



Structural Transformation, Adaptability and City Economic Evolutions

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WORKING PAPER 7

Case Study Report

BRISTOL

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1 Introduction

Writing in 2004, Boddy et al summarised Bristol's economic record in the following terms, "A large free-standing city in prosperous Southern England, Bristol has demonstrated considerable competitive strength and capacity for economic adaptation over recent decades" (2004, page 51). Since that time this capacity has continued, and has been reaffirmed by the sustained growth, relative stability and diversification of the city's economy.

There is little doubt that, on key indicators, Bristol has been one of the best performing core cities in the UK and has benefited substantially from the growth of a service-based economy. It provides an annual net return of £10 billion to the UK Treasury (West of England LEP, 2014). While the city has kept pace with the national rate of growth in output since the late 1970s, its growth in employment has been stronger and has continually exceeded the national increment.

Despite this relative success however, many observers describe a widespread sense that Bristol's economy could have done better and made more of its advantages.

Figure 1 shows that Bristol's growth performance has been among the middle of most British cities. In employment and output terms it has done better than most large core cities, but in productivity growth terms we will see that its record has been less impressive.

There are good reasons why Bristol is based in our Group II indicating growth mainly on a par with the nation. Based on employment change, Bristol's economic record can be divided into four main episodes: Episode 1 Slow growth and weak recession (1971-82); Episode II Boom and bust with strong growth followed by a pronounced recession (1983-94); Episode III sustained growth (1995-2010); and Episode IV recession and slow recovery since 2011.

In comparison to other British cities, the shallow nature of the recessions both in the late 1970s is striking. In contrast the service-based recession of the early 1990s was felt much more strongly in the city. The recent recession has also had a strong and long lasting effect on the city-region and has been especially damaging to output and productivity.

Over the same period the city's institutional arrangements have changed and have been marked by spatial fragmentation and re-shuffling of responsibilities across spatial scales of government. Episode 1 can be described as municipal and county government (1974-1987) during this period Avon County Council exercised strategic planning while Bristol and the three other councils within the Greater Bristol Area were reduced to the status of districts.

The end of this structure of government was confirmed by the abolition of Avon County Council in 1996, but prior to that date a new set of fragmented regeneration partnerships had already emerged in the city. We can describe this as the emergence of a weak and private-sector led localism (Episode II weak and private-led localism 1988-1996) with some private sector and other initiatives emerging around urban regeneration.

In episode III (local partnerships in a regional framework, 1997-2009) public sector agencies became more engaged and active in various area-based initiatives and a wide range of partnerships proliferated. These were set within a regional framework but co-ordination was not strong and partnerships remained fragmented and conditional on meeting central government targets. In recent years (from circa 2010) this has been superseded by a new style of localism supplemented by the re-emergence of metropolitan wide co-ordination platforms and institutions (Episode IV localism with metropolitan co-ordination).

Figure 1: Bristol's Relative Economic Performance in GVA and Employment, 1971-2015

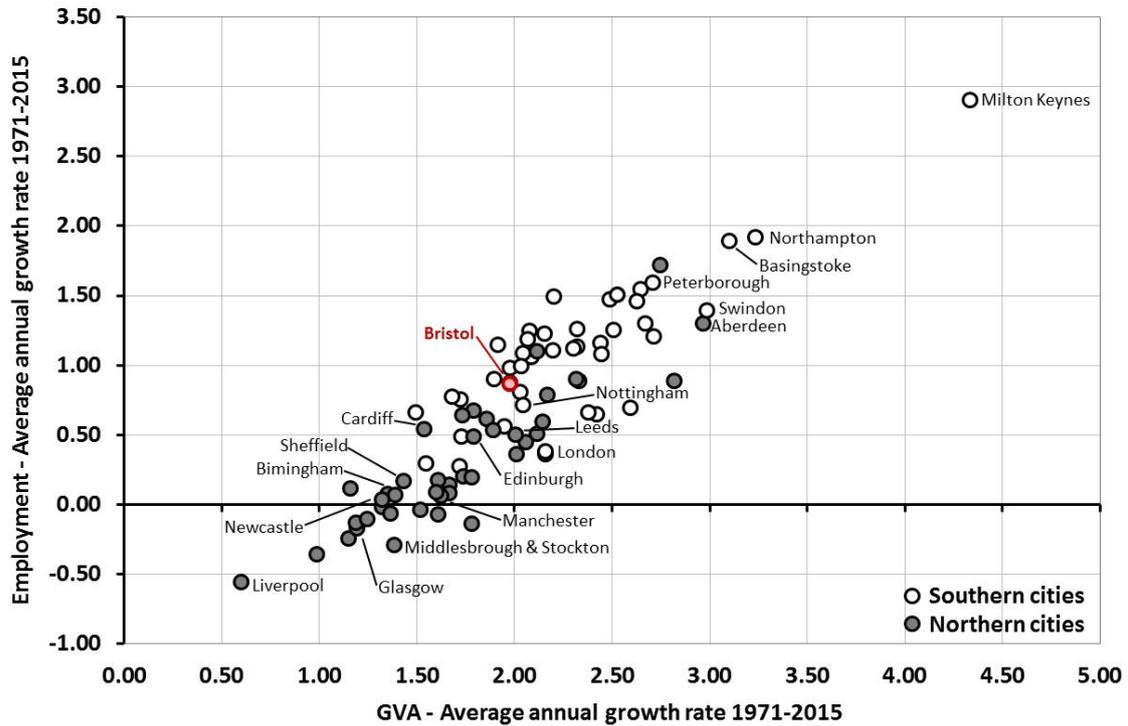
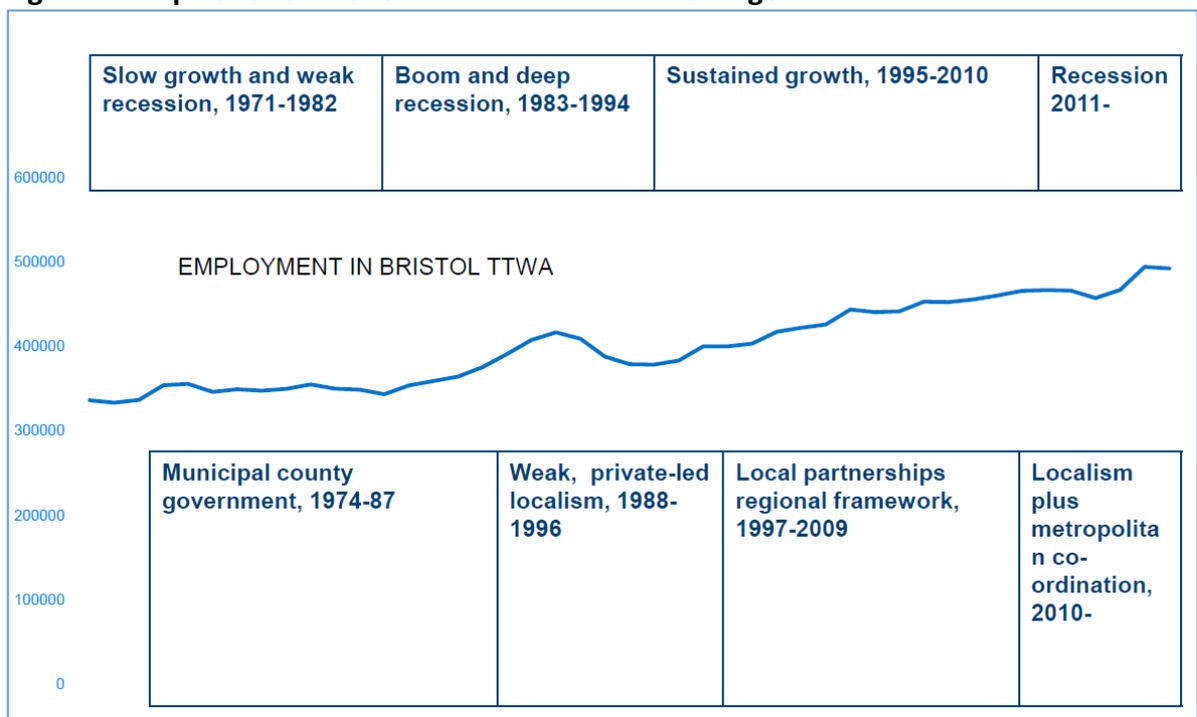


Figure 2: Episodes of Economic and Institutional Change



This case study report briefly outlines some aspects of Bristol's economic history. It then examines the city's comparative economic performance and the form and direction of structural change behind this. It then explains how the city's institutional

framework has changed and discusses whether policy decisions and initiatives have had any discernible and major effects on the city's economic trajectory and relative success.

The key arguments are that the growth of the city-region's economy has been driven by several processes including the growth of KIBS, the expansion of leisure, food and accommodation services, the growth of the public sector and the survival and development of a high technology sectors. Underlying these is the attractiveness of the location, for various reasons, to both firms and professional and skilled employees.

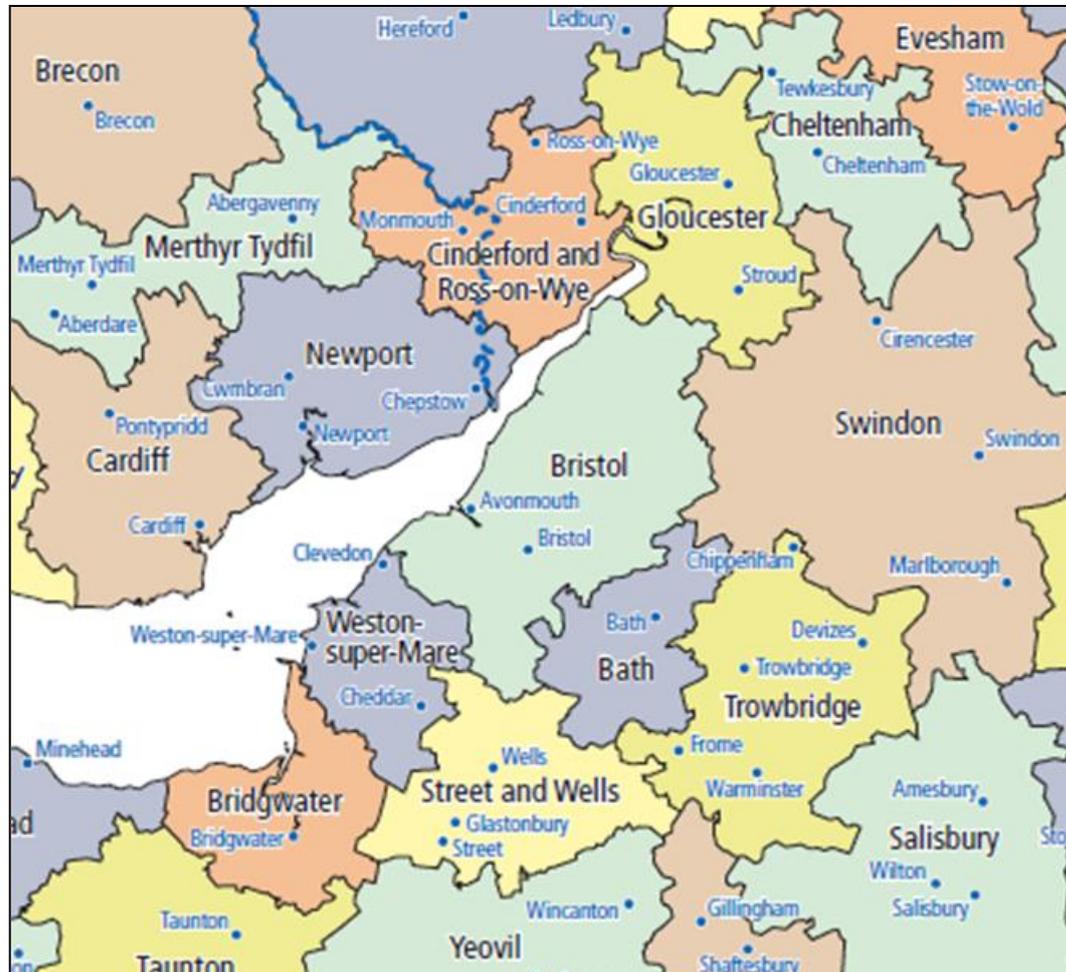
While the institutional framework of public governance has changed significantly over the period and can be classified into a number of episodes, a consistent problem has been the lack of strategic planning and policy at the scale of the functional city-region. The city-region's economy has been hindered by a fragmented and defensive localism, and a shortage of local discretion and funding, that has only recently been challenged by the development of a combined authority. As a result, economic policies have not been central to economic change and evolution.

Some policies have however, gradually become effective and adaptive, and have exploited the city region's landscape and institutional assets and reinforced the processes behind economic growth. However, as a result of institutional fragmentation and policy constraints, the economy has been subject to increasing supply-side constraints and pressures that are most visible in terms of transport, planning, skills and space for expansion. There are signs that the city-region's productivity growth has stalled and weakened, and been subject to increasing stress as the local economy has approached the limits of its supply-side carrying capacity.

This report makes use of a comprehensive new data-set on the economic performance of all TTWAs in Britain with a population above 200,000 since 1971. The statistics presented relate to the 2011 TTWA for Bristol shown in Figure 3. It is

important to note that this functional economic area does not conform with current past or present local authority boundaries (Section 4).

Figure 3: Bristol 2011 TTWA



2 Context and Brief Economic History

The roots of Bristol's wealth as a city lie in its growth during the eighteenth century as a leading mercantile city (Boddy et al, 1986). As the recent controversy about the name of Colston Hall reminds us, Bristol played a central role in the Atlantic slave trade and many of the city's elites grew wealthy from their trade of slaves and goods (Tallon, 2007). At the start of the nineteenth century Bristol's population had grown to 70,000 making it the second largest city in Britain. Important activities included the production of non-ferrous metals, sugar-refining, glass making and tobacco processing (Ibid). Significantly, Bristol was not one of the regions which nurtured and

hosted the Industrial revolution and emergence of the factory system in Britain. Despite its port-based processing industries, its urbanisation was not based on the growth of heavy industries such as iron and steel and a large coalfield. Instead, manufacturing developed later in the city from the 1860s and, although this involved shipbuilding and ship repair, it was primarily associated with the expansion of processing industries such as chocolate and tobacco, and newer industries such as metal-working, engineering, printing and packaging, and boot and shoe manufacture. Boddy et al (1986) note that the city's engineering was marked by a variety of activities and the city's economy had a relatively broad base including footwear, chocolate manufacturing and printing (Tallon, 2007). All of these industries expanded during the consolidation and growth of mass consumer markets from the turn of the century. Significantly, engineering expertise gave rise to the birth of an aircraft industry. In 1910 the owner of Bristol tramways founded an aeroplane firm in tram sheds at Filton and this became the Bristol Aeroplane Company which, through later mergers, led to BAC and British Aerospace. As we will see, this development has allowed the city to benefit from a key advanced manufacturing industry. Bristol was less affected by the interwar depression than other cities and interestingly Boddy et al (2003, page 8) note "This differential seems to have reflected not only Bristol's industrial structure but also the fact that Bristol industries performed better than their counterparts elsewhere".

The long boom after the Second World War was a period of strong growth for Bristol's economy. Its manufacturing sectors expanded and 44% of the city's employment remained in manufacturing in 1961, two-thirds of this were in the major industries of aerospace, food and tobacco, and paper, printing and packaging (Bassett 2001). In the 1960s the leading manufacturers reached their peak and enjoyed a leading position in domestic markets. From 1961, however, service sector employment in the city began to grow strongly and much of this was associated with the growth of education, health and local government services. By 1971 the service sector provided the majority of employment. From 1971 manufacturing employment showed an accelerating decline. During 1971-1991 the city saw the disappearance of

48,000 manufacturing jobs associated mainly with the decline of the tobacco, processing and docks industries (Tallon, 2007).

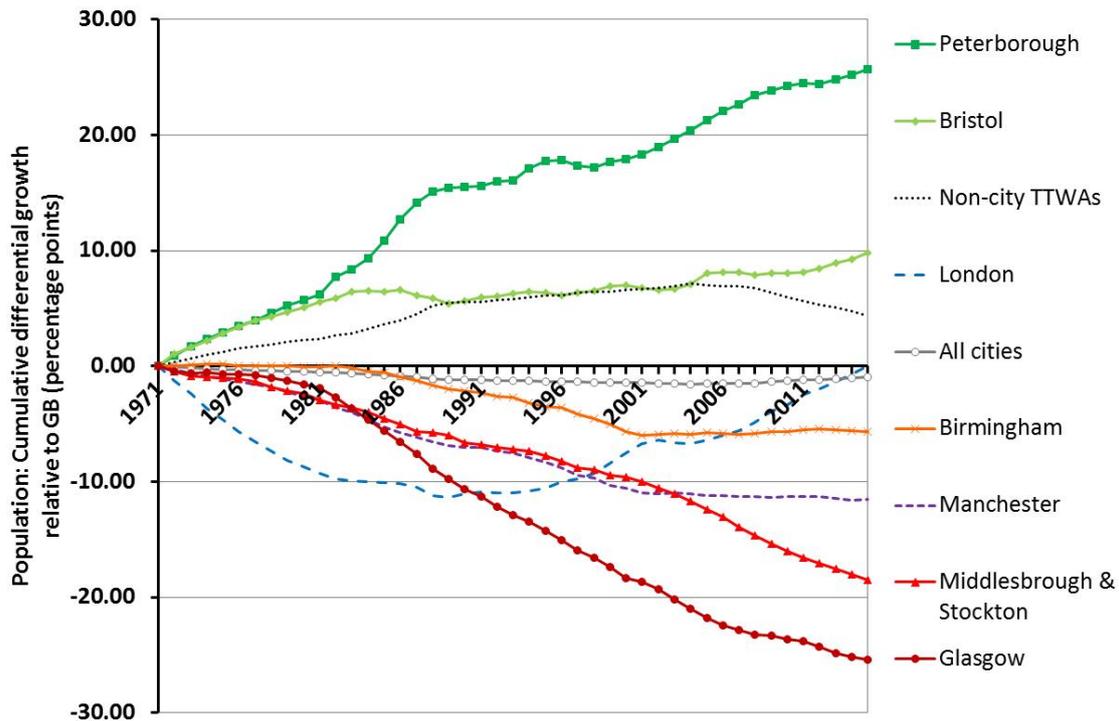
During the 1950s and 1960s Bristol Council's key policy priority was to deliver a new dock, which perhaps reflected a certain degree of cognitive 'lock-in'. After several failed attempts, a new dock proposal was approved and a new dock at Royal Portbury on the Severn opened in 1977. The dock was funded by Bristol Council and did not prove to be financially rewarding, which imposed severe financial constraints on the Council in the following decades. The decline of the inner city docks and associated manufacturing proceeded rapidly from the 1950s, and the inner city docks finally closed in 1975. This left the city with significant derelict areas around the waterfront, with many abandoned historic buildings and warehouses. However, the fact that the city had not been a centre of heavy industry meant that, unlike other core cities, it was not faced by an extensive amount of derelict brownfield land across the city. Significant space for industrial expansion in the TTWA would, of necessity, have to be in suburban and peripheral locations. This, of course, conflicted with the green belt established around the city in 1955. As we will see, permissive planning decisions made in the 1960s and 1970s partly and temporarily relieved this tension.

In general, Bristol at this time was a wealthy and historic mercantile city with a concentration of regional wealth and services, albeit with some working class and low-skilled communities heavily dependent on vulnerable manufacturing industries. The significance and pull of the city's historic assets were transformed, however, by some key infrastructure investments during the postwar period. These included the opening of: Bristol airport Lulsgate in 1957; the Severn Bridge in 1966-7; the M4 motorway between 1965 and 1971; high-speed rail links to London in the 1970s; and the completion of the M32 link in 1975. Together these developments greatly increased the TTWA's domestic and international connectivity, and especially its connection to London and the M4 Corridor, which proved to be crucial to its subsequent economic growth.

3 Comparative Economic Performance

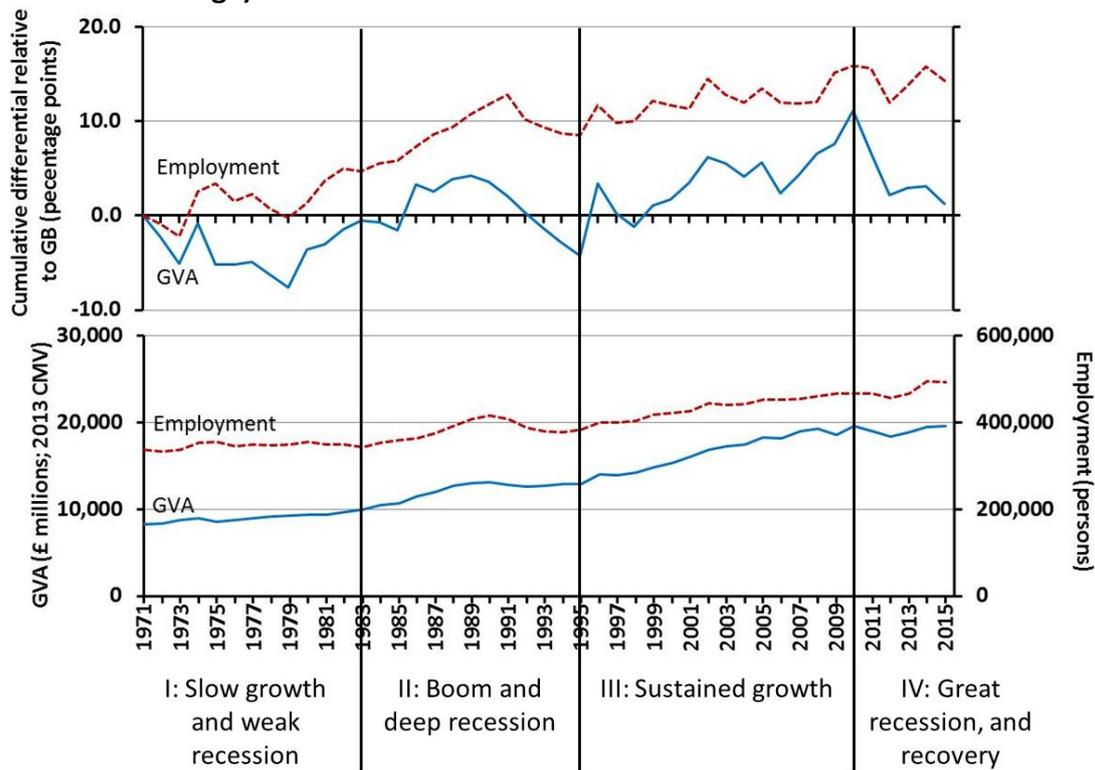
In population terms the TTWA has seen continuous growth from the early 1970s. As Figure 4 shows, over the period as a whole the population has grown by 10 percentage points more than the national average. For most of the period from 1971 to the turn of the century, population growth has been stronger in the suburbs and rural fringes of the city-region. The fastest growing areas over 1981-2001 were South Gloucestershire and North Somerset, while, in contrast, Bristol city declined by 2.2% in 1981-91 and 2.9% in the following decade (Tallon, 2007). Since then the core city has experienced regeneration and revival. The city-region has benefited from its reputation as a prosperous and attractive location and population numbers in the central city have increased as a result of apartment construction and office conversion. Over the decade 2001-2011 Bristol city grew at 12.5 percent to 428 thousand (the third highest rate of growth of the core cities after Manchester and Nottingham) (Rae, 2013). This was due to both natural change and net migration (BCC, 2011). For most of the decade international net migration was negative but it became positive in 2008-9. Despite the recession from 2008 its population has continued to increase, unlike many other smaller cities and towns.

Figure 4: Cumulative differential growth of populations of case study cities relative to GB average



In employment terms Bristol's performance is very similar to its population increase. Employment in the TTWA has grown about ten percentage points faster than the national rate of growth. However, most of this differential emerged during the 1980s when the city-region was growing much faster than the nation as a whole, and has remained stable since then. Since 1991 employment growth has matched, or being slightly higher than, the national rate (Figures 5 and 6). Of our case study cities, only Peterborough has seen stronger employment expansion, and of the large core cities only Cardiff has seen a similar rate of growth (Figure 6). We can divide the city's record into four broad periods (Figure 5). During the first period (Episode 1 Slow growth and weak recession) Bristol's total employment growth was similar to the national average. Growth in service employment was offset by the decline of key manufacturing industries. This episode of fragile and faltering growth ended with the recession of the late 1970s which was relatively shallow in Bristol. However, at the low point in 1979, the city's total employment was barely above the level recorded in 1971.

Figure 5: GVA and Employment Change (absolute and relative to national change)



This weak record was dispelled during the 1980s, however, as the city entered a period of strong and rapid growth followed by a more pronounced recession (Episode II boom and bust). In 1990 the city’s employment peaked at just less than 415 thousand before falling away strongly during the service-led recession that followed. The trough of the recession was reached in 1993-94 and after that date employment began to grow strongly again. However, the severity of the recession in the city is evident from the fact that it was not until 1999 that total employment exceeded the 1990 peak. The third period began with the recovery from this recession which then provided the basis for the long and sustained era of expansion during the 1990s and 2000s (Episode III sustained growth and weak recession). This growth faltered in 2008 and from 2011 there was a fall in employment which was not as severe as that in output. While the city has seen a recovery in employment this has been faltering, and has only matched the national employment trends (see Figure 12).

Figure 6: Cumulative differential growth of total employment in case study cities relative to GB

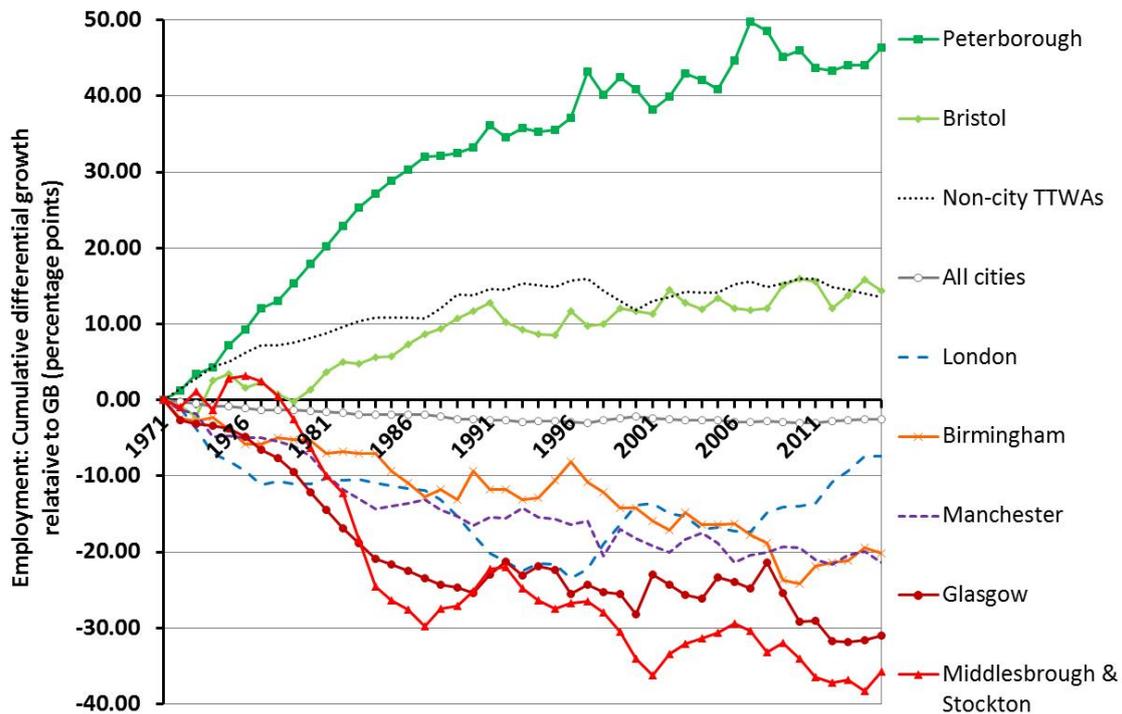
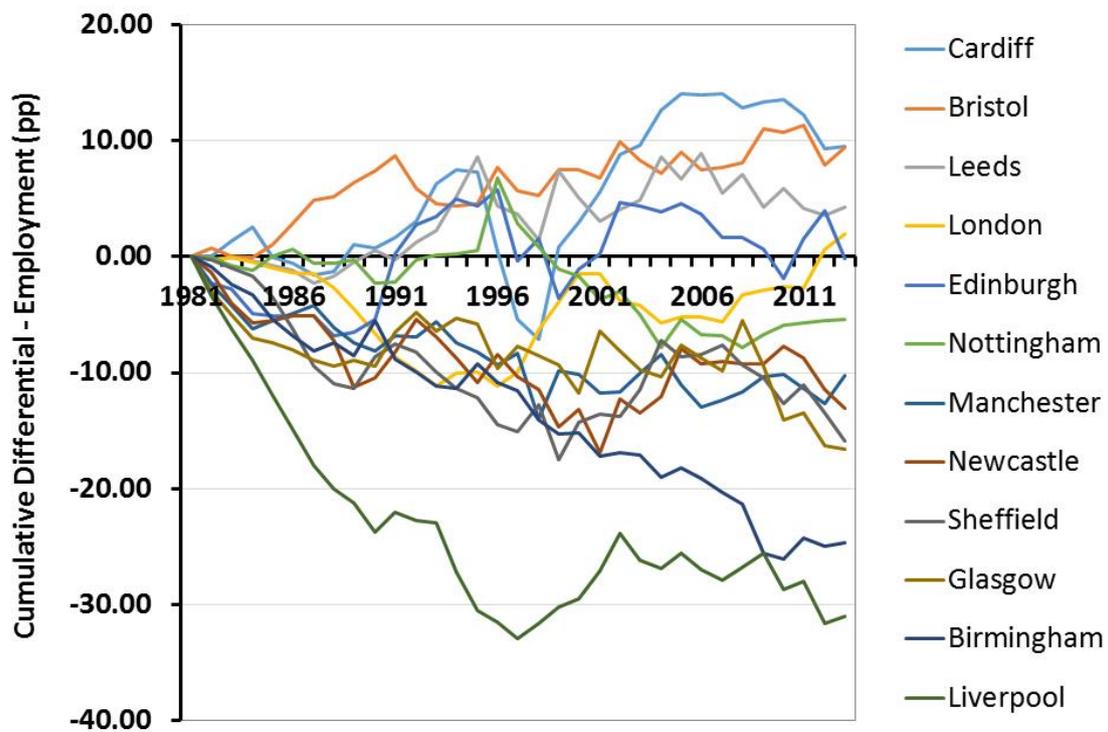
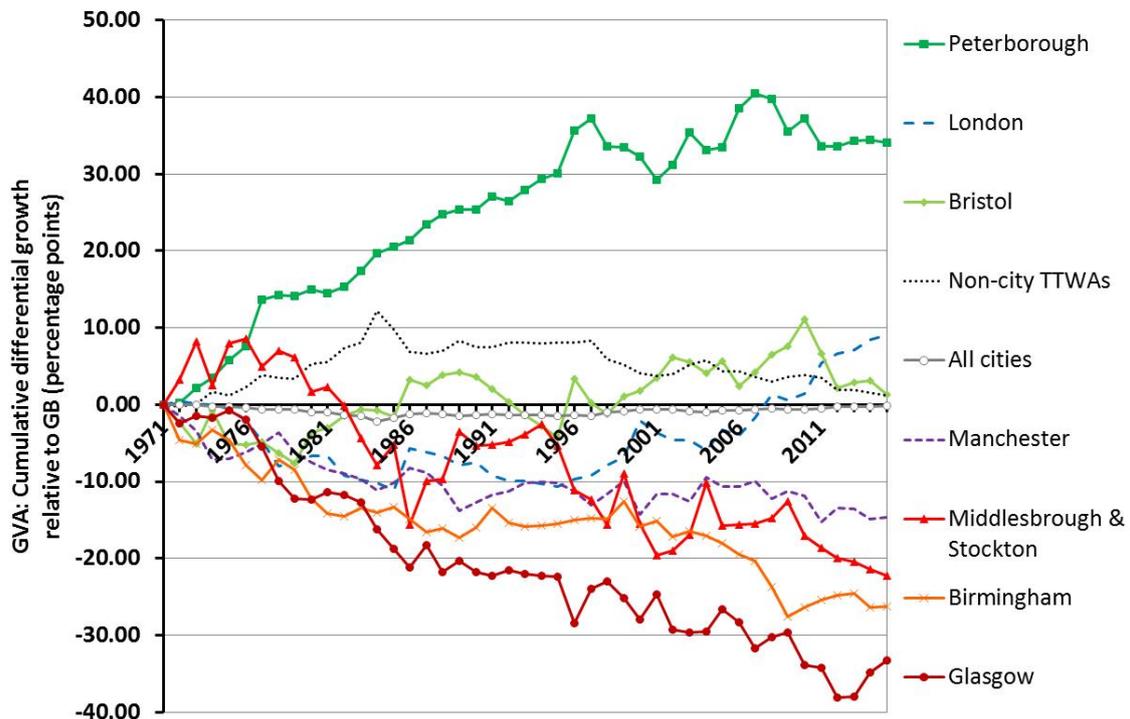


Figure 7: Cumulative Differential Employment Change in the Core Cities, 1981-2014



In output terms the city's record has been less impressive. The growth in GVA has broadly matched the national rate which represents a stronger performance than most of the core cities (Figure 8). During the recession of the early 1990s it is evident Bristol's output growth fell below the national rate for around a decade. However, during the boom from 2001 it recovered and settled at a trend slightly above the national growth rate.

Figure 8: Cumulative differential growth of total GVA of selected case study cities compared to GB



Bristol's economy has often been described as showing relatively high productivity. Figure 9 shows that while GVA per capita has fallen slightly over the period, it remains 16 percentage points above the national average. This is a strong record given that the city's economy has also generated considerable employment growth over the period. However, there are signs that the city's success in productivity has weakened in recent years and been subject to increasing stress. First, the absolute growth in GVA per capita shows a levelling off in 2003 and a plateau since that date (Figure 10). Interestingly the city-region's per capita output growth had kept pace with London's up until that date but, subsequently, London diverged from Bristol and also recovered more strongly from the 2008 downturn. Second, labour productivity

growth (measured as GVA per person employed) has also been disappointing and has consistently been below the national growth rate (Figures 11 and 12). Moreover, during the recent recession the city's records in output and productivity have been weaker than those of the national economy.

Figure 9: Development of GVA per Capita in Case Study Cities as a Percentage of GB

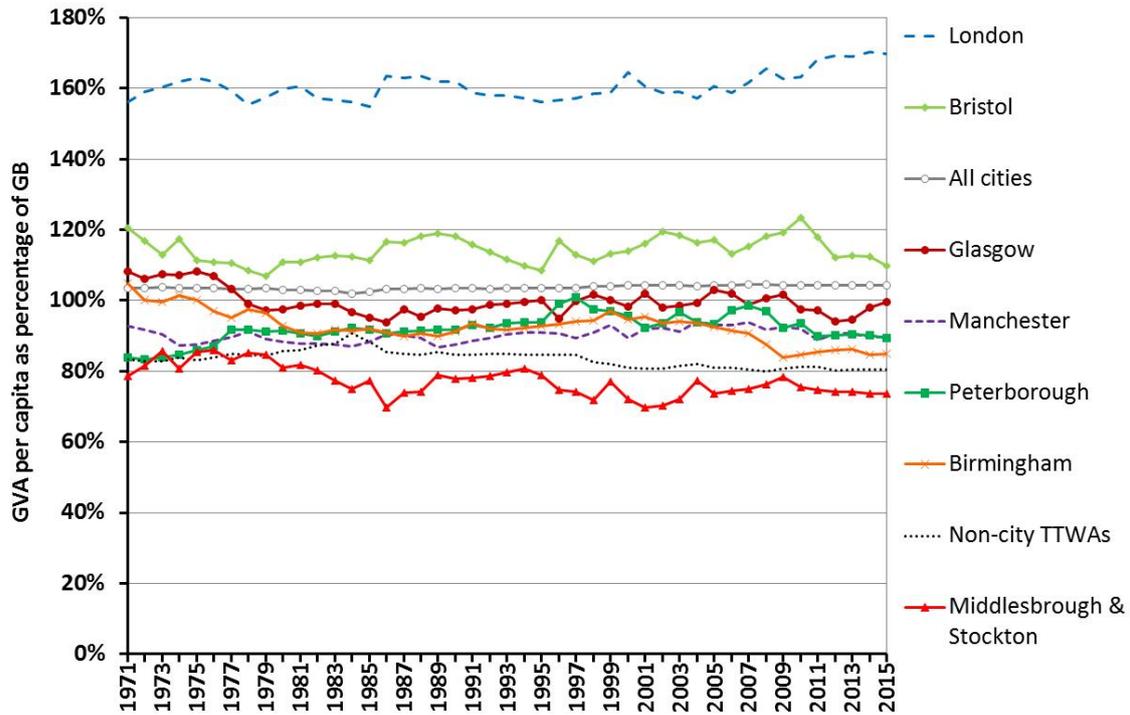


Figure 10: Development of GVA per capita

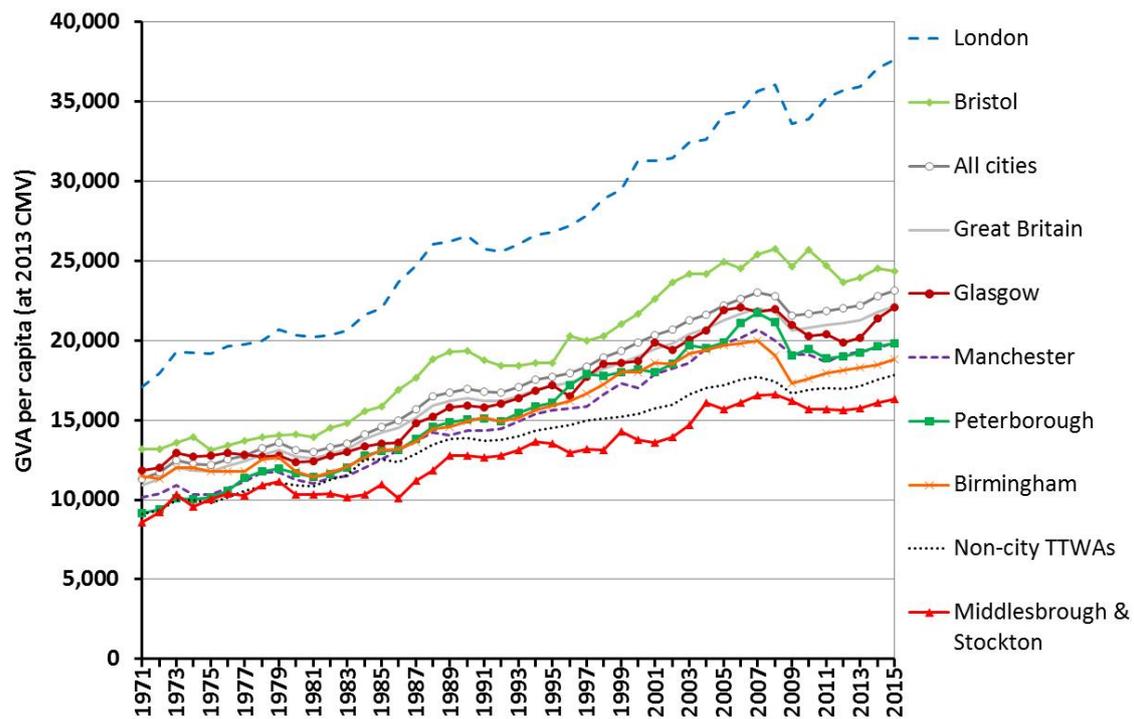


Figure 11: Growth of labour productivity in selected cities

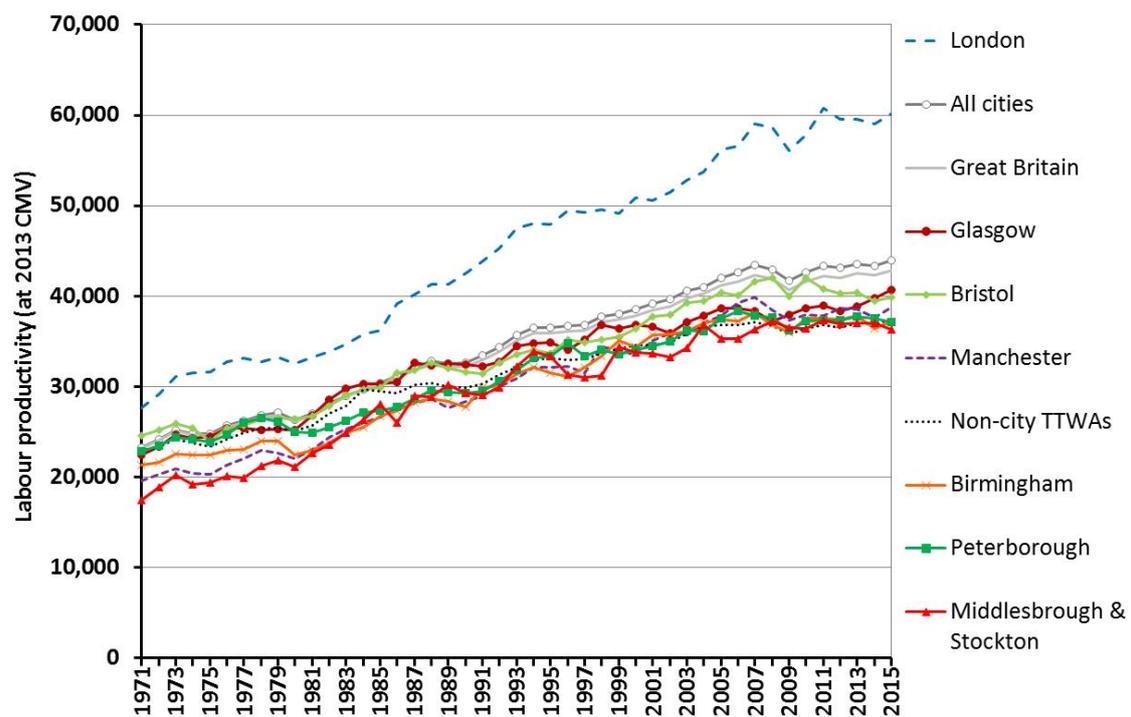
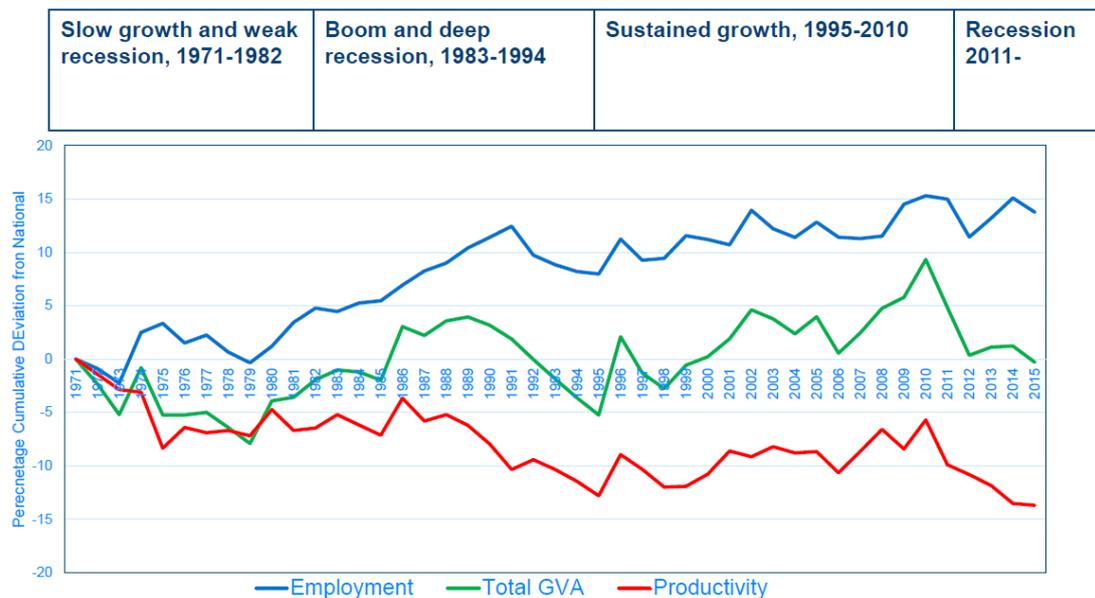


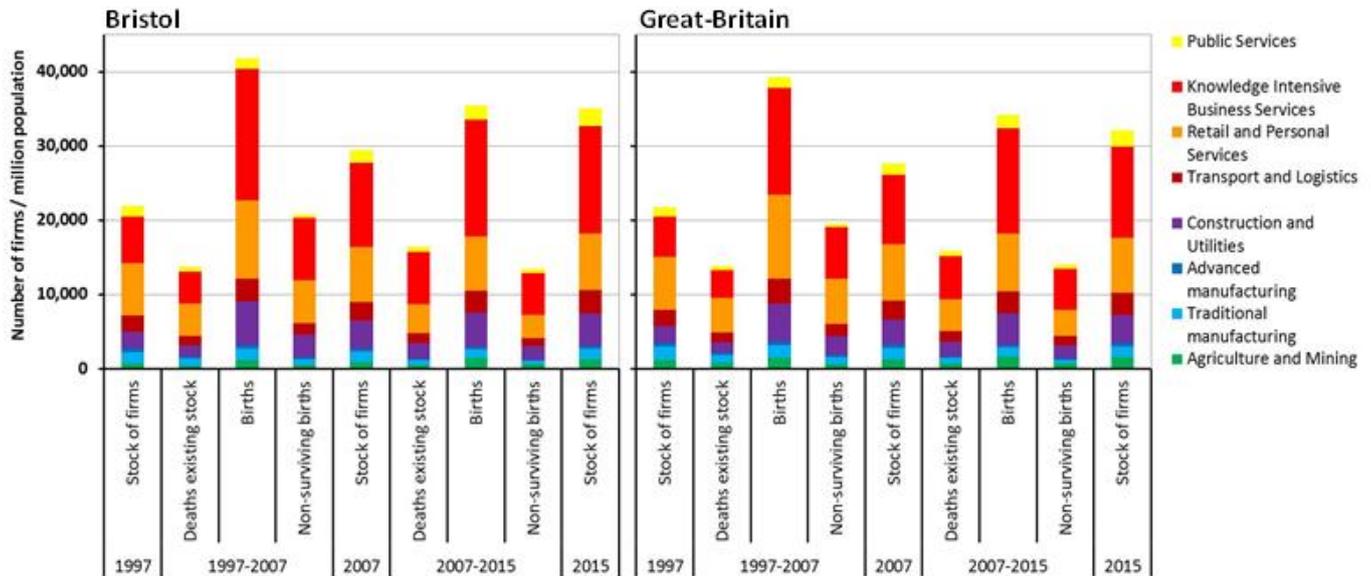
Figure 12: Cumulative deviations from national growth in employment, output and labour productivity, 1971-2015



In summary then, the city’s economic performance has been relatively strong for a large core city but has been less impressive than many smaller cities in the South of England. Despite its relative prosperity and strength in some high-technology and KIBS sectors, its productivity record has appeared to weaken over time and fallen away from the national growth rate in productivity. The city’s economy appears to have strongly damaged by the recession from 2008 and in output terms the recovery from that recession has been very slow and weak. Of course, some might argue that these weaknesses in productivity and resilience are a reflection of measurement problems, and the likelihood that our measures may miss some of the new forms of employment and value creation in the creative and digital economy. However, employment in ICT and computing activities looks somewhat exceptional in terms of its high resilience to the 2008 recession (see Figure 19) and moreover, it is hard to see how measurement limitations can explain why Bristol’s economic performance has deteriorated relative to other British cities so markedly since 2008. In terms of firm population dynamics the picture in recent years appears more positive. Figure 13 shows that Bristol has maintained its strength in terms of its stock of firms and suggests that firm births have continued to be higher than national rates during the recession. Start-up rates have been particularly high in business services and retail.

The implication appears to be that the city-region has been a conducive environment to entrepreneurship but, of course, it is too early for these start-ups to make a major contribution to the output record.

Figure 13: Firm Population Dynamics in Bristol TTWA and GB over two periods



4 Structural Economic Change in Bristol

As these firm population statistics suggest, the structure of Bristol’s economy has changed markedly since the early 1970s. In 1971, and despite its economic history, the city region was not notably diverse. In fact output specialisation in the TTWA was average for a British city, but by 2015 output specialisation had declined to remarkably low levels. Krugman indices (Figure 14) indicate that the structure of employment in Bristol is now very similar to that of the national economy. The city’s economy is now diverse and not heavily dependent on any one sector. As Bristol City Council (2011, page 2) states “ The largest single contributor to GVA is the banking and insurance sector, but the real feature of the local economy is diversity – Bristol is not overly dependent upon any one sector for output or employment growth, making it resistant to shocks and well placed to foster growth”. This diversification is a result mainly of the decline of some parts of manufacturing and the rise of service industries.

As Figure 15 shows, the lion's share of GVA growth in the TTWA has been produced by the expansion of service industries. The output of light manufacturing, which includes the city's traditional manufacturing industries, has fallen slightly while that of high-tech manufacturing has expanded very slightly. The most important growth sectors have been knowledge intensive business services, public services and then retail and personal services. The phenomenal expansion of the output of these sector groups continued until 2008 but has largely stalled since then. A similar picture is evident in employment structure although there are some notable differences from trends in output (Figure 16). First, as we might expect, the manufacturing sectors have seen more significant declines in their employment than their output. Second, the relative contributions of service sector groups to employment growth are somewhat different than those for output. In employment terms the more labour intensive nature of public and retail and personal services mean that they have made a similar contribution to employment growth as knowledge intensive business services.

Figure 14: Krugman Indices of Specialisation in Bristol TTWA

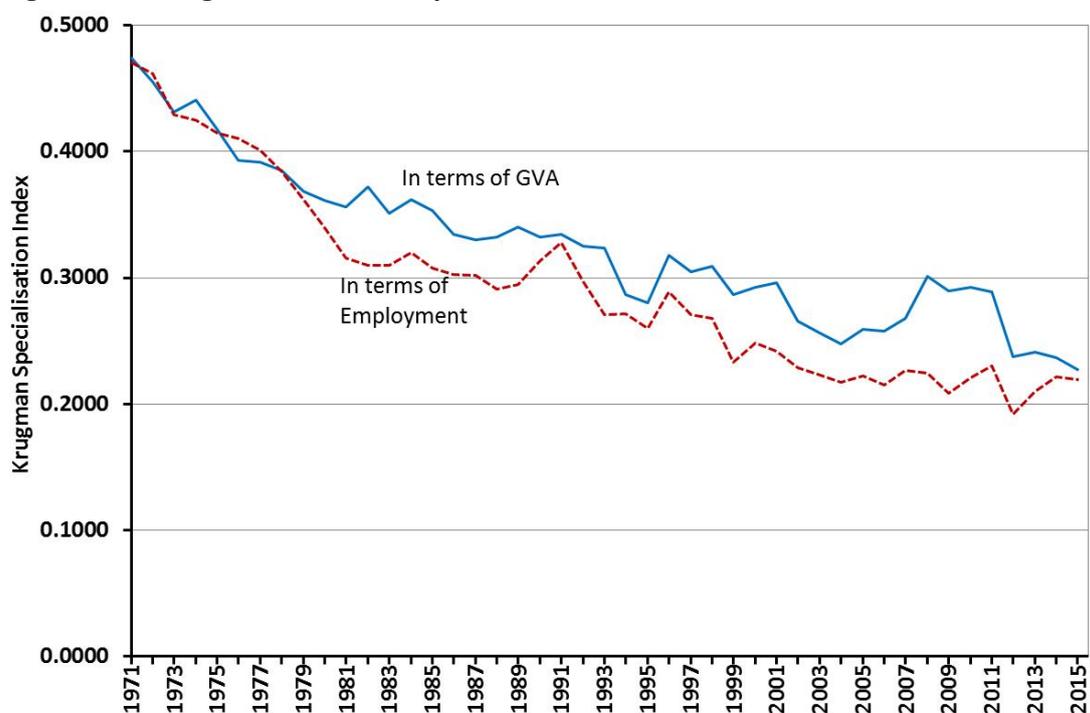


Figure 15: Economic structure in terms of GVA by sector group 1971-2015

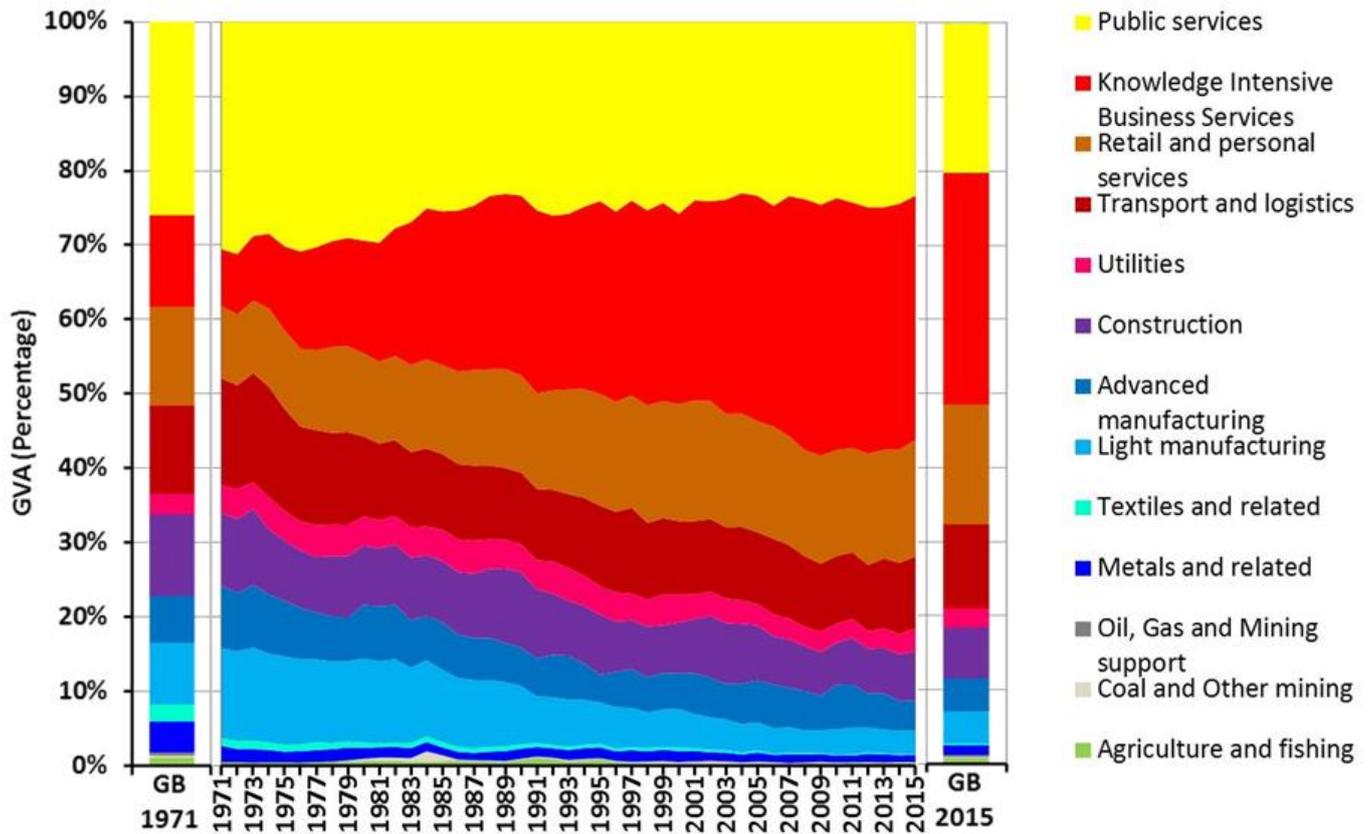
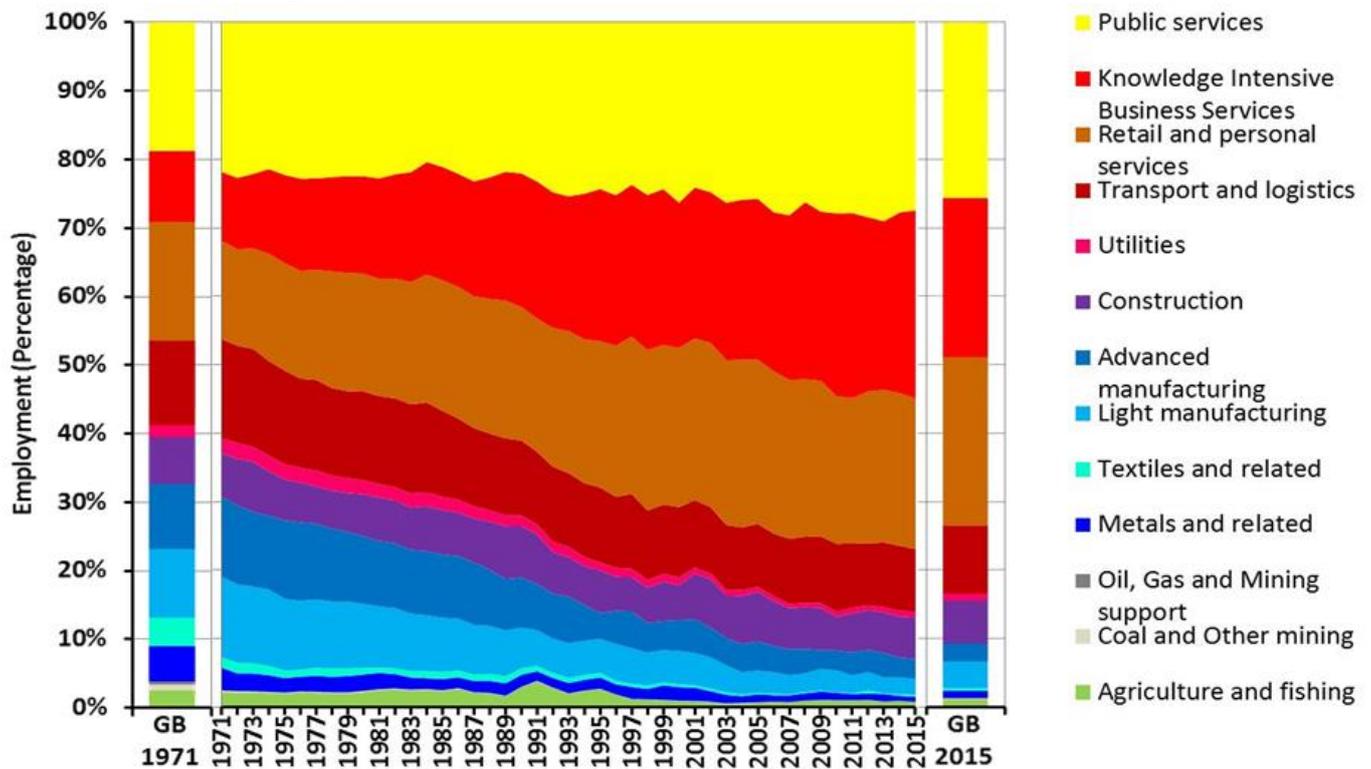


Figure 16: Development of economic structure in terms of employment by sector group 1971-2015



We can gain a more detailed understanding of the structural transformation of the city's economy by examining the change in specific industries.

Figure 17 shows employment change from 1971 for the largest manufacturing industries in Bristol in absolute terms and in terms of the industry's share of total employment. The largest manufacturing industries, including aerospace, food products and metal equipment, have seen percentage falls in their number of jobs by between 55 and 80 percent. In contrast industries such as education and retail have seen considerable growth of over 40 and 60 percent. The largest increases, however, have been in a mixture of professional, public and personal services such as legal and accounting, financial services, human health, food and beverage service activities (Figures 18 and 19). The city has clearly provided an environment that has been highly conducive to the growth of these industries which have grown by 300 and 400 percent over four decades. Financial service employment in the city expanded very rapidly up until 1991 but appears to have been strongly impacted by the recession of the early 1990s and, despite some fluctuations, has fallen substantially since that date. This decline in financial service activity is almost certainly one of the key reasons why the city's GVA per capita growth has not kept pace with that of London in recent decades. It may be a result of the fact that this category excludes insurance which has been important to the city, and also a reflection of the city's lack of specialisation in investment banking which, of course, was growing very rapidly in London during the long boom of the noughties. There are other factors however, as Leyshon and French (2003) note that from 2001 financial services in the city did not grow as fast as in other provincial financial centres, which perhaps provided a lower-cost environment more conducive to call centres and back offices. As Figure 19 shows, a similar downturn has occurred in insurance and pension activities from around 2003, which may indicate that the city centre has become less favourable to the growth of high value-added financial services.

Figure 17: Employment Change (totals and share) in Key Manufacturing Industries in Bristol, 1971-2015

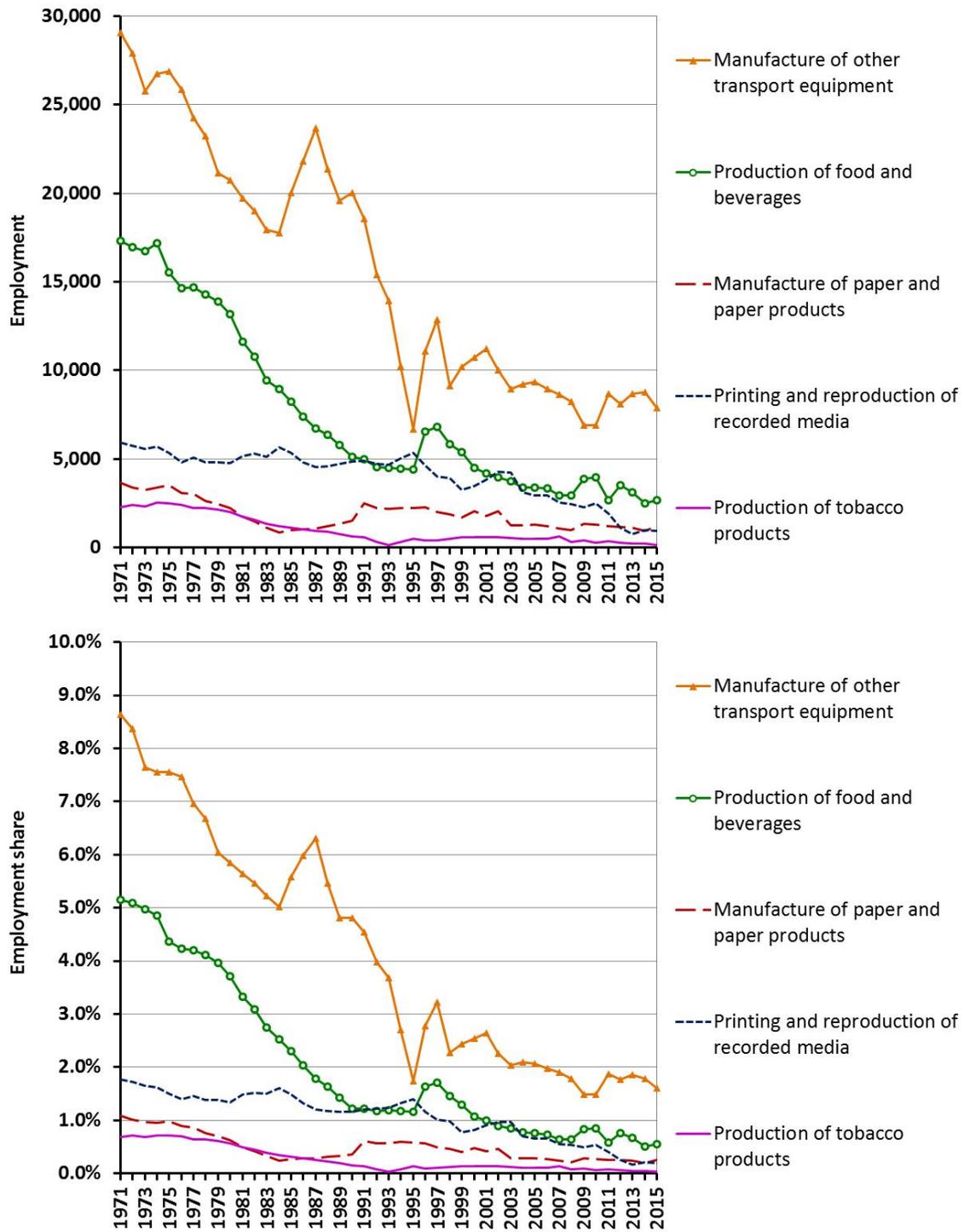


Figure 18: Employment Change (totals and share) in Key Public and Private Service Industries in Bristol, 1971-2015

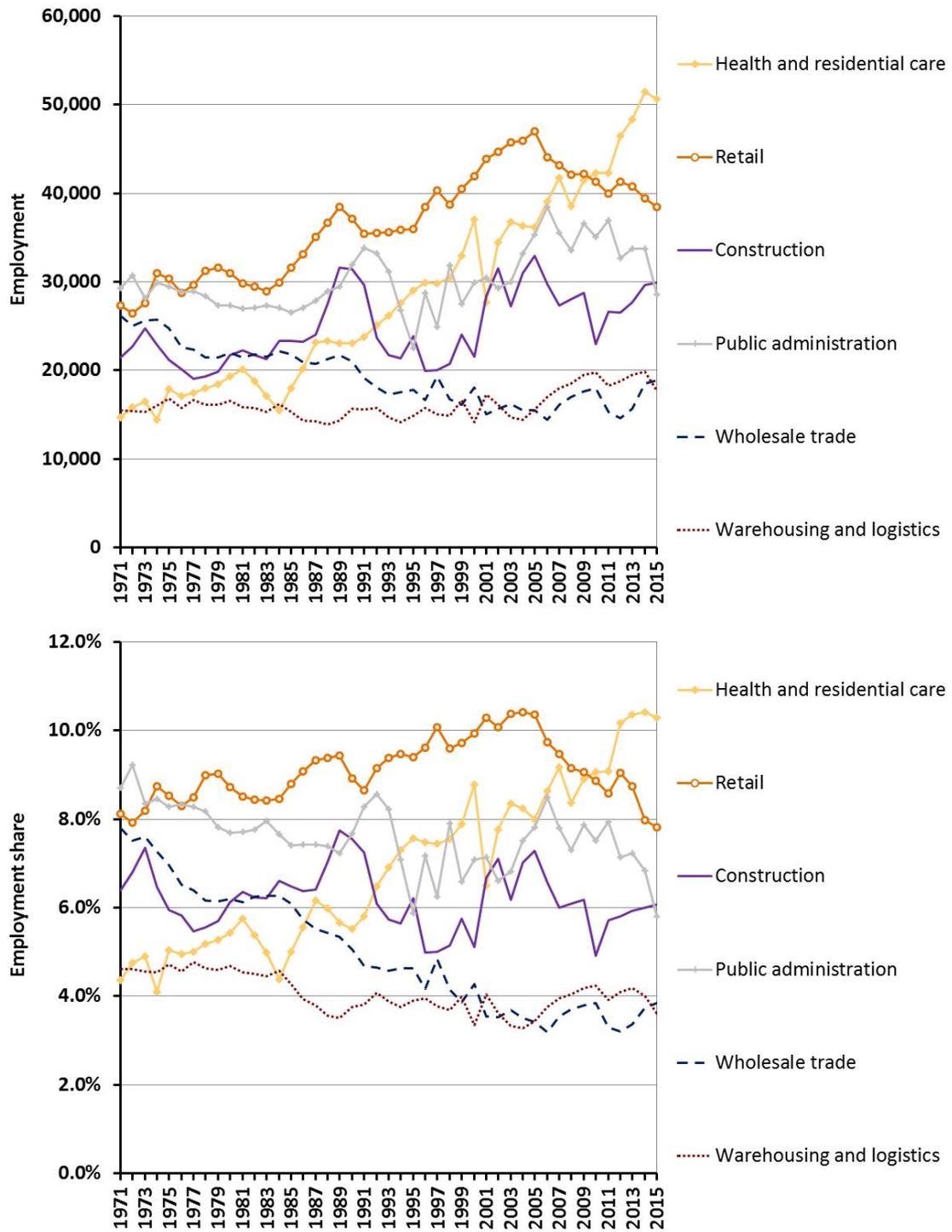


Figure 19: Employment Change (totals and share) in Key Private Service Industries in Bristol, 1971-2015

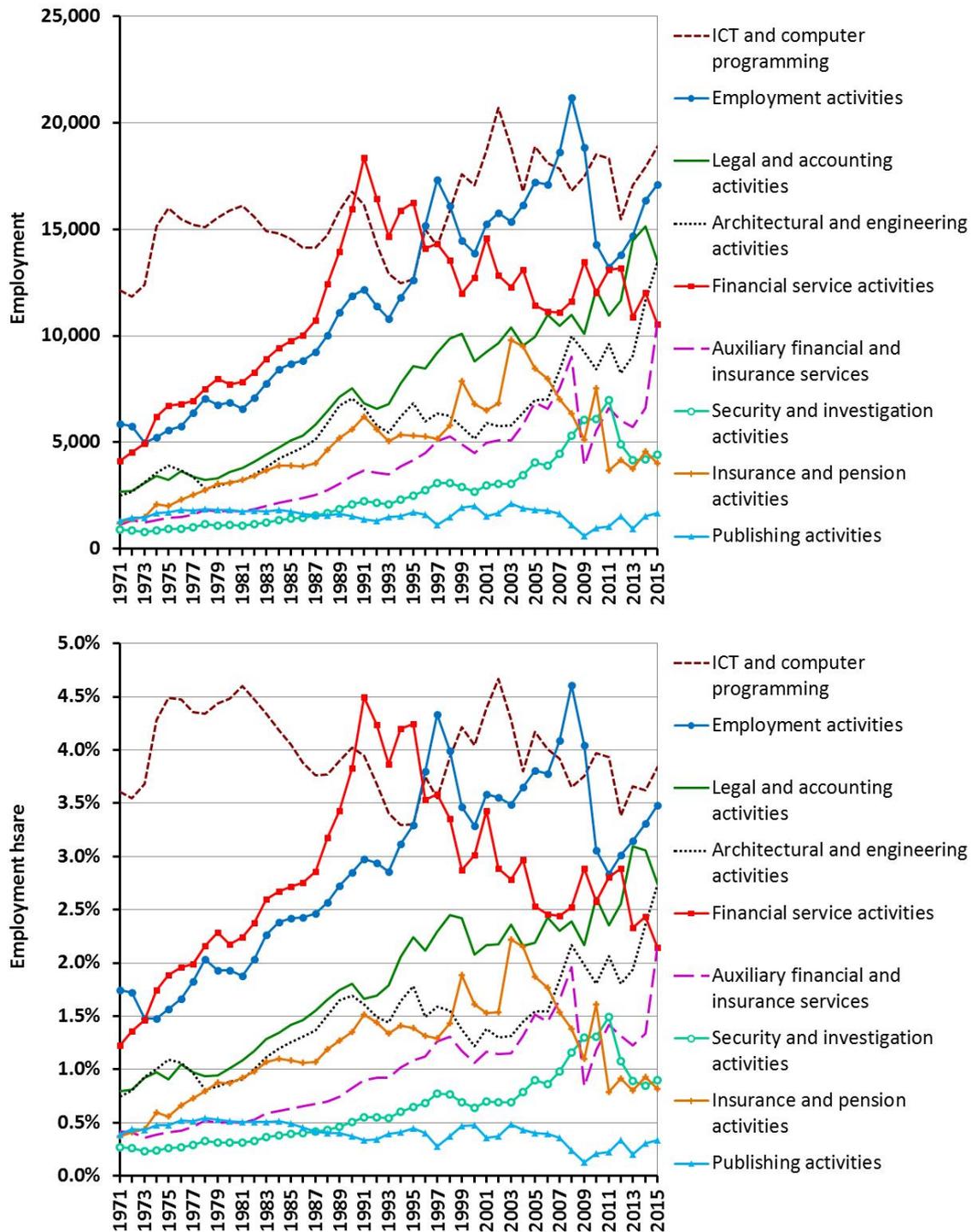
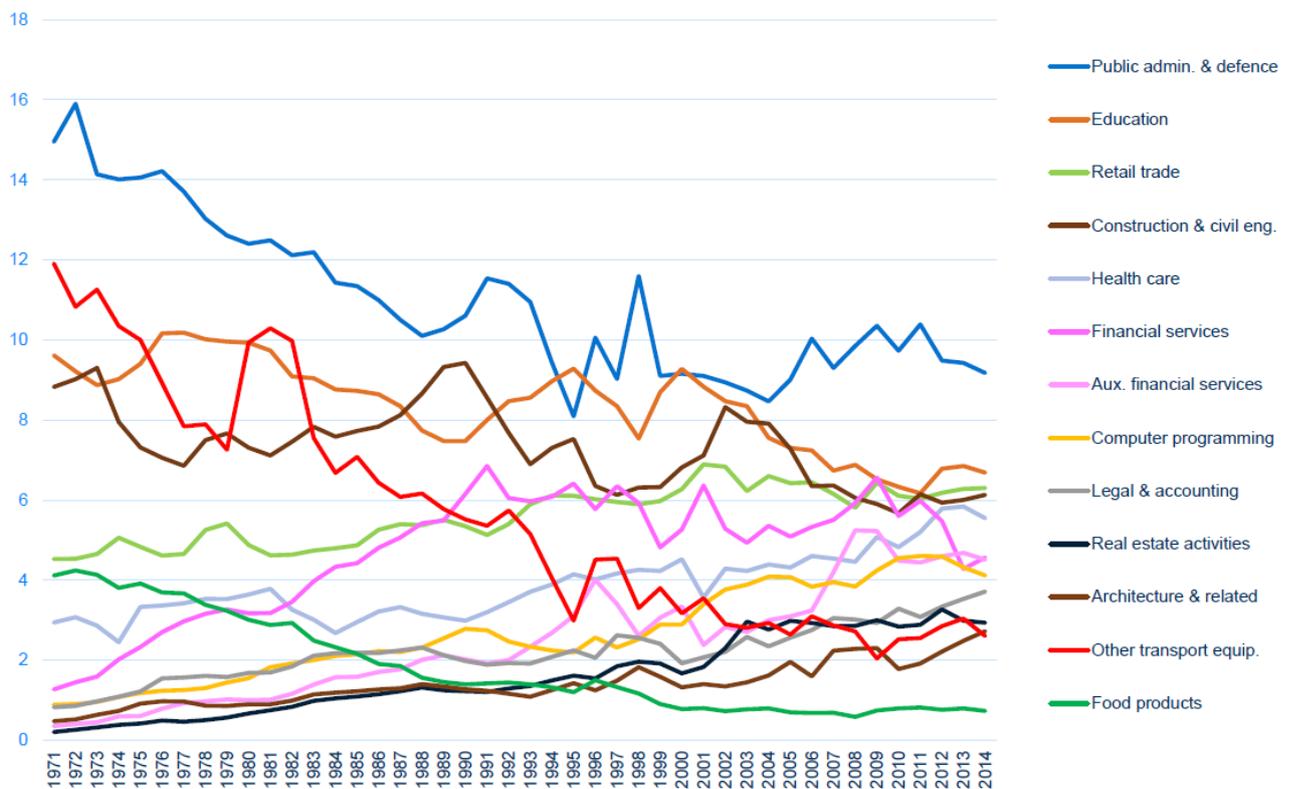


Figure 20 shows the share of output accounted by the most significant industries in the cities. Deindustrialisation and diversification are both apparent as is the continued reliance on public administration and defence and education. The declining shares of key manufacturing sectors transport equipment and food have

been offset by the growth of services such as computer programming, retail, health care. The uneven and declining performance with financial services is confirmed by this graph as some parts of financial services have stagnated and fallen away, while other parts (auxiliary services) have grown. In reflection, this evidence suggests is that the city's mediocre performance in productivity growth is partly due to the growth of lower productivity service sectors and the decline of high productivity manufacturing and especially aerospace.

Figure 20: Change in Output Share of Key Industries in Bristol, 1971-2014



These structural changes have altered the occupational profile of the TTWA. As Figures 21 and 22 show, the expanding parts of this profile have been both at the top and bottom of the skills distribution. Professional occupations have grown by 1.5 percent per annum while administrative and secretarial roles have also grown rapidly. In contrast, skilled trades have not expanded and process plant and machine operators have declined. Significantly but not surprisingly, the fastest growing set of occupations have been in caring leisure and service activities.

Figure 21: Employment Shares of Major Occupational Groups in Bristol, 1971-2015

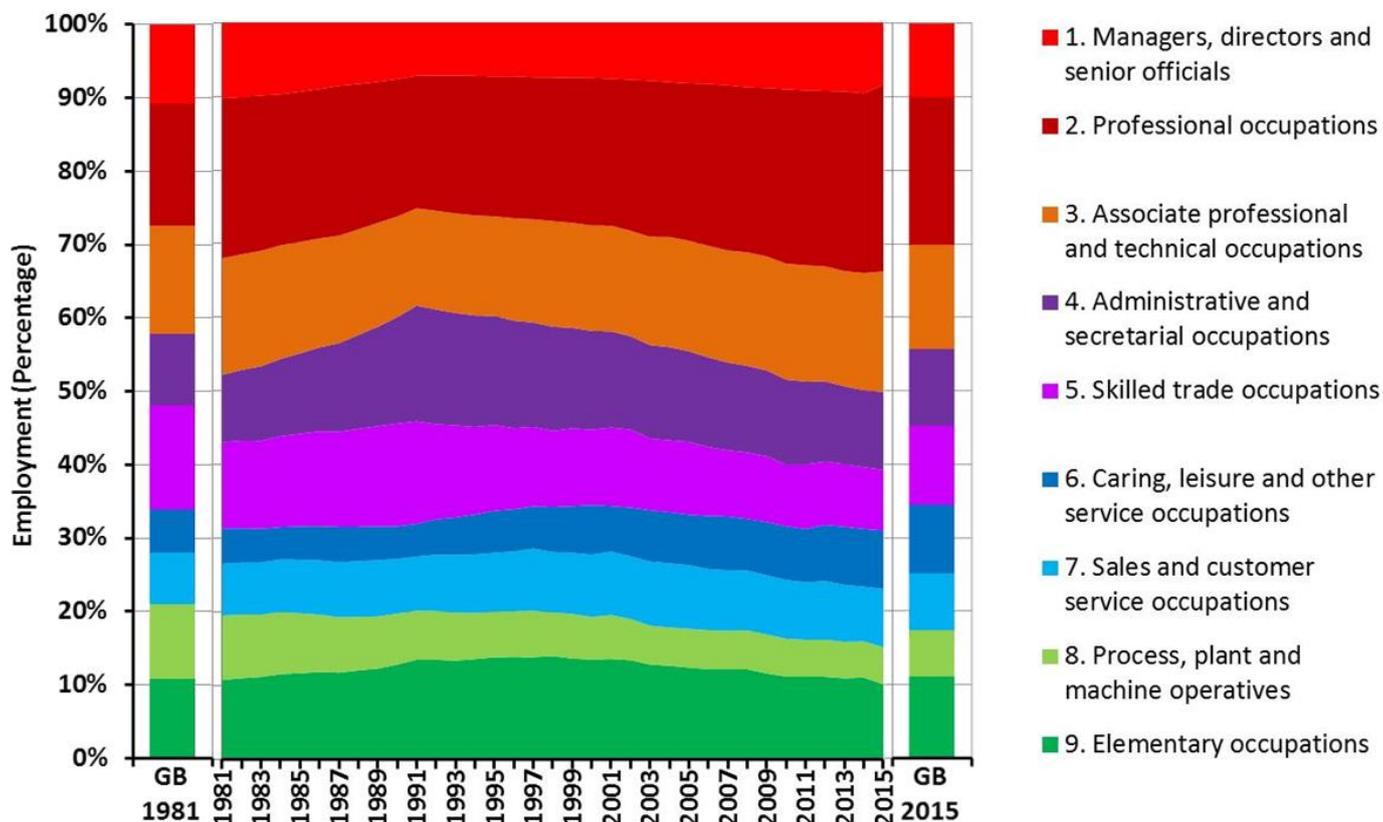


Figure 22: Percentage Change in Major Occupational Groups in Bristol, 1971-2014

Occupational Group	%PA 1981-2015
Managers, directors, senior officials	0.4
Professional occupations	1.5
Associate professional and technical	1.1
Administrative and secretarial	1.4
Skilled trades	0.0
Caring, leisure and service	2.5
Sales and customer service	1.4
Process, plant and machine operators	-0.6
Elementary occupations	0.8

There are have been several key underlying processes that explain the continuing strengths of the city-region's economy. In the first place it is important to note the significance of the *north fringe* which allowed the TTWA to benefit from a strong decentralisation of activity. This large area of development to the north of the city itself grew very rapidly from the 1970s onwards. The 1980s saw the location of a number of high-tech electronics plants in this area, adjacent to the aerospace industry, the M4 and the rail link to London (Bassett, 1986) and while the fringe has a diverse employment structure, this includes some specialisms in high tech manufacturing and R&D in aerospace, telecommunications and computing. The area also hosts a number of microelectronic companies in software, semiconductor silicon chip design and wireless technologies. Employment grew by almost a quarter between 1981 and 1991 and by over 40% in the decade to 2001. Its household numbers also expanded by 17% between 1991 and 1999 (Boddy et al, 2004). While job growth in central Bristol has been relatively slow from 1998 neighbouring authorities have continued to see faster employment growth. South Gloucestershire saw its employment increase from 96, 800 in 1998 to 137,200 in 2008. This includes around 70,000 people who are employed in the north fringe, many by a nucleus of large employers (BCC, 2011). The fact that growth in the north fringe has outpaced growth in the urban core represented a decentralisation of growth, "The overall spatial structure of the city-region thus shifted fundamentally over this 25-30 year period, the growth of the north fringe has been a major factor in the overall competitive strength of the city-region as a whole" (Boddy et al, 2004, page 57). The sub-region has continued to grow up until the present day but now no longer offers significant room for further expansion (Interview 1).

Related to this, the city-region has benefited from the survival, albeit in a slimmer form, of *advanced manufacturing* centred on aerospace. While other manufacturing industries declined precipitously during the 1970s and especially during the late 1970s recession aerospace acted as an important safety net, as it was buoyed by relatively high defence spending during that era (Bassett, 1996). The city region has retained three world leading core firms in aerospace (Rolls Royce, Airbus and GKN

Aerospace) who have large plants to the North of the city Filton and Patchway and other supply firms. Around 14,200 jobs continue to exist in the aerospace cluster which is one of the largest in Europe. An estimated fifty local companies provide materials, components, equipment and services to the primary contractors (BCC, 2011). A key anchor here is the MoD procurement centre at Filton. While this cluster has not provided employment growth it has provided significant exports and has had other indirect benefits to the city's economy, such as providing demand for suppliers and for knowledge intensive business services (Interview 4). The survival of this sector also allowed the city to market itself as a high-technology M4 corridor destination for investment. However, the shrinkage of the aerospace industry is illustrated by the recent sale of Filton airport to YTL, a Malaysian property development company. Recent research also estimates that Bristol has a very high dependence on European Union markets (third highest in the UK, Centre for Cities, 2017) and many of these advanced manufacturing industries depend on attracting highly skilled internationally mobile labour (Interview 2). So the disruptions resulting from Brexit may well challenge the continued growth of these sectors.

The key force behind the city's economic success has been the growth of *knowledge intensive business services*. The roots of this growth lie in the fact that Bristol has long been a wealthy mercantile city with long-established banks and insurance companies serving traders, merchant and wealthy families in the city. However, the sector's growth was raised to a new level by the relocation of financial service firms from London during the 1970s. The growth of KIBs gained momentum as several large firms moved into the city and the city became the fourth largest provincial financial centre by 2000 (Boddy et al, 2004). Many large national and international firms now have their headquarters in the city, including Lloyds banking Group (Retail Division), Hargreaves Landsdown, DAS Legal Expenses, Canada Life, Nat West Insurance and Triodos Bank. Relocation has evolved into a self-reinforcing dynamic as several specialist subsectors of KIBs have grown. Most of the KIBs supply regional and national markets and do not represent a classic cluster characterised by strong untraded interdependencies and local spillovers, although there is evidence of labour market pooling (Boddy et al, 2004). While there has been recent some

rationalisation in insurance, legal and accounting services have shown particularly strong growth.

This relocation of KIBS was triggered by the application of ODPs in London and the Midlands. It was also facilitated and encouraged by several office building booms in Bristol during the 1950s to 1970s. Between 1953 and 1975 office space in Bristol tripled and there was another period of boom between 1972 and 1978. Most analysts argue, however, that the most important factors behind the relocation of KIBs were the city's connectivity, its malleable built form, and its attractiveness and lifestyle advantages. Access to London via the M4 corridor meant that firms could relocate and remain in contact with clients and partners. The city-region provided an environment and location that was both familiar and attractive to professional employees who were eager to secure the lifestyle benefits of living in the South West. In addition, Boddy et al (2003) argue that the city offered an expanding service class of relatively low-paid female employees which ensured a growing supply of affordable labour for back office functions.

Finally the city itself has benefited also from the growth of a *creative and digital sector*. There are now an estimated 11,500 jobs in creative industries and the city has international reputation in film and TV production, animation and digital media. These firms are supported by Bristol media which is one of the largest creative networks in the UK with 3,500 members (BCC, 2011). The BBC Natural history unit and Ardman Animations are both keystones in the city's creative economy. A dynamic digital cluster has thrived in the city centre involving a diverse range of firms that blur software with digital design and advanced engineering sectors. These include firms in high-performance computing, web design and cloud application services. This digital success is linked to the presence of a major software cluster in the South West which is now claimed to be the largest silicon design cluster in Europe. Its origins lie with the decision of Fairchild Semiconductor to locate a design office in Bristol in 1972 (the city was apparently chosen because there was no local rival companies that would compete for the firm's engineers, Marston et al, 2010) In

1978 Inmos was founded in order to develop microprocessors and key entrepreneurs were closely linked to the University of Bristol. Inmos has proved to be the parent of many spinoff software offspring (Ibid). A further notable success for marketing of the city was the attraction of Hewlett Packard to Bristol in 1984. Its employment has fallen significantly but many former employees have become entrepreneurs (Interview 2). Other digital and software firms have also relocated from London. Evidence suggests that the city has a relatively high rate of entrepreneurial start-ups for a core city (BCC, 2011; Figure 13).

The growth of this digital sector has been closely associated with the re-development and renaissance of the city centre. From the late 1990s the city centre was redeveloped by a wave of private capital investment in high-density residential developments. Many non-residential, derelict and office buildings were converted into residential use, and flats aimed primarily at single young professionals and students. This partly reflected the then government's urban renaissance policy agenda and pressure on local authorities to increase their rates of house building. In particular, PPG Note 3 required local authorities to identify brownfield sites that could be brought forward for residential development (Boddy, 2007). The new city centre flats which resulted were aimed at young single tenants in finance, medical, legal services and they provided very little affordable housing for local people. City centre growth is likely to continue with the fulfilment of the Temple Meads Enterprise Zone in the city centre. The failure to provide affordable social housing is a broader problem across the TTWA that has produced a housing crisis (Resolution Foundation 2017, Interview 5) and it is a key problem that the Bristol Housing Partnership is now seeking to address through an investment fund.

A significant part of the labour force in Bristol are clearly highly skilled and degree educated. Among the core cities, Bristol in 2011 had the highest proportion of residents working in professional occupations (17.6%) and the lowest proportion of residents in elementary occupations (8.5%) (BCC, 2011). Graduates make up 46 percent of Bristol's working age population compared with a national average of 36% (The Economist, 2016). The TTWA contains four universities with a total of over

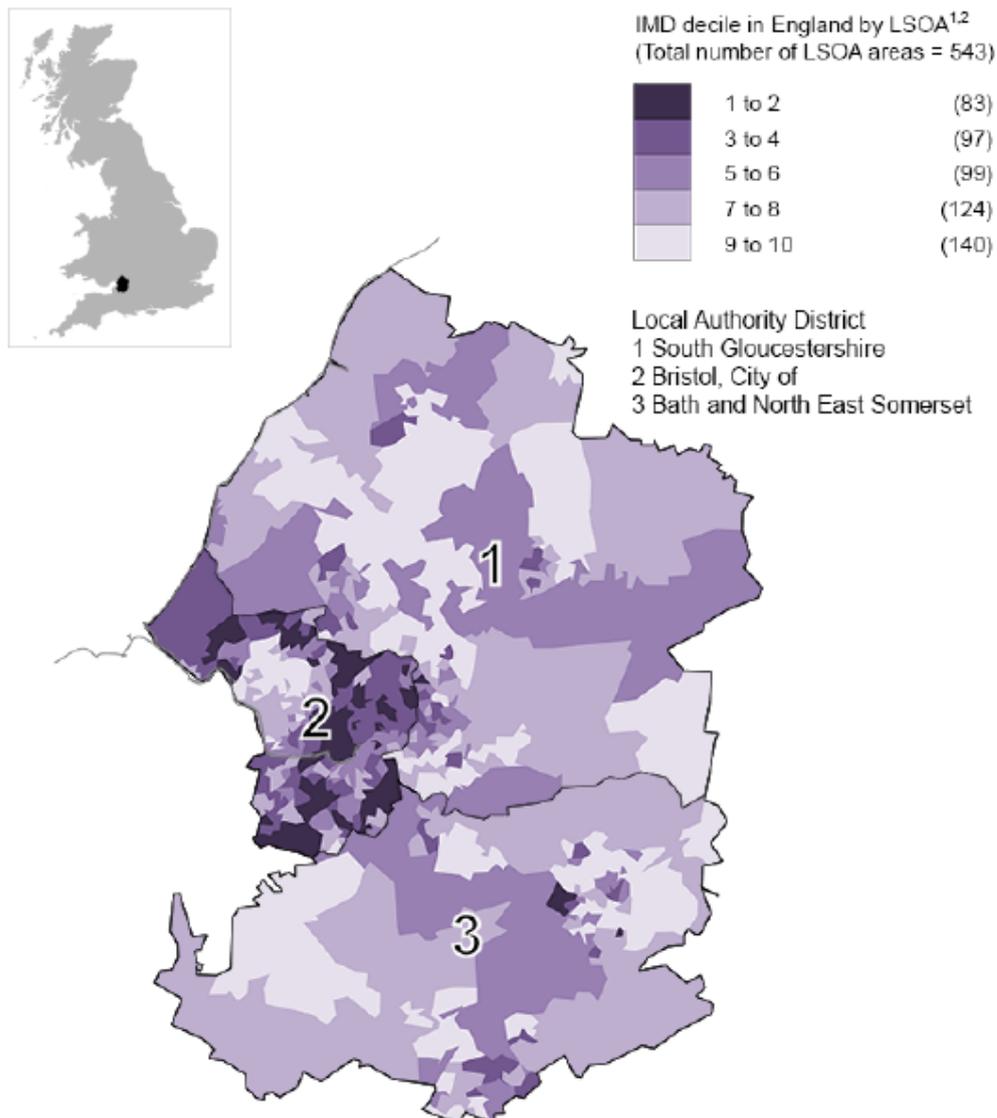
seventy thousand students. The city has a high proportion of degree educated labour both because a substantial proportion of students remains in the city on graduation, and because mature professionals with young families are keen to move to the city. However, the overall occupational skill structure of the city shows that it is now only slightly better than the national average. In 2015, 31% of employment was in the set of occupations designated as High Skill Group 4 (compared to 27% in GB as a whole) and 10% in low skill category 1 compared to 11% nationally.

For many decades the city region has suffered from very poorly performing state secondary schools and educational outcomes in the city have been highly polarised between private and state sectors. Children from the poorest groups have appallingly low rates of University entry (Resolution Foundation, 2017). Pupils in the city's state sector schools have traditionally performed well below national levels although there has been evidence of improvement in primary school performance. There has also been a large local authority and PFI investment in the school estate to try to remedy this.

Industrial change has produced marked inequality and polarisation within Bristol which has acted as a drag on growth. A significant proportion of lower-skilled groups have not shared in the city's growth but have faced falling job opportunities with the decline of light manufacturing. As elsewhere, the rise of female employment rates with service industry growth has been accompanied by a levelling off of the male employment rate. Lower-skill groups tends to be resident in council housing in wards to the south of the city where deprivation levels have been surprisingly high. The City of Bristol has 29.3 percent of its Lower Super Output Areas amongst the 20% most deprived nationally, compared to around 40 percent in Manchester and Liverpool (DCLG 2017, see Figure 23). Not only have deprived groups suffered from skills mismatches they have also experienced a geographical mismatch and have been disconnected from the growth of employment in the north (Interview 3). Other ethnically diverse districts to the east of the city centre may have benefited more strongly from the central city's renaissance (Interview 3). Also there is evidence that the pay squeeze on lower income workers has been especially strong in the TTWA.

Productivity advances in low wage sectors such as food and retail have not been translated into real wage increases in the last decade or so (Resolution Foundation, 2017).

Figure 23: LSOAs by Index of Multiple Deprivation Deciles in West of England Combined Authority, 2017



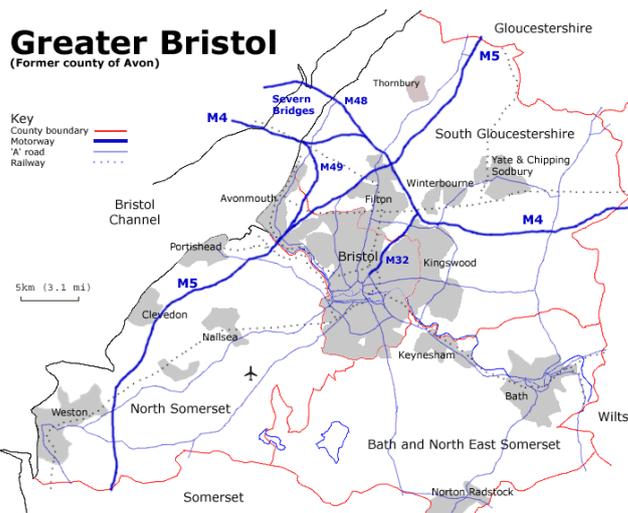
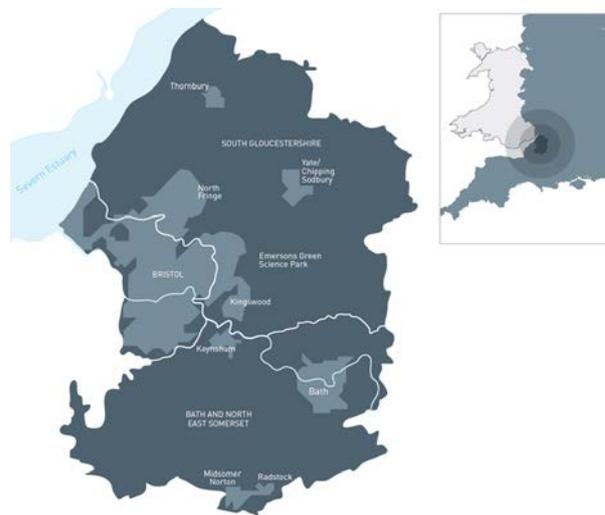
Source: Department of Communities and Local Government (DCLG), Office for National Statistics
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1 In the Index of Multiple Deprivation, deciles are calculated by ranking the 32,844 LSOAs in England from most deprived to least deprived and dividing them into 10 equal groups.
 2 LSOAs in decile 1 and 2 fall within the most deprived 20% of LSOAs nationally and LSOAs in deciles 9 and 10 fall within the least deprived 20% of LSOAs nationally.

5 Development of Institutional Arrangements

The city's institutional arrangements are characterised by a combination of strong elements of continuity as well as by significant changes over time. In terms of persistent features then the under-bounding of the city in administrative terms and the political fragmentation of the area into local authorities stand out. For much of the period there has been a lack of correspondence between the functional labour market area and the political map. The 2011 TTWA involves both the City Council area but also crosses into South Gloucestershire and North Somerset (Figure 24). The old area of Avon County was wider and has been called Greater Bristol, and was larger than the TTWA. On the other hand, the new Combined Metropolitan Authority area covers much of Greater Bristol but does not involve North Somerset so covers only part of the TTWA. Fragmentation is a recurrent theme that runs throughout the period and has only recently been challenged with the growth of metropolitan collaboration.

Figure 24: Past and Current Local Authority Boundaries in the City Region

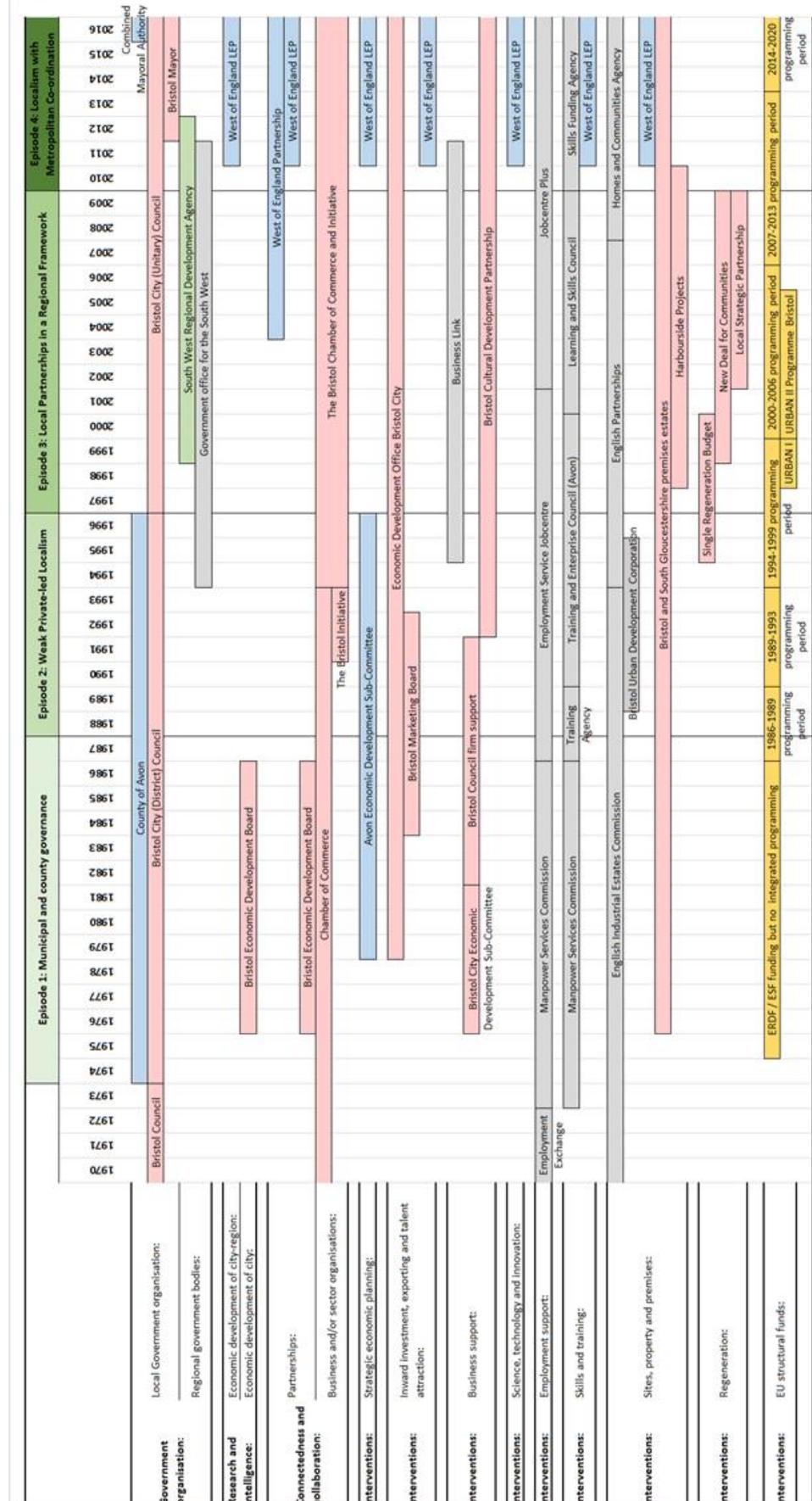


At the same time there have been some important changes to the city-region's institutional structure which have mainly been driven by changes in central government decisions and policy. Institutional development can be divided into four major episodes (Figure 25). Episode 1 can be described as Municipal and county government (1974-1987) during this period Avon County council exercised strategic planning while Bristol and the three other councils within the Travel to Work Area (North Somerset, Bath and North East Somerset, South Gloucestershire) were reduced to the status of districts. This meant that Avon was responsible for education, social services and strategic transportation and planning. The relationships between Avon and Bristol city council were difficult and fuelled by resentment so that there were skirmishes and conflicts between the two councils throughout the 1970s and 1980s. During this episode, Bristol City council had a reputation for being dominated by a narrow elite and for being rather complacent. The Chamber of Commerce was criticised for being largely ineffectual and for narrowly focusing on the interests of shopkeepers. The city suffered from an absence of local business involvement in decision-making (Interviews 3, 5). Stewart (1996, page 135) for example concluded that "The image of Bristol is of a city of longstanding affluence which for many years rested on the laurels of success. Confident, conservative, complacent, the city relied on an elite power structure of local notables and municipal leaders".

During the late 1980s and early 1990s dissatisfaction with public authorities in the city led to the emergence of a new set of regeneration partnerships. A reaction to a feeling of policy drift and inactivity led to the emergence of a private-sector led localism (Episode II Weak and Private-led Localism 1988-1996) with numerous private sector and other initiatives emerging around urban regeneration. A key initiative was the foundation of The Bristol Initiative led by businessman John Savage in 1991. The founding of this was inspired by the CBI report "Initiatives Beyond Charity" which encouraged businesses to show ethical leadership and accept local leadership roles and become more engaged in addressing urban economic and social problems. The TBI was formed to fill a gap left by the declining role of traditional

firms and families and also was a response to the perceived failings and complacency of the Chamber of Commerce. The organisation produced a number of initiatives including the revitalisation of inner retail centres and the development of a cultural strategy for the city. In 1993 TBI merged with the Chamber of Commerce to form the Bristol Chamber of Commerce and Initiative (Bassett, 1996). At this time, the local TEC and the TBI also supported the formation of other local partnerships such as the Western Development Partnership which brought together private companies and the councils. During this episode, local governance was marked by proliferation of local quangos and partnerships as well as by an increasing presence of the central state. This central government presence included the Avon TEC and the Bristol Development Corporation. The UDC was established in 1989 and closed in 1996, after initiating the redevelopment of the Temple Quay area. It was widely criticised for a lack of consultation and a lack of strategic integration with the local authority which refused to co-operate with the UDC. Relationships between Bristol Council and central government were also difficult and unproductive at the time, as the Council made two unsuccessful bids to the City Challenge Programme.

Figure 25: Development of Institutional Arrangements



In 1996 Avon County Council was abolished and the four local authorities became unitary districts. In episode III (Partnerships in a regional framework, 1997-2009) public sector agencies became more engaged and active in various area-based initiatives and city localism continued albeit with a nominal regional framework. After New Labour came to power in 1997 there was an explosion of collaborative governance institutions in Bristol (Davies and Pill, 2012). This period saw the growth of a large number of area-based initiatives and regeneration partnerships. In fact by 2001 there were at least 17 city-wide partnerships in existence (Stewart, 2001). Bristol gained much more urban funding during this period, including from the Single Regeneration budget, the Neighbourhood Renewal fund, and from 1999 a New Deal for Communities Programme, as well as funding from the EU under its URBAN programme. Local Strategic Partnerships attempted to co-ordinate public sector activity and co-opt non-governmental actors and voluntary groups into local collaborative bureaucracies and agencies. The Bristol Partnership, in which the City Council took a lead role, was responsible for Sustainable Community Strategies including efforts to revitalise deprived communities, and Local Area Agreements.

This produced a complex and fluid jigsaw of partnerships in the city-region with partnerships established at regional, sub-regional, city and neighbourhood scales. These were set within a regional steering framework with the responsibility for regeneration split between the Government Office for the South West and the South West Regional Development Agency. While these regional agencies identified Bristol as a focus for growth, the lack of consensus between the four unitary authorities resisted any meaningful implementation of this (Boddy et al, 2004). As Stewart (2001, 14) explained “The consequence has been that the city-region has become institutionally crowded with both regional/subregional and neighbourhood/area-based structures pressing in on the more longstanding mechanisms for the government of the city”. Sprawled across the city in various sizes and shapes with overlapping memberships and interacting often in an informal manner, leadership roles were unclear (Stewart, 2001). Such a complex web became increasingly

criticised during the 2000s, co-ordination and joined-up working was found to be elusive and so partnerships came to rely more on contractualism and bureaucratic protocols. Some were sceptical about the degrees of engagement with local communities and social capital that these programmes could achieve. “Despite devolutionary talk of a new localism and council-led place shaping, the relationship between centre and locality was still characterised by more or less overt top-down pressure to conform with the latest national policy shifts” (Davies and Pill, 2013, 2205). In this sense the partnerships represented a conditional localism in which target regimes were used to ensure that subnational spaces delivered outcomes set by Central Government (Hildreth, 2011; Bentley and Pugalis, 2013). A further key problem was summarised by Stewart (2001, page 18) “There is an absence of strategic leadership which could give shape to the direction of such partnerships and there is no integrating civic leadership to the variety of programmes. “ABIs – scattered geographically from north to south possess no structure which allows them to relate to one another which encourages lessons from area-based experience to feed into main programmes. ABIs are thus isolated from the urban policies which seek to shape the urban future of Bristol as a whole”. According to a council officer “Regeneration shouldn’t just be happening on a micro level, we need to be aligning need with opportunity. So rather than just saying there’s a red line around this deprived area, we’re doing everything in here, we need to be looking at that, but more strategically... looking at how those neighbourhoods interact with the rest of the city and the rest of the sub-region” (quoted in Davies and Pill, 2013, page 2208). The funding for most of these partnership programmes came to end between 2007 and 2010 as attempts at up-scaling developed.

Thus in recent years (from circa 2010) this partnership web has been superseded by a new style of growth-oriented localism supplemented by the re-emergence of metropolitan wide co-ordination platforms and institutions (Episode IV Localism with metropolitan co-ordination). Moves in this direction began with the emergence of collaborative strategic and planning platforms developed by the four local authorities on transport, planning and housing from the mid-2000s. This was

reinforced by the creation of the West of England Local Enterprise Partnership in 2011 that brought together the four local authorities with business representatives and provided a framework for co-operation and greater coherence. In 2012 it agreed a City Deal. While the LEP has implemented supportive growth-oriented initiatives targeted on six major development areas, despite its retention of business rate growth in these areas, it has lacked resources and has also continued to cope with marked differences between its constituent authorities (Interview 5). In 2012 Bristol was unusual in voting for a city major which indicated some dissatisfaction with the prior model of leadership based on a Council leader with a cabinet. While councillors were of the view that this was an effective system, survey research revealed that private managerial and community leaders were far less satisfied that the Cabinet system provided external-facing leadership for the city (Hambleton and Sweeting, 2014). Recent research suggests that the major has added a greater sense of visibility and civic leadership to the city, although there are some concerns about a centralisation of decision-making in a small group (Hambleton and Sweeting, 2016). More recently, a West of England combined authority deal has been agreed which will give the new Metropolitan Mayor more discretion and control over some policies including responsibility for a devolved transport budget, powers of strategic planning, and control of an additional £30 million a year over 30 years. The Metro Mayor agreement primarily focuses on transport, and specifically a new road network and improvement to bus services, although it also includes responsibility for the adult education budget and the co-design of a work and health programme (Business West, 2017). While many feel that this is long overdue there are some concerns that the LEP will be dismantled and the business community may lose some influence and engagement (Interview 3). Problems of fragmentation and divergent interests have clearly not been entirely resolved. The Metropolitan combined authority agreement involves three of the four local authorities as North Somerset decided to withdraw from the Agreement.

Until recent episode there has been a clear lack of strategic policy at the scale of the functional economic area. This has probably been most problematic in terms of the

lack of investment in planning transport, housing and appropriate educational provision. Failure to develop transport infrastructure has been a conspicuous failure and the city missed out on securing a tram system. Only 6 percent of the residents of the West of England city-region use public transport to commute to work. Housing availability is increasingly constrained and house prices are the highest of any core city relative to median earnings (West of England Combined Authority, 2017). Some report that there is also now an increasing shortage of office space, especially for large commercial developments (Interview 3). As Boddy (2003, 94) argued “What has clearly been lacking is any form of strategic vision at the level of the functional city-region as a whole, let alone the will to pursue such a vision in practice”. Lambert and Smith (2003) suggest that the very success and economic buoyancy of the city-region have lowered the incentive for the local councils to enter collaborative schemes and reduced any pressure to co-operate. Moreover, inadequate supply and infrastructural failings lead to congestion and intensify opposition to future growth in some areas;

“There are strong anti-growth sentiments in the suburban districts around the city, motivated by political and popular concerns over threats to local environmental quality and the already over-stretched infrastructure of the city-region. The inadequacies of infrastructure in burgeoning edge of city developments in the city-region, particularly the road network and public transport provision, underlies much of the resistance to growth locally, fuelling the perception that further growth is inevitably negative in its consequences” (Lambert and Smith, 2003, page 29)

This suggests a vicious circle in which institutional fragmentation has led to the under provision of key infrastructure, which in turn raises and justifies opposition to further growth in pressured parts of the city region. The latter has then reinforced opposition to any institutional consolidation or loss of control to a metropolitan TTWA authority. Local authority perspectives have tended to be dominated by a process of defensive competition attempting to shift growth pressures elsewhere and resist further urban encroachment. Joint planning mechanisms have failed to compensate for this fragmentation but instead have tended to manage the tensions

towards suboptimal outcomes (Boddy et al 2004). Savage (2011, page 125) criticised the administrative arrangements existent since the 1960s in the following terms,

“The current administrative arrangements for the city region do not facilitate strong strategic leadership as no responsibility is taken for the whole. The best that can be done is to aggregate small-area decisions and try and deal with cross-boundary issues by negotiation. Unwilling participants on some key issues such as major roads or the quantity and location of new homes have, in effect, brought longer-term visioning and planning to a stop”.

The considerable challenge facing the new combined authority is to weaken these long-established and entrenched dynamics.

6 Development of Policies

Given this institutional fragmentation and tensions, it is not surprising that by all accounts economic development policies have only played a limited part in supporting Bristol’s relative economic success. Nevertheless, there has been a gradual thickening of policy initiatives through time and an increasing focus on science and technology policies and their connection to the provision of sites and premises (Figure 26). Place branding and skills policies have also been emphasised during the recent consolidation of localism in Episode IV. Boddy et al (1986, page 213) trace the origins of policies to the decline of manufacturing during the 1970s and recession from 1979, which gradually produced a shift in economic policy away from a narrow focus on dock development. They identify four components to the economic development strategy subsequently pursued by Bristol City council. The first was the protection of existing industry by helping specific firms with sites and premises and by some rate concessions. The second was land assembly and estate development including the creation of new industrial estates at Avonmouth, in the north fringe, and in the south of the city. The third component of policy was the limited provision of support and advice for small firms. The fourth was the creation of new sectors by the attraction of foreign investment. The city benefited from some

astute marketing both in the US and Europe. The Economic Development Officer began to visit Silicon Valley and Boston annually from 1979. Notable successes included the attraction of Dupont and Hewlett Packard to the north fringe, and of Toshiba Research Labs in 1988.

Figure 26: Development of types of Policy Initiatives

	<i>Inward investment / business attraction</i>	<i>Science, Technology, Innovation (STI)</i>	<i>Enterprise / business support</i>	<i>Employment support</i>	<i>Training / skills policy</i>	<i>Sites, premises and infrastructure</i>	<i>Housing / urban regeneration</i>	<i>Events and place branding</i>
Episode 1 (1974-1987): Municipal and county government	●		●	●		●		
Episode 2 (1987-1996): Weak and private-led localism	●		●	●	●	●	●	●
Episode 3 (1997-2009): Local partnerships in regional framework	●●		●	●	●	●	●●	●●
Episode 4 (2010-date): Localism with metropolitan coordination	●●	●●	●	●	●●	●●	●	●●

During the 1980s further important components of policy were developed. The first was commercial development and support for office building in the city. Most of this was driven by private developers although Council departments acted to facilitate firm relocations including that of the London Life Insurance company in 1971 (Boddy et al, 1986). Despite cycles of office booms and busts, throughout the period Bristol benefited from a growing supply of offices. Many of these inadvertently later became a resource for inner city revival as they have been allowed to be converted into hotels and high-end residential flats in recent years. Tourism also became a

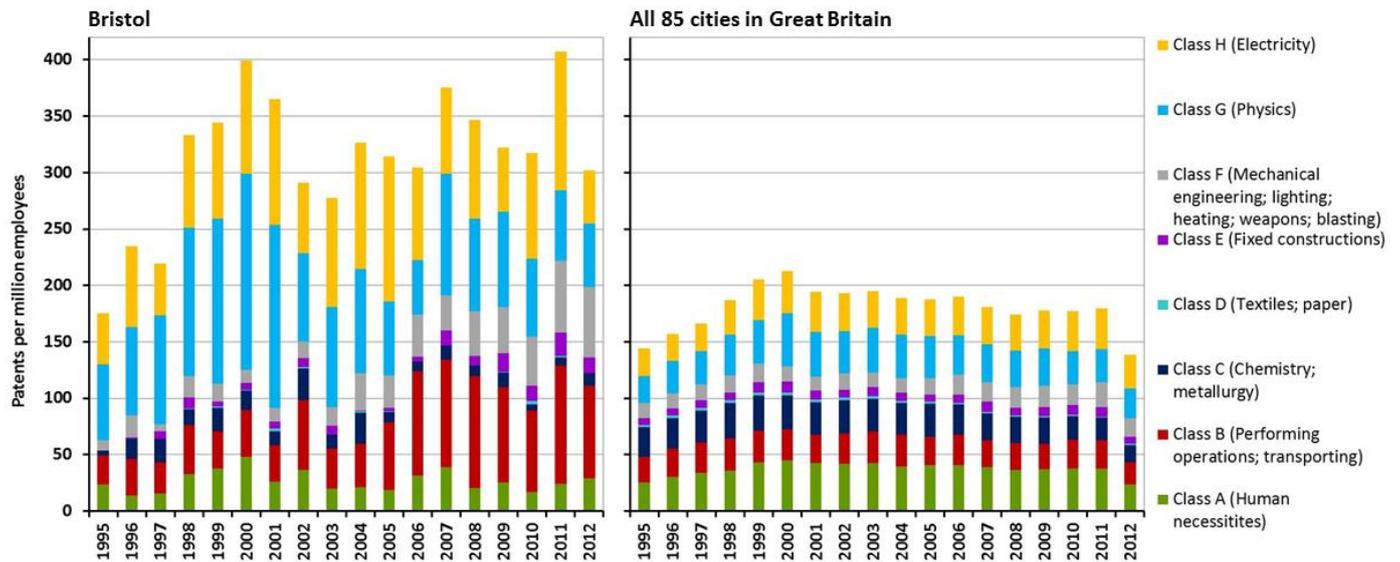
more prominent policy theme in the 1980s as evidenced by the establishment of a Bristol Marketing Board in 1984. This was a particularly successful public-private partnership and the focus of much of its activity was the old city docks. From the 1980s marketing also included tourist and leisure activities, which began to reinforce the revival of the waterfront through a cultural amenities and industries policy. Until the 1990s, the inner city docks had been redeveloped in an evolutionary and piecemeal way, partly because of the influence of well-organised middle class conservation and pressure groups opposed to radical modernist developments (Interview 4). Fortunately, during the 1970s these groups had defeated proposals for urban modernisation and dual carriageway road schemes partly by mobilising the ideas of Jane Jacobs (Punter, 1992). While this opposition was ahead of its time in conserving the waterfront (Interview 4), it also tended to preclude the construction of flagship developments and new public spaces (Bassett, et al, 2002). This controversy ensured that from the 1970s onwards the Council exercised a strict development control over redevelopment and historic assets and public waterfront access were retained and refurbished in mixed use redevelopments (Punter 1992). From the 1970s much of the derelict dock area was redeveloped through a series of schemes for housing and leisure activities but also involved the conversion of warehouses into cultural spaces such as the Arnolfini complex and the Watershed Media Centre. The conversion of warehouses and industrial buildings provided many creative industry firms with relatively cheap and desirable premises. This was achieved with minimal investment of public funds, but the Harbourside lacked mass leisure flagship facilities.

Bristol was not was not one of the early adopters of a cultural industries and regeneration strategy. According to observers in the late 1990s, an arts and cultural strategy for the city had only emerged recently and was long overdue (Griffiths et al, 1999). At that time only about 2 percent of the city's employment was in the arts and media sector. Bassett et al (2003) note that the city was apathetic about the cultural sector during the 1980s and had to catch up with other cities, but that a major shift occurred in the 1990s. The Bristol initiative commissioned a report by

Boyden Southwood Associates in 1992 which argued for a distinctive and energetic cultural strategy. This led to establishment of the Bristol Cultural Development Partnership consisting of public and private agencies and, from 1997, the local authority played a stronger role in cultural development and funding. In 1996 the city was awarded substantial grants (£83million) from the Millenium Commission for the construction of the @Bristol Science centre and Imax. These projects opened in 2000.

Policy development in the city-region has also involved the growth of a wide range of support institutions and networks for entrepreneurial start-ups, particularly in high technology. Many of these have been linked to the Universities' research specialisms and a number of 'star scientists' lead private and public sector research labs and as well as firm ventures. The city-region benefits from a number of important innovation networks and incubation spaces. The SETSquared Partnership was established in 1999 by Bristol, Bath and other Universities, and has provided significant funding for University spin-outs. In 2013 the City Council, LEP, and University of the West of England established the renovated Engine Shed next to Temple Meads station as an incubation and networking centre, and the Set Squared partnership moved into the renovated incubator. The innovation system also includes the Bristol and Bath Science Park at Emerson's Green, which hosts the National Composites Centre, and the Bristol Robotics Centre. FutureSpace at UWE was created with investment from BIS, the LEP and UWE in order to grow SMEs in robotics, artificial intelligence and assisted living. These research and innovation institutions have their origins in the city-region's specialisms in aerospace and microelectronics, which have been supplemented by the addition of high-profile digital incubators and workspaces. Partly as a result of its knowledge industry specialisms and their connection to anchor institutions, the city-region has developed strong high-technology innovation ecosystems as indicated by its rates of patenting which are well above the national average (Figure 27).

Figure 27: Patenting Rates per Million Employees in Bristol TTWA and Other Cities, 1995-2012



7 Policy Impacts and Outcomes

While any evaluation of local policies is inevitably clouded by the lack of detailed and careful policy evaluations, Boddy et al’s (1986) comprehensive review of economic development in post-war Bristol in the following terms came to the conclusion that,

“As we have seen, no specific urban or regional policy measures, central or local, are heavily implicated in the particular processes of economic or employment change which have been set out. There are examples of innovative, and at the local scale, effective initiatives from which lessons can be drawn. Their impact in overall economic and employment terms, however, has been essentially irrelevant”.

The assessment is founded on two key persuasive arguments. First, state expenditure on defence and related R and D has been much more heavily implicated in sustaining the city-region’s prosperity. This implicit industrial and regional policy provided the foundation for Bristol’s reputation as a high technology ‘Sunbelt’ region and encouraged a close collaboration between University research and advanced manufacturing. Boddy and Lovering (1986) showed that in the early 1980s the sums spent on defence procurement in the South West far exceed the explicit regional policy assistance given to Wales and Northern regions. Second, most policy until the

1980s was preoccupied with attracting high-technology rather than with KIBs. It was not until the mid-1980s, Boddy et al argue, that policy began to consider ways to stimulate the growth of financial services, tourism and leisure services. Hence, location and quality of life factors have been much more important in attracting services to the city-region than explicit local policies. While some of these factors have been influenced by transport, cultural and amenities provision, many are a result of the city's inherited characteristics and historic assets, its regional location and processes that are hard to influence through policy measures.

Nevertheless, the permissive planning regime and laissez-faire planning witnessed in the 1980s in the north fringe was fundamental to the rapid expansion of investment and development. The enduring impact of the 1970's planning regime on the north fringe has perhaps been the major single policy influence over the period as it provided a hard infrastructural space for expansion and the attraction of new businesses. This amounted to a 'de-facto growth strategy' (Boddy et al 2004, 62). While the form of this development has been criticised for being relatively unplanned and leading to unsustainable car-dependent development and congestion, it nevertheless meant that the city region captured the benefits of a new wave of decentralised service and industrial growth. Indeed for some time it was feared that such was the strength of growth in the fringe that it led to the 'hollowing out' of the city centre. In general these fears have been dispelled by the regeneration of the city centre and Harbourside. The development of the north fringe involved the development of new shopping centres and Bristol city has responded through the redevelopment of Broadmead between 2005 and 2008, and the establishment of a BID in the district, and the opening of Cabot Circus in 2008. However there remains some awareness that the city does not perform that well in relative retail standing (Tallon, 2007) and would resist further out of town developments (Interview 4).

In general, the evidence suggests that most policy areas in Bristol have developed incrementally and falteringly, with a recurrent shortage of public resource for investment leading to both significant missed opportunities and setbacks. However,

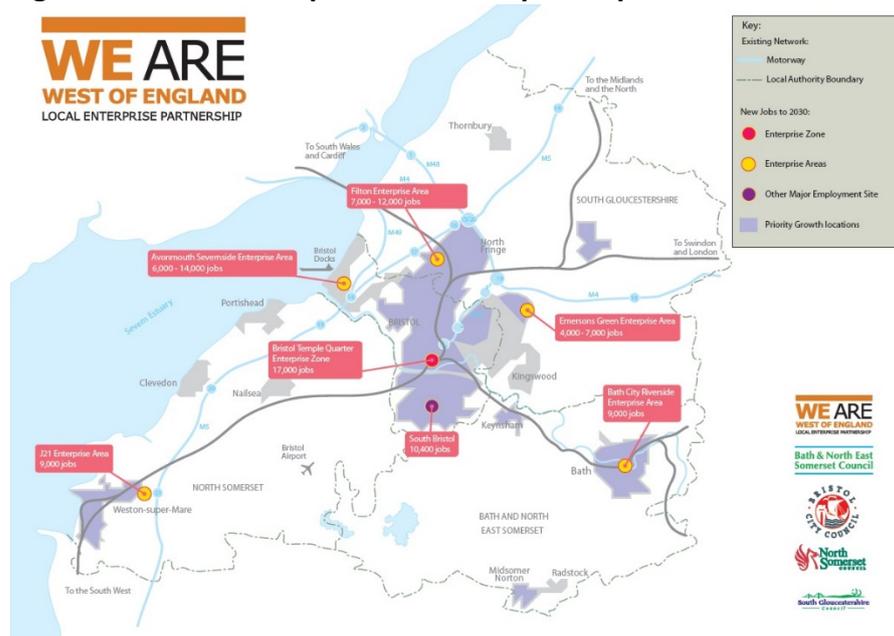
while policies have not led and been the primary cause of economic restructuring and growth, there are a number of ways in which policies have been adaptive and responded to opportunities for growth, and have come over time to facilitate and encourage that growth. There are several types of policy in the city that have been effective, even if their application has been intermittent and inchmeal at times. What is striking about these policy themes is that they developed over decades and in some ways have shown a consistent focus on particular broad goals. Despite the changes and difficulties of governance and resourcing, these themes appear to have gained momentum.

During the period there has clearly been a focus on marketing Bristol as a favourable destination for firms and managerial and professional activities. As noted already, the city appears to have been relatively early and effective in establishing a marketing brand in the US and Europe from the late 1970s. The first marketing Board was set up in 1984. The priority was on the attraction of high-technology foreign investors and on professional services firms and this delivered some notable successes. In some cases these marketing services were re-active to firm inquiries so it is hard to definitely establish what would have happened in their absence. Nevertheless, the attraction of KIBs and other firms has been one of the key ways in which policy initiatives have been related to economic restructuring in the city. Over the period the city-region has clearly benefited enormously from the attraction of foreign investors and subsequent entrepreneurial spin-offs. In recent years the LEP has continued to develop this city-marketing and the joint marketing of Bristol-Bath has been highly visible. Bristol city has built a strong brand as a historic maritime city with a townscape and culture appealing to managerial elites and professional employees. This has provided the basis for the construction of a successful brand as a creative, innovative and sustainable city. Policy makers have supported digital and sustainable schemes which have strong appeal with younger groups committed to sustainability and the smart city (Hambleton and Howard, 2013; Interview 2).

The successful place-branding of the city has been strongly related to the regeneration of the inner area. This has been the second key way in which various planning and policy decisions have rather incrementally and sometimes inadvertently come to provide the city with an urban fabric and built environment conducive to a renaissance based on tourism, cultural regeneration, leisure and small-firm start-ups in digital and cultural sectors. After several decades of failed flagship projects, the cultural venues built from 2000 have acted as catalysts for further revitalisation and cultural tourism, so that the public subsidy for city centre cultural spaces has clearly borne much fruit. The combination of these catalysts with the well-managed conversion of old buildings and a historic landscape to new uses has been at the heart of the inner-area successes.

The establishment and consolidation of incubator and support institutions for high technology firms and start-ups has also been widely credited with some success. Evidence suggest that rates of patenting are high in the city (BCC, 2011). Figure 27 shows clear evidence of the strength of innovation systems in the city-region. In fact, the Bristol and Bath digital technology cluster has been identified as a growing and internationally significant technology ecosystem (Centre for Cities and McKinsey, 2014; Tech Nation, 2015). The city-region's innovation networks and incubation spaces have been widely praised, although they have not been subject to many rigorous evaluations. The recent move towards a greater localism has seen a strengthened connection between these support networks and the development of sites and enterprise zones (Figure 28). At present, one of the most promising is the Temple Meads EZ in the city centre appears to fit well with the growth of the digital activities (Interviews 1, 2). It has apparently already attracted 3,000 jobs since 2012.

Figure 28: Local Enterprise Partnership Enterprise Zone and Areas



In a limited sense then, policy in the city has shown signs of adopting ‘place based’ elements, as localism as given authorities more discretion with development, and incentives to co-operate on developing each local targeted area and supporting key industries in each area. The integration of policy efforts around targeted sites for growth has increased. The growth in the capacity in city leadership has allowed some recent innovations in place-based approaches that connect different priorities (Hambleton and Howard, 2013). However, as we have seen, policy has largely failed to develop a place-based co-ordination for the city-region as a whole. The most evident policy failures have consequently been in terms of the inability and failure to deliver some of the key fundamental conditions and urban infrastructure that enable growth. As noted already, supply-side constraints in terms of public transport and the supply of affordable housing have steadily intensified.

Moreover, despite the introduction of some local initiatives to improve employer engagement and move towards a more demand-led skills and training policies , it is hard to avoid the conclusion that skills policies in the city have been too inflexible and inadequately resourced, and have failed to connect large numbers of low and

unskilled local residents with employment demand. Bristol's experience in labour market policy does not appear unusual, as mainstream employment and training agencies have lacked local flexibility and been removed from the needs of local business, and especially from those of small enterprises (Glossop, 2009). Mainstream policy measures have focused on job-attachment and have worked better for those closer to the labour market, but the main goal for these schemes has been job entry rather than progression, retention and skills development. In addition, with the exception of some limited area-based schemes, health, social and employability services have not been well-integrated (Ibid). The consequence has been that disadvantaged groups, particularly in public housing in South Bristol, have been poorly connected to areas of job growth, both in social and geographical terms. Recent local deals have involved an attempt to incentivise local training providers to tailor their services to local needs and priorities, but this is effectively only the beginnings of a devolved and demand-led local skills system.

Over the period as a whole Bristol has suffered from a defensive and fragmented localism, promoted by relatively small administrative areas and the short-term goals of party political control (Boddy et al, 2003). It is, of course, far too early to judge whether the new localism within a more strategic metropolitan framework will be able to make genuine and significant progress in overcoming the fragmentation and lack of co-ordination that have beset the city-region. While the combined authority deal offers control over a considerable investment fund, over we should remember that this will be more than offset by an increasing local authority austerity. Whether investment will be sufficient to address the city-regions in terms of skills, transport and housing remains to be seen. Some conflict in terms of political direction and policy intent, remains inevitable given that the four local authorities are representatives of local areas with very different socio-economic characteristics and political priorities, and that their key incentive will continue to be to remain popular with their voters. The key challenge for metropolitan co-ordination will be overcome the entrenched path dependence and reinforcing dynamic of this style of governance.

8 Conclusions

In conclusion then it is clear that the Bristol TTWA has adapted more successfully to the process of tertiarisation than most large British cities, and has benefited greatly from the growth of KIBS and other services. The city's location, and the lure of a revived urban economy with strong cultural amenities, have been crucial to the growth of a diverse and buoyant service economy, and hence to resilient employment growth. Retaining key elements of advanced manufacturing has also been significant to the city-region's economic evolution. The continued viability of aerospace and advanced engineering has allowed the city-region to develop a high-technology innovation system and brand. In this sense high-technology and associated institutions activity has been a strong asset that has allowed the city-region to attract and embed important new firms throughout the period. At the same time, the regeneration of the city-centre and the city's growing presence in creative industries means that it has been well placed to benefit from digital industries that span and blur high technology and creative sectors. Underlying these is the attractiveness of the regional context and location, for various reasons, to both firms and professional and skilled employees. As a consequence, the city-region clearly has enviable strengths in terms of high-technology innovation ecosystems and a dynamic digital economy, however these strengths have not determined and shaped the direction and form of change seen in the urban economy as a whole.

The case study clearly illustrates the significance of the implicit urban policy as described by Harding and Nevin (2015). The city-region has undoubtedly benefited strongly from the implicit urban policies of spending on defence R&D and procurement, science and university investment, and transport investments during the 1960s and 1970s. With such implicit support and strong underlying market dynamism we might expect urban policies in Bristol to have worked especially well and to have been fundamental to these growth dynamics. Certainly, in those instances where policies have worked with the grain of market development, for instance in the north fringe expansion or regeneration of the Harbourside, then

policies have clearly had an important and widely-recognised reinforcing effect. Almost inadvertently the city-region has captured two quite different forms of new urban growth: unplanned and deregulated urban peripheral expansion; as well as controlled, conservation-sensitive and well-designed city-centre regeneration. In their different ways both forms of growth have made been important to economic adaptation. However, in general, it appears that policies have been limited and intermittent and that the public sector has not been the driver of the economy's transition to services. Explicit policies have been more supplementary and secondary, whereas the city's regional location and context have been crucial. Private sector interests have regularly attempted to fill a leadership gap left by the public sector. In one sense this is due to the prosperity and economic dynamism of the city-region's economy which means that public authorities in some constituent areas have been under more political pressure to resist and deflect growth and infrastructure construction, than to encourage it.

The relative weakness of policy impact is also due to the fact that while the institutional framework of public governance has changed significantly over the period, a consistent problem has been the lack of strategic planning and policy at the scale of the functional city-region. The city-region's economy has been hindered by a fragmented and defensive localism, and a shortage of local resources and funding, that have only recently been challenged by the moves to a combined metropolitan-scale authority. There are several key problems that stem from this explain why the city-region remains in our Group II TTWAs with average growth. The first is the decline of higher productivity manufacturing and some KIB sectors and the rapid growth of lower productivity private and public services which have contributed to a weakening of productivity performance. The second is the unevenness of the city's restructuring and the way in which some districts in the Southern half of the city suffered heavily from deindustrialisation and have benefited to a much lower degree from the growth of service sector employment. The imbalance within the city-region appears entrenched. Third, the lack of strategic administration means that the economy has been subject to increasing supply-side constraints and pressures that

are most visible in terms of transport, housing, and space for commercial expansion, which may well be linked to its weakening productivity growth. There are signs that the city-region's productivity growth has slowed and the economy is under increasing stress as it has approached the limits of its supply-side carrying capacity. The new combined authority thus faces some obstacles and profound challenges that have a long history. As North Somerset's opt-out indicates, the authority's political context will be continue to be difficult because of the way in which anti-growth sentiments in some of its semi-rural constituent authorities remain powerful. However, if supply-side constraints continue to strengthen and Brexit disrupts the city's export and science-based sectors, as well as restricting access to internationally-mobile skilled labour, then in the context of the mixed recovery since 2013, the city-region's need for, and perhaps appreciation of, economic growth may well rise rapidly.

Appendix 1 Timeline

Bristol Events, Policies and Institutions

- 1955 Green belt established
- 1950s IDCs available – tightened after 1958
- 1957 opening Bristol airport Lulsgate, and BBC natural history unit
- 1964 ODPs introduced South East
- 1964, 1968 Proposals for new container port rejected
- 1966 Severn Bridge opened, 1965-1971 construction M4 motorway
- 1964-67 office building boom (1953-73 office space in Bristol triples)
- 1970s laissez-faire North Avon Council planning approval 'Northern Fringe'
- 1970s high-speed rail links
- 1971 Third proposal for new port accepted, funding by Bristol council
- 1972-78 office building boom
- 1974 local government re-organization Creation of County of Avon, County Borough of Bristol reduced to district authority (loses strategic planning, education and social services)
- 1970s office relocation to Bristol – ODPs in SE and Midlands
- 1975 Bristol city docks close, M32 link completed
- 1976 Economic Development strategy – Economic Development Committee established, industrial and small firm development officers
- 1976 Establishment of Economic Development Board – Bristol and other district councils
- Bristol Marketing Board (city council and private sector)
- 1977 new dock Royal Portbury opened
- 1980 St Paul's riot
- 1982 Watershed arts centre opened
- 1984 Hewlett Packard and Dupont attracted
- 1984 more constraints office building
- 1986 urban aid Task Force St Paul's

- 1987-1996 Temple Urban Development Corporation – initiated development of Harbourside A4 and Temple Quay
- 1987 Wills tobacco factory closed
- 1988 Bristol Initiative formed – business-led partnership
- Temple Quay – English partnerships and SWRDA
- Aztec West Park
- 1991 Bristol Council City Challenge bid unsuccessful
- 1992 Bristol Council City Challenge second bid unsuccessful
- 1992 Estate action 55m funding
- 1992 Cultural strategy for Bristol
- 1992 Bristol Polytechnic becomes University West of England
- 1993 Bristol Initiative establishes Cultural Development Partnership
- 1995-2000 Single Regeneration Budget funding £50M, 8 schemes
- 1996 local Government re-organization – abolition of County strategy, 4 unitary authorities established – Bristol City, Bath & NE Somerset, North Somerset, South Gloucestershire
- 1997 Education Action Zones
- 1998 SRB4
- 1999 SRB5
- 1999 Start of SETSquared partnership
- ABIs :
- 2000 SRB6, Queen’s Square regeneration
- Bristol URBAN1 1998-2001 ERDF
- Bristol South URBAN II 2002-8
- SW Regional Development Agency 1999-2012
- New Deal for Communities pathfinder
- Sure Start
- Abbey Wood Ministry of Defence
- Broadmead regeneration 2005 expansion project and BID
- Temple office regeneration

- Harbourside council project team 1993 1st phase 98-2000, second phase 2006, third phase 2007-2010
- 2000 AtBristol centre and Imax (£83m Millenium commission)
- 2004 West of England Partnership 4 local authorities
- 2008 Cabot Circus opens
- 2011 Creation of West of England LEP
- 2011 Emerson's Green Bristol & Bath Science park 59 acres includes National Composites Centre
- Filton MOD procurement centre
- 2012 Bristol City Deal agreed
- Airbus business park
- 2012 Temple Quarter enterprise zone
- 2012 City Mayor appointed (November)
- 2013 Engine shed – BCC, university WoE, LEP
- 3 BIDs Broadmead, Cater Business park, Clifton Village
- Avonmouth Severnside new terminal approved
- University Temple campus in Temple EZ
- 2015 Filton sold to YTL
- 2015 Metro Combined Authority Deal (excludes North Somerset)
- 2017 Metro Major election

Interviews

1. Martin Boddy , ProVC Research University of West of England, (23 January 2017)
2. Stephen Hilton, Director Bristol Futures Ltd, Bristol City Council, (9 March 2017)
3. Matt Griffiths, Business West, (17 March 2017)
4. Barra Mac Ruairi, Strategic Director Place, Bristol City Council (2 March 2017)
5. Dr John Savage, The Bristol Chamber and Initiative, West of England LEP (9 February 2017)

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