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**“The Influence of Regional Earnings and
Labour Market Structures on Inequality in
the UK, 1994-2009”**

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Abstract

This working paper presents a critical analysis of the effect of regional earnings and labour market structures on UK earnings inequality during the period of almost continuous economic growth, since 1994. Using, adapting and combining a range of existing methodologies the empirical work looks to challenge and repack accepted theses on social polarisation and professionalisation and their link to inequality.

A consistent theme throughout the research is the extent to which the proportions of higher paid workers are concentrated in the South East of England. Also, within this part of England, one finds the greatest level of change in the earnings and labour market structure. This suggests that the mode of economic growth experienced since 1994 has had a greater effect on the higher end of the labour market in this specific part of the UK. As a result, the effect that these developments have had on the UK's levels of earnings inequality is considered. The implications of these findings mean that future research in this field should further explore the effect of the highest-paid, most-lucrative labour market sectors on earnings inequality across and within the UK.

Key words: inequality, social polarisation, professionalisation, labour markets

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Introduction

There are few concepts that have attracted more attention within social and economic geography than “inequality” and “social polarisation”. However, the history of research into these two concepts is distinctly different. The literature on social polarisation predominantly focuses on the concept as a process of economic development in Western economies (cf. Sassen 1991). Empirical work has also led to its existence in the UK being challenged (Hamnett 2003). Whereas, contemporary research into inequality, tends to look to pin down the extent of its existence (Dorling et al 2008). However, there is a lack of quantitative work that attempts to link the two concepts. This gap in empirical work in the UK partly exists because of a lack of comprehensive data on earnings and occupation change, but also because both concepts tend to be addressed by separate parts of the academy – generally economic geographers and epidemiologists, respectively.

Social polarisation has almost been accepted into academic orthodoxy as a suitable concept to describe the nature of economic society in the UK, without being subject to rigorous empirical interrogation (Feinstein et al 1992). The empirical work in this dissertation will look to build on the work of social polarisation’s critics (cf. Hamnett) and attempt to repack theory based on sound quantitative work.

Further to this, it will also look to link the two separate but related research areas – the process-focused literature on polarisation and the outcome-focused literature on inequality. This link will aid understanding of what economic forces are driving contemporary patterns of inequality and point towards potential further research if this link is to be better understood in the future. Economic forces and subsequent labour market change are mediated through space (Lawless 1998, Harvey 1982, Massey 1995). As such, geographical difference will be central to my empirical work and theoretical considerations.

During my empirical work I propose the development of measures that are based on both the change in occupation structure, capturing processes; and earnings, capturing outcomes. These measures and their limitations are described in detail throughout chapter 2. Finally, the results from these measures are used in a “what-if” based analysis. This analysis looks to isolate the effect of changes in the occupational structure and earnings within this structure, in Inner London, on UK inequality. The results from this part of analysis are somewhat limited (see chapter 2.6); however they do point to potential further areas of research in this field.

Chapter 1: Literature Review

1.1 Research Context

To analyse changes in the spatial division of labour from 1994 onwards it is vital to have an understanding of both the changing economic and socio-political context. During the 1960s and 1970s there was a great expansion of welfare (Katz 1997) and nationalised utilities and industry (Peck and Tickell 2007). Government action tempered industrial decline and held back the explosive rise in inequality that was to follow in the 1980s. After the election of the Thatcher administration in 1979 large scale privatisation, deregulation of markets and extensive tax cuts for the highest earners (Hills 2004) followed. The Government's economic policy of deindustrialisation and monetarism and an adherence to a neoliberal ideology (Peck and Tickell 2002) set the scene for a particular type of economic growth in the 1990s – manufacturing being further replaced by a bifurcated service sector led employment structure (Hamnett 2003, Sassen 1991).

This fundamental restructuring of the economy sat alongside the relatively poor economic performance of the 1980s and 1990s internationally. This only served to make the position of labour in the UK's economy less favourable (Monastiriotis 2005); since the 1980s there has been a steady decline in trade union membership (Monastiriotis 2007). With labour in a weaker position to negotiate wages and terms alongside improved economic performance - with record continuous growth since the early 1990s - the context seems to be set for rising inequality driven by labour market processes during the period of study (1994 – 2009). Assessing whether this is the case is the fundamental concern of my research.

During the economically sluggish 1980s and early 1990s there were dramatic fluctuations in income and wealth inequality in the UK, across and within regions (Dorling et al 2008). These developments can be conceptualised as uneven labour market outcomes structured by economic and political processes (Gordon & Turok 2005). Adopting the theoretical standpoint that the uneven geographical development of capitalism (Harvey 1982) and labour markets (Massey 1995) is not static and is to be conceptualised as a process, increases the importance of the above research context in formulating my research aims and subsequent analysis.

In recent years the urban landscape across large parts of the UK has undergone radical transformation. The redevelopment of the UK's major cities gathered pace after the election of a Labour Government in 1997, and their 'third way' (Powell 2000) realignment has led to the political idea of the city itself as an enabler of economic growth gaining traction (Wacquant 2008). Cities in the regions have experienced a rise in service employment in the place of manufacturing. In Manchester, for example, "less than one in five of the conurbation's workforce are employed in factories. Approaching four-fifths of the city's workers are employed in services of one kind or another" (Peck & Ward 2002: 1). This change has been somewhat longer term – since the 1960s – and looking at whether this context of longer term change is born out in the medium term (since 1994) will form part of my research.

The context that my research sits in is clearly one of longer term industrial decline and service sector expansion, alongside growing income inequality. Assessing whether this pattern has been arbitrarily projected onto more medium term changes will form the essence of my quantitative research.

1.2 Theory

There is a substantial theoretical literature within economic geography that global economic forces are having a polarising effect on the geographical structure of labour in the UK (cf Sassen 1991). With technological advancements in communications there has been a radical compression of time-space barriers (Harvey 1989), which is believed to have contributed to establishing the vast majority of city's and region's specific functional positions within a global division of labour (Amin & Thrift 1994). There is also a well established theoretical literature which assesses this uneven geographical development of capitalism (Harvey 1982) and spatial divisions of labour (Massey 1995) over time, as processes. Massey (1995) makes the case that the changing emergent forms of geographical inequality in Britain are integral not to decline but to growth, further making the theoretical case that regional inequality is a process contingent on the changing spatial divisions of labour. This theoretical approach will inform my empirical research; according central importance to change over time as way of understanding the development of geographical inequality across the UK.

There has been a growing body of empirical research centred around contemporary geographical income distribution (Dorling et al 2008) and its effects on society (Wilkinson & Pickett 2009). However, there has been little work that tries to empirically evaluate the development of these geographical patterns as a function of the structuring processes outlined above. Understanding inequality as a process driven by spatial divisions of labour is under-researched quantitatively.

Specifically related to my research is the theoretical debate about the “existence, form, extent and causes of ‘social polarisation’ in contemporary western societies” (Hamnett and Cross 1998: 39). The debate centres on whether economic changes have led to social polarisation (Sassen 1991) or professionalisation (Hamnett 2003) within the workforce. In America, it is feared within certain parts of the academy that the middle classes are shrinking (Sassen 1991, Katz 1997). The processes of deindustrialisation in urban areas are seen as leading to an erosion of semi-skilled manufacturing jobs. These jobs are either replaced by service sector jobs, which Sassen argues have a more polarised occupational and earnings distribution than manufacturing jobs (1991), or worklessness; thus leading to increasing social polarisation. Whereas Hamnett (2003) argues that since the 1960s a professionalising conceptualisation is more apt when considering London’s social structure. He argues that, in London, there has been an increasing amount of jobs towards the higher end of the labour market structure and that, through processes of gentrification, the traditional manual working class is being replaced by a new cohort of well-paid professionals.

The debate focuses on whether deindustrialisation in Western economies has led to a loss of skilled manufacturing jobs, which have subsequently been replaced by unskilled, poorly paid jobs in the service sector. However, there has been little critical examination of what is meant by the concept of services and the service sector (Walker 2004). Walker defines a ‘service’ as labour that “does not take the form of a material product, such as a play or a lecture. It is thus normally irreproducible by other workers and involves a unique transaction between producer and consumer” (2004: 99). If the service is exclusive in nature – such as legal advice, business consulting – its value is likely to be much higher than a service that is more routine – such as cleaning. There are some intermediate points in the service sector; however, there is a distinct social hierarchy within it, which leads to uneven labour market outcomes. This distinct hierarchy is of central importance to my research.

Both theories are based on and influenced by long-term structural changes to the global economy, as outlined previously. A theoretical barrier that needs to be overcome in my research, is the assumption that longer term industrial decline has led to a specific contemporary shorter term pattern of employment in the UK and an increasingly polarised society. This can be seen amongst contemporary Marxist geographers (Harvey 1982, 1989; Massey 1995; Peck 1996) where discourses of deindustrialisation and the subsequent increases in inequality have become deeply entrenched into academic orthodoxy. The Marxist standpoint is that as the labour process evolves, with the development of new technologies, the need for skilled workers diminishes (Harvey 1982), leading to an increasing demand for low-skilled, low-paid workers. However, the medium term changes that my research will look at might not reflect the longer term proletarianisation (ibid) highlighted by Marxist geographers such as Harvey, Massey and Peck.

Another theoretical barrier that needs to be overcome is outlined by Feinstein et al (1992) and Hamnett (1994) regarding the attractiveness of the polarising city thesis; stemming from its simple explanation of outcomes of a range of complex processes. However, the thesis is not necessarily borne out in existing empirical work, and is not applicable to every region of the UK. As such, following Hamnett and Feinstein, my research will use the social polarisation and professionalisation theses as starting points for analysis.

Consequently, my research will, where appropriate, attempt to repack some of the theory outlined based on the medium term trends that I identify. It can be argued that a “key requirement of theory is for it to have some kind of *explanatory force*” (Goldthorpe 2010:312). As such it is vital that the contribution to theory of my findings does not fall into some of the traps outlined above – relevance to the geographical context and time period of my study with a sound conceptual and quantitative basis.

1.3 Existing Empirics and Gap in Literature

One can isolate three main empirical themes in the literature that are relevant to my research. Firstly, empirical work that looks at the development of income/earnings inequality; secondly, empirical work assessing levels of income/earnings polarisation; and thirdly empirics on the polarisation of the labour market structure. There are examples of work that quantitatively look at a synthesis of two out of the three themes. However, there is a gap in the empirical

literature that attempts to look at and understand the links between all three major themes. Most of the relevant research tends to look at a combination of two of the themes. My research will attempt to synthesise all three – looking at earnings inequality as the outcome of changes in the earnings structure and labour market structure.

Key Concepts

Firstly, following Hamnett and Cross (1998), it is important to have conceptual clarity with regard to what is meant by earnings and income, and inequality and polarisation.

Earnings and Income

“Earnings relate to earnings from employment, and are usually available only for individual earners and, by definition, exclude the unemployed. Income data includes income from a variety of sources including unemployment pay and other transfer payments such as pensions...” (Hamnett and Cross 1998: 40). As a result, there are whole categories of income which are determined by Government and not the labour market directly. One has to bear this distinction in mind when looking at either earnings or income. However, I would argue, through drawing on a related literature, that the level of individual’s income/earnings from Government and the labour market have become inextricably linked in the UK.

For example, during the 1980s there was a retrenchment of public services; market like forms of government predominated across all spheres of social life (Peck & Tickell 2007). This neoliberal ideology was engrained in both the economy and the state. The entwined interface of the economy and the state can be seen in the changing role of government and labour market institutions – the emergence of conditional (not universal) welfare programmes to ‘get people back into work’ (Peck 2001) and the decline in trade union membership seen as a way of increasing flexibility and competitiveness (Monastiriotis 2007).

It is clear that the state does have mediating effects on the role of the labour market; this can be seen in the specific type of labour market restructuring that took place in the Ranstad region of the Netherlands (Feinstein 2001). However, from the literature about the entwined relationship between the Government and the labour market in the UK in recent years and its

role as enabler of economic growth (cf. Giddens 2001 and Peck 2001), it would seem justifiable to use earnings as a measure of inequality in my research.

Inequality and Polarisation

“Inequality refers to the extent of dispersion levels of earnings, whereas polarisation refers to the phenomenon of the ‘disappearing middle’: the shrinking of the number of middle-class (in terms of earnings) jobs. This also implies a distinction between a condition (ie the level of inequality) and a process (ie the rise in jobs at the bottom and the top end of the earnings distribution at the expense of the middle paid jobs)” (Kloosterman 1996: 469). The issues of inequality and polarisation are often conflated in research; a criticism that could be levelled at Sassen (1991). Greater income inequality is often automatically seen as a result of an increasingly polarised earnings distribution. This is not always the case, as a professionalised earnings distribution can lead to greater levels of inequality; but just in a different way to polarisation.

Making a clear distinction between inequality and polarisation naturally lends itself to assessing whether the rich are getting richer and the poor poorer; whether there are more or less rich or poor people; or whether both trends are operative (Hamnett and Cross 1998). This, alongside considerations of the changing nature of the labour market, forms the central aim of my research.

Existing Empirics

Sassen’s (1991) ‘Global City Thesis’ is an example of the academic orthodoxy that there has been a hollowing out of the middle of the labour market; creating a bifurcated structure of highly skilled and paid jobs alongside an increasing, low skilled contingent labour force (Hamnett and Cross 1998). Sassen’s (1991) theory looks at changes in the social and spatial division of labour in global cities. As Pahl (1988) warns care needs to be taken to not simply project this model onto whole national economic structures, especially outside of the USA.

Hamnett and Cross (ibid) do attempt to unpack some of Sassen’s (1991) conceptualisations of labour market polarisation and income inequality, arguing that Sassen often conflates the two. However, their quantitative work simply focuses on earnings deciles to measure polarisation

and earnings inequality, rather than looking at the relationship between changing labour market structures and income distribution. They also do not look into the changing size and nature of job typologies in their empirical work, which to a certain extent abstracts it from considerations of labour market processes. Hamnett and Cross (1998) did find that changes in polarisation and inequality in London were more substantial than across the whole of the UK between 1979 and 1993. This regional consideration is also evident in Jones and Green's (2009) work.

There is a small amount of quantitative work about job polarisation as a function of processes of polarisation of the labour market structure in the UK (Jones and Green 2009); but this is limited temporally – assessing change between 1997 and 2007 as two points in time – and does not analyse the potential for this change to be a driver of changes in income inequality. Jones and Green look solely at changes in the labour market structure, which does go further than most regional assessments of employment outcomes, which tend to concentrate their analysis on unemployment and worklessness (Beatty and Fothergill 2005) rather than the structure of the labour market. Along similar lines to Jones and Green (2009), but using a slightly different methodology Wright and Dwyer (2003) look at the nature of job expansion in the USA. Their research compares the 1960s and 1990s, and as previously mentioned, the long term differences that they have identified might not be apparent in my more contemporary medium-term research. Also, Wright and Dwyer do not consider changes in pay within the changing labour market structure they identify.

However, where Jones and Green's analysis does differ from Sassen's (1991) theory is an explicit consideration of regional difference - rather than a focus on specific cities - and in particular the relative importance of the public sector in different regions. Their work hints at the interrelated labour market role of regions and how the spatial division of labour at this scale manifests itself. The role of specific regions in affecting national income inequality will be assessed in my quantitative work. Their quantitative analysis also finds, contrary to Sassen's (1991) theory, that there has not necessarily been an increase in the number of jobs at the lower end of the labour market – further illustrating the need to rigorously interrogate the labour market polarisation thesis with sound empirics.

The difference between Sassen's (1991) theory and the outcome of Jones and Green's (2009) quantitative research is indicative of a debate within the literature (cf Hamnett 1996 a) about whether changes in the labour market structure are best represented by a 'polarising' (Goos &

Manning 2007, Sassen 1991) or a 'professionalising' (Hamnett 1996 b) conceptualisation. A fundamental criticism of the polarising thesis is that it is based on an American interpretation of urban inequality; where there is a limited welfare state and extremely high levels of low wage immigration (ibid). The polarising urban structure in America shows up empirically in the literature (Peck & Doussard 2009); but care should be taken to not automatically assume this structure is present in the UK.

It could be the case that the issue of income and earnings inequality in the UK is being directly projected onto its structural causes. In other words, rising levels of income inequality automatically leading researchers to believe that there must be labour market polarisation. This lack of empirical and conceptual clarity is highlighted by Markusen (2003), where she makes the case for adhering to the social science norms of conceptual coherence, causal theory and subjection of theory to the rigours of evidence, with regard to research in this field.

There are examples of research that have greater levels of conceptual clarity that have been empirically tested. Goss & Manning (2007) assess the separate impact on wage inequality of changes in the occupational structure of the labour market towards jobs which tend to be either high or low paid, or wage changes within a relatively unchanged structure. My research will also attempt to do this; with this part of the research process forming the link between the three main empirical themes that I have outlined previously.

Chapter 2 - Methods and Analysis

2.1 Introduction and Research Aims

To address my research aims I formulated the following research design. There are four main stages to the analysis. Each has its own research aim, the fourth of which attempts to address the aforementioned gap in the literature; a synthesis of the 3 main empirical themes.

1. National Earnings Inequality

Aim: Identify the extent of earnings inequality in the UK and whether there has been any discernible change over time.

An assessment of the changing nature of the earnings distribution in the UK, analysis will look at earnings levels at various percentiles of the population to see if there has been any change to the shape of the earnings distribution over time.

2. Regional Earnings Structure

Aim: Identify the earnings structure in each region of the UK and establish whether there has been any regional change in this structure over time.

An assessment of the nature and extent of change in earnings structure in the regions across the UK over time. Each region will be compared against the national earnings structure and analysis will determine the proportion of a region's workforce at specific bands of the national earnings distribution.

3. Inner London's Labour Market Structure

Aim: Identify Inner London's labour market structure and establish whether there is a link between the changes in Inner London's earnings structure and labour market structure.

An assessment of the nature and extent to which Inner London's labour market structure is changing in comparison to the national structure. Inner London will be compared against the national labour market structure, and analysis will determine the proportion of Inner London's workforce in each of the nationally-determined sectors.

4. Pay Within and Size of Inner London's Labour Market Structure

Aim: Determine the separate impact of the changing pay levels within Inner London's labour market sectors and the changing relative size of these sectors on earnings inequality.

Finally, the research will attempt to isolate the impact of the changing pay and relative size within each sector on UK earnings inequality. Analysis will hold pay within sectors and then size of sectors at 1995-1997 levels and assess the impact on earnings inequality of these adjustments.

2.2 Data

To fulfil my research aims, it is vital to utilise a data set that contains individual level data on both earnings and occupation. As a result, all analyses undertaken use data from the UK Labour Force Survey (LFS). The LFS contains individual-level data on a wide range of personal, employment and workplace characteristics (Jones and Green 2009); containing sufficient variables to enable the quantitative analysis required to address my research aims. Questions on earnings have only been part of the LFS since Winter 1993 (ONS 2006 b), as such Spring 1994 is the earliest possible starting point for my analysis. For each year the Spring and Autumn quarters were merged to increase the sample size, and wave 5 of each survey was selected to pick up data on earnings, which is only available in this wave, and to avoid any double counting of individuals.

Data is required on earnings, occupation, region and population. The variable to capture earnings is "HOURPAY", a derived variable that gives an indication of hourly pay rates. It captures any bonus payments and takes into account the number of hours an individual normally works in a week. However, it does not include the earnings of self employed people, and people who are engaged in informal work. This could lead to sampling bias in my results towards people in higher-paid work, as this part of labour market is overwhelmingly engaged in formalised employment. Data about people's occupations was taken from the ONS Standard Occupation Classification variables. The region variable chosen represents the region of usual residence for each individual. As such, it is important to note throughout that when reference is made to region it indicates place of residence, not place of work. The regions, on the whole, match the standard Government Office Regions. However, in some cases, such as Yorkshire and The Humber, the regions are disaggregated a level to be more

representative of regional labour markets. There are 20 different regions used in the UK-LFS (see Appendix 1 for details). To get an indication of the proportion of the population each individual in the sample represents, the person income weight variable - "PIWT" - was used. Throughout my analysis all calculations take this weighting into account to ensure my results are representative.

2.3 Analysis 1 - National Earnings Inequality 1994-2009

Aim: Identify the extent of earnings inequality in the UK and whether there has been any discernible change over time.

There has been a substantial increase in inequality in the UK since the late 1970s and through the 1980s. This section will attempt to establish whether the same trend has been apparent from 1994 onwards.

Figure 1 shows the weight-adjusted earnings at evenly spaced percentiles in the earnings distribution. Each line represents one year and earnings are taken at three year intervals to allow an understanding of the general changes over time. It seems that there has not been any significant change over time in the relative earnings levels at the chosen percentiles; with the increase in earnings between time-series attributable to pay rises in line with inflation.

To test whether this is the case, and whether there has been any distinctive change in the earnings distribution over time, a measure of inequality needs to be utilised.

There are various ways to measure income inequality, such as the Lorenz Curve and the Gini Coefficient (Jenkins 2001). However, to assess whether there has been any change over time at different points along the income distribution it is more appropriate to look at ratios of earnings at different points on the earnings distribution. Most analysis of inequality builds on the foundations of statisticians who are familiar with summarising distributions (Jenkins 1991). My measurement of inequality has the fundamental requirement that it must be appropriate for measuring change over time. Bartells (2008) uses the ratio of the earnings of the person at the 80th percentile to the person at the 20th percentile and Wilkinson and Pickett (2009) use the ratio of the average income of the top 20% and the bottom 20% (effectively a 90:10 ratio), both of which can be used to measure change in inequality over time. It is

equally important to measure the ratio between varying points on the income distribution; not just the gap between rich and poor.

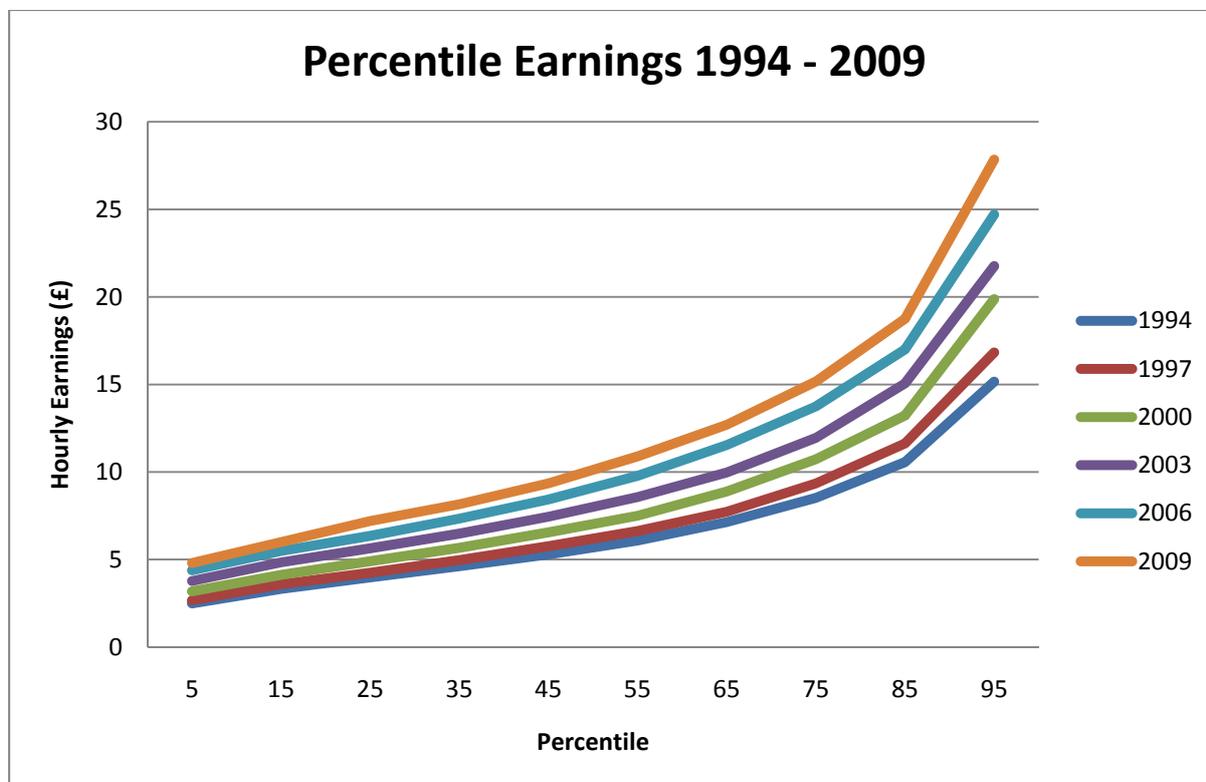


Figure 1: UK hourly earnings at evenly spaced percentiles in the earnings distribution, 1994-2009. Source: Labour Force Survey merged data sets 1994-2009.

As such, weight-adjusted median earnings levels were calculated for every earnings decile, for the whole sample, for each year. This effectively gives the earnings level for the 5th, 15th, 25th percentiles onwards in the earnings distribution. Through calculating a range of ratios, I will establish whether and whereabouts on the earnings distribution there has been change in earnings inequality between 1994 and 2009.

Firstly, to establish if a similar pattern of inequality has continued to develop since the 1980s, with increased earnings at the top end of the distribution, the ratio of earnings at the 85th percentile to the 5th, 15th, 25th, 35th, 45th, 55th, 65th and 75th percentiles was calculated. This will test whether this particular group of high earners has carried on moving away from the rest of society.

Figure 2 charts the change in each ratio over time. It is quite conclusive that there has not been any discernible change in inequality, apart from a slight reduction in the gap between

the 85th and 5th percentile. These results seem to indicate that the increasing inequality of the 1980s – driven by processes of earnings polarisation (Hamnett and Cross 1998), which partly form the basis for Sassen’s (1991) polarisation thesis, did not continue through 1994-2009.

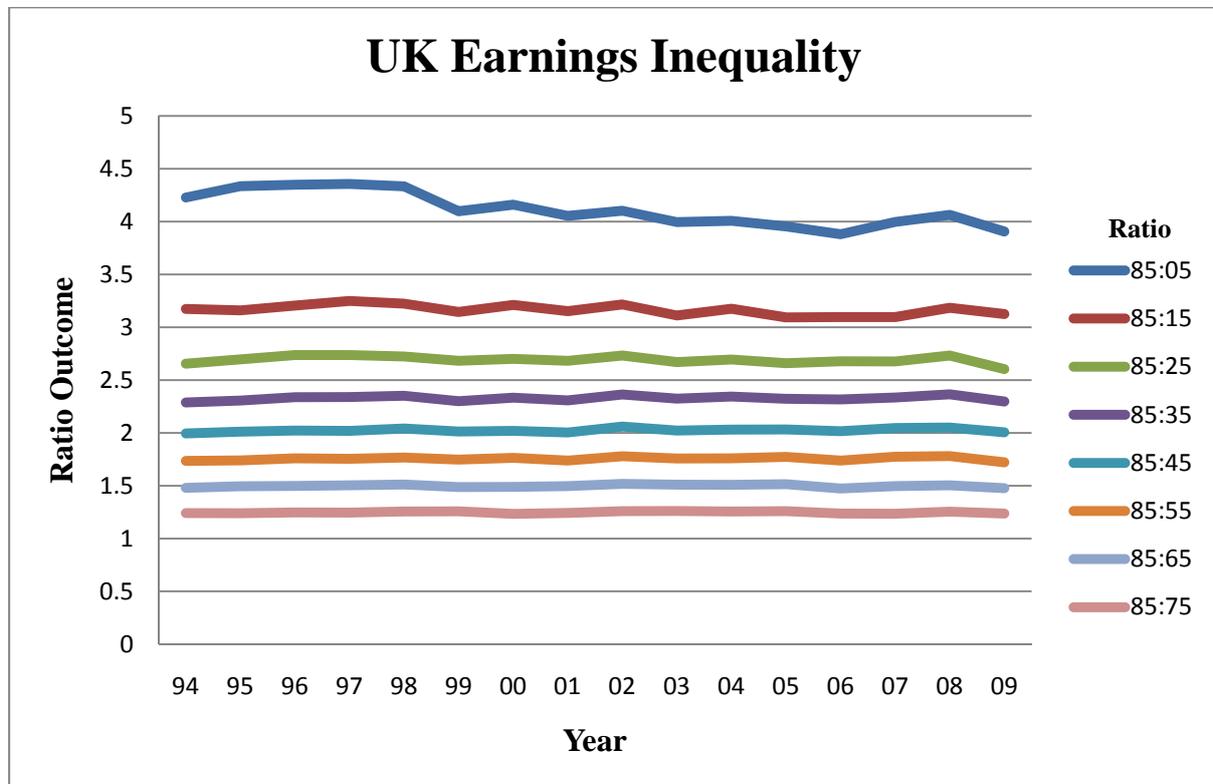


Figure 2: UK earnings inequality, 1994 – 2009. Analysis is based on the ratio of earnings at the 85th percentile to evenly spaced percentile along the earnings distribution, 1994-2008. Source: Labour Force Survey merged data sets 1994-2009.

Following these results, a comprehensive analysis of inequality across and between all 10 percentile points of the earnings distribution was carried out. I found that there was no point on the earnings distribution where there was any identifiable change in inequality over time; apart from the slight decrease in the earnings ratio to the 5th percentile, which was apparent throughout.

2.4 Analysis 2 – Regional Earnings Structure

Aim: Identify the earnings structure in each region of the UK and establish whether there has been any regional change in this structure over time.

Analysis of the 1980s has shown that the share of total earnings in the UK became more concentrated amongst fewer people at the top end of the earnings distribution and more

people were earning relatively less (Hamnett and Cross 1998). Analysis in this section looks to establish whether this trend has continued in the regions, in the period 1994-2009.

Any measure of polarisation needs some kind of benchmark to measure the polarisation against. Hamnett and Cross (1998) use the start point of their analysis -1979 - as their benchmark and assess whether there has been earnings polarisation in 1993 when compared to 1979 levels.

With levels of earnings inequality broadly remaining unchanged (analysis 1), apart from a small reduction at the 5th percentile, it would be fair to say that there does not seem to have been the continuation of increasing earnings polarisation that Hamnett and Cross (1998) identified in the 1980s and early 1990s. However, there could be a geographical pattern, with polarisation of earnings developing at a regional level in comparison to a national benchmark. It is distinctly possible that even against a context of no change in social inequality there could be identifiable changes in spatial inequality (cf Mollenkopf and Castells 1991).

To measure whether the UK's spatial inequalities are increasing in this regard the whole sample for each year, rather than the starting point, is a more appropriate benchmark to measure any polarisation against. For each year of the analysis the sample is ordered based on earnings, then split into 5 weight-adjusted quintiles, each representing a fifth of the total population. Using the variable for region, the sample is then disaggregated into its 20 LFS regions – one can then work out the weight-adjusted proportion (percentage) of the workforce in each region, in each national quintile. This process is repeated for each year of the period of study (1994-2009), establishing whether there are any regional patterns, that also change over time.

The proportions of the workforce in each region, in each quintile were then smoothed by taking a 3 year simple moving average; this has the effect of moving the start and end points of this analysis in by a year to 1995 and 2008 respectively. The function of the smoothing is to capture important patterns, which could give me an indication as to whether there has been any identifiable change over time. Finally, each quintile proportion figure had twenty subtracted from it, to enable a comparison to the national figure of 20% in each quintile; a negative figure indicating that the proportion in that particular quintile is lower than the national average and vice versa for a positive figure.

Before looking into any of the results, it is important to consider what might result in a change in the size of a region's quintiles over time. Because the analysis in this section is measured against a national benchmark, the processes that lead to regional variations are quite complex and varied. For example, an absolute expansion of the number of people in high-paid employment sectors in London, all other things being equal, could quite possibly lead to a reduction in other region's 5th quintile, even though there was not necessarily a reduction in the number or remuneration in that region's well-paid jobs; because of this measure being set against a national benchmark. Consequently from this section of analysis it is problematic to try and infer which specific labour market processes are driving any change that can be identified.

Another important consideration is that of disentangling the general shape of a region's workforce earnings structure cross-sectionally and what any longitudinal change tells us about the shape of the earnings structure's development. For example, one might have a region that is not polarised; however, this region could quite possibly be experiencing polarisation from the start to the end point of the study if quintiles 1 and 5 increase in relative size – a polarising process within a professionalised structure.

Region size

In general, there is no significant variation in the relative weight-adjusted size of each region's workforce (see Appendix 1 for list of LFS regions), but there are significant variations in the proportion of the resident workforce in the UK's workforce in each region at any given point in time. For example, the weight-adjusted proportion of the resident workforce in the Rest of the South East region is around 20% of the total UK workforce. Whereas, the proportion of the weight-adjusted workforce in the conurbation of Greater Manchester is around 4% of the UK total throughout the study period. As a result, there will be some consideration of the relative size of regions' workforces in this section of analysis.

Earnings structure – UK Overview

Throughout all of the regions, the largest variation in comparison to the national benchmark invariably tends to be at either end of the earnings structure – quintiles 1 & 2 and 4 & 5 – with larger variations in quintiles 1 and 5. The variation from the benchmark in quintile 3 in each region is almost always less. This suggests that in each region there is a relatively

similar level of demand for workers in the middle of the earnings structure. However, because this analysis does not aggregate the sample into quintiles based on occupation there is no way of knowing whether this labour market characteristic is uniform throughout the regions. Another limitation, and one that needs to be considered throughout my research, is that levels of unemployment are not considered; as such the size of the workforce as a proportion of a region's resident population is not taken into account. An implication of this could be that for a region with close to the national benchmark earnings structure, a suppressed labour market will not be identified if there are high levels of unemployment.

There are no regions with a polarised earnings structure, cross-sectionally, in comparison to the national benchmark. For this to be the case there would have to be figures of greater than 20% at both ends of the 5 quintiles and less than 20% in the middle, and this is not the case.

For ease of analysis I have grouped regions of similar earnings structures and, where possible, geographical locations together. Firstly, I am going to analyse regions with a particularly bottom heavy earnings structure.

Also, even though the benchmarks are created from a UK-wide sample, analysis focuses just on regions in England. Analysis of the whole of the UK is beyond the scope of this study.

Regions in Yorkshire and North East England

Figures 3, 4, 5, 6 and 7 represent the earnings structure in South Yorkshire, Tyne and Wear, West Yorkshire, Rest of Yorkshire and Humber and Rest of Northern Region (North East) in comparison to the national benchmark of 20% in each quintile. All five regions are in the North and East of England and have a similar earnings structure. The weight-adjusted proportion of the UK's workforce this cluster of regions represents across the study period is between 13% and 14%, with no discernible pattern of change over time.

South Yorkshire (figure 3), consistently has higher proportions of its workforce in quintile 1 than the national benchmark – between 22.4% and 25.7% - and consistently lower proportions of its workforce in quintile 5 – between 11.1% and 15.4%. Across the whole period of study there is an average of 4.1% more of South Yorkshire's workforce in quintile 1 and 7% fewer in quintile 5 than if all earners were to be evenly distributed across the country.

This low level of high earners is matched by Tyne and Wear (figure 4), where there is an average of 6.1% fewer of the workforce in quintile 5 than the national benchmark. There does not seem to be any identifiable change over time pattern in South Yorkshire and Tyne and Wear. West Yorkshire (figure 5) has a similar earnings structure - figures of just over 20% for each of quintiles 1,2 and 3 consistently across the whole period, with an average of 5.2% fewer workers, over the study period in quintile 5 than if there was a even distribution of earners across the country. Rest of Yorkshire and Humber (figure 6) also has a very similar earnings structure, but with a slightly higher proportion of its workers in quintile 5; an average of 4.5% below the national benchmark of 20%.

Cross-sectionally there is a very similar pattern in the Rest of Northern Region (figure 7) – a higher proportion of its workforce than the national benchmark in quintiles 1 and 2; closer to the benchmark in quintiles 3 and 4 and noticeably below for quintile 5 (an average of 5.3% less). There also seems to be some change over time patterns in the earnings structure of the Rest of Northern Region – with a consistently increasing proportion of its workforce in quintile 2, measuring 20.3% in 1995 steadily rising to 23.7% by 2008. This, coupled with the slightly less consistent fall in the proportion of quintile 5 over time, has lead to the Rest of the Northern Region becoming more bottom heavy, with regard to its earning structure over time.

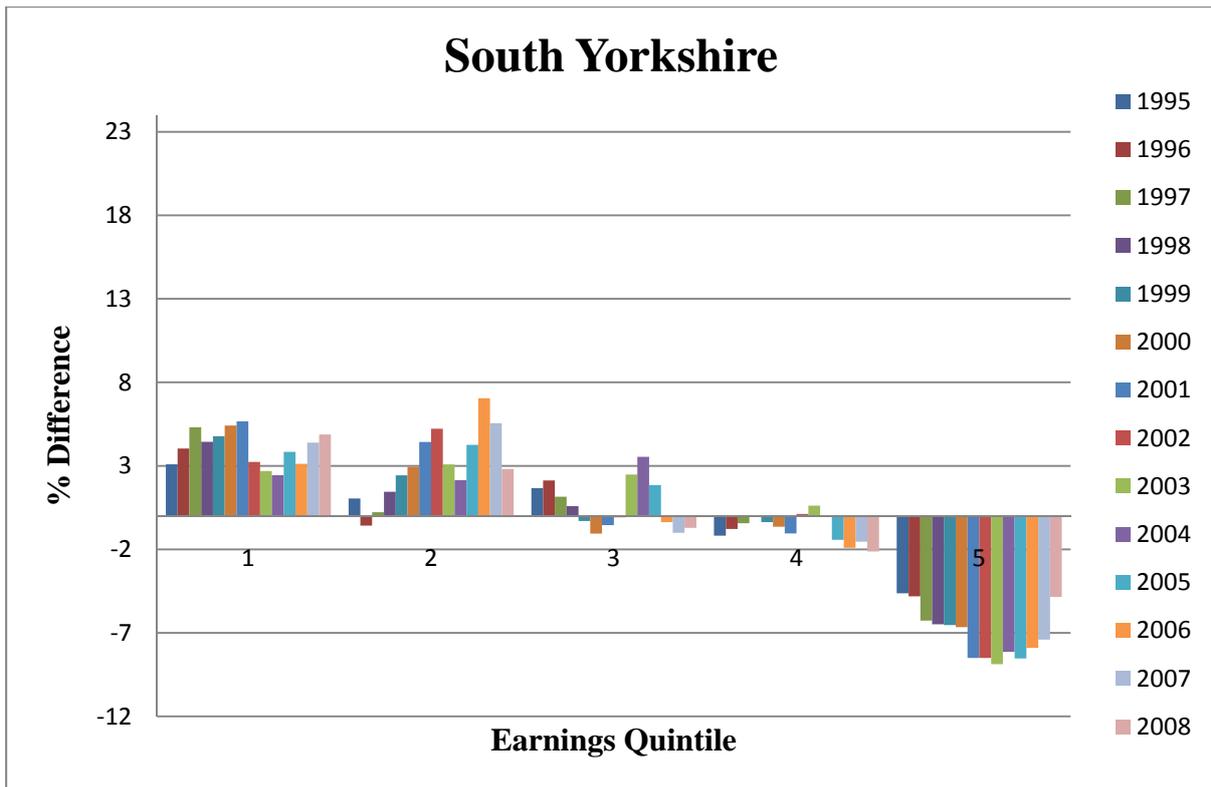


Figure 3: South Yorkshire’s Earnings Structure 1995-2008. Analysis is based on the proportion of region’s resident workforce in the 5 national earnings quintiles each year. Graph shows region’s variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

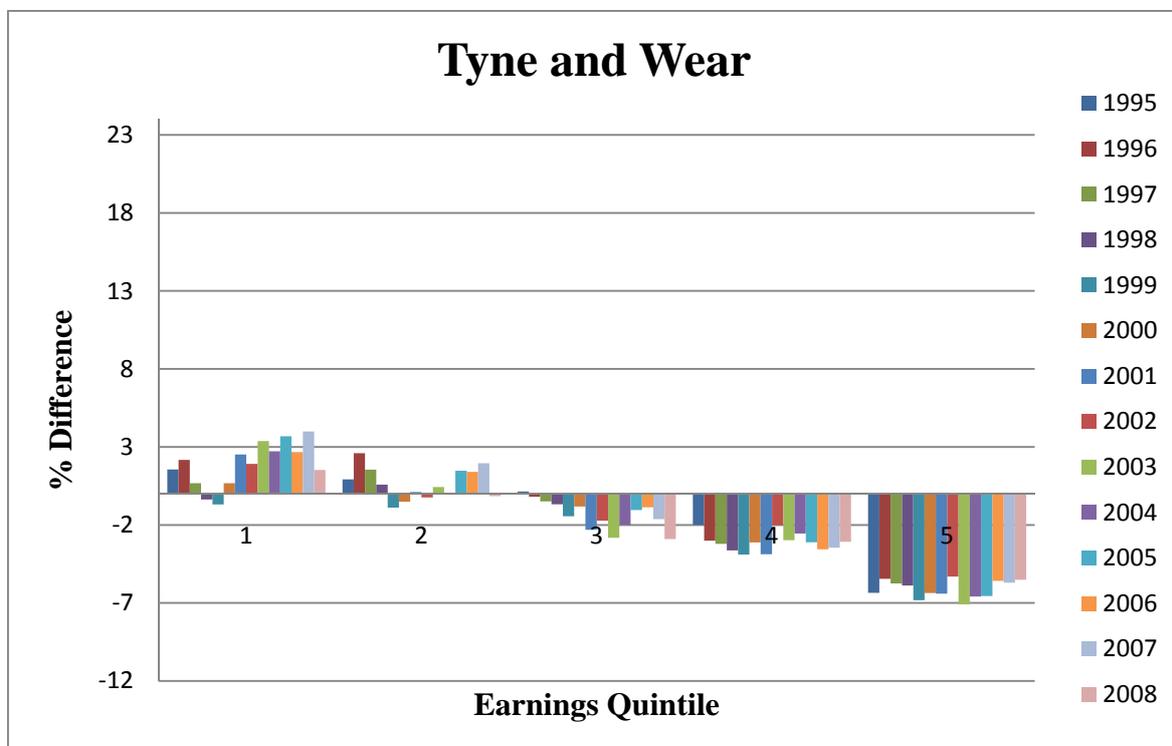


Figure 4: Tyne and Wear’s Earnings Structure 1995-2008. Analysis is based on the proportion of region’s resident workforce in the 5 national earnings quintiles each year. Graph shows region’s variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

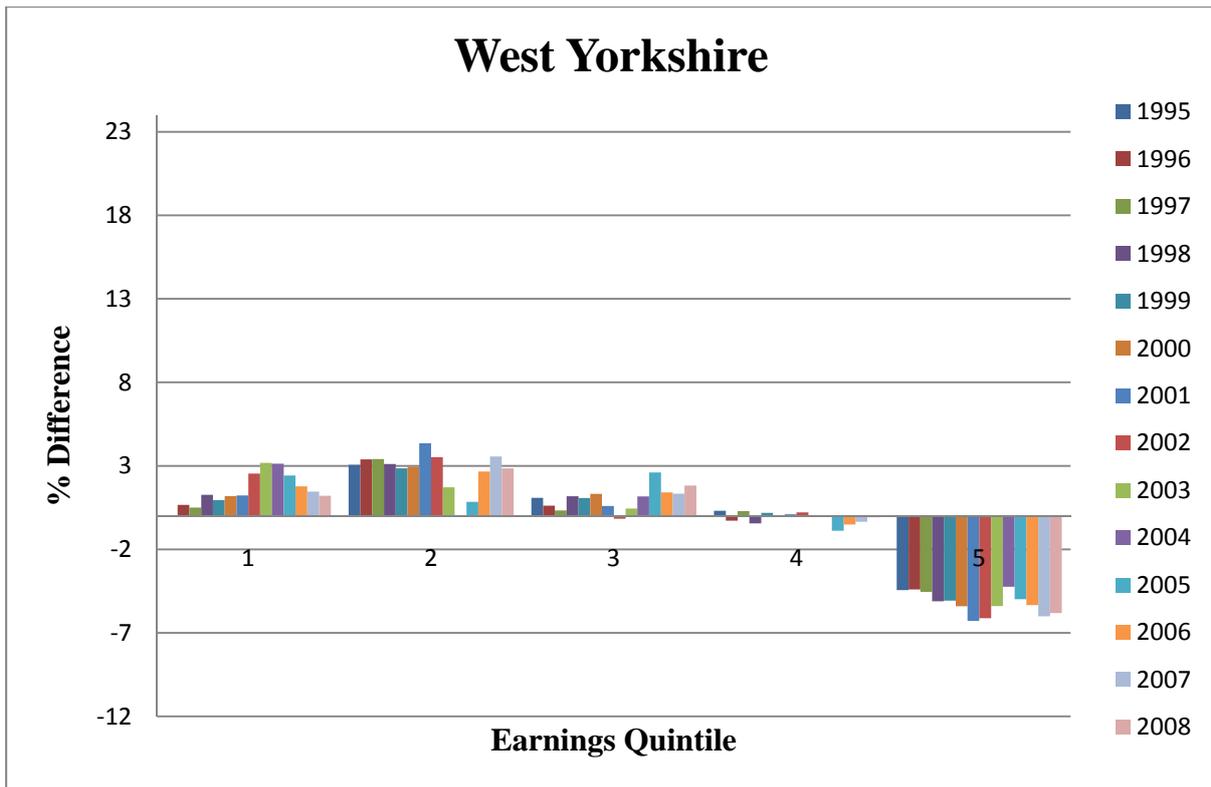


Figure 5: West Yorkshire's Earnings Structure 1995-2008. Analysis is based on the proportion of region's resident workforce in the 5 national earnings quintiles each year. Graph shows region's variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

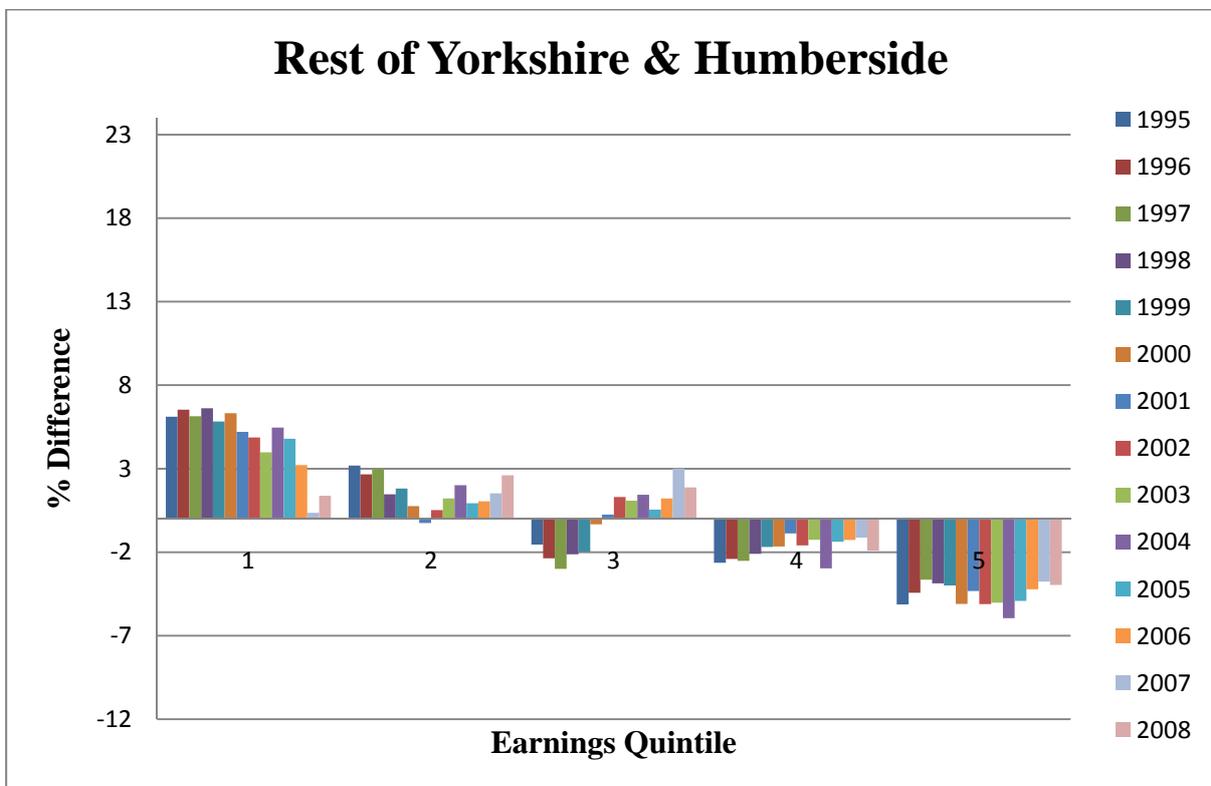


Figure 6: Rest of Yorkshire and Humberside Earnings Structure 1995-2008. Analysis is based on the proportion of region's resident workforce in the 5 national earnings quintiles each year. Graph shows region's variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

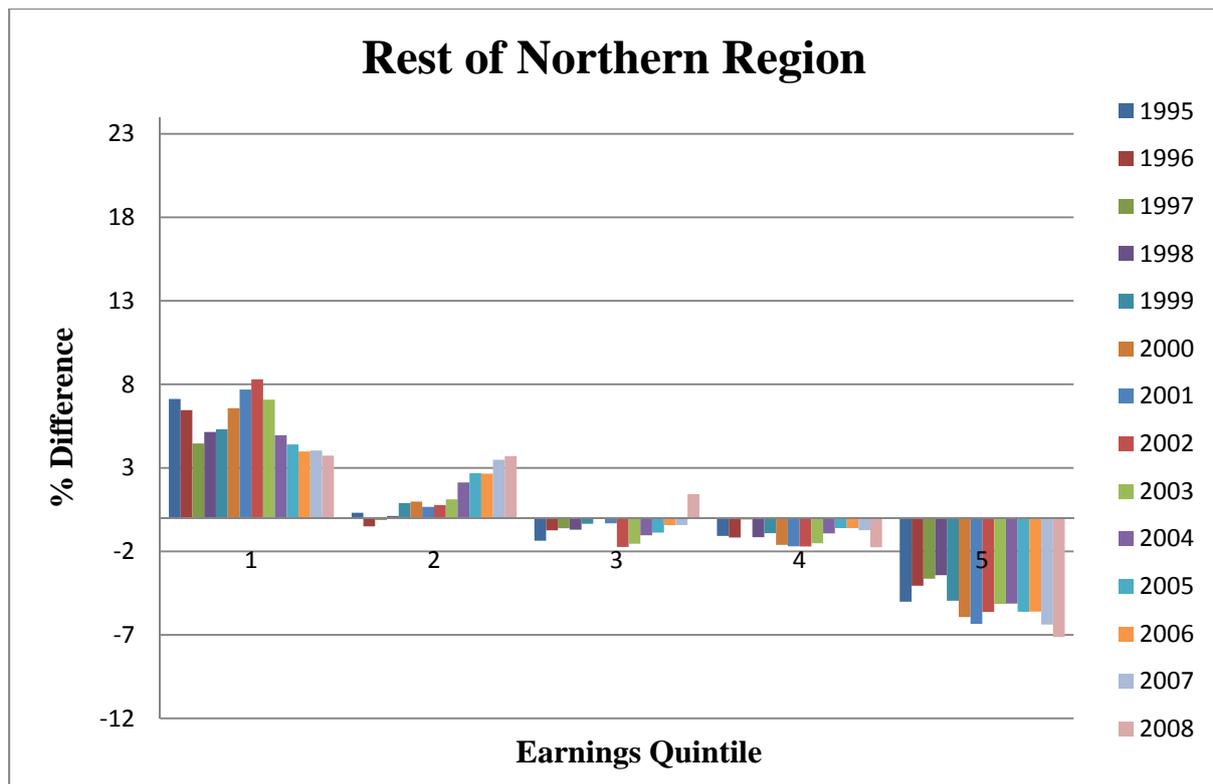


Figure 7: Rest of Northern Region's Earnings Structure 1995-2008. Analysis is based on the proportion of region's resident workforce in the 5 national earnings quintiles each year. Graph shows region's variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

Regions in Lancashire and North West England

Figures 8, 9 and 10 represent the earnings structure of Greater Manchester, Merseyside and the Rest of the North West. These 3 regions have comparatively similar earnings structures, and represent between 9% and 10% of the UK's weight-adjusted workforce. Greater Manchester's workforce is approximately twice the size of Merseyside's. They both have a very similar earnings structure (see figures 8 and 9), with close to the national benchmark of 20% in quintiles 1 – 4; with a slightly higher proportion of the lowest earners in Merseyside's earnings structure. They also both have very similar proportions of the highest paid workers, and in both regions this seems to be decreasing over time. As previously mentioned, the processes driving this change are difficult to pin down from this particular analysis – it could quite possibly be that an increase in pay in a different region, rather than a change in the numbers of high earners in Merseyside or Greater Manchester, is driving this change. The Rest of the North West region (figure 10) has slightly closer to the national benchmark proportion in quintile 5, but overall it is still slightly bottom heavy in its earnings structure, with the biggest variations from 20% across the period as a whole, coming from either end of the earnings structure.

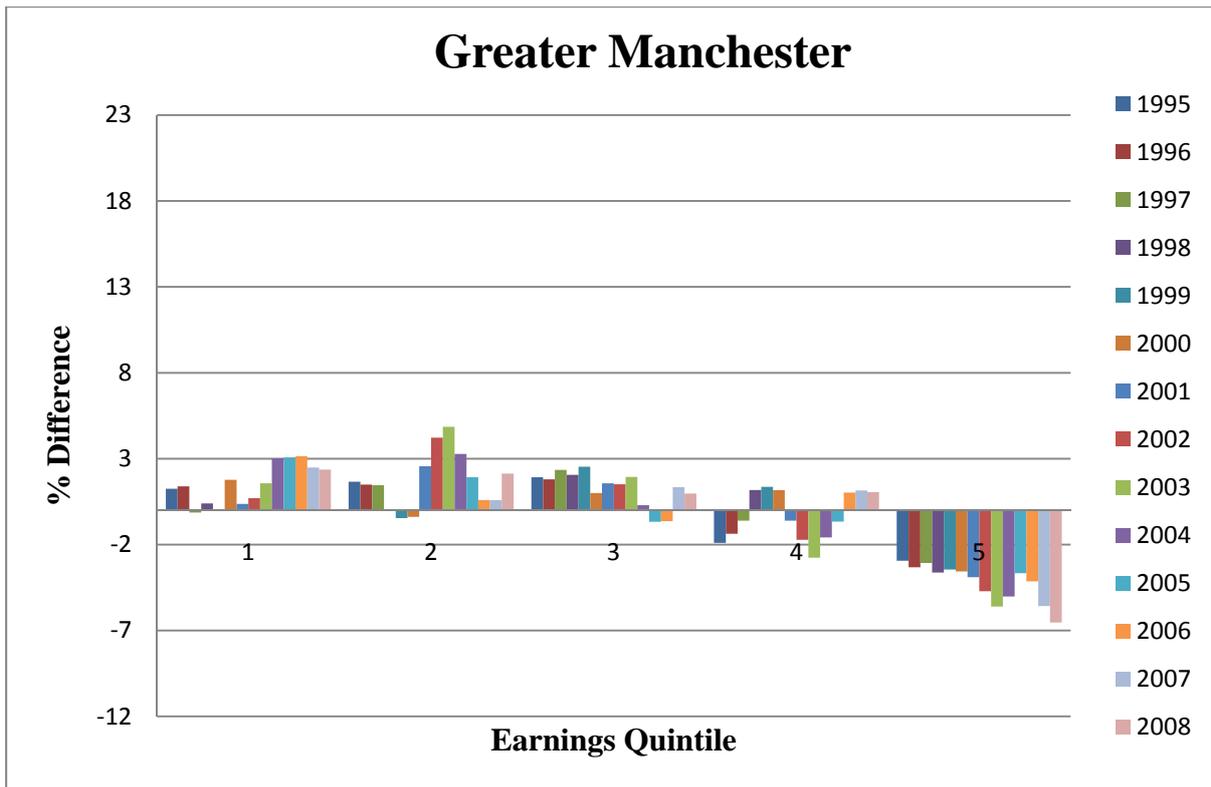


Figure 8: Greater Manchester's Earnings Structure 1995-2008. Analysis is based on the proportion of region's resident workforce in the 5 national earnings quintiles each year. Graph shows region's variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

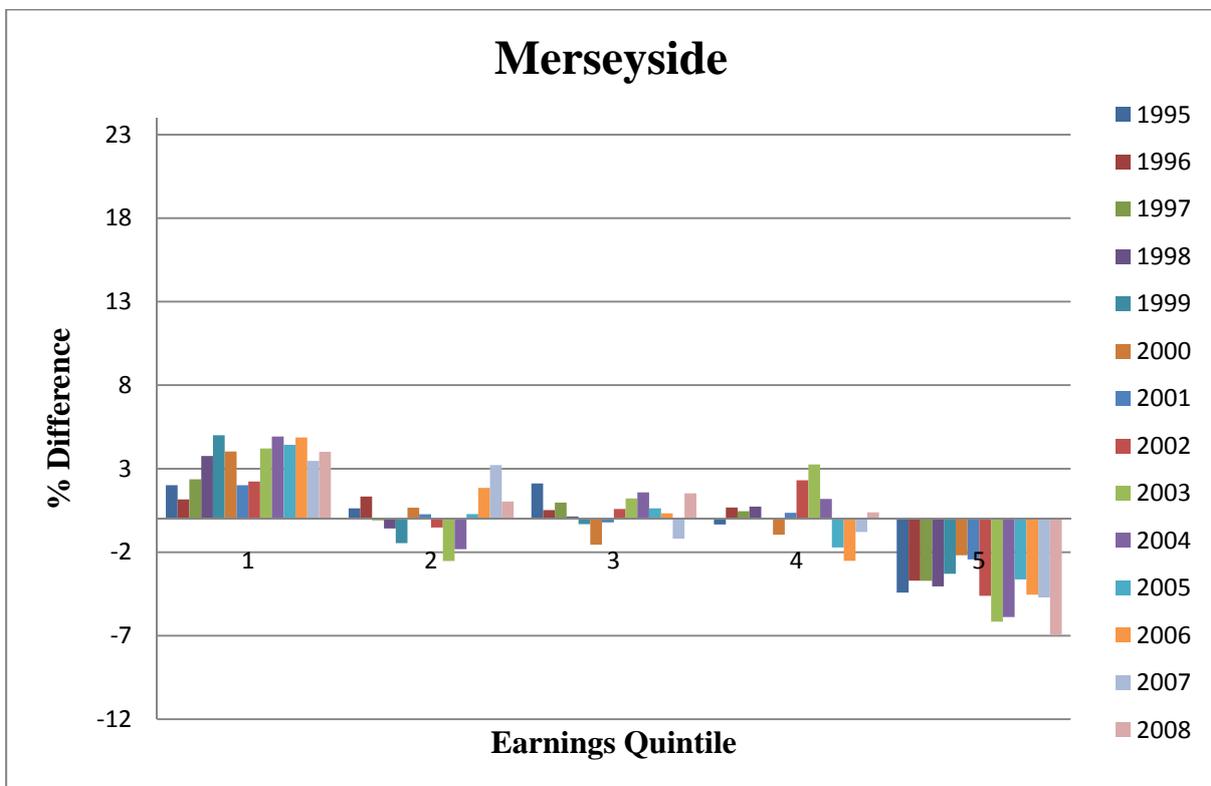


Figure 9: Merseyside's Earnings Structure 1995-2008. Analysis is based on the proportion of region's resident workforce in the 5 national earnings quintiles each year. Graph shows region's variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

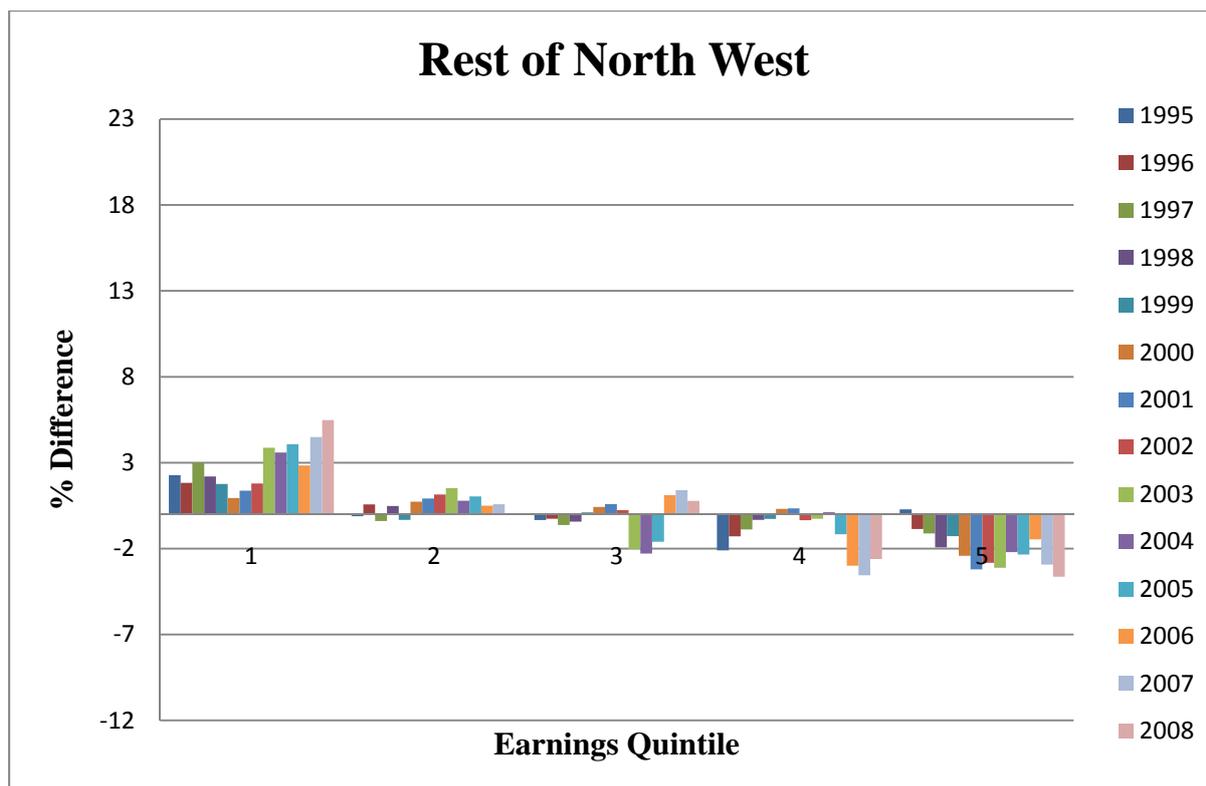


Figure 10: Rest of North West's Earnings Structure 1995-2008. Analysis is based on the proportion of region's resident workforce in the 5 national earnings quintiles each year. Graph shows region's variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

South West and East Midlands

Figures 11 and 12 show the earnings structure of the South West and East Midlands regions respectively; good examples of regions with close to benchmark earnings structures. In both regions there does not seem to be any discernible pattern of change over time in relation to the national benchmark – both region's earnings structures remain relatively stable between 1995 and 2008. Both the South West and East Midlands are relatively disadvantaged with regard to their workforces' proportion of earners in the top national quintile; however there is not a region, apart from the three regions in the South East of England (see Appendix 3) that has more than the national benchmark figure of 20% of earners in quintile 5 (see later).

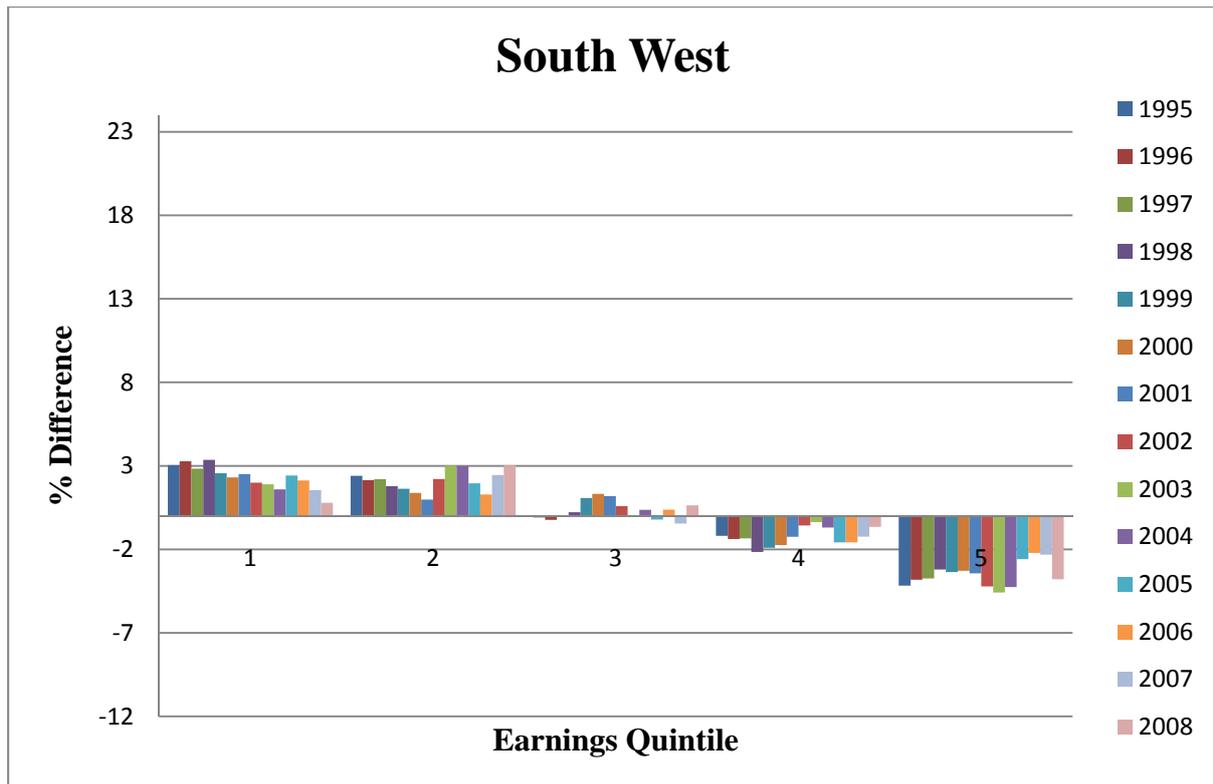


Figure 11: South West's Earnings Structure 1995-2008. Analysis is based on the proportion of region's resident workforce in the 5 national earnings quintiles each year. Graph shows region's variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

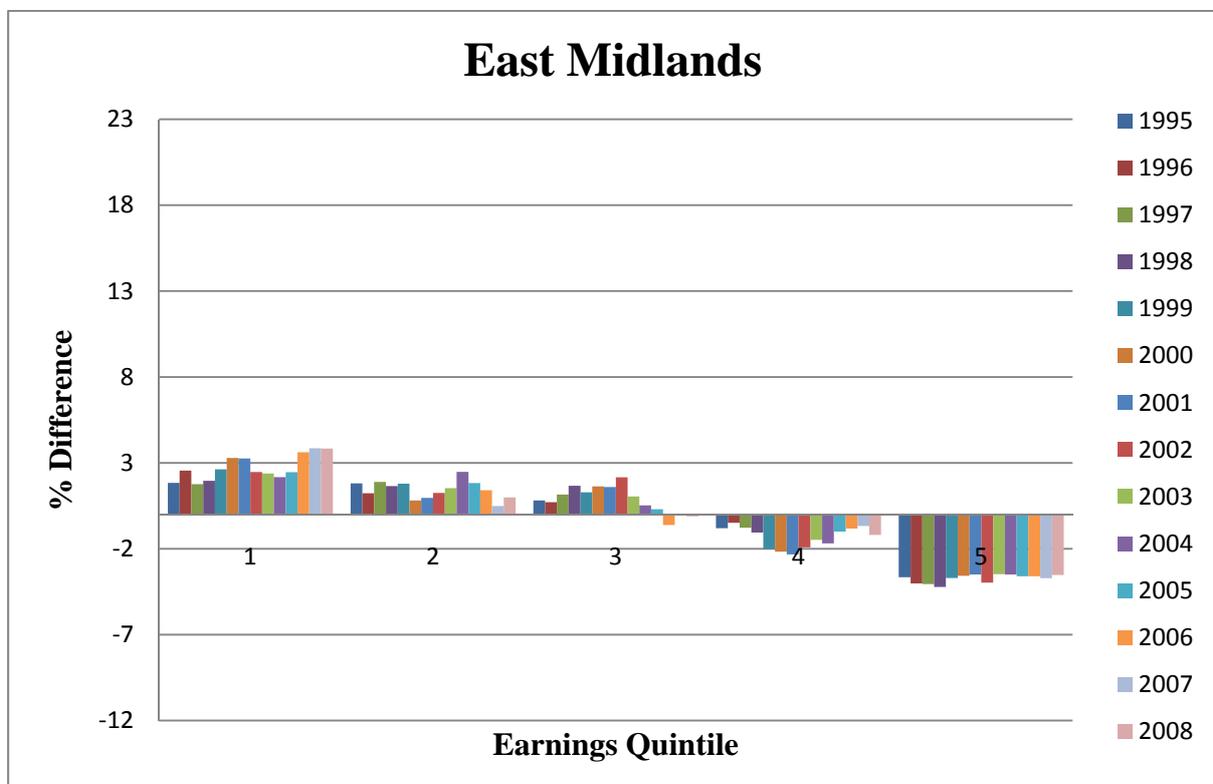


Figure 12: East Midlands' Earnings Structure 1995-2008. Analysis is based on the proportion of region's resident workforce in the 5 national earnings quintiles each year. Graph shows region's variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

Geographical concentration of low earners in Northern England

Having looked at individual regions with a higher proportion of low-paid workers, there seems to be a geographical concentration of low-paid work in the North of England. To verify whether this is the case, following Dorling's (2007) North-South Divide, I grouped together the regions of Northern England. There does not seem to be any identifiable change over time in the proportion of the UK's weight adjusted low-earners, who live in the North of England cluster of regions (see table 1) – both in quintile 1 (bottom 20%) and quintiles 1 and 2 (bottom 40%).

The 11 regions (see Appendix 2) that make up the cluster of Northern England aggregate to 44% - 46% of the sample's weight-adjusted workforce for the whole period of study. So with 43-47% of the UK's bottom 40% of earners and 45-47% of the UK's bottom 20% of earners, there are 1.2 times more of the lowest earners (quintile 1) and 1.1 times more of the bottom 40% of earners resident in the North of England, than one would expect, if low earners were evenly distributed around the country.

Calculation	1994	1997	2000	2003	2006	2009
Percentage of UK's Bottom 40%	47	45	44	43	45	43
Percentage of UK's Bottom 20%	47	46	47	45	46	44
Factor Larger in North – Bottom 40%	1.1	1.1	1.1	1.1	1.1	1.1
Factor Larger in North – Bottom 20%	1.1	1.1	1.2	1.2	1.1	1.2

Table 1: Low Earners in Northern England 1994-2009. Analysis is based on the proportion of the UK's low earners in the North of England (Dorling 2007). Source: Labour Force Survey merged data sets 1994 – 2009.

Regions in South East England

As previously mentioned, there are only 3 regions with an earnings structure with higher than 20% in quintiles 4 and 5 and lower than 20% in quintiles 1 – 3; Inner London, Outer London and the Rest of South East regions. Figures 13, 14 and 15 illustrate each of the regions' variation to the national benchmark of 20% in each quintile between 1995 and 2008.

Inner London (figure 13) has by far the largest proportion of its resident workforce in quintile 5 out of all the UK's regions. The proportion of this earnings quintile is also increasing over time; 34.9% in 1995 (the lowest point), peaking at 42.8% in 2005 and measuring 40.8% in 2008. This increase in quintile 5 also corresponds with Inner London's weight adjusted workforce increasing, which is also identified by Hamnett (2003). Hamnett argues that

processes of gentrification are driving this particular population increase in Inner London. Gentrification is a self-selecting process, mainly consisting of more affluent professional people (Butler et al 2008). To identify which sector of the labour market is driving this change a consideration of occupation typologies is needed, this will be conducted in chapter 2.5, analysis 3.

The proportions in quintile 4 for Inner London are somewhat smaller and seem to be on a general downward trend; 25.3% in 1995, a low-point of 21.5% in 2004 and finishing at 23.3% in 2008. However, this pattern of change is not as distinct as in quintile 5. Quintiles 1 and 2 are of a similar proportion over the period of study, with quintile 2 showing a reasonably steady reduction over time; 13.6% in 1995, a low-point of 8.8% in 2005 and measuring 11.1% in 2008. This can be seen on figure 13, as quintile 2 moves further away from the x-axis, representing the national benchmark of 20% per quintile.

It could be argued, therefore, that inner London is experiencing a process of professionalisation over time – an earnings structure with a reduction of the proportion of lower earners (quintile 2) and an increasing proportion of the highest earners. However, with the LFS not considering informal employment there could be an under-estimation of the amount of work in quintile 1 in Inner London; a region with high levels of informal work (Williams and Windebank 2008).

Outer London and the South East (figures 14 & 15) have the same general pattern cross-sectionally as Inner London, with less variation from the national benchmarks of 20% (especially the South East). The largest variation to the national benchmark in the South East is quintile 5, with a steady figure of between 26.3% and 24.4% with no discernible pattern of change over time. Suggesting that during 1995 - 2008 there has been a consistently high proportion of people who live in the South East who are in the country's top 20% of earners. Outer London's earnings structure does not have the same level of change over time as Inner London, but there is definitely a higher proportion in quintile 5 than the South East – 30.2% in 1995 and 2008, over 10% higher than the national benchmark of 20%.

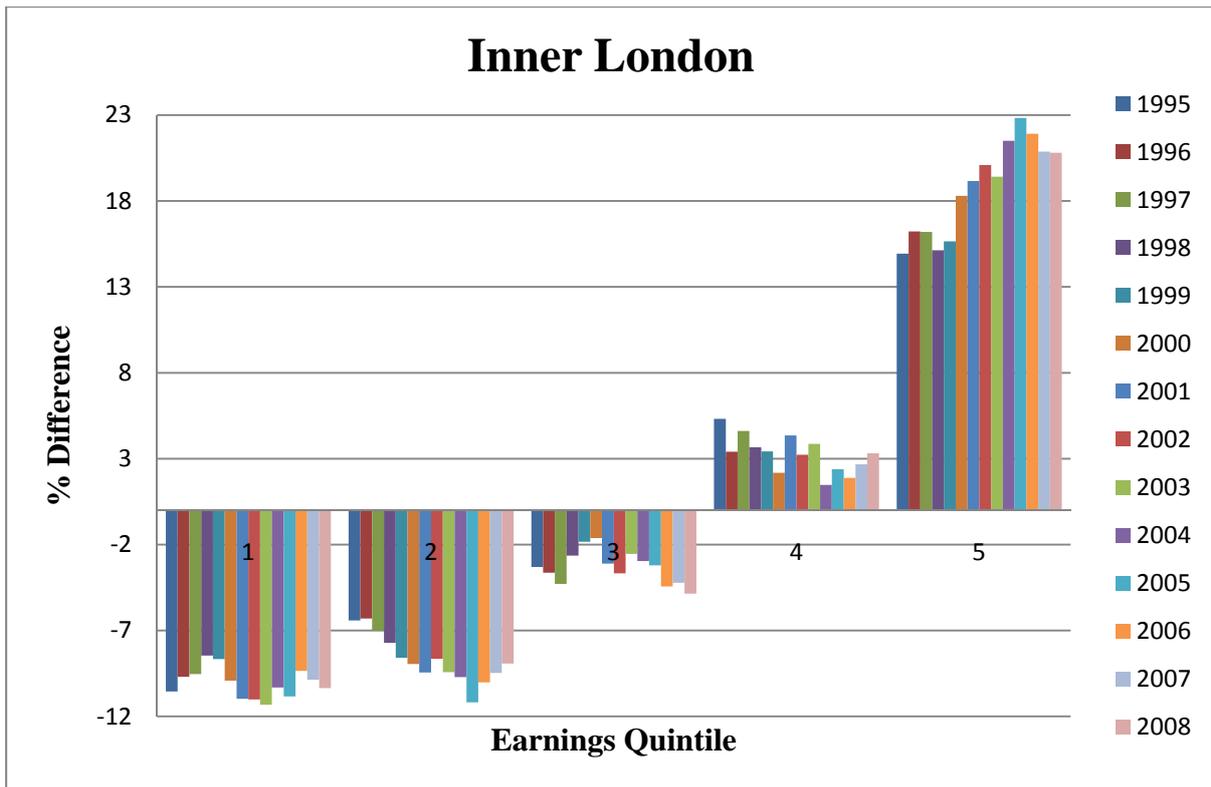


Figure 13: Inner London's Earnings Structure 1995-2008. Analysis is based on the proportion of region's resident workforce in the 5 national earnings quintiles each year. Graph shows region's variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

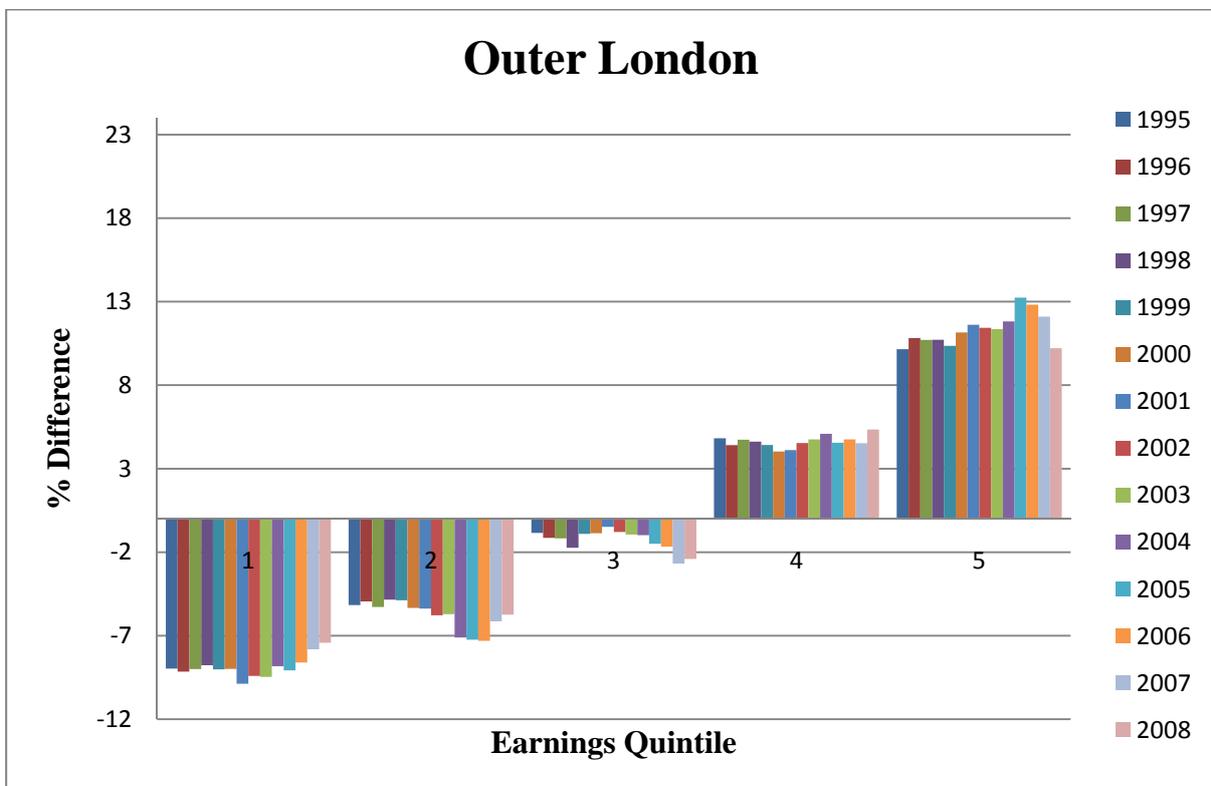


Figure 14: Outer London's Earnings Structure 1995-2008. Analysis is based on the proportion of region's resident workforce in the 5 national earnings quintiles each year. Graph shows region's variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

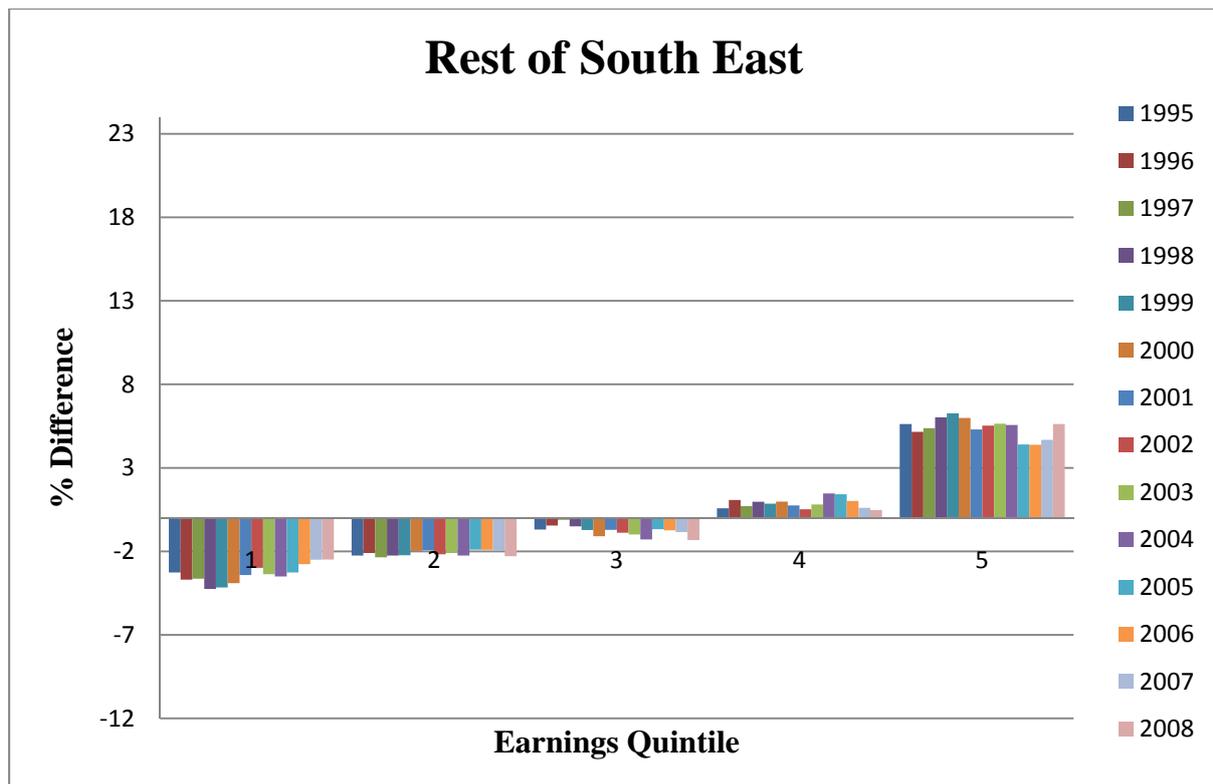


Figure 15: Rest of South East's Earnings Structure 1995-2008. Analysis is based on the proportion of region's resident workforce in the 5 national earnings quintiles each year. Graph shows region's variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

Geographical concentration of high earners in South East England

As previously mentioned, the data utilised to denote region refers to the respondents region of residence, rather than region of work. However, large amounts of people commute from the South East region into Inner London to work. It is probable that if the analysis were to be repeated, using data indicating region of work, the figures for Inner London would be more extreme. To try and account for this I combined the data for the three regions discussed above – Inner London, Outer London and the Rest of the South East – and looked at the weight-adjusted amount of people in earnings quintiles 4 and 5. The three regions combined aggregate to almost a third of sample's weight-adjusted workforce across the whole period of study, with little change. Accordingly, if earnings levels were distributed evenly across the whole country, one would expect that there would be approximately 33% of the country's high earners (quintiles 4 and 5) who live in this cluster of regions. However, the figure is between 37% and 42% over the period, and when one takes into account the changing weight-adjusted size of the cluster there are between 1.2 and 1.3 times more high-paid

(quintiles 4 and 5) workers in this south east corner of the country than one would expect if earnings levels were distributed evenly across the country – see table 2. When the analysis is repeated for just quintile 5 (top 20% of earners) there are between 1.4 and 1.5 times more of the top 20% of the UK’s earners resident in this cluster of regions, than one would expect of a normal geographical distribution; an even higher concentration than the top 40% of earners.

Calculation	1994	1997	2000	2003	2006	2009
Percentage of UK's Top 40%	41	40	41	41	37	42
Percentage of UK's Top 20%	45	44	46	47	42	48
Factor Larger in Cluster – Top 40%	1.3	1.3	1.3	1.3	1.2	1.3
Factor Larger in Cluster – Top 20%	1.4	1.4	1.4	1.5	1.4	1.5

Table 2: High Earners in South East England, 1994-2009. Analysis is based on the weight adjusted proportion of high earners in South East England. Source: Labour Force Survey merged data sets 1994-2009

Therefore, within each of the separate 3 regions there is a proportionately high level of high earners (see figures 13, 14 and 15); and the labour market region of the South East has a disproportionately large share of the country’s high earners resident, across the whole period of study.

This concentration of high earners is even more marked than the concentration of low earners in Northern England, previously mentioned. As such, one can argue that the geographical division of earners is more marked for the highest 20% of earners in society than the lowest 20%.

Conclusions

There is a geographical divide in earnings structures across the UK; with regions in Northern England having a bottom heavy earnings structure and regions in the South East of England having a more pronounced top heavy, professionalised earnings structure.

The three regions in the South East of England are the only regions in the UK where the top two earnings quintiles are above 20%. The two London regions have the biggest variation

from 20% of the regions in the UK, suggesting that higher paid jobs tend to be more geographically concentrated than lower paid jobs.

Inner London is experiencing an identifiable pattern of change over time, with an increasing proportion of its workforce in the UK's top 20% of earners and a decreasing proportion in the 20% - 40% quintile. With this upward shift over time, one could argue that Inner London's earnings structure is professionalising during the study period. This, coupled with the slightly increasing size of Inner London's workforce, could indicate that gentrification processes are evident.

The next step of the analysis is to look at Inner London's labour market structure in more detail, to establish whether its change in earnings can be attributed to identifiable labour market change.

2.5 Analysis 3 – Inner London's Labour Market Structure

Aim: Identify Inner London's labour market structure and identify and establish whether there is a link between the changes in Inner London's earnings structure and labour market structure.

Advocates of the labour market polarisation thesis (Sassen 2001, Goos and Manning 2007), in part, base their theses on the premise that changes in the structure of skills in the workforce are closely related to processes of economic growth and technological development (Elias and McKnight 2001). To address the theory of the changing occupational structure and general make-up of the workforce it is vital to have a consideration of occupation, as well as earnings in my analysis. Occupational classifications categorise the type of work that is performed in a job (ibid); and use occupation as a proxy measure for skill. Having a consideration of skill in my research will enable me to address directly the contrasting theories of Sassen (1991) and Hamnett (2003) regarding the relationship between economic restructuring and the nature of society.

There is a distinct social hierarchy in relation to how one would describe their occupation, as opposed to the more detailed description produced when one describes their job (Elias and McKnight 2001). As such, the use of an occupational classification is also suitable for

looking at the impact of the changing nature of the labour market on social inequality; the two are inextricably linked.

Variable Choice

The National Statistic “Standard Occupational Classification” (SOC) will be used in my research (see Appendix ??). The two main concepts that the SOC captures are:

- (i) The kind of work performed – job
- (ii) The competent performance of the task and duties – skill (ONS 2006 a)

The SOC also takes into account the forces that have brought about a “redefinition of skills – changes in the nature of skills demanded by employers, and skill supplied by employees – and the reorganisation of work” (Elias and McKnight 2001: 515). The SOC is not an abstracted classification; it is designed to capture the varying nature of the labour market as it exists on the ground. As such, using it to address Sassen and Hamnett’s theses in assessing labour market change is highly appropriate.

The period of study spans two different versions of the SOC – SOC90 and SOC2000. Broadly both versions of the SOC are similar in structure. They both have a four tiered structure (see table 3).

Structure	SOC90	SOC2000
1. Major groups	9	9
2. Sub Major groups	22	25
3. Minor groups	77	81
4. Unit groups	371	353

Table 3: SOC90 and SOC2000 hierarchy. Source: Labour Force Survey User Guide – Volume 5

Major influences on the changes of the SOC include innovations associated with technological developments and the redefinition of work, reflecting the educational attainment of those entering the labour market (ONS 2000). The main features of the revision include a tighter definition of managerial occupations, extensive revision of the terminology used in the classification and - maybe most significantly to my research - changes linked to the upgrading of skills but the deskilling of the manufacturing process. The change in the SOC in 2001 needs to be considered in the development of the methodology for this analysis.

A fundamental requirement cannot be a reliance on consistent variables over the whole period, as the SOC, with its change in 2001 does not provide this.

My research is not necessarily concerned with the specific jobs of the population; rather its aims are to identify the broad structural changes in the labour market since 1994. Hamnett (2003), in his study of London uses the 9 “Major Groups” to assess the levels of labour market restructuring. However, with regard to the research aims of this research, there are two limitations with using the Major Groups. Firstly, the distribution of incomes within this broader occupational group is greater than within the more detailed groups in tiers 2, 3 and 4 of the structure. My research attempts to identify the extent of the link between the labour market structure and earnings inequality. This link would be tenuous if there is already a significant heterogeneity of earnings within the classification that I use. Secondly the “Major Groups” encompass completely varied sectors of the labour market within them. For example, within the SOC90 Major Group “Professional Occupations” there are occupations spanning academia, finance, medicine and law – each of which will be influenced in a distinctly varied manner by different economic processes. Using a more disaggregated variable will allow these occupations to be split up into different parts of the structure if necessary.

Also, because I am looking to see if the broad based quintile-change in earnings structure in Inner London can be understood better when considering the labour market structure, the fine grain occupation category “Unit Groups” with its 371 and 353 different classifications respectively is not necessarily needed.

Consequently, throughout my analysis I use tier 3 – “Minor Groups” – of the SOC. Using this level of the classification means that I reduce the amount of heterogeneity within each occupation variable, whilst still being able to pick up the broad structural changes taking place in the labour market.

Methodology

Trying to quantify labour market processes is problematic as “multiply determined and historically-produced social phenomena are rarely amenable to being crammed into quantitative empirical categories” (Peck 2003: 731).

Following Jones and Green (2009) - but using the Minor Groups of the SOC rather than the Unit Groups – I calculated the weight-adjusted median earnings for each of the Minor Groups using the national sample. Each separate Minor Group was then ranked in order, based on the median value for earnings and split into 5 quintiles; with each representing as close as possible to 20% of the weight adjusted workforce of the sample. This process was repeated for every year of the study from 1994 to 2009, which has the effect of creating a nation-wide labour market structure for each year, against which Inner London can be compared.

Out of the national data set, the cases for Inner London are selected; the national labour market structure is then populated with the London cases. Each case is assigned to a quintile, based upon its Minor Group. One can then establish the weight-adjusted proportion of Inner London's workforce in each of the 5 labour market structure quintiles. The sub-sample of Inner London cases is quite small, around 300 cases throughout the study. Nevertheless it is a representative sample of the actual resident workforce of Inner London, and is weighted accordingly. Due to its small size though, there are certain Minor Groups which are not represented by these 300 cases. This would be a limitation if the analysis focused on the change in size of individual Minor Groups. However, because Inner London is being populated into a broad national structure, that is based on the whole sample and made up of 5 quintiles, the small sample size of Inner London cases is not too much of an issue. A 3 year simple moving average was taken to smooth the data to try and identify any patterns of change over time, and as in chapter 2.4 this has the effect of changing the study period to 1995-2008.

Because the labour market structure is established each year it takes into account remuneration within Minor Groups changing enough to drive a change in quintile for that particular occupation, as the structure sets a new national benchmark each year for Inner London to be compared against. However, a limitation of this methodology becomes apparent when one starts to analyse each quintile by the specific typologies of the Minor Groups, as they are free to move between quintiles. Looking at labour market typologies, though, will help me infer the nature of the economic restructuring which is driving the changes in Inner London's labour market structure. The change in SOC in 2001 also needs to be taken into account whilst looking at typologies within the occupation quintiles. The change also makes looking at specific Minor Groups within the analysis problematic, as individuals are assigned to Minor Groups of the SOC on a different basis after 2001.

Consequently, before analysing the results from Inner London, it is necessary to look in detail at each year's labour market structure that acts as a national benchmark, to build up a descriptive picture of each quintile.

Constituent Minor Groups of Labour Market Quintiles (Appendix 4)

Firstly, it is important to assess whether Minor Groups moved between quintiles significantly during the study period; and if so if there is any identifiable pattern to this change. Out of the 77 Minor Groups of SOC90 only two move 2 quintiles during the period of 1994-2000. They are "Travel Attendants and Related Occupations" - for example airline stewards – and "Buyers, Brokers and Related Agents"- for example importers and exporters. Out of the 77 minor groups nearly two thirds remain in the same quintile for the whole seven years of SOC90 and a further 20 of the minor groups only move quintiles twice or less. There is no identifiable pattern of change for any of the minor groups; indicating that no particular occupation in this level of the SOC90 hierarchy experienced a significant, relative change in remuneration at UK- level.

For the SOC2000 period of the study – 2001-2009 – a slightly larger chunk of the total study period, 36 out of the 81 minor groups stayed in the same quintile for the whole 9 years and a further 39 were in the same quintile for at least two thirds of the period. The vast majority of Minor Groups therefore remained in the same quintile for at least 6 out of the 9 years of 2001-2009. Similar to SOC90, there were 2 Minor Groups that moved by 2 quintiles: "Personal Service Occupations" – for example undertakers and pest control – and "Textiles and Garments Trades" – for example, weavers and dressmakers.

Consequently, with the vast majority of SOC90 Minor Groups remaining in the same quintile for at least 70% of 1994-2000 and the vast majority of SOC2000 remaining in the same quintile for a least two thirds of 2001-2009, even though the quintiles are not completely consistent over time, it is appropriate to examine which Minor Groups constitute each quintile.

This is an appropriate point to consider labour market segmentation theory. Segmentation theory has been used to break the assumed direct relationship between the quality of jobs and skills and the distribution of the productivities and abilities of the population implicit in the neoclassical and human capital versions of labour market theory (Burchell and Rubery 1994).

Structuring of the labour supply has been recognised to be tied up with firms' and employers' recruitment, remuneration and promotion policy. For example, women are often only able to find work with low wages because of their relative exclusion from large sectors of the labour market (ibid), and higher-paid prestigious employment, such as law, is very much a male dominated sector. Segmentation does not only occur by gender; it is also apparent across social class and ethnicity. Viewing the labour market quintiles that I have constructed as being socially segmented, allows one to infer the social implications of the changes in Inner London's labour market structure.

Looking at appendix 4 helps you to build up a descriptive picture of the composition of each of the labour market quintiles. In appendix 4 I have laid out whereabouts each Minor Group for SOC90 and SOC2000 falls. The column on the left refers to SOC90 variables and SOC2000 are on the right; each subtitle within a box refers to the Major Group the Minor Groups below it are in.

Occupation Quintile 5

The minor groups that make up quintile 5 across both SOC90 and SOC2000 consist of highly-paid managers in both the public and the private sector, professional occupations within lucrative sectors of the labour market – such as finance and law. Occupations that require lengthy training at university, such as medicine, architecture and engineering also make up this quintile. Virtually all the occupations require good university training and consequently will be self-selecting in the segment of society that constitutes this division of labour. Most of these occupations are situated in the top end of the service sector (cf Walker 2004).

Occupation Quintile 4

Similar to quintile 5, the minor groups in quintile 4 are mostly in the high end of the service sector. Many of the occupations are in broadly the same sector as quintile 5, but a layer down the pay hierarchy. For example, office managers in the finance sector and social workers in the public sector, who are generally paid less than their public service counterparts in medicine and dentistry. There are a small number of minor groups that represent the higher paid skilled manual workers – electrical engineers, but this quintile is a public and private service-sector dominated part of the labour market structure.

Occupation Quintile 3

Is made up of minor groups within the skilled manufacturing and manual work sectors – vehicle trades including motor mechanics; construction sector including plumbers, carpenters and bricklayers. Also part of quintile 3 are the semi-skilled workers in production-line processes – “Plant and Machine Operatives” including printing machine minders and workers who service production line machines. Lower level administration occupations (such as record clerks and personal assistants) also make up this sector, with there being a lower level of minor groups where degree level training is required, but a high level where formal training is required.

Occupation Quintile 2

Drivers in haulage and labourers in the construction industry constitute part of quintile 2. The next pay-hierarchy down on the production line process also makes up part of this group, such as the minor groups “Assemblers and Line Workers”. So, in general this quintile is made up of the lowest paid workers in the manufacturing process and drivers in logistics. However, the lowest paid workers in administration are also part of this group, such as receptionists and routine administration occupations.

Occupation Quintile 1

Is very much dominated by the low-end jobs in the service sector. People who work in retail - sales assistants and cashiers, for example; childcare and related occupations; cleaning; catering and hairdressing are all in the lowest labour market structure quintile. If one considers the implications of social labour market segmentation (Burchell and Rubery 1994), then it is apparent that workers in this sector are often women who work part time.

Results

Figures 16 and 17 chart the change in Inner London’s labour market structure. Figure 16 illustrates the total proportion of the workforce in each labour market quintile and figure 17 shows the extent to which Inner London varies from the national benchmark.



Figure16: Inner London’s Labour Market Structure 1995-2008. Analysis is based on the proportion of region’s resident workforce in the 5 national labour market structure quintiles each year. Source: Labour Force Survey merged data sets 1994-2009.

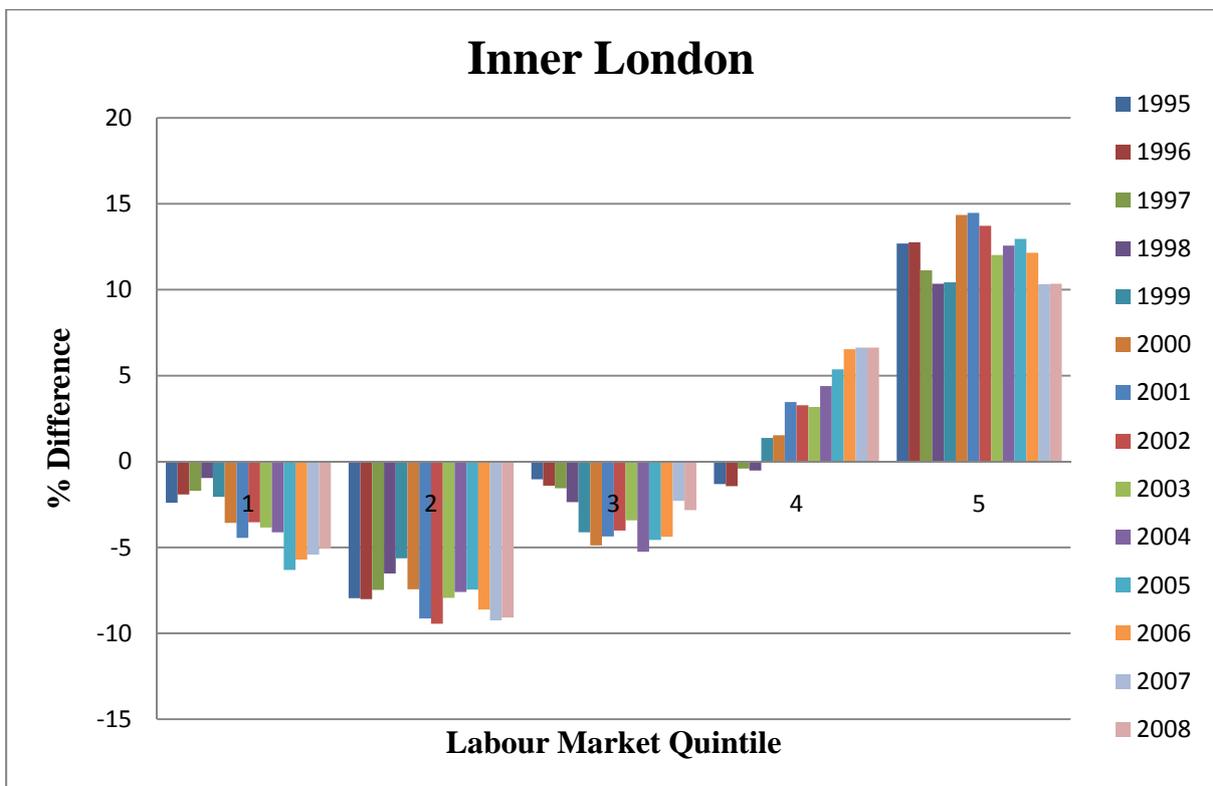


Figure 17: Inner London’s Labour Market Structure 1995-2008. Analysis is based on the proportion of region’s resident workforce in the 5 national labour market structure quintiles each year. Graph shows region’s variation from national benchmark of 20% in each quintile. Source: Labour Force Survey merged data sets 1994-2009.

Cross sectionally, the nature of the labour market structure quintiles are generally similar to the earnings structure quintiles analysed in section 2 of the analysis (see figure 13). The proportions in quintiles 1, 2 and 3 are below the national benchmark of 20% and quintiles 4 (apart from the first 4 years: 1995 – 1998) and 5 are above the national benchmark of 20%; quintile 5 substantially so. Cross sectionally it is a top heavy professionalised structure, with a greater proportion of its workforce in the higher paid occupations that constitute quintiles 4 and 5.

Firstly, I am going to look at the quintiles where there does not seem to be any discernible pattern of change over time - quintiles 2, 3 and 5. Quintile 2 measures between a highpoint of 14.4% in 1999 and a lowpoint of 10.6% in 2002, showing no identifiable pattern of change. This constituent part of Inner London's labour market is smaller than the national benchmark. Some of the occupations that formulate this particular sector of the labour market include – drivers in haulage and lower-paid factory workers. This cross-sectional picture is reflective of the longer-term shrink in size of London's routine manufacturing sector (Massey 1995, Hamnett 2003). However, as previously mentioned it is very difficult, using this particular methodology, to isolate which occupations specifically are driving this change. Quintile 2 is further away from the national average than quintile 1 suggesting there are proportionately more jobs in the low end of the service sector – hairdressing, childcare, cleaning – than in the routine manufacturing sector. Sector 3, which is also made up of Minor Groups within the manufacturing sector is below the national benchmark of 20% - with a low point of 14.7% and generally measuring around 17% for the study period. This is a higher figure than quintile 2, suggesting that there is a greater demand for skilled manual workers such as plumbers and carpenters and lower level administration occupations, than there is for routine manufacturing labour. Looking at quintiles 1, 2 and 3 cross-sectionally it would seem that there is a polarised nature to this particular part of the labour market, that does not completely match the general pattern of a professionalised labour market. There are relatively greater proportions of the lowest-paid occupations and middle earning occupations (quintile 3) alongside lower numbers of workers in the second tier of occupations (quintile 2) in quintiles 1-3.

However, there does seem to be identifiable change in quintiles 1 and 4. The size of Quintile 1, as a proportion of Inner London's workforce seems to be falling over time. It is below the national benchmark of 20% for the whole period – 17.6% in 1995 falling to 14.9% in 2008. Consequently, as a proportion of Inner London's workforce, the amount of people working in

the low end of the service sector – cashiers, cleaners and childcare, for example. Quintile 4 seems to be steadily increasing over time; starting off below the national benchmark of 20% at the beginning of the period, rising to 26.6% in 2008, the highpoint for this quintile. The occupations that make up this quintile consist of occupations that are in similar minor groups to quintile 5, but one layer down the pay hierarchy. As such, an increase in this quintile signifies an increase in the proportion of middle ranked workers and managers in the top end of the service sector. This outcome supports Hamnett’s (2003) professionalising thesis.

Linking Inner London’s labour market structure to Inner London’s earnings structure

From looking at figures 17 and 13 it is clear that whilst the proportion of quintile 4 in Inner London’s occupation structure is increasing over time, it is quintile 5 in Inner London’s earnings structure that is increasing over time. A possible reason for this could be that there is a London premium in remuneration; that occupations that are nationally in the fourth tier of my occupation structure are better paid in London. To account for the small sample size of Inner London each year, I merged together the final three years of the study period to allow a more reliable calculation of an earnings median at regional level. Table 4 shows the difference in median earnings for the labour market quintiles in both the UK (the whole sample) and then just Inner London for 2007-2009.

Calculation	Labour Market Quintile 1	Labour Market Quintile 2	Labour Quintile 3	Occupation Quintile 4	Occupation Quintile 5
UK Median Hourly Earnings (£) 07-09	6.13	7.8	9.33	13.09	18.02
Inner London Median Hourly Earnings (£) 07-09	7.34	9.17	11.54	16.77	22.22

Table 4: Median Hourly Earnings for Each Labour Market Quintile in the UK and Inner London, for the period 2007-2009. Source: Aggregated Labour Force Survey merged data sets 2007-2009.

It clearly shows that earnings in each labour market quintile have a higher median pay in Inner London than the UK average. This could go some way towards explaining the increase in quintile 5 of the earnings structure (figure 13) alongside the increase in quintile 4 of the labour market structure (figure 17).

Conclusions

Overall there is a professionalised and professionalising structure over the period. It is not an increase in the highest paid occupations that are leading to this professionalisation. Rather, it is a rise in quintile 4 of the labour market structure (figure 17), which is made up of occupations in the high-end of the service sector (finance, for example), but one level down the pay hierarchy.

However, cross-sectionally, there remains a polarised element to Inner London' labour market when one considers just quintiles 1-3. Therefore, it is apparent from the analysis that even though Inner London is professionalised and professionalising (cf Hamnett) there is an element of polarisation (cf. Sassen) in the bottom three quintiles of the labour market structure.

The next step of the research is to look at the effect of the polarising labour market in Inner London, identified here, on levels of UK inequality; however, introducing a consideration of earnings change as well as the structural change identified. The consideration of earnings alongside structural changes attempts to link together the three main empirical themes outlined in chapter 1.3, thus filling the gap in the literature.

2.6 Analysis 4 – Pay Within and Size of Sectors of Inner London's Labour Market Structure

Aim: determine the separate impact of the changing pay levels within Inner London's labour market sectors and the changing relative size of these sectors on earnings inequality.

Following Goos and Manning (2007) this section of analysis looks to isolate the impacts of both the change in size in Inner London's labour market structure (analysis 3 – 2.5) and the change in remuneration within this structure. The analysis looks at earnings within the labour market structure, as the empirical model attempts to capture occupation-sector driven changes in earnings rather than just straight changes in earnings.

To achieve this there are several methodological issues to consider. The implications of these issues are that the results presented are based on an exploratory analysis. Given the lack of a truly joined-up empirical model the actual results should be treated with caution.

Firstly, unlike analysis 3, which just populated the structure with Inner London data, this section requires separate earnings calculations to be made from just the Inner London part of the sample. Typically, each year only has around 300 cases that represent Inner London and as such there is an issue with sampling error. To overcome this problem, I aggregated the Labour Force Survey UK merged data sets into five 3-year chunks; ensuring that the change from SOC90 to SOC2000 did not span two chunks. Consequently this meant the labour market structure quintiles had to be recalculated to create 5 new benchmarks, one for each 3 year period, to compare Inner London against. I repeated the process, outlined in analysis 3, of creating 5 labour market structure quintiles, into which Inner London data can be populated. From the results of this it is clear that the aggregated data sets show a similar shape and change in labour market structure as the yearly data in analysis 3 (see figure 18). As such it is clear that the aggregating of the data did not have a substantial effect on the pattern of change over time identified in analysis 3. With this aggregation one would expect that analysis of the change in individual minor groups could be undertaken to a certain extent. However, after a review of the data this, as in previous analyses, still remains problematic.



Figure 18: Inner London's Labour Market Structure 1995-2009. Analysis is based on the proportion of region's resident workforce in the 5 national labour market structure quintiles for each 3 year period. Source: Aggregations of Labour Force Survey merged data sets 1995-2009.

Following the creation of the new benchmarks, the weight-adjusted median earnings level was calculated for each of the five quintiles for the first 3-year chunk (1995-1997) and for 2007-2009. This gave me the relative size of and median pay within each of the five quintiles for 1995-1997 and 2006-2008 in Inner London. Table 5 details these figures:

Calculation	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
% Size 95-97	18.1	12.2	18.5	22.0	29.2
% Size 07-09	16.5	8.6	17.7	27.5	29.7
Median Hourly Earnings 95-97 (£)	4.38	5.7	7.39	9.24	12.83
Median Hourly Earnings 07-09 (£)	7.34 (68%)	9.17 (61%)	11.54 (56%)	16.77 (82%)	22.22 (73%)

Table 5: Proportion of Workforce and Median earnings in Inner London's Labour Market Quintiles, 1995-1997 & 2007-2009. The percentage figure in brackets indicates the magnitude of change in earnings in each of the quintiles. Source: Aggregations of Labour Force Survey merged data sets 1995 – 2009.

To separate the influence of the changing size of each quintile and the changing pay within each quintile between 1995-1997 and 2006-2008 in Inner London, it is necessary to hold the size of each quintile then the pay within each quintile at 1995-1997 levels. This has the effect of isolating the impact of each type of change on UK earnings inequality, when the Inner London data is plugged back into the UK sample. A limitation of this is the somewhat messy nature of trying to link together the Inner London part of the data, which is affected by the grouped and ordered labour market structure established by taking median earnings of SOC Minor Groups, and the rest of the UK part of the data, which is simply ordered by earnings level.

To hold the size of the individual cases in each quintile at 1995-1997 levels I took the values presented in table 5, for percentage size of each quintile, and adjusted the person weights of each case for Inner London accordingly. So, for example, for each case that falls in quintile 1 the person weight was updated so that the whole quintile now represented 18.1% of the weight-adjusted workforce in Inner London. A limitation to this method is that it is based on the assumption that all of the separate constituent occupations, that make up each quintile, have experienced the same rate of expansion or contraction as the quintile as a whole. In all probability this would not have happened in Inner London. The effect of this limitation on this particular section of analysis is to limit inferences from the results to being suggestive; they will simply give an indication as to which process – change in size of structures or remuneration within structures - has the greater effect on UK earnings inequality.

To hold earnings at 1995-1997 levels the process was repeated using the median earnings values; however, an extra step was added. After the earnings for each case were adjusted to 1995-1997 levels, on the basis of the median earnings value for each quintile, they were then reflated by a factor of 1.4 to allow for consumer price inflation between 1995-1997 and 2006-2008; effectively holding real wages at 1995-1997 levels. A limitation to this method is that it assumes that the rate of change of the median of each of the quintiles in Inner London is applicable to each individual case in Inner London. Again, this limits this section of analysis to only giving an indication as to which of the processes has the greater effect on UK earnings inequality.

A further limitation is that the labour market structure is split into just 5 quintiles; whereas measures of inequality, earlier in the study, were taken at twice the number of intervals in the earnings distribution. A consequence of this, when the Inner London data set is plugged back into the national sample, is that cases a considerable distance apart in the earnings distribution are subject to the same adjustment in earnings or population weighting. However, it is because of this that the earnings distribution, in this section, still needs to be measured in more detail than just looking at quintile change. Analysing just 5 points in the earnings distribution might not pick up the full extent of the influence the Inner London cases are having on inequality.

Results and Conclusions

Table 6 details the values taken from the UK earnings distribution as a result of the analysis outlined above. At every reported percentile it is clear that holding the hourly earnings at 1995-1997 levels for Inner London has the larger impact on the UK's earning distribution, and this impact is more pronounced for the higher end of the distribution. This suggests that changes in pay within Inner London's labour market sectors have had more of an effect on the UK's earnings distribution than changes in the size of labour market sectors.

Holding earnings levels in the labour market structure at 1995-1997 levels had the effect of reducing earnings at the UK's 95th percentile by 2%, falling to a reduction of 1.5% at the 80th percentile. Whereas, when holding the quintile sizes at 1995-1997 levels, the changes at the 95th and 80th percentiles are 0.24% and 0.41% respectively. As previously mentioned, due to the limitations of this analysis, these figures do not represent accurate potential changes in

earnings; rather they are more suggestive as to the relative approximate magnitude of and direction of change. However, both these sets of results do suggest that if Inner London had not experienced both the change in size of and pay within labour market sectors that inequality would have fallen in the UK between 1995 and 2009, as earnings at the top end of the UK distribution would have risen less.

Percentile	UK Hourly Earnings 07-09 (£)	UK Hourly Earnings 07-09 (Inner London Quintile Size at 95-97 Levels) (£)	UK Hourly Earnings 07-09 (Inner London Quintile Median Earnings at 95-97 Levels) (£)
5	4.60	4.60 (0%)	4.57 (0.7%)
10	5.40	5.40 (0%)	5.37 (0.6%)
20	6.29	6.29 (0%)	6.26 (0.5%)
30	7.36	7.34 (0.3%)	7.30 (0.8%)
40	8.42	8.41 (0.1%)	8.38 (0.5%)
50	9.66	9.63 (0.3%)	9.63 (0.3%)
60	11.39	11.33 (0.5%)	11.22 (1.5%)
70	13.44	13.37 (0.5%)	13.24 (1.5%)
80	16.39	16.35 (0.2%)	16.15 (1.5%)
90	21.04	20.98 (0.3%)	20.78 (1.2%)
95	26.56	26.45 (0.4%)	26.00 (2.1%)

Table 6: UK Percentile Hourly Earnings 2007-2009. Analysis is based on isolating the effects of change in quintile size and change in quintile earnings between 1995-1997 & 2007-2009, the percentage figure in brackets indicates the magnitude of the change in earnings. Source: aggregations of Labour Force Survey merged data sets 1995-2009.

Conclusion

Within economic geography and studies of the spatial divisions of labour there has been a long running debate about how best to conceptualise the post-industrial economic structure. Advocates of the polarisation (Sassen) and professionalisation (Hamnett) theses tend to base their assertions on longer term developments. They also accord their theory almost universal applicability, without considerations of geographical difference and variation within broader patterns.

My empirical research has directly addressed these contrasting theses, and has found that neither are universally applicable across and within the UK.

Since 1994 there has not been a significant change in earnings inequality, suggesting that the longer term trend of earnings polarisation following the deindustrialisation of the 1980s has not continued. However, I have found that there is a distinct pattern to the regional earnings structure within the UK. In general this pattern has remained relatively constant over time. There is a concentration of lower-paid workers in Northern England alongside an even more pronounced concentration of higher-paid workers in the South East of England. As such it could be argued that there is relative regional polarisation in earnings when one considers the differences between Northern and South East England. However, this pattern does not accord with Sassen's (1991) conceptualisation of polarisation, as it is relative in measure and not within a single labour market.

This greater concentration of high-paid workers in the South East can be seen in more detail when one looks at each of the 3 regions variation from the national benchmark (figures 13, 14 and 15). It is clear that Inner London has a distinct professionalised earnings structure which is still experiencing a process of professionalisation, according with Hamnett's (2003) thesis and empirical work. However this does not accord with Sassen's (1991) conceptualisation of London's labour market. In chapter 2.5 (analysis 3), in the creation of my empirical model, which captures the labour market structure, it is clear that the changes in job structure might not have been as straightforward as Hamnett suggests.

Overall there is a professionalised and professionalising nature to Inner London's labour market over the period. However, it is not an increase in the highest paid occupations that are leading to this professionalisation. Rather, it is a rise in the second highest part of the labour

market structure (figure 17), which is made up of occupations in the high-end of the service sector (finance, for example), but one level down the pay hierarchy.

There is also an element of polarisation evident, when one considers the lower end (quintiles 1-3) of Inner London's labour market. Looking at the Minor Groups that constitute quintiles 1-3, it could be argued that it is a distinct part of the labour market in comparison to quintiles 4 and 5. Quintiles 4 and 5 are predominantly made up of high-end service sector occupations – prestigious public sector and lucrative private sector occupations. More detailed research is needed to assess whether this distinction is valid. However, if the distinction is valid, with an increasingly professionalising high-end (quintiles 4 and 5) and polarised bottom-end (quintiles 1 - 3), it could be argued that a bifurcated structure is apparent when one considers the labour market in these two separate chunks.

Consequently, Hamnett's and Sassen's conceptualisations alone do not seem sufficient when analysing Inner London's labour market structure. Future research should look to develop a less rigid, nuanced conceptualisation of London's labour market, that takes into account within structure variation.

The exploratory analysis of chapter 2.6 (analysis 4) suggests that changes in pay within the labour market structure of Inner London have had a greater effect on earnings inequality across the UK than the changes in structure outlined in chapter 2.5 (analysis 3). The change in size of these sectors did affect UK earnings inequality, but to a lesser extent. Also evident from this analysis is that the magnitude of change was greater at higher levels of the earnings distribution. Further empirical work is required here to build a quantitative model that goes beyond the exploratory analysis I conducted. However, what does seem to be clear is that changes in remuneration and in people's occupations at the top end of the labour market in Inner London does have a direct effect on UK earnings inequality. A thorough understanding of the effect that London's labour market has on inequality would be a valuable tool in the arguments made by those who advocate inequality's reduction for the good of society (cf Wilkinson and Pickett 2009).

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