: calculated from the data in Annex 2 Table A1. FTE Full-time equivalents.
* 2007 is adjusted by a factor of 1.00959 to allow for the change in methodology in 2006 (see Annex 2).
** 1989-1993 change is the sum of the changes, and the average of the change rates, under the 2 respective data sets for 1989-1991 and 1991-1993.

According to this evidence, the eight city regions built up very considerable growth over the study period. Allowing for the changes in methodology of the data source as far as is possible, it is estimated that they possessed 936,000 more jobs in 2007 than in 1984, which represents an average annual increase of 40,700 and a compound annual gain of 0.66 per cent. As this full period spans the 1989-93 recession, when these city regions lost more jobs than they had gained in the previous five years, the performance appears even more positive for the 14-year period since then, when the number of jobs grew by 964,000 or almost 69,000 a year, an average increase of 0.91 per cent.

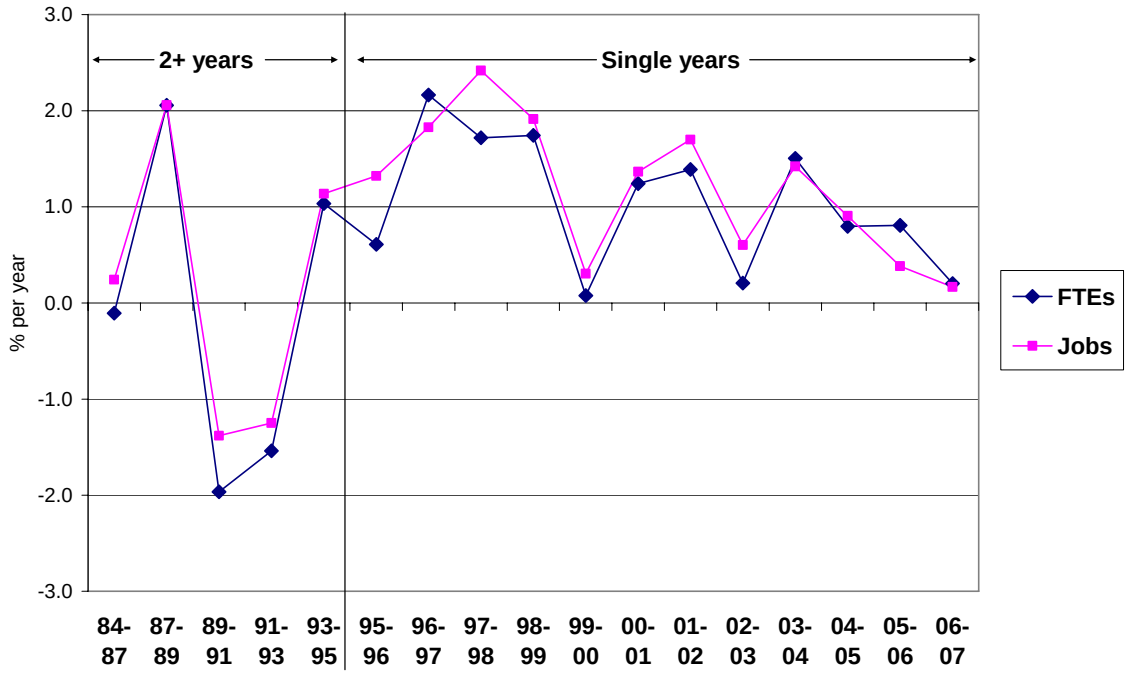
There was considerably faster growth in part-time than full-time working, but the picture remains very positive even after allowing for the effect of this. For the full period, the eight city regions combined saw their FTEs rise by 619,000, equivalent to almost 27,000 a year and an average annual increase of 0.50 per cent. Again, this is in

spite of the major net loss sustained in 1989-93, which appears even more pronounced in terms of FTEs because of the big increase in the share of part-time work then. The total increase for the 14 years since then amounts to 783,000 FTEs, averaging 56,000 or 0.77 per cent a year.

If we ask whether these city regions have been on the same continuous upward trajectory since the 1990-93 recession, however, a rather different picture emerges, especially if focusing on the FTE measure that estimates the total amount of work. Table 1 shows that the annual average net increase in FTEs was at its highest in the immediate post-recession period, at 68,000 a year and fell thereafter, especially in the final period. This represents almost a halving of annualised growth rate, down from 1.36 per cent in 1993-1998 to 0.70 per cent in 2002-07. In terms of total jobs, it is 1998-2002 that appears as the strongest growth period, thanks to the big increase in the proportion of part-time working then, but even that is not strong enough to raise the annualised growth rate above the 1.34 per cent level of 1993-98. Nevertheless, whichever of the two job-based measures is used, these eight city regions are found to have been at their least dynamic in the last of the three post-1993 periods.

Finally, in order to make sure that this apparent deceleration of growth is not purely an artefact of this particular periodization, Figure 1 breaks down the change over the 23-year period into as fine-grained a time series as is allowed by the data source. In interpreting the graph, it must be borne in mind that 1984-95 is collapsed on the graph compared to the latter half of the study period and is also more averaged out. Also, less attention should be given to the level in any one year than to the longer-term pattern.

Figure 1. *Annual average change in total employee jobs and FTEs in all sectors except farming, forestry and fishing, 1984-2007, for 8 City Regions, per ce***nt**



Even with these caveats about Figure 1, there can be no doubt about the key message sent out by its data on both jobs and FTEs. Following the resumption of growth after the 1989-93 recession, the eight city regions' rate of growth peaked in the latter half of the 1990s and has been pretty much on a declining trajectory ever since. In particular, the last five years reveal no sign of a sustained upturn. It must therefore be concluded that, while in aggregate these city regions were still gaining jobs at the end of the study period, the rate of growth was by then well down compared with the level of a decade earlier and had been undergoing a fairly steady deceleration since then. It can be argued that the deceleration is connected with the arrival of 'full employment' and the reduction of labour supply. If we turn from now on to comparisons with the country at large, it is clear that this last argument should apply *less* in city regions than in the rest of the country; their number of claimants for unemployment benefit had fallen proportionately to England as a whole from 2002, but the only city region left with a lower unemployment rate than England's, 2.2 per cent at the relevant date of 2007, was that of Bristol (Liverpool and Birmingham stood at 3.7 and 3.8 per cent respectively).

The performance of the eight city regions combined relative to England

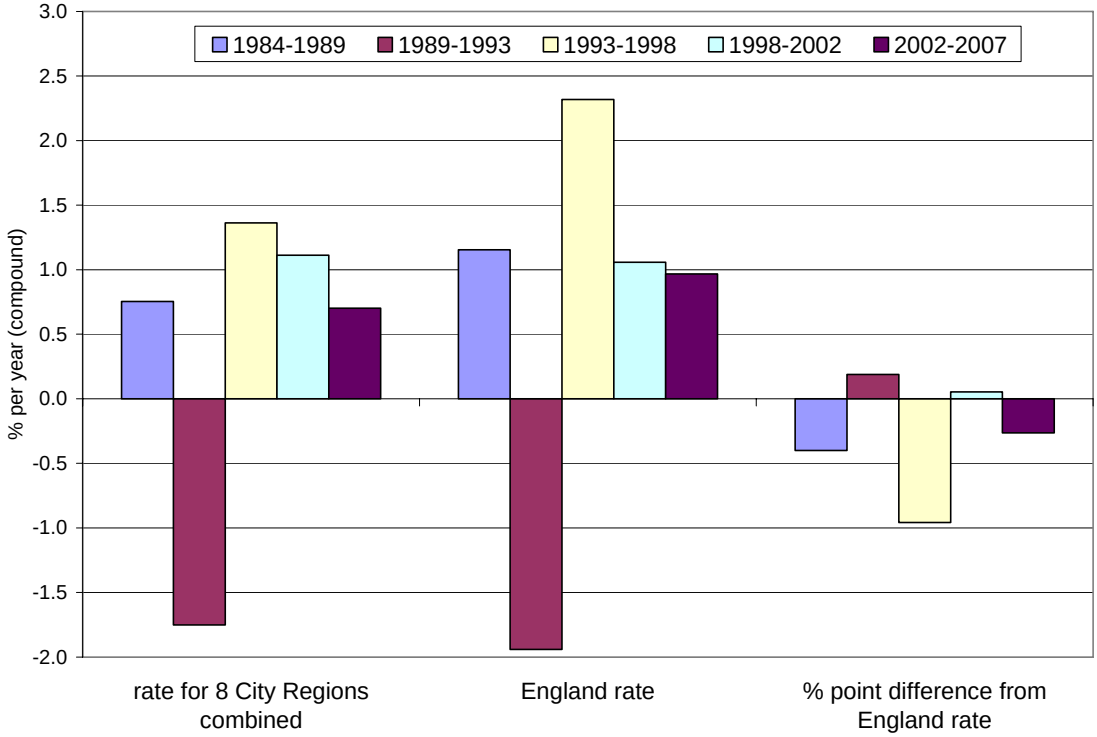
While the volumes and rates of employment change presented above are of most immediate concern for the residents and stakeholders of the eight city regions, in more strategic terms it is important to set them in a wider context. In particular, how does that performance compare with the record for the country as a whole? It could be, for instance, that their slowdown in job growth in the last ten years of the study period was a nationwide phenomenon partly evident in the trend of GDP, with the city regions merely tracking this and possibly faring better than it. Equally, the strong recovery that the city regions achieved in 1993-98 may simply have followed the national trend or indeed possibly failed to match it. More generally, have the city regions been punching at their full weight and how has their contribution to national growth varied over time?

These questions are addressed here with reference to FTEs, though from what we have seen above it would appear that the main findings would be little different if presented in terms of total jobs. The most direct approach is by comparing the growth rates shown for the city regions in Table 1 (final column) with the equivalents for England as a whole. This is done in Figure 2, which also charts the percentage point deviation of the city regions' rate from the England one. Three points come across clearly:

- The pattern for the eight city regions does broadly parallel the national trends, with net growth in the first period followed by the severe rate of annual net loss in the 1989-93 recession, then by the great resurgence in the growth rate in 1993-98 and finally by the subsiding of growth rate since then.
- In comparison with the national rate of change, the city regions underperformed in the first period but then weathered the recession period slightly better than England as a whole.
- Since 1993 it is only in 1998-2002 that the city regions exceeded the national rate and even then only by a small margin. Their recovery in 1993-98 was by a

considerably lower rate than the national one, and their reduction in growth rate between the final two periods was somewhat larger than England's.

Figure 2. *Annual average change in FTEs for all sectors except farming, forestry and fishing, 1984-2007, for 8 City Regions, England and the % point difference*



It was therefore in only two of these five periods that the eight city regions were pulling their full weight. As can be seen from Table A1 in the Annex, they contributed almost 32 per cent of England's total FTE growth in 1998-2002, which was marginally above their 30 per cent share of England's stock of FTEs at the start of this period. Also, in the 1989-93 recession, they had been responsible for 28 per cent of the national loss, which represented a somewhat less severe loss than expected from their share of the national stock then. In the other three periods, by contrast, their share of England's growth was well down on the expected level: 21 per cent in 1984-89, 18 per cent in 1993-98 and 22 per cent in 2002-07. Taking the 23-year period as a whole, their contribution to overall national growth was, at 19 per cent, less than two-thirds of the level needed to maintain their share of England's total FTEs. That share was 2.0 points lower in 2007 than in 1984 as a result.

In order to provide more detail about the eight city regions' experience compared to the national context, Figure 3 presents data on their net change in FTE numbers alongside those for the London city region (comprising 28 per cent of England's total in 2007, i.e. almost as large as the eight city regions combined) and the rest of England (accounting for the remaining 42 per cent). The time series is mainly for 2-year periods, so less volatile than Figure 1. Figure 3 reinforces the finding that the relatively small size of the eight city regions' contribution to national FTE change has been a rather consistent feature. On this basis the only exception is in 2001-03 when their net gain coincided with a net loss for the London city region and also dwarfed the net gain made by the rest of England.

Figure 3. *Annual average change in number of FTEs for all sectors except farming, forestry and fishing, 1984-2007, for 8 City Regions, London City Region and Rest of England*

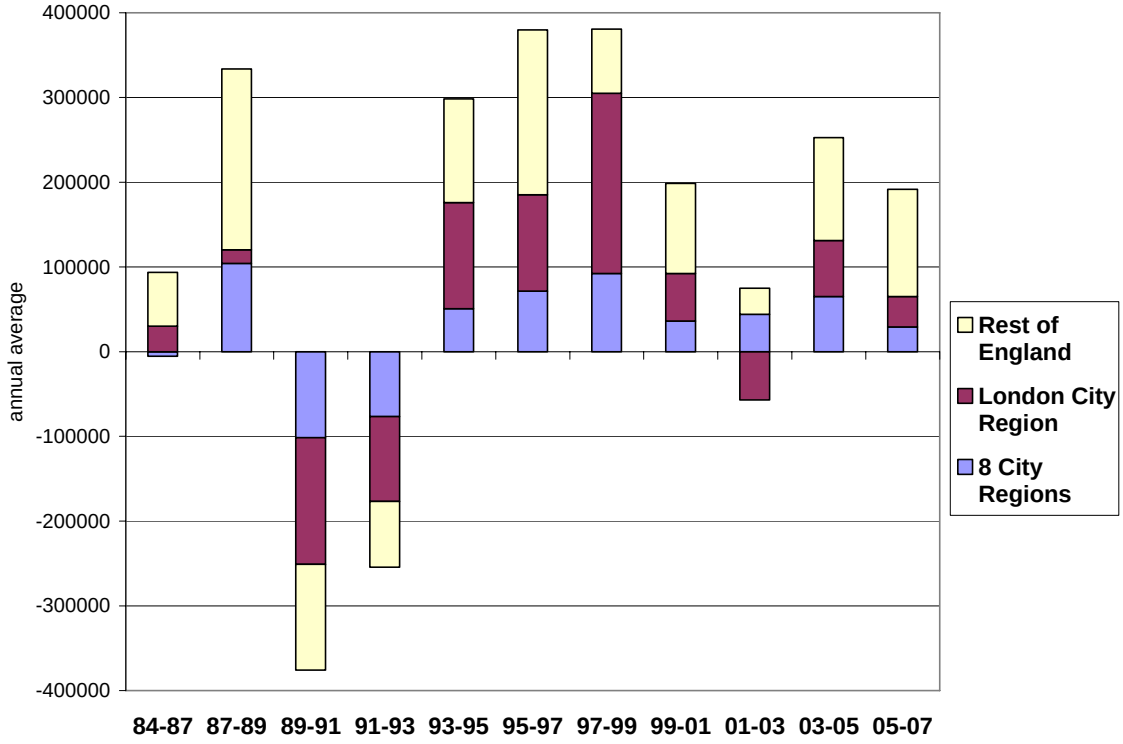


Figure 4. *Annual average change in FTEs for all sectors except farming, forestry and fishing, 1984-2007, for 8 City Regions, London City Region, Rest of England and England, per cent*

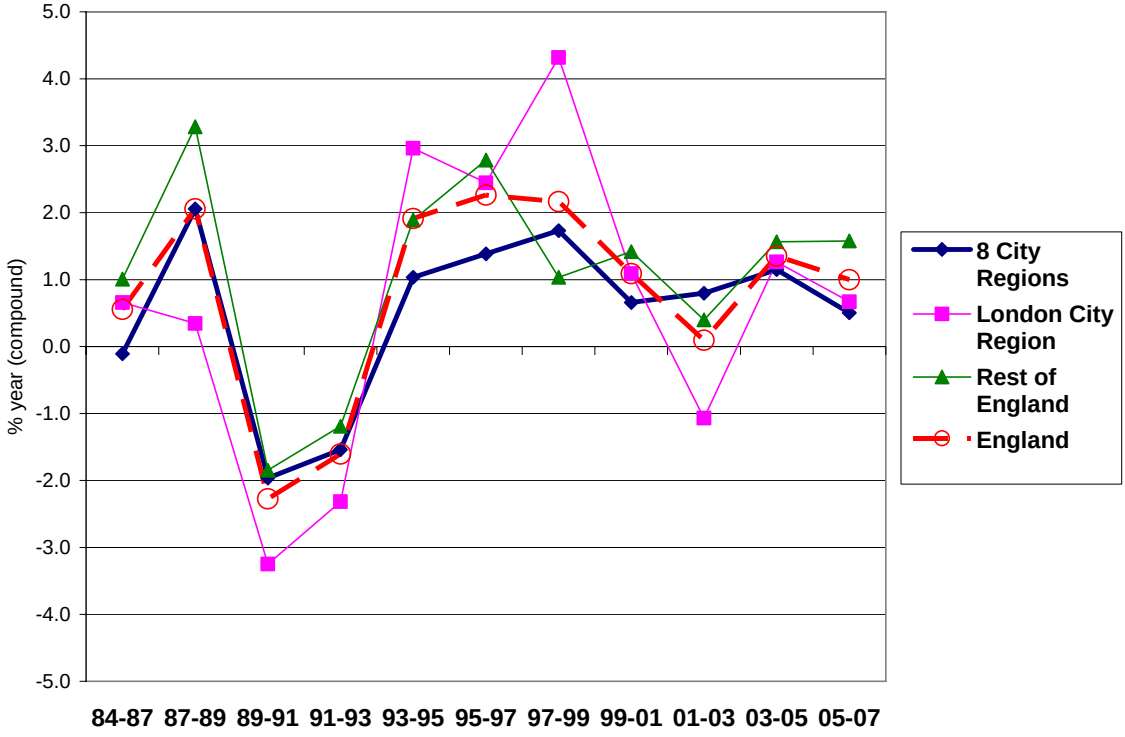


Figure 4 shows how these volumes of FTE change translate into rates and includes the overall national rate in order to gauge the relative performance of the three parts of England. While all three broadly follow England's ups and downs, there are certain key differences. Mention has been made above of the eight city regions weathering the 1989-93 recession better than England, and this can now be seen to be due to London being hit the hardest then, as a novel feature in the century in the UK history of recessions. Secondly, there was only one other period when the city regions performed more strongly than London, and that was during the dot-com recession of 2001-03. Since then they have been more or less paralleling London's below-average rates. Meanwhile, the rest of England has been gaining FTEs faster than the national rate and indeed widened the gap in the final two years. This confirms the point, made from the reading of employment rates in 2008, that the worsening of the 'North-South Divide' had returned as an active trend before the current recession (for example, Carpenter and Thorp, 2008).

In sum, this focus on the eight city regions' performance relative to the whole of England and to the other two parts of it examined here presents a somewhat different picture from looking at their trajectory in isolation, particularly in relation to timing. Obviously, it does not challenge the fact that since the 1989-93 recession their strongest absolute gains were made in the latter half of the 1990s, but relative to events elsewhere in the country they put in their best showing in 2001-03. Since then they have resumed their relative underperformance, though this is due both to London's recovery from the dot-com recession and to the renewed growth of the rest of England.

A final observation to be drawn from Figure 4 relates to the difference between the three parts of England in the volatility of their rates across this 23-year period. In particular, the eight city regions exhibit the smallest amplitude and the London city region by far the greatest. Very little of this difference can be put down to the tendency for smaller aggregates to have more extreme values, because London is almost as large as the eight city regions combined (see above). Instead, the answer will partly lie in how the 1990-2008 economic cycle unfolded spatially, starting in London and south-eastern England and continuing there for some time before growth ripples out across the rest of the country, giving the provincial regions and their cities get less chance to gain from the recovery.

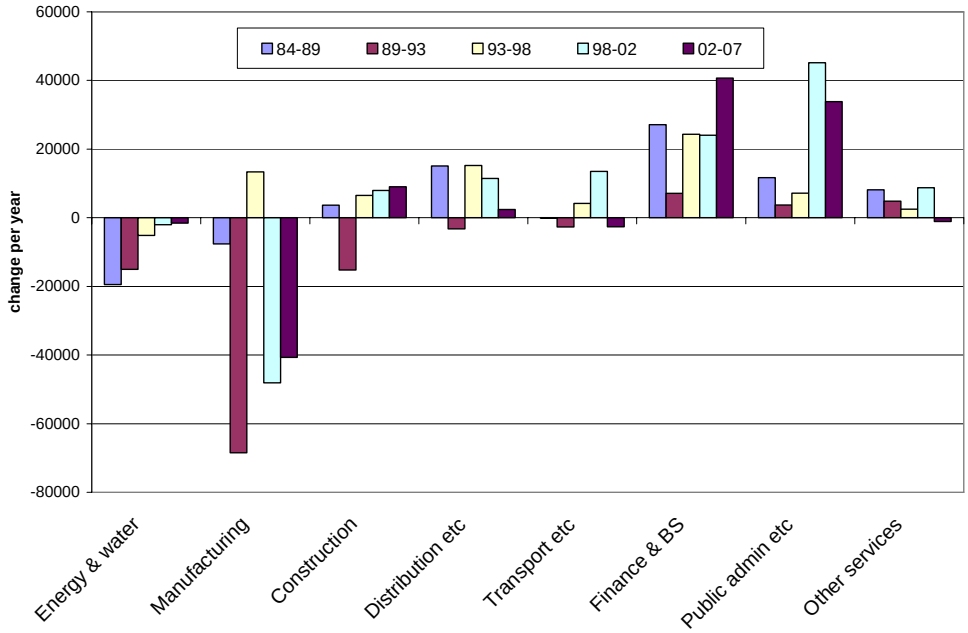
This was a total departure from the manufacturing recession of 1980-83. Research for the Northern Way (Deloitte, 2009) indicates that the faster recovery of the south in the 1990s was due to greater attention there to the training and preparation for recovery during the recession itself. The London city region's bounce from the post-dot-com recession is another example of differential growth compared with provincial cities. Part of the explanation for differential volatility over the period as a whole, however, is very likely to stem from variation in the industrial composition of the growth, with some sectors being more likely than others to contract during a recessionary period and bounce back in the next boom. The next section, therefore, turns to the sources of growth for the eight city regions and examines how these compare with the drivers of England's economy as a whole.

The role of eight industrial sectors

The direct reasons for the two principal features of overall employment change observed above for the eight city regions are examined here through sectoral disaggregation for each of the five periods. Change in FTEs numbers is broken down into eight sectors in order to see which contributed most to making 1993-98 their strongest period of economic growth of the last quarter of a century. We also compare their growth rates with those of England as a whole in order to discover why it was in 1998-2002 that the city regions were doing best relative to the national picture and explain why the city regions did not manage to sustain that performance till the end of the study period.

The eight sectors' changes in FTE numbers are shown in Figure 5, based on the data and industry headings in Table A2 (see annex) but expressed as annual averages to allow for the different lengths of the five periods. The main impression is of a distinction between the two sectors that suffered net loss over the study period and the other six which achieved net growth in FTEs, though not necessarily in all the five periods. Among the latter, the largest single growth sector can be seen to be financial and business services, for which the annual figures shown add up to an overall gain of 585,000 FTEs over the 23 years. It must be noted at the outset that financial services themselves have not played a major part in this growth, although they will have stimulated the rapid development of 'business-to-business' services in this period. The latter include property development, most of the related professions, computer software firms, business and management advice, and industrial cleaning. The largest single group lay in manpower services, including the supply to others, chiefly on a temporary basis, of personnel hired by, and paid by, the agency, a lot of this to offices in the same sector. The other major contributor was public administration, up by 459,000 FTEs over the study period.

Figure 5. *Average annual change in numbers of FTEs, 1984-2007, by sector, for 8 City Regions combined*

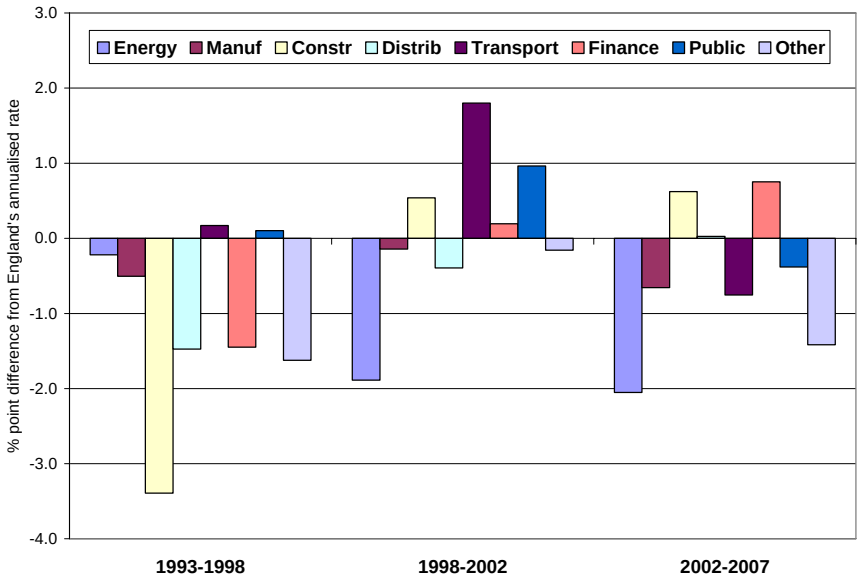


At the same time, it is unwise to forget the industrial legacy of the many urban areas included in these city regions. In terms of the timing of these changes, and especially the question of why it was in 1993-98 that the city regions experienced their highest overall growth rate, a major part of the answer would seem to lie in the two declining sectors. In the first place, the 'shake-out' of work in energy and water appears from Figure 5 to have almost run its course by 1993. More important, however, is manufacturing's impressive recovery from the huge losses of 1989-93 and its almost as impressive resumption of heavy losses from the late 1990s. in particular, while 1993-98 also saw upward shifts in the change in FTE numbers for all the other sectors except 'other services', the rise from their 1989-1993 levels totalled less than manufacturing's shift from loss to gain between the two periods.

Figure 5 also reveals why the final period saw a further slump in the city regions' overall growth rate rather than any recovery. The slowdown from 1998-2002 was due to a weakening of four of the six growth sectors, including two moving into net loss and a very notable reduction of the volume of job gains in public services. The latter is connected with the spread of improved staffing to *other* parts of England, and a national transfer of the balance of increase from education (particularly primary schools) to health and social services (particularly hospitals). Even the near doubling of FTE gains by the financial and business services sector between these two periods was unable to compensate for this.

Turning to the question of why the eight city regions performed better against the national average in 1998-2002 than in the periods immediately before and after this, Figure 6 shows the percentage point differences from England's rate for the eight sectors, grouped by period. From this, it can be seen that in 1998-2002 the city regions achieved much more positive than average growth in transport and public sectors and somewhat faster growth in construction and in financial and business services. Because of its large size, the public sector is the real key, its growth by some 180,000 FTEs accounting for nearly half of England's total increase.

Figure 6. *Change in FTEs by sector, 1993-2007, for 8 City Regions, % point difference from England's annualised rate*



How big has the overall structural shift been? Table 2 summarises the impact of these 23 years of change on the contribution of the eight city regions to the national economy by sector. In 1984, while they contained 32 per cent of FTEs across all sectors, they accounted for over half of England's FTEs in energy and water. Over the study period shrinkage also occurred in the city regions' share of England's FTEs for manufacturing, construction, distribution, and other services but the city regions increased their share of the country's FTEs in transport, financial and business services, and public administration. In 2007, the city regions' biggest structural biases were their higher than England's shares of FTEs in public administration and manufacturing and lower representation of financial and business services. This difference is of fundamental significance for the future: it is difficult to ignore the contribution to this legacy of the government's role in stepping up FTE activity in public services in these urban parts of provincial England after 1997, and of the continuing spread of business services to many areas after 2002.

Table 2. *City Regions' share (%) of England's total FTEs, by sector, 1984 and 2007, and sectoral composition of FTEs compared with England's, 2007*

Sectors	8 City Regions' share of England's total		2007 composition (% all sectors)		
	1984	2007	8 City Regions	England	difference
Energy & water	51.8	29.7	0.6	0.6	0.0
Manufacturing	35.9	34.5	14.0	12.1	1.9
Construction	34.0	33.8	6.1	5.4	0.7
Distribution	29.8	28.5	20.9	21.9	-1.0
Transport	26.7	27.6	6.1	6.6	-0.5
Financial & BS	24.7	26.5	20.9	23.5	-2.7
Public admin	30.7	32.6	27.1	24.8	2.3
Other services	29.8	25.6	4.3	5.0	-0.7
All sectors	31.9	29.9	100.0	100.0	0.0

Notes: see Annex 2 for full titles of sectors.

The eight city regions individually

Following on from the disaggregation of the city regions' economic performance by industrial sector, this section aims to achieve further understanding through the separate tabulation of the eight cities. While the Core Cities have bound together to counter the weight of London, they differ considerably in other respects that are likely to impinge on their recent economic performance. Five lie within the policy remit of the Northern Way, but even here contrasts are often drawn on the basis of their historical legacies and the extent to which they play a 'regional capital' role. Birmingham has been considered part of the northern half of England since the West midlands was badly hit by the manufacturing-centred recession of the early 1980s, while Nottingham is more borderline in the sense of being in the East Midlands and

thus part of the South and East of England, like Bristol, for SOTEC. Here we look first at the differences between their city region growth rates for the full study period, then at their trajectories through the periods used above, and finally examine how far each has managed to capture work in the two main growth sectors of the post-1993 era.

Their individual performances for the aggregate of all sectors besides farming, forestry and fishing are shown in Table 3, alongside the rates for the comparison areas used above. Bristol was clearly the star performer for 1984-2007, though even this was only just on a par with the rest of England. Leeds is the only other city region to match the England rate and grow faster than London, while Manchester ranks just below the latter. The weakest performance was by Liverpool, which was the only city region to end up with fewer FTEs than in 1984 according to the way in which we have allowed for the methodological changes in the jobs count.

Table 3. *Annual average change in FTEs for all sectors except farming, forestry and fishing, 1984-2007, % compound rate*

	1984-2007	1984-1989	1989-1993	1993-1998	1998-2002	2002-2007
Birmingham CR	**0.31**	0.71	-2.39	2.05	0.38	0.28
Bristol CR	**1.20**	2.03	-1.02	1.55	2.77	0.53
Leeds CR	**0.82**	1.45	-1.32	1.57	1.39	0.69
Liverpool CR	**-0.04**	-0.31	-1.84	-0.13	1.84	0.24
Manchester CR	**0.60**	1.26	-1.73	1.24	1.20	0.70
Newcastle CR	**0.51**	0.01	-0.68	0.80	1.51	0.87
Nottingham CR	**0.42**	0.66	-2.08	1.78	-0.52	1.59
Sheffield CR	**0.21**	-0.32	-2.50	1.31	0.79	1.35
8 CRs	**0.50**	0.75	-1.75	1.36	1.11	0.70
London CR	**0.64**	0.53	-2.78	3.10	1.07	0.70
Rest of England	**1.16**	1.91	-1.52	2.51	1.01	1.34
England	**0.81**	1.15	-1.94	2.32	1.06	0.97

Notes: CR City Region.

With regards to the phasing of growth over time, as in the previous section we are particularly interested in how it was that the eight city regions combined recorded stronger growth in 1993-1998 than in the two subsequent periods and whether there are any cases of accelerating growth. As shown in Table 3, just four of the city regions paralleled London and the rest of England in achieving their fastest post-1993 growth in 1993-1998, namely Birmingham, Leeds, Manchester and Nottingham. For Bristol, Liverpool and Newcastle the peak was reached in 1998-2002, while for Sheffield the rate was marginally higher in the final period than in 1993-1998, with a dip in between. Five city regions exceeded England's overall rate in 1998-2002, compared with only two in 2002-07 and none in 1993-98.

We now turn to the question of how each city region has performed in relation to the two main growth sectors of the post-1993 era. Table 4 shows the average annual change rate for financial and business services and for public administration, defence, education and health, in which the eight together achieved FTE growth of 421,200 and 385,400 respectively over the 14 years, allowing for the effect of changes in survey methodology. As regards the financial sector, the strongest growth over the full period was achieved by Nottingham, followed by Leeds, Manchester and Sheffield. As regards the phasing over time, the most consistent growth can be seen to have taken place in Manchester and Leeds, while Newcastle performed on a par with these in the final two periods and the other five cases registered lower or more volatile rates. The degree of variation between the eight city regions in the whole-period rate is considerably smaller for the public sector, with Sheffield and Nottingham marginally ahead and the lowest growth being for Liverpool, Manchester and Newcastle (Table 4, final column). The phasing over time is also much more consistent than for the financial sector.

Table 4. *Average annual rate of change in FTEs in two sectors, 1993-2007, for 8 city regions, % annualised*

City Region	Financial and business services				Public administration etc			
	1993-1998	1998-2002	2002-2007	**1993-2007**	1993-1998	1998-2002	2002-2007	**1993-2007**
Birmingham	3.7	1.1	2.4	**2.5**	0.4	3.9	3.0	**2.3**
Bristol	3.8	1.1	2.8	**2.7**	0.8	4.9	1.4	**2.2**
Leeds	4.7	2.8	3.6	**3.8**	1.3	3.1	2.0	**2.1**
Liverpool	1.0	6.6	1.7	**2.8**	0.2	3.2	2.0	**1.7**
Manchester	3.4	3.6	4.1	**3.7**	0.4	2.9	2.1	**1.7**
Newcastle	-0.7	4.1	4.6	**2.6**	-0.2	3.8	1.9	**1.7**
Nottingham	3.5	0.0	8.2	**4.2**	3.2	0.3	3.4	**2.4**
Sheffield	3.8	0.8	5.6	**3.6**	-0.1	5.8	2.8	**2.6**

What is perhaps of most interest from these patterns is that the restructuring of these provincial economies has in the end proved fairly comprehensive and generally provided overall growth. The main exception is the Liverpool city region, which – as the Merseyside Development Area – was the first to be identified for its employment problems by the governments of the 1945-79 period and then failed to respond to national trends until after 1997. Most of the other city regions were identified by Townsend (1983) as the 'manufacturing heartland' on the basis of their responses to recession and, part from Sheffield, began a long period of diversification into services from 1984. The diffusion of new growth not only reached Leeds but also the rest of the Yorkshire, Derbyshire and Nottinghamshire former coalfield in the shape of the Sheffield and Nottingham city regions, especially in the 2002-07 period. The two cities which did not count as regional capitals, Liverpool and Sheffield, finally gained from the spread of growth in the later periods, but Liverpool stood alongside Birmingham in entering the new recession with higher rates of unemployment, reflecting their low rates of employment growth since 2002.

Core Cities compared to the rest of their city regions

So far this paper has been assessing the economic dynamism of the eight city regions, both in aggregate compared to London and the rest of England and also compared to each other. Now we turn to the question of whether the Core Cities have been leading the growth of their regions. To do this, we again use the workplace-based FTEs and examine what differences exist between the growth of the eight Core City local authorities (LAs) and that of the rest of their city regions, looking to see how this relationship has changed over time since 1984. Space limitations dictate that we concentrate on the picture for the eight cases combined, both in absolute and percentage terms.

We must recognise that the eight local authorities which form the Core Cities were alone responsible for a net addition of 127,200 FTEs over the total period 1984-2007, 20.5 per cent of the city regions' total change. The remarkable feature is that 117,700 of the net change was achieved in only four years, 1998-2002, when it constituted 48.5 per cent of total city region change. The narrative of the Core Cities Group has great resonance as a memory of that period, but little against longer-term analysis of percentages.

Figure 7. *FTE change, 1984-2007, for Core City LAs and Rest of City Regions: per cent change and percentage point difference from England's rate*

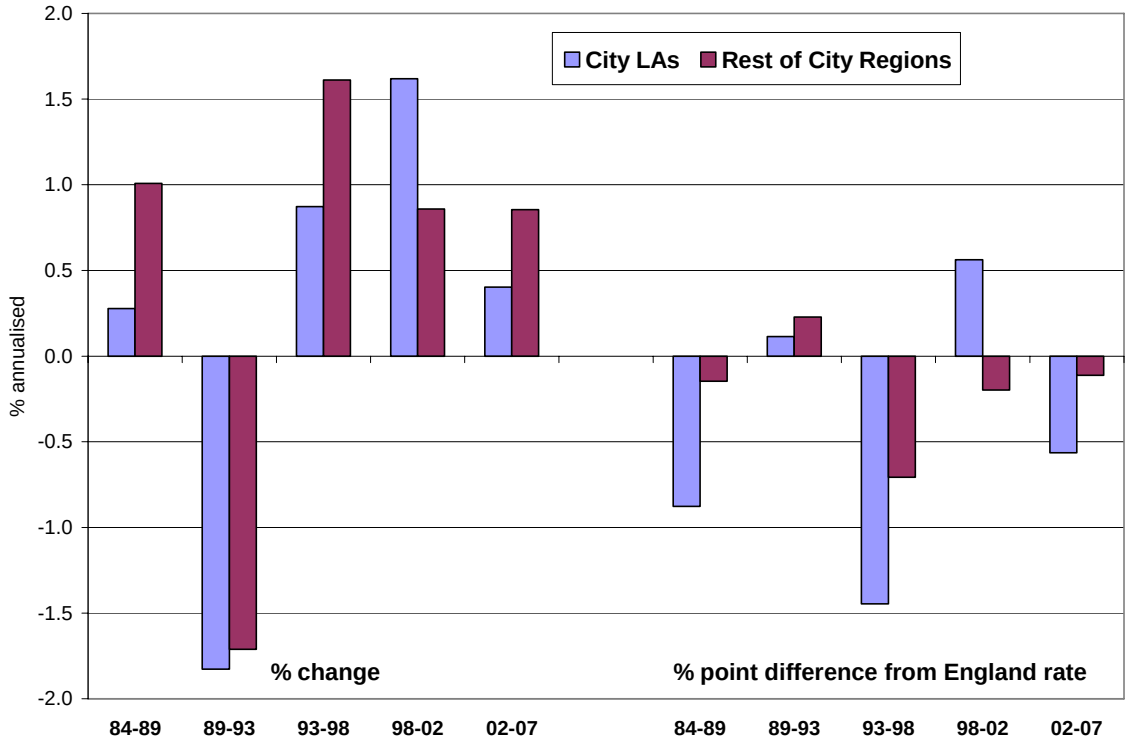
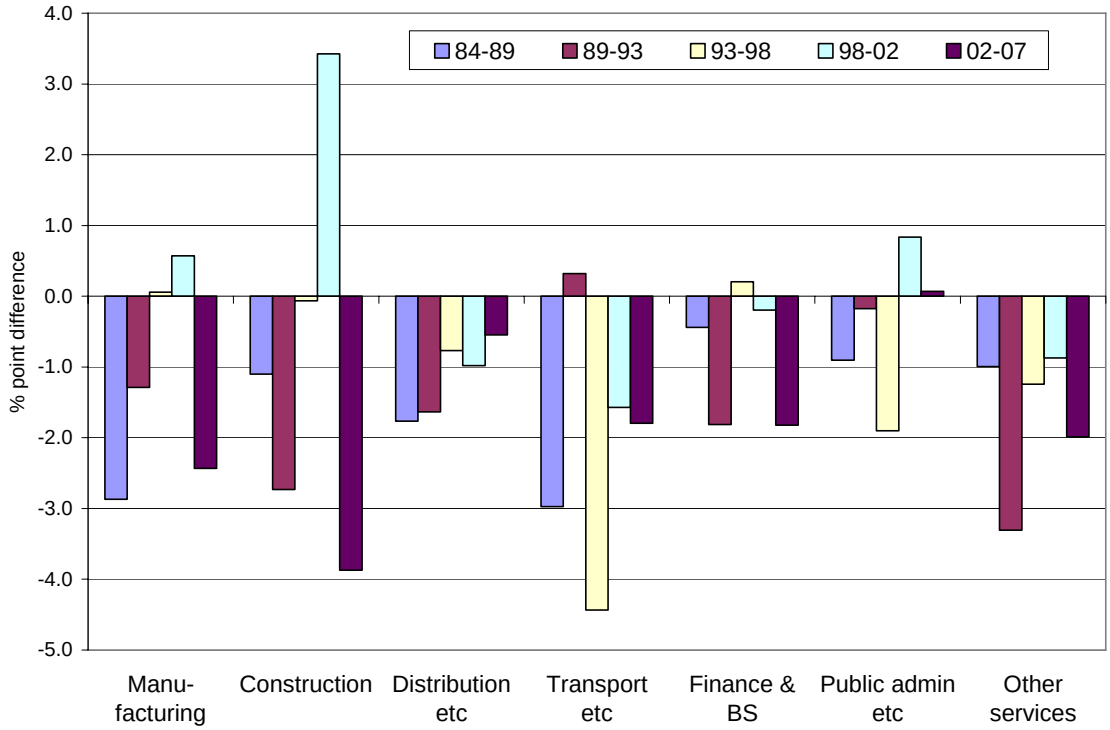


Figure 7 provides a comparison of absolute percentage rates of change for the eight Core City LAs, compared with the rest of their city regions (RCRs). It is surprising but clear that Core City LAs do better than RCRs only in 1998-2002, and this is the only performance which stands better than England as a whole apart from both their parts weathering the 1989-93 recession slightly better than the country. This could be

interpreted as the Core Cities gaining a new spurt of growth in 1998-2002, which then filters out to the RCRs after 2002 in the manner of leads and lags, partly through the outward re-location of successful establishments. Given the dearth of research on the decentralisation of offices from provincial cities, this raises profound questions about the reasons for the RCRs doing better than Cities in 1993-98 and then slipping back.

To identify the direct factors affecting the relative growth of the City LAs and the RCRs, Figure 8 plots the City LAs' premium for the seven largest sectors separately. This reveals the stronger percentage growth rate performance of the RCRs more or less across the board. Almost the only exception is again in the 1998-2002 period, with the Cities having the higher rates for construction, public administration and manufacturing. The only others above the line are public administration in 2002-07, financial and business services in 1993-98, transport and (narrowly) manufacturing in 1989-93. These few departures from the predominant decentralisation tendency do not count for much when we recall that the RCRs include large old urban units such as Sunderland, Bradford, and Wolverhampton as well as non-coalfield commuting areas in North Yorkshire, Warwickshire and the former County of Avon.

Figure 8. *Excess of Core City LAs' rate of change over Rest of City Regions' rate of change in FTEs by sector, 1984-2007, percentage point difference*



A relationship between employment and population change?

Our final research question is the extent to which any link exists between the employment changes observed for the eight city regions and any population revival. The evidence provided by SOTEC, suggested some upturn in population trend by 2003, but one that was much more muted than for employment. How has this relationship played out through to 2007 for the city regions in the present study? Does

the available evidence suggest any clearer link between employment and population trends here, or are the two largely independent of each other? Perhaps in weaker local economies much more of the response to job growth can come from the more effective use of the population already there through a reduction in rates of unemployment and inactivity and a switch from part-time to full-time working. Alternatively, population change may lead to job growth through a service multiplier effect.

Figure 9 shows the relationship between FTE change and population change for the eight city regions combined, using the five periods. The principal impression is of population change being the much less volatile of the two. The other striking feature is the apparent negative relationship between the two. In the first three periods, population falls when FTEs are increasing, and vice versa. Then, as the annual rate of FTE growth subsides after 1993-98, the population growth rate moves progressively upwards. This counter-intuitive finding raises the possibility that time lags are occurring.

Figure 9. *Change in FTEs and population for eight city regions combined, 1984-2007 by period*

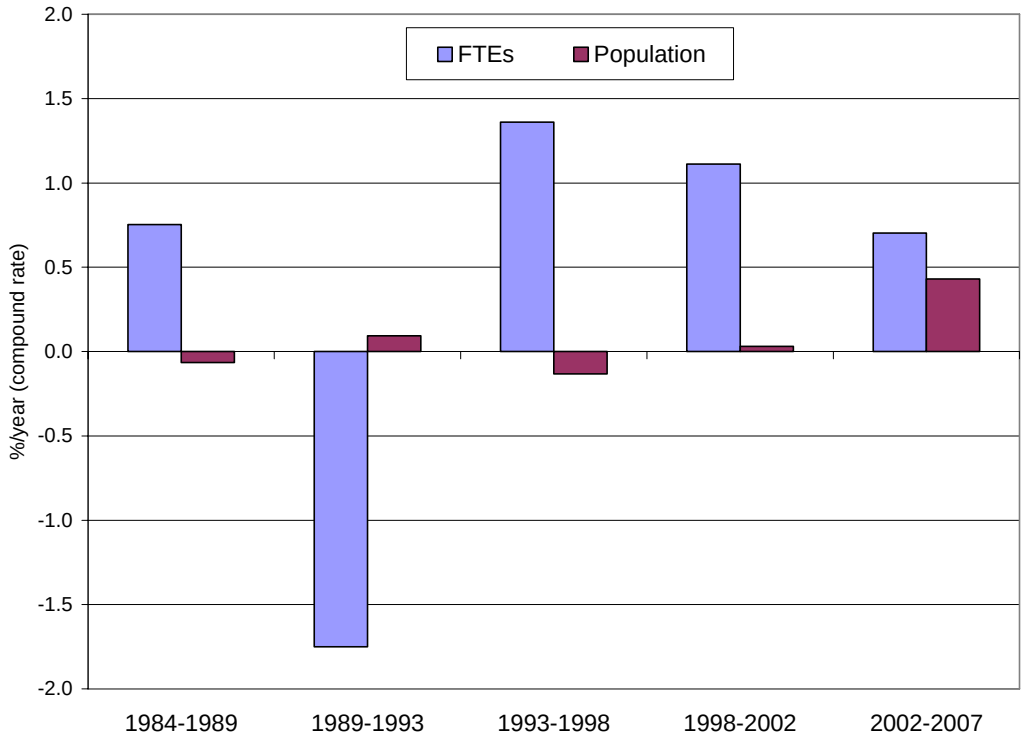
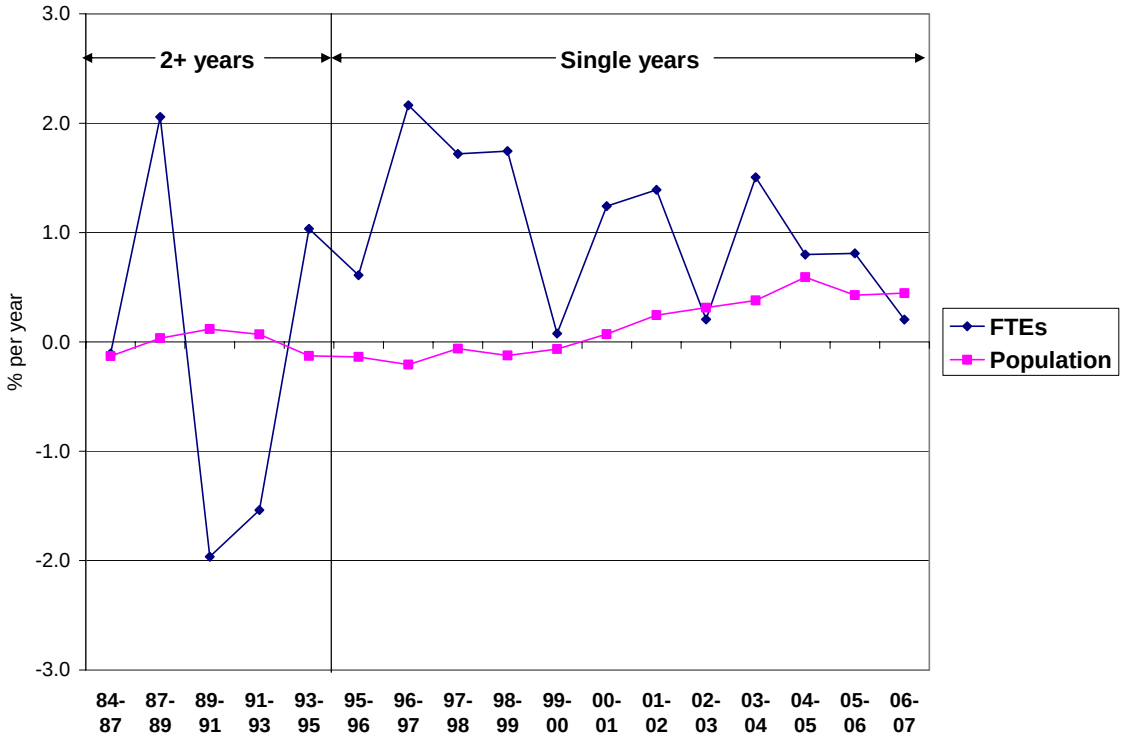


Figure 10 tests for time lags by showing all the periods for which employment change can be calculated. The picture is rather mixed. The part that is based on the one-year change periods from 1995 is suggestive of a substantial lag in the population response to economic recovery. The population recovery appears to get fully underway in 1999-2000, some 7-8 years later than the first signs of economic upturn in 1991-3. Population growth then accelerates consistently through to 2004-5, again around 8 years after the peak level of job growth was reached. This helps to account for Figure 9's rather incongruous pattern of population growth rate moving steadily upwards over an 8-year period when the rate of FTE growth was generally subsiding. This

relationship, however, makes sense in terms of the main part of the economic recovery being the time when the labour surplus was used up. Only later, as FTE growth continued albeit at a slower rate, had the labour market tightened sufficiently to prompt a migration response. On the other hand, this interpretation seems less applicable to the previous economic cycle of recovery and recession in 1984-1991, where it looks as if population growth was still on an upward trajectory after the economy of the eight city regions had plunged into recession in 1989-1991.

Figure 10. *Change in FTEs and population for eight city regions combined, 1984-2007 for full time series*

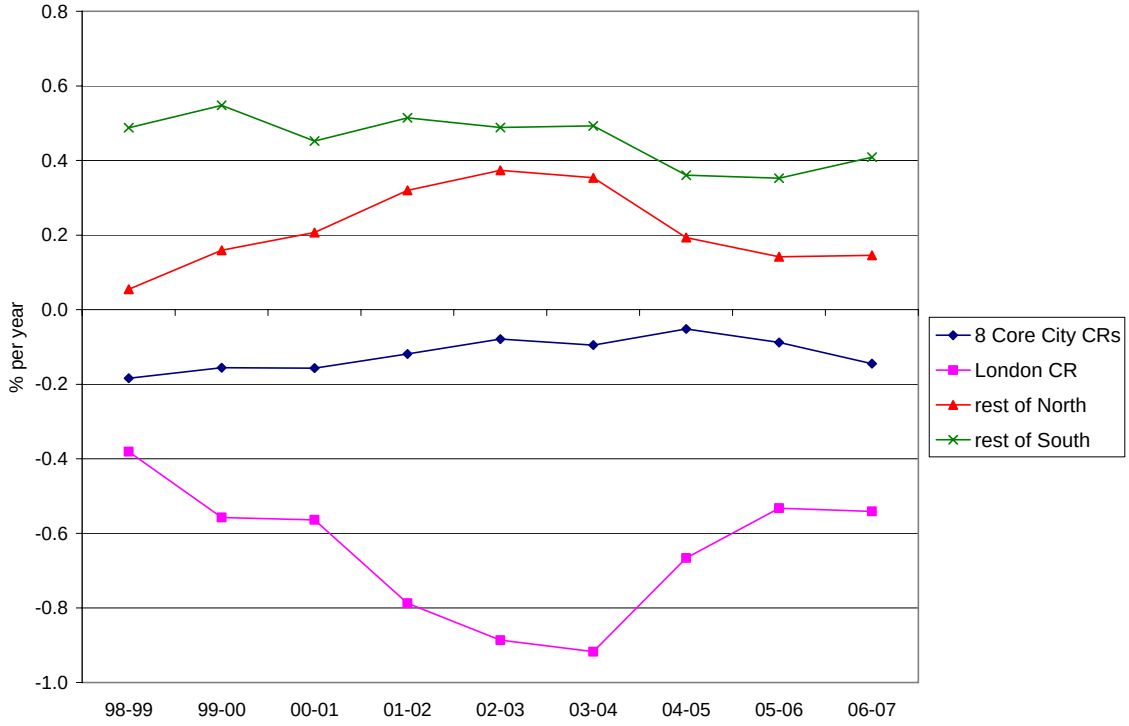


This picture of apparently long time lags between FTE and population change, and indeed the general lack of congruence between the two series, may also reflect the fact that these eight cities are subject to forces over which they have very little control, largely owing to their second-order status. As shown by Fielding (1993), as far back as the 1970s London was acting as a strong magnet for the young adults of other regions, but this effect tends to operate at a reduced level during recessionary periods. Indeed, at such times there can also be a higher level of return migration from London, swelling the populations of the second-order city regions even as their economies are contracting.

Some indication of this London effect can be obtained from Figure 11. This shows the net within-UK migration rate for the second-order city regions combined, compared with those for London's city region and the rest of England, with the latter divided into North and South on the basis of the SOTEC definition. For the eight city regions, there was a steady upward shift in rate till 2004-05, corresponding closely with the trend shown for total population change in Figure 10. This migration trend can be seen to be largely the mirror image of London's, which was on a downward path till 2003-04. It appears that, while the rest of the South of England has continued to be

the major gainer from within-UK migration, it is the rest of the North that was the main beneficiary of the trends reported between 1998 and 2004.

Figure 11. *Net within-UK migration rate, 1998-99 to 2006-07, for eight city regions, London city region, rest of North and rest of South*



Once again, England's second-order cities and the regions that they serve show up in a relatively poor light. While it is the case that they saw considerable FTE growth between 1993 and 2007, the population response would appear to have been much smaller. The latter started much later, no doubt partly because of the abundant slack available in their labour markets in the initial stages of recovery from the previous recession, but also because that was the time when the economy of the London city region was growing fastest and attracting workers from elsewhere in the UK. The eight city regions in aggregate saw their population growth rate begin to recover only after their rate of FTE growth had peaked, this being closely followed by the sharp downturn in London's growth. Meanwhile, the migration fall-out from the latter seems to have benefited not the city regions but the rest of the North. In terms of both the FTE and population record, therefore, the eight city regions appear to sit rather uncomfortably between events in the London region and those taking place in the other parts of England lying beyond their main area of influence.

Conclusions

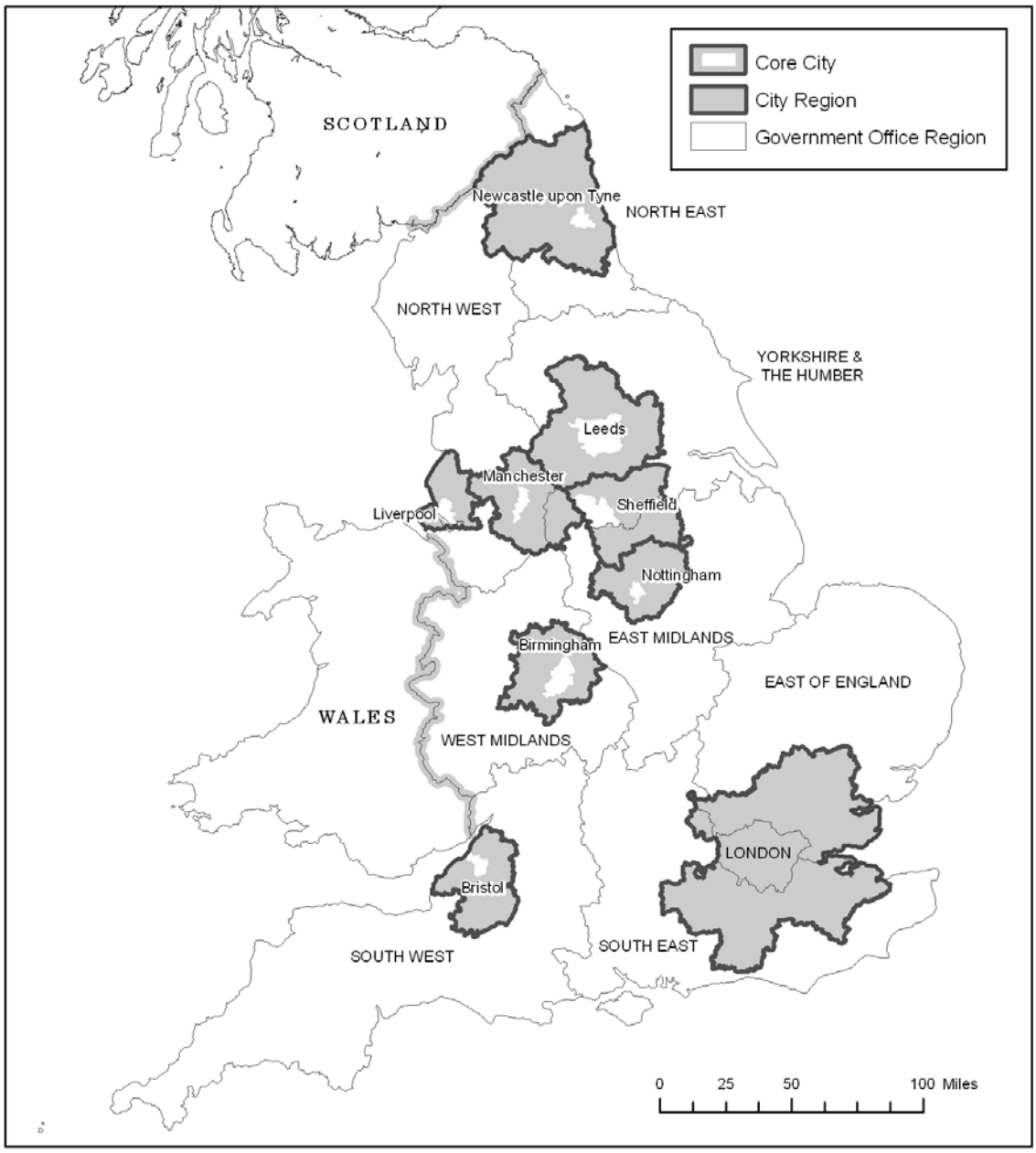
The main results of our study show how the city regions are inter-linked in their fortunes, often recursively, with the London city region and the remainder of England. The forces of counter-urbanisation have eventually reasserted themselves over those of centralization, despite inherent reasons for the growth of urban employment since the recession of the early 1980s. In this period of study, evidence shows that there was

a certain foundation for confident rhetoric from city regions as units of growth in provincial England. Over much of the period of study, this was achieved through increases in employment rates from previous depressed levels and only latterly through a cumulative, lagged effect on levels of population and migration. Rates of increase in employment levels on average peaked in city regions in 1996-7 before gradually engendering the first population increase of our study period which peaked in 2004-5 as did net migration. The London city region and southern and eastern England showed a recovery of net migration in 2005-6. The spread of growth to more rural areas of the South had already taken over in relative terms before 2007 and the 'credit crunch'.

There is a clear precedent of strong growth following on from the last two major recessions. This involved a relative newcomer in the shape of financial and business services sector. It appears that its centralistic nature, compared with other sectors, is the best explanation of absolute growth in the eight city regions. The renewed reduction of manufacturing jobs, however, was one of the underlying factors reasserting themselves from 1998-2002 and 2002-07. Led by the public sector, the former was a relatively short-lived heyday for the city regions, in particular for Core City LAs: both lost their shares of growth in 2002-07 due to a combination of changes over a variety of sectors.

By contrast, the London city region recovered well from the financial downturn of the early 2000s, which might imply that it will again recover swiftly from the current recession than the provincial cities. HM Treasury (2008) noted that in the year ending October 2008 the greatest gains in unemployment (on a percentage point basis) occurred not just in London but also in the Yorkshire and North East regions. By April 2009 it was clear to the Work Foundation (Clayton, 2009) that this was a recession most affecting the core cities of the North, the West Midlands and Scotland, as well as areas linked with traditional manufacturing and heavy industry that had suffered worst in previous recessions. Overall, it now seems clear that the new recession was unlike that of 1990-93, and that the roles of our two main actors, public services and financial & business services are seen as being severely constrained in the forthcoming climate, while manufacturing has repeatedly shown its ability and need to work successfully with fewer staff. There is clearly a need for future research to follow the profile of new enterprise in all aspects including its locational tendencies.

Annex 1. The City Regions



Annex 2. Allowing for discontinuities in the employment data series

As outlined in the main text, the data on employees used in this paper are based on the Annual Business Inquiry (ABI) and its predecessors, the Annual Employment Survey (AES) for 1991-98 and the Census of Employment for 1984-91. There are three main problems to be addressed in deriving a consistent series from these versions. Firstly, each was based on a different methodology, and there were also changes in the ABI in 2006, including advancing the reference month from December to September. Secondly, the Standard Industrial Classification (SIC) used to group establishments and their reported jobs into sectors has altered over time, with switches to the latest version of SIC occurring for the 1991 data and the 2003 data. Thirdly, the treatment of the farming sector has altered over time. This annex describes the methods we used to produce the single series of data on change in employment.

As regards the treatment of farming jobs in the sub-regional series, they were included up to 1987, then excluded entirely and from 1997 excluded where the number fell below a threshold that was deemed disclosive (with the result that an area can have these included in some years but excluded in others). Consistency over time in our study is achieved by omitting the whole sector of farming, forestry and fishing from all years. This course of action has an insignificant effect on the results for the city regions because of the relatively minor presence of this sector there, but should be born in mind where we present data on the rest of England.

In terms of changes in methodology that affected the count of jobs, the biggest change took place in 1998, when the ABI counted almost one million extra jobs UK-wide compared to the AES methodology. For England alone, as shown in Table A1, the addition amounted to 868,000 jobs (excluding farming, forestry and fishing), which translates into 469,000 FTEs on the basis of a part-time job averaging half a full-time job. As the counts were undertaken on both the ABI and AES bases, we have been able to get round this problem by using the AES series for calculating pre-1998 change and their ABI series for post-1998 change. The change from the CE to the AES in 1991 involved a very much smaller difference in overall count – just a few thousand – but, as data for 1991 was published on both methods, again we have used the appropriate series to calculate change and, for our period 1989-93, have averaged the annual change rates derived from the two series (see Table A1, lower panels). It was, however, not possible to use this approach to allow for the change in 2006, as the only official information on the effects of altering the reference month of the ABI was that it is thought to have reduced the count by between 0.6 and 1.3 per cent (ONS, 2007). In a quest for a consistent series, this left us no option but to factor up the counts for 2006 and 2007 using the midpoint of this range.

In terms of sectoral breakdown, the adoption of the 1991 SIC at the start of the AES series meant a substantial alteration in the definitions of the industrial sectors, and one which could only partially be allowed for by reallocating the pre-1991 categories to the new sector headings. As shown in Table A2 (upper panel), the best-fit pre-1991 definitions still mean substantial reductions in FTE counts for manufacturing and other services, with the biggest gainer being financial and business services. As data are coded for 1991 on both old and new bases, we minimize the effects of this change

by splitting our change calculations at this date (see Table A2, lower panel). We have ignored other changes in the definitions of the industrial sectors, including the adoption of the 2003 SIC in the 2003 data onwards, as these have had only minor effects at the level of the broad industrial sectors used here.

Finally, it should be noted that there are other, more generic problems with the data, particularly for sub-regional and local counts. Variations can occur from year to year in the specific locations at which multi-site firms are coded and in the inclusion or exclusion of sites. The sampling response rate will also vary over time, affecting the margin of error. These issues reinforce the need to be cautious about interpreting minor differences in counts and instead focus attention on the more substantial changes observed.

Table A1. *Total employee jobs and FTEs in all sectors except farming, forestry and fishing, 1984-2007, for 8 City Regions and England*

	Total jobs			**FTEs**		
	8 City Regions	England	% England	8 City Regions	England	% England
000s						
1984 CE	5671.1	17766.8	31.9	5031.6	15779.1	31.9
1989 CE	5950.1	19026.9	31.3	5224.0	16710.3	31.3
1991 CE	5787.0	18359.4	31.5	5020.8	15959.0	31.5
1991 AES	5786.6	18352.9	31.5	5020.6	15953.9	31.5
1993 AES	5643.1	17904.0	31.5	4867.3	15445.5	31.5
1998 AES	6031.2	20064.5	30.1	5207.7	17320.9	30.1
1998 ABI	6329.0	20932.0	30.2	5370.7	17790.2	30.2
2002 ABI	6669.7	22030.1	30.3	5613.5	18554.5	30.3
2007 ABI*	6904.8	23031.0	30.0	5813.6	19468.9	29.9
Change (000s)	8 City Regions	England	% England	8 City Regions	England	% England
1984-1989	279.0	1260.1	22.1	192.4	931.2	20.7
1989-1993**	-306.6	-1116.3	*27.5*	-356.5	-1259.6	*28.3*
1993-1998	388.2	2160.5	18.0	340.5	1875.4	18.2
1998-2002	340.7	1098.0	31.0	242.8	764.3	31.8
2002-2007*	235.1	1000.9	23.5	200.1	914.4	21.9
1984-2007*	936.3	4403.2	21.3	619.1	3225.6	19.2
Change (% annualized)	8 City Regions	England	Difference from England	8 City Regions	England	Difference from England
1984-1989	0.97	1.38	-0.41	0.75	1.15	-0.40
1989-1993**	-1.31	-1.50	0.19	-1.75	-1.94	0.19
1993-1998	1.34	2.30	-0.97	1.36	2.32	-0.96
1998-2002	1.32	1.29	0.03	1.11	1.06	0.05
2002-2007*	0.70	0.89	-0.20	0.70	0.97	-0.26

Notes: FTE Full-time equivalent, CE Census of Employment, AES Annual Employment, ABI Annual Business Inquiry.
* 2007 is adjusted by a factor of 1.00959 to allow for the change in methodology in 2006.
** 1989-1993 change is the sum of the changes, and the average of the change rates, under the 2 respective methods for 1989-1991 and 1991-1993.

Table A2. *FTEs for 8 City Regions, 1984-2007, by industrial sector*

A: Counts for selected years (000s)

8 sectors	84CE	89CE	91CE	91AES	93AES	98AES	98ABI	02ABI	07ABI*
Energy & water	249.0	151.8	138.1	129.4	82.9	57.0	51.3	43.1	35.5
Manufacturing	1619.8	1581.7	1411.2	1287.3	1183.8	1250.5	1210.5	1018.2	814.8
Construction	275.7	294.0	270.2	283.0	245.9	278.5	280.1	312.0	357.2
Distribution	888.4	963.6	942.0	976.9	985.4	1061.6	1158.2	1203.9	1215.7
Transport	302.0	301.6	294.0	296.4	293.1	314.2	315.3	369.3	356.1
Financial & BS	406.3	541.8	547.2	686.6	709.6	831.3	913.4	1009.4	1212.9
Pub admin	1029.0	1087.5	1108.7	1184.2	1177.7	1213.5	1224.1	1404.7	1573.8
Other services	261.4	302.0	309.4	176.8	188.8	201.2	218.0	252.9	247.5
ALL SECTORS	5031.6	5224.0	5020.8	5020.6	4867.3	5207.7	5370.7	5613.5	5813.6

B: Change for selected periods

8 sectors	Total change for period (000s)					Annual average change rate (% compound)				
	84-89	89-93**	93-98	98-02	02-07*	84-89	89-93**	93-98	98-02	02-07*
Energy & water	-97.2	-60.2	-26.0	-8.1	-7.6	-9.4	-12.3	-7.2	-4.2	-3.8
Manufacturing	-38.1	-274.0	66.7	-192.3	-203.4	-0.5	-4.8	1.1	-4.2	-4.4
Construction	18.3	-60.9	32.6	31.9	45.2	1.3	-5.5	2.5	2.7	2.7
Distribution etc	75.2	-13.1	76.2	45.8	11.8	1.6	-0.3	1.5	1.0	0.2
Transport etc	-0.4	-10.8	21.1	54.0	-13.2	0.0	-0.9	1.4	4.0	-0.7
Financial & BS	135.5	28.4	121.7	96.0	203.5	5.9	1.1	3.2	2.5	3.7
Pub admin etc	58.5	14.7	35.8	180.6	169.1	1.1	0.3	0.6	3.5	2.3
Other services	40.6	19.3	12.4	34.9	-5.4	2.9	2.3	1.3	3.8	-0.4
ALL SECTORS	192.4	-356.6	340.5	242.8	200.1	0.8	-1.8	1.4	1.1	0.7

Notes: Distribution etc Distribution, hotels and restaurants, Transport etc Transport and communications BS Business Services; Pub admin etc Public administration, defence, education and health. See also notes for Table A1.

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