Wales Institute of Social & Economic Research, Data & Methods
Sefydliad Ymchwil Gymdeithasol ac Economaidd, Data a Dulliau Cymru

AN ANATOMY OF ECONOMIC INEQUALITY IN WALES

A report prepared on behalf of the Wales Equality and Human Rights Commission

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Abbreviations

APS	Annual Population Survey
BHPS	British Household Panel Survey
DDA	Disability Discrimination Act
EDID	Equality Diversity and Inclusion Division
EHRC	Equality and Human Rights Commission
EIA	Equality Impact Assessments
FRS	Family Resources Survey
FSM	Free School Meals
GOR	Government Office Region
GVA	Gross Value Added
HBAI	Households Below Average Income
ILO	International Labour Organisation
LCOs	Legislative Competence Orders
LESE	London, East and the South East
LFS	Labour Force Survey
LPC	Low Pay Commission
NEP	The National Equality Panel
NPD	National Pupil Database
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
PISA	Programme for International Student Assessment
PSD	Public Sector Duty
SEN	Special Educational Needs
WAG	Welsh Assembly Government's
WAS	Wealth and Assets Survey
WEHRC	Wales Equality and Human Rights Commission

Foreword

The National Equality Panel's report *An Anatomy of Economic Inequality in the UK* (Hills *et al.* 2010) provided a milestone in our understanding of relationships between people's characteristics and their financial position. Through detailed analysis of complex datasets, some newly available, it charted in depth how 'inequalities in people's economic outcomes - such as earnings, income and wealth - are related to their characteristics and circumstances - such as gender, age or ethnicity.' The report showed how inequalities in income and earnings in Britain are high, compared with 30 years ago and compared with other industrialised nations.

While some gaps had narrowed, entrenched inequalities remained. For example, despite the reduction in differences in levels of qualification, significant differences remain associated with gender and ethnicity in employment and pay. Charting inequalities is highly complex but is vital to our understanding of how societies work. Much of the growth in inequalities is now *among* members of groups rather than *between* groups. Moreover, the impact of inequalities accumulates over the lifecycle and can cross into the next generation. All these factors make policy-making to reduce poverty and inequality highly challenging.

I was delighted that the Equality and Human Rights Commission decided there should be a similar, detailed study of inequalities in Wales and that it commissioned the Welsh Institute of Social and Economic Research, Data and Methods (WISERD) to produce, in effect, *An Anatomy of Economic Inequality in Wales.* WISERD combines the strength of interdisciplinary social scientists in five Universities in Wales. In this report they have analysed highly complex data sets to inform our understanding of inequalities in Wales, which can be used to develop sound evidence-based policy-making.

The results do not make comfortable reading. While some of the figures demonstrate we still shoulder the legacy of the decline of significant industries, others reveal more unexpected emerging groups experiencing poverty and inequality. The combination of factors in determining disadvantage and need are striking. While many of the patterns are similar to those in the UK more widely, some are more specific. The analysis pays attention to new data on Welsh-speaking, Welsh identity, disability, faith and housing tenure as well alongside gender, age and ethnicity.

This thought-provoking report should play a major role in evidence-based policy in Wales designed to tackle both long running and newly discovered forms of inequality. Crucially, poverty should not be something parents pass on to their children.

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Executive Summary

This report seeks to build upon the work of the National Equality Panel (NEP) and their report *An Anatomy of Economic Inequality in the UK* (2010). The findings provide a Wales specific analysis or evidence base. The data considers both the overall level of economic inequalities and the inequality that exists both between and within sub-groups of the Welsh population. The report sets out outcomes in education, employment, earnings, income, poverty and wealth in Wales in comparison to other areas of the UK. The data analysis compares outcomes by gender, age, ethnicity, religion, disability and housing tenure. Analysing inequality within a small country that has relatively low incidence of certain population sub-groups (e.g. ethnic minorities) sometimes limits the degree of detail that can be achieved in the analysis. Despite this, the following key findings emerge:

- The historical productivity gap relative to the UK is continuing to widen for Wales. The industrial and business structure produces weak demand for skills, with individuals' earnings in Wales being, on average, lower than the UK average. Disadvantage in education, and subsequently in employment and earnings attaches particularly to young people, those of Bangladeshi and Pakistani ethnicity, and people who are work limiting and DDA defined disabled. Within each of these groups, women are generally more disadvantaged.

- While overall in 2009 two-thirds of pupils in Wales attained key stage 4 qualifications at National Qualifications Framework level 2 (NVQ level 2 or equivalent) by the time they were 16, the chance of gaining these qualifications was strongly related to family income. Pupils eligible for Free School Meals (FSM) are 2.5 times less likely to get A*-C grades in core subjects than their ineligible peers. People defined as both DDA disabled and as having a work limiting condition have by far the lowest educational achievements of all the equality categories. Both men and women in these groups are 3 times more likely to have no qualifications compared to non-disabled people.

- People who are both DDA disabled and have a work limiting condition experience most disadvantage in relation to employment. Seventy four per cent are not employed. This is more than 3 times the overall UK proportion of 22%. Women are disadvantaged in employment terms: in almost all population groups women face an above-average incidence of non-employment. This is particularly the case for some ethnic minority groups in Wales, particularly women of Indian, Bangladeshi and Pakistani and Chinese ethnicity.

- The median hourly earnings of men in Wales (£9.88, measured between 2004/5-2008/9) were just above the overall UK median (£9.81), while median female earnings (£8.04) were only 82% of the UK median, giving a Wales gender gap of 19% in hourly earnings. Using a low-pay threshold defined as two-thirds of UK median earnings, the proportion of employees who are low-paid is higher in Wales than in the UK as a whole. In terms of hourly earnings 26% of employees in Wales are low-paid, compared to 22% in the UK. The incidence of low weekly pay for full-time employees in the UK is 22%, in Wales 28% and for women full-time employees in Wales it is 38%: a 'gender penalty' of 10%. Groups whose median earnings fall below the two thirds of the UK median for full-time

employees are young people; those of Bangladeshi or Pakistani ethnicity; workers with no educational qualifications, workers who live in social housing and employees (particularly those working part time) in Elementary Occupations, Retail and Customer Services occupations and Personal Services

- Approximately a fifth of the Welsh population live in poverty (measured after housing costs). Those living on the lowest incomes are once again the youngest, disabled people, those of Pakistani and Bangladeshi ethnicity and those living in rented accommodation. However, lone parents are the most susceptible group, with almost half living in poverty. Being in work does not necessarily provide a route out of poverty, with 13% of in-work households in Wales living in poverty. In-work poverty is again most prevalent among lone parent households, Asian households and those who are renting. Levels of wealth are lowest among young people, lone parents and single households, non-white households and those with a work-limiting illness or disability. The lower levels of educational attainment observed among protected groups will effect the positions they achieve in society and the resources and opportunities that these positions confer.

- Overall levels of inequality within Wales are not as wide as in the rest of the UK as Wales has relatively few people who earn the highest salaries or who are 'very rich'. Those who are among the wealthiest 10% of people in Wales have around £100,000 less total wealth compared to the wealthiest 10% across the UK as a whole. The level of inequality within most sub-groups of the population is generally narrower than that observed across the population as a whole. Inequality between groups therefore does indeed contribute to overall inequality. However, there is a considerable level of inequality between rich and poor within each of these groups, unconnected with and unexplained by group membership.

The UK NEP report suggested that there is little awareness of the enormity of economic disparity which '*runs through society, from rich to poor,"* and that this *'acts as a constraint on any policies designed to contribute to reducing inequality*' (NEP 2010:398). This report provides the most thorough examination of the material consequences of difference undertaken within Wales. The findings in this report represent a significant body of new evidence on socio-economic inequalities. In each case, the evidence connects the distribution of economic outcomes to social characteristics both *between* and *within* equality groups. A widespread recognition of inequality, its causes and effects, is a precursor to the use of policy to intervene to interrupt its reproduction.

Chapter 1: Inequalities in Wales: The Policy, Economic and Demographic Context

Rhys Davies, Caroline Joll and Alison Parken

1.1 Introduction

Questions about inequality and fairness are prominent in policy creation. In 2010 the UK saw the publication of the National Equality Panel's (NEP) Report *An Anatomy of Economic Inequality in the UK* (UK NEP) and of the Equality and Human Rights Commission's first Triennial Report *How Fair is Britain?* The UK NEP report is the first to integrate analysis of economic outcomes (earnings, income and wealth) and the social divisions of gender, age, ethnicity, disability, transgender, sexual orientation and religion or belief. The UK NEP report demonstrates when the intersection of socio-economic resources and dimensions of difference combine to produce advantage and disadvantage in the competition for good economic outcomes, although data gaps prevent a complete picture. The idea of equality of opportunity and 'choice' for all is challenged by wide inequalities in resources. The findings of the UK NEP report suggest that addressing disparities within the equalities groupings is as important as addressing inequalities between them.

While the UK NEP report has had a significant role in providing evidence for debate on issues surrounding inequality, the report provided only limited information of the nature of economic inequality at a sub-national level. Although the UK NEP report contained some findings disaggregated to the level of Government Office Region (GOR), the majority of the data and commentary is not able to provide an insight into the nature of economic inequality in Wales. The Equality and Human Rights Commission (Wales) has therefore sought to address this information gap through the production of a 'NEP-style' report for Wales. As such, this report provides the first systematic examination of economic inequality within Wales. While the UK NEP is primarily interested in inequality at the UK level, and explores variations across parts of the UK as one dimension of inequality, this report focuses on the population of Wales as the topic of policy interest, and makes comparisons to the UK for benchmarking purposes.

The analyses of this report reinforce some findings which are already well-known. On any measure of economic strength, Wales is a relatively poor nation within the UK. Other findings are less well-known. For example, the gap between the upper and lower ends of the earnings distribution within Wales is less than that observed in other parts of the UK. The relative absence of well-paid private sector jobs in Wales, of the kind that have driven much of the increase in inequality within the UK (NEP 2010: 40-45), results in both low average income levels and (relatively) small gaps between the rich and poor. On the other hand, there is also an indication that in some cases groups protected by legislation face more of a disadvantage in Wales than in the UK. In terms of educational outcomes, Chapter 2 reveals that differences in social class, housing tenure and disability all have bigger impacts on qualifications achieved in Wales than in the rest of the UK. Chapter 3 finds, for instance, that disability has a worse impact on employment prospects in Wales than elsewhere. In relation to earnings, simply being female is a marker of disadvantage – even among already disadvantaged groups. The findings show the urgent need to ensure that

those disadvantaged in the labour market, young people, women, disabled people and members of some ethnic minority groups are specifically included in the plans to create a knowledge economy in Wales, leading to better quality and better paid jobs (Welsh Assembly Government's *Economic Renewal* Strategy 2010, see also Parken and Rees 2011).

1.2 The Policy Context

Although the UK coalition government has chosen not to 'commence' the Socio-Economic Duty (*Equality Act* 2010), Wales has pursued a mainstreaming approach to equality since devolution which intends to promote equality using all policy levers across all devolved portfolios. This section briefly reviews the policy context, and equalities legislation specific to Wales that can be employed to intervene in socio-economic inequalities. Following an overview of the National Assembly of Wales' law making powers and examples of policy designed to promote equality, consideration is given to how mainstreaming equality might further connect the redistributive intent of much Welsh policy and the equality policy making mechanisms, so that economic and social policy and practice are treated as interlinked [i]. In this regard, the Welsh Ministers' enactments of *Specific Equality Duties*, which will underpin the *Public Sector Duty* to promote equality in Wales, provide significant opportunity to consider the connection between social divisions and economic outcomes for individuals.

Devolved law making powers.

The UK NEP report demonstrated the impact of family resources (high and low), parental education levels, occupation and housing tenure for conferring advantage or disadvantage in combination with ethnicity, gender, disability, age, and religion in relation to educational attainment. Pre-school and early years education programmes, development throughout secondary schooling, and progression to paid work or further study were identified as key transition phases for intervention (particularly those in receipt of Free School Meals (FSM)). The UK NEP report emphasised that public policy had been effective in constraining the excessive growth of income disparity, begun in the 1980s, had prompted a narrowing of education attainment gaps for some ethnic minority groups, and had had some effect on combating gender pay gaps primarily through introduction and subsequent raising of the Minimum Wage (although progress is now stalled). The report is particularly helpful with identifying the intersection of socio-economic inequality and combinations of difference across and within equality strands.[ii]

The National Assembly for Wales has powers in 20 devolved policy areas[iii]. Significantly, given the evidence of inequalities in Wales, these include education, economic development, health, housing, social services and local government. Following the *Government of Wales Act* 2006 the National Assembly can amend, repeal or extend provisions within Acts of Parliament as they apply to Wales or make new provisions (Wales Office 2005, section 3.16), in Charles (2010:10). Before the referendum result on law making powers on 4th March 2011, agreement from Westminster MPs and the Privy Council was required before the National Assembly could make legislation in a devolved policy area. This process involved obtaining a Legislative Competence Order. Since the 'yes' vote in the referendum to grant greater autonomy over law making in Wales, the National Assembly will no longer need approval by both Houses of Parliament to introduce Assembly Measures in

these 20 devolved areas. The Assembly can introduce and legislate on Bills itself and private members Bills can also be brought forward for discussion.

Paul Chaney's review of progress on equalities in the first decade of the Assembly for the Equality and Human Rights Commission (Wales), charts a distinct approach to discussing and addressing equalities in Wales post-devolution, and notes that:

> Each of the first five proposed Assembly Measures deals explicitly with an equality-related topic (that is, an issue where there is a recognised need to adapt service provision, or increase the rights and/ or resource allocation to historically marginalized or discriminated-against groups). (2009:93).

To date legislation has been introduced to widen the definition of Special Educational Needs (SEN) to enable enhanced service provision in education and transport; in respect of non-residential care charges by local authorities (expressly to address wide disparities in charges); to provide a right to a mental health assessment by the health service and rights to independent advocacy; in respect of child welfare (vulnerable children including looked after children) and child poverty (leading to the Child Poverty Duty 2010), and to require local authorities to identify, and consider the welfare of unpaid carers. These examples demonstrate policy divergence with England over time and a Wales specific concern to integrate equality and social justice measures (Chaney 2009). Each could be said to integrate a rights based approach to equalities with an understanding of the economic consequences for each group covered.

Of significance, given the finding that economic outcomes are clearly linked to advantage or disadvantage in the pre-school years in both the UK NEP report, the *Independent Review on Poverty and Life Chances* (HM Government 2010) and as evidenced in this report through analysis of eligibility for FSM, is the Welsh Assembly Government's (WAG) early adoption of policies to improve early years education in particular the introduction of a *Foundation Phase*. These policies are considered in more detail in Chapter 2.

UK and Wales Current Policy Context

Since the NEP UK reported, and provided advice on policy direction, there has been a change of UK government. The Conservative Liberal Democrat Coalition has introduced public spending cuts (June 2010) and a Comprehensive Spending Review (CSR, October 2010). Key to addressing income inequality across the equalities dimensions is the operation of income tax and welfare policy. This currently remains at UK policy level[iv]. Planned reductions in public expenditure have been described by ministers as 'progressive', although independent analysis suggests that cuts in benefits and public services are likely to have an adverse impact on low-income households and groups (Browne and Levell 2010).

The budget cuts will affect the delivery of services in Wales but the policy direction will remain distinct in many areas. Changes in the reorganisation of health, housing, local government, education and social services will not necessarily impact in Wales or be 'reengineered' as envisaged in England. For example a ministerial board (Efficiency and Innovation), is currently considering collaboration across Local Authority borders as a means of maintaining public service delivery. The Minister for Education, Leighton Andrews, announced on the 30th November, that the

Westminster Government's planned rise in higher education tuition fees will not be applied to Welsh domiciled students studying in Wales or in England (WAG 2010a). Further, there are no current plans to restrict Local Authority social housing to a maximum two year tenancy in Wales. Indeed, there is currently a government consultation on an LCO which seeks to give powers to suspend tenants' 'right to buy' in local authority areas of great housing need but low social housing stocks. However, housing policy in Wales may be affected by reductions in Housing Benefit allowances. It is too early to define each area of overlap between devolved and non devolved areas.

Budget reductions will amount to 7% over 4 years, with a £400 million reduction in the year 2011/12 (although actual figures are disputed depending on whether or not inflation is taken into account). However, the Plaid Cymru and Labour Coalition Government in Wales has already stated its intention to conserve spending in many of the areas identified as significant for reducing the growth of income inequalities:

> 'Responding to our equality impact assessments and local government pressures, funding for social services will increase in cash terms by £35m by 2013-14 - representing a 3% uplift.
>
> We have also taken action to ensure that our young people will not be disadvantaged and are given the best possible start in life. We have therefore sought to protect schools and skills, and also protect initiatives to address child poverty.
>
> The Draft Budget also reaffirms our commitment to universal benefits - and provides funding for the continuation of our successful free bus pass scheme, free prescriptions, free school breakfasts and milk for primary school children - funding for these key initiatives will rise by 3.7% by 2013-14.
>
> Jane Hutt, Minister for Business and Budget, National Assembly for Wales, 17th November 2010 (WAG 2010a)

Therefore, the means, the governance mechanisms, and the desire, as evidenced by the political direction of the first decade of devolution are in place to inform incisive policy response to the findings in this report.[v]

The Equality Duty

The statutory equality duty in the *Government of Wales Act* 2006 (s.77) requires Welsh Ministers to promote equality *for all* in carrying out its duties and functions. The duty is unique in its coverage in the UK and is described as 'absolute' (Chaney and Fevre 2002). By extension it applies to the delivery of public services. The principles of gender mainstreaming (GM) underlay the Welsh 'Mainstreaming duty'. Gender mainstreaming research and mainstreaming research on all the dimensions of inequality (Parken 2010), has demonstrated the need for transversal policy approaches to equality; that is using all policy levers and mechanisms in all policy fields to promote equality (Rees 1998, 2005, Woodward 2008). The National Assembly for Wales Standing Committee on Equality of Opportunity has interpreted duty in this way, by stating that '*equality issues should be considered from the outset as an integral part of the policy making and service delivery process' (*National

Assembly for Wales, 2003). The Assembly annually scrutinises the outcomes of the Welsh ministers' efforts to promote equality.

The mainstreaming duty in Wales however has suffered diminution in the wider neoliberal legislative context of the past decade. As age, sexual orientation, religion and belief, and disability advocates have struggled for recognition and rights to be transposed in domestic legislation through anti-discrimination law, the transversal and transformative aims of equality mainstreaming have been diminished (Lombardo and Verloo 2009, Parken 2010).[vi] Rather than consider the social and economic constraints imposed by the playing out of gender, ethnicity and age divisions, equality has become viewed as addressing personal characteristics (see for example the Equalities Review 2007). Thus social and economic policies have become treated as separate spheres, whereas they can be viewed as intrinsically linked; denial of recognition (or negative judgement, prejudice and discrimination) can lead to inequitable opportunities to learn and earn. Certainly the UK NEP report proceeds on this basis; that severe economic inequalities produce unequal opportunity, and as Wilkinson and Pickett (2010) argue, less ambitious and cohesive societies.

Mainstreaming has always had redistributive remedy in view, with the intention of ameliorating the social practices, and health, education, welfare, labour market policies and systems that create economic inequities by age, gender, ethnicity, religion, sexual orientation, and disability. It intends that policy should 'interrupt' the reproduction and intergenerational transmission of the kinds of systemic inequalities evidenced in this report. However, such aims were not carried through into the processes of the first UK legislation designed to promote equality, that of the *Race Relations Amendment Act* 2000. Here, through the mechanism of equality impact assessments (EIAs), a retrospective act of checking that policy did not discriminate became institutionalised. This perspective could generally be said to have underpinned equality impact assessments within the subsequent Disability and Gender Duties despite different framing. This reactive way of considering equality is visible in the Welsh Assembly Government's *Inclusive Policymaking Method* (IPM)[vii].

Given the effects of this wider equalities context, Chaney concludes that efforts to promote equality in the first decade of devolution have been primarily 'declaratory', lacking clear intended policy outcomes, resulting in significant implementation gaps (2009: 13). One suggestion to address the separation of social and economic analyses is the adoption of intersectional mainstreaming methodologies within the Social Justice and Local Government department of the Welsh Assembly Government (Charles 2010, Parken 2010). This would facilitate investigation of disadvantage, as it attaches to the 'recognition' equality issues considered by the Equality Diversity and Inclusion Division (EDID), with the wider remit of the department to create 'redistributive' remedy through economic regeneration and tackling child poverty. The spatial dimension of policy could also usefully be linked to income inequality and economic outcomes by ethnicity, disability etc.

In everyday practice, UK level legislation in the *Equality Act* 2010 for promoting equality through the Public Sector Duty (PSD) will take precedence over the Welsh 'mainstreaming duty'. Further, since both sets of duties confer no guarantee of rights and rely on judicial review for raising complaint, discrete, vertical, anti-discrimination perspectives are likely to dominate within the requirements to 'advance equality' on the eight equality 'strands' covered by the PSD. However, given the social democrat

character of the first two assemblies, the governance requirements in Wales for engagement with underrepresented groups to inform policy (for example through the Voluntary Sector Partnership Agreement), the equalities infrastructure (the cross-cutting National Assembly Standing Committee on Equality of Opportunity) and the redistributive intent of many major policies (characterised as 'clear red water' in the first two assemblies), Wales is well placed to interrupt the reproduction of social and economic income disparities as they are interleaved with the equalities dimensions. Wales also has one minister covering social justice and equalities portfolios, and so it would appear that the separation of governance responsibilities for rights, recognition and redistribution could be more easily integrated in Wales; providing for socio-economic analysis of inequalities in impact assessments that support policy making to promote equality.

1.3 The Economic Context

In this section we briefly examine the level of, and recent changes in, key macroeconomic variables which shape the standards of living enjoyed by the inhabitants of Wales compared to those elsewhere in the UK. The past 50 years have seen major changes in the industrial composition of employment across all developed economies. A complex mix of interdependent factors such as technological change, productivity growth, international competition, specialisation and sub-contracting, and economic growth have resulted in very large increases in real incomes and dramatic shifts in patterns of expenditure. These in turn have resulted in the demise of many major areas of employment including agriculture, coal mining and substantial parts of manufacturing, areas of traditionally significant importance to the Welsh economy.

The key features of changes in the industrial composition of employment over the past 3 decades within Wales are presented in Table 1.1. Since 1982 it can be seen that there has been a clear shift in employment away from Primary sector & Utilities and Manufacturing towards the service sectors. Between 1984 and 2007 within the UK, employment in manufacturing fell from 20.5% to 10% of the workforce. This reduction was slightly smaller in Wales, where the size of the Manufacturing sector declined from 19% to 12%. Although smaller in terms of its employment share, the largest relative reductions in employment have occurred within the Primary and Utilities sector. This is particularly evident in Wales, where the size of this sector declined from 10% of the workforce in 1984 to 3% in 2007, with two thirds of this decline being exhibited between 1984 and 1994. In contrast, the share employment within Business and other services increased, although the increase in employment share is lower in Wales (7 percentage points) compared to UK (10 percentage points). It is observed that Wales has become increasingly reliant on employment within the Public Sector (Non-marketed services). Within the UK, employment within Non-marketed services increased by 4 percentage points between 1984 and 2007. This is compared to an increase of 7 percentage points in Wales.

Table 1.1 Changes in the industrial composition of employment

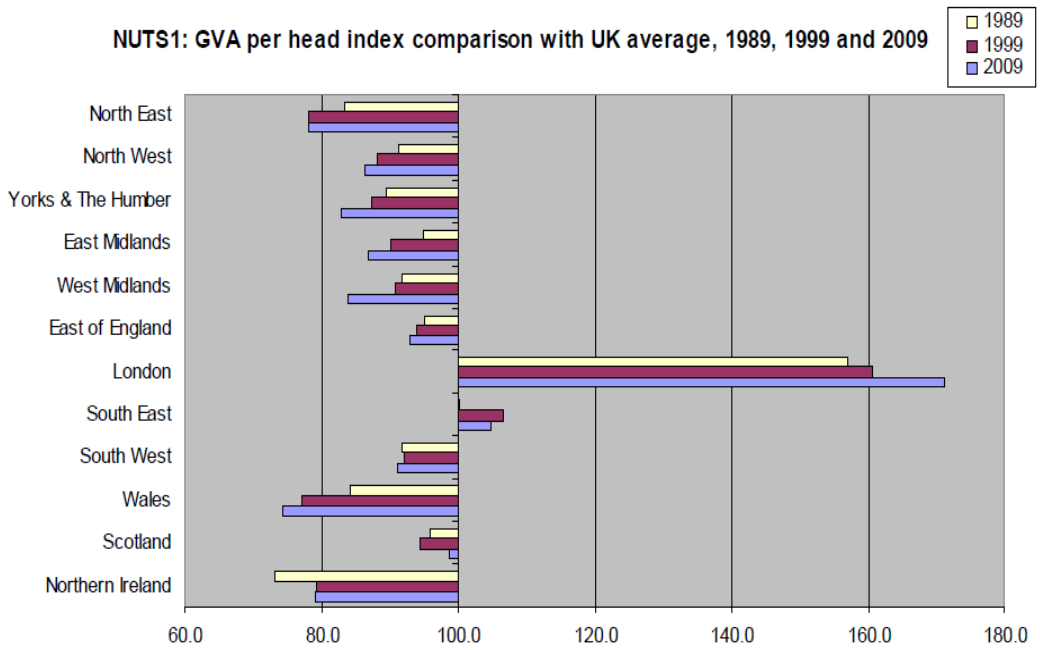
	1984	1994	2004	2007
Wales				
Primary sector & utilities	9.8	4.4	2.7	2.7
Manufacturing	19.0	18.9	14.9	12.1
Construction	7.6	6.7	6.8	7.9
Distribution transport etc	27.1	27.5	27.5	26.9
Business & other services	14.7	16.4	19.2	21.3
Non-marketed services	21.8	26.1	28.8	28.7
All Sectors	1117	1214	1271	1404
UK				
Primary sector & utilities	4.8	3.1	2.0	2.0
Manufacturing	20.5	15.8	11.7	10.1
Construction	7.2	6.6	6.9	7.0
Distribution transport etc	28.3	28.7	29.1	28.5
Business & other services	17.3	21.8	25.8	27.3
Non-marketed services	21.9	24.0	24.4	24.9
All Sectors	25,676	26,775	30,100	31,435

Source: UK Commission for Employment and Skills (2009)

The relative decline of the industrial sector in Wales is also captured by data that measures levels of economic activity across different areas of the UK. Levels of economic activity are usually compared by looking at Gross Value Added (GVA) per head of the population. GVA is a measure of the net output or value added by the population of Wales measured at basic prices. Figures for Regional Gross Value Added[viii] were first published in 1989. Data published by the Office for National Statistics (ONS) in 2010 present information on GVA for areas of the UK between 1989 and 2009. GVA per head in Wales in 2009 was £14,842, significantly lower than the UK total value (£20,357). Figure 1.1 presents 1989-2009 figures in index form (UK = 100) in order to focus on the relative levels. The 2009 figures show the range of variation across the regions of the UK. Wales has the lowest GVA per head level of any region, just about three-quarters of the UK average figure, and less than half the value in London, the richest region. However, such is the level of dominance of London and the South East in terms of their relative GVA per head, all other regions in the UK exhibit levels of GVA per head that are below the UK average.

Figure 1.1 also shows that regional disparities have widened since 1989. The two richest areas, London and the South East, are not only the only areas with above average GVA per head but also the only ones to have out-performed the UK in growth of GVA per head 1989-2009. While Scotland, Northern Ireland and all the other regions of England also saw slower growth in GVA per head than these two rich core regions, Figure 1.1 shows clearly the uniquely poor performance of GVA per head in Wales. Over the whole 20 years, the 4% annual average growth rate of GVA per head in Wales was the lowest achieved in the 12 regions, resulting in a widening gap between Wales and everywhere else. Although Figure 1.1 shows that consistent relative decline is not unique to Wales, Wales stands out for both the extent of the decline and its timing. The bulk of the decline in GVA per head in Wales relative to elsewhere took place between 1989 and 1999, with a further but smaller decline between 1999 and 2009. Over the last two decades, no other part of the UK has suffered as big a decline in GVA per head relative to the UK as that observed in Wales.

Figure 1.1 GVA per head indices for NUTS1 Regions 1989, 1999 & 2009



Source: ONS Statistical Bulletin: Regional GVA

Regional figures disguise the fortunes of different localities within Wales. GVA per head is not equally low all over Wales. Sub-regional (NUTS2) comparisons reveal that in 2009 GVA per head in East Wales (£19.302) was only just below (94% of) the UK average, higher than GVA per head in outer London or anywhere in northern England. However, West Wales and the Valleys had the lowest GVA per head (£12,860) of all 37 NUTS2 regions. The position of both these sub-areas of Wales declined relative to the UK over the last decade, but this is particularly true of the more prosperous part of Wales where GVA per head has fallen from levels comparable to the UK average in 2000 to 94% of UK average in 2009.

1.4 Previous Analyses of Inequalities in Wales

Recent research for the Equality and Human Rights Commission (Wales) (Winckler 2009) found 'a considerable number of reports, studies, articles and evaluations which include at least some analysis of Wales by at least one of the equality strands – typically gender and/or age' (p.199). However, the review described this body of work as a 'patchwork of miscellaneous studies' (Winckler: 198) which 'does not amount to a coherent body of knowledge' and pointed to 'major gaps in evidence' (p.X1). The review drew attention in particular to a lack of research not only on religion and sexual orientation but more surprisingly on disability. Moreover, research frequently covers England and Wales with no separate analysis of data for Wales, thereby severely limiting its usefulness for designing policy to address economic inequality in Wales.

Although there has been no single piece of research which examines different dimensions of economic inequality across a range of population sub-groups[ix], there are some examples of previous work on various aspects of inequality in Wales. Research undertaken by Blackaby et al (2001) for the Equal Opportunities Commission remains the most comprehensive analysis of the gender pay gap in

Wales. Based upon Labour Force Survey (LFS) data for 1996-9, they found a smaller gender pay gap in Wales than other parts of the UK, due mainly to relatively low male wages. Compared to Scotland, South-East England and the rest of England, more of the gender pay gap in Wales was explained by occupational segregation (women and men doing different jobs with women being relatively concentrated in low paid occupations). However, it remained the case that half of the gender gap (a 9% differential in hourly earnings) could not be accounted for by differences in the characteristics of men and women (e.g. their educational attainment) or differences in the jobs that they held. This residual is commonly regarded as representing the effects of discrimination, as it is the result of women receiving lower wage returns for particular characteristics compared to men.

Research considering the labour market impact of disability that focuses specifically on Wales has been undertaken by Jones et al (2004) and Jones and Latreille (2007). The first paper uses 2001 data from the Welsh Local Labour Force Survey and finds that Wales not only has a relatively high proportion of disabled people but that disabled people in Wales have characteristics (age, lack of qualifications and nature of disability) which have an adverse impact on their employment status and help to explain the relatively low economic participation rates for disabled people in Wales. The analysis also reveals that the pay gap between disabled and non-disabled women is particularly large in Wales. Jones and Latreille (2007) use data from the 1998 Welsh Health Survey, to examine the impacts of different kinds of disability on labour market outcomes. They find that disabled people, particularly men, are more likely than the non-disabled to be self-employed. They also find that women are more likely than men to have caring responsibilities, and that longer weekly hours of care are associated with lower employment probabilities.

1.5 Analytical Approach

The emphasis of this report is to examine the socio-economic inequalities between and within most of the groups that have protected characteristics under the *Equality Act 2010*. The analytical chapters that follow consider different economic outcomes including education, employment, earnings, income, poverty and wealth. The inequalities that exist across different 'equality strands' are revealed and discussed. The report therefore focuses upon the material consequences of difference. In each case, evidence is based upon the secondary analysis of quantitative data collected from large surveys of households and individuals. The scope of the analysis of different economic outcomes is limited by the contents of respective surveys, although the majority of groups covered by anti-discrimination legislation are considered, including analyses by age, by gender, by ethnicity, religious belief and disability. Where possible, the interaction of these characteristics upon outcomes is also considered.

The report draws upon data collected from the Labour Force Survey (LFS), the Annual Population Survey (APS), the Family Resources Survey (FRS), the British Household Panel Survey (BHPS) and the Wealth and Assets Survey (WAS). Brief descriptions of the data sources used in this report are provided in Annex 1. Each of these surveys collect information from sample households or individuals that can then be used to present a representative picture of the characteristics of the UK population as a whole. These surveys vary in their size. While they are designed to provide accurate estimates of different demographic and labour market phenomena at a national level and regional level, they are generally not designed to provide an

accurate picture *within* a particular region for detailed sub-sets of the population such as those groups protected under equalities legislation. To overcome problems associated with the relatively small sample sizes, the approach taken in the analytical chapters is to combine data sets that cover multiple years. For example, APS and 'households below average income' (HBAI) data are both analysed over a period of 5 years from 2004-2008. Due to the particularly small sample sizes associated with ethnic minorities within Wales in the HBAI data, that analysis is based on data pooled over a period of 15 years (1994-2008).

While this approach of pooling data has been necessary to ensure that the characteristics of particular sub-groups of the Welsh population are based upon sufficiently large sample sizes, a number of caveats remain. Firstly, the analyses present an 'average picture' of the characteristics of the Welsh population covering a number of years. Even where the data covers a relatively recent period, our average picture may disguise the varying fortunes of particular groups over time. An example of this includes the relative position of ethnic minorities who may have been particularly affected by patterns of migration to the UK in recent years. Secondly, the analysis is not able to provide an accurate picture of the *current* situation of particular sub-groups in Wales. While the presence of inequalities can be identified, in most cases it is not possible to determine whether these inequalities have narrowed or widened over time. The pooling of data over a number of years will also mean that the estimates produced in this report will not necessarily reconcile with the most recent statistics produced by the ONS, WAG or other government departments.

Despite the pooling of data it has often not been possible to provide information on certain characteristics for very detailed population sub-groups, such as detailed ethnic or religious groups. Where this is the case, population sub-groups have been combined for certain analyses such as those of Indian, Pakistani and Bangladeshi ethnic origin being classified as Asian. This has important implications for interpreting the results of analysis where this approach has been taken. Firstly, combining such groups will disguise the differences that exist between them. The analysis of this report should therefore be considered in the context of other research conducted at national level that considers in more detail the circumstances of particular population sub-groups. Secondly, combining groups also makes it more difficult to compare results for Wales with other parts of the UK, as the composition of aggregated groups is likely to vary between different regions of the UK. Levels of inequality within such aggregated groups will be wider compared to other groups that are more homogenous in terms of the characteristics of people who are allocated to them.

Finally, it must be noted that the analysis of this report is experimental. The research team has used all data that was available at the time of the analysis in an attempt to paint a picture of economic inequality in Wales. While care has been taken, both by merging data sets and aggregating categories, to ensure that sample sizes are not unduly small, it remains the case that in many areas analyses are based on relatively small sample sizes. The estimates derived would not be regarded as sufficiently robust by ONS or WAG to be considered as providing the definitive view of the position of relatively small population sub-groups in Wales. That is not to say that the figures in this report should be regarded as wrong. They represent the best that can be achieved given the information that is available from various data sets. The statistics are largely research statistics generated by the research team and not

official statistics[x]. Readers should consult the outputs of ONS, WAG and other government departments for the most up to date official statistics available for Wales.

1.6 Overview of the Population in Wales

This section provides an overview of the characteristics of the population in Wales compared to the rest of the UK. This overview is based upon data derived from the Annual Population Survey (APS), the main single source of data utilised in this report in the analyses of education, employment and earnings (see Annex 1 for a description of the APS)[xi]. In considering the relative characteristics of the Welsh population, we distinguish between Wales, the Outer UK (excluding Wales) and London, East and the South East (subsequently referred to as LESE). As noted earlier in this chapter, simple comparisons of the relative economic circumstances between Wales and the UK will be confounded by the relatively favourable economic conditions that are found within LESE. Across a variety of labour market measures, Wales would be expected to perform badly compared to the UK as a whole due to the unique economic circumstances of the LESE region. It is therefore more informative to make comparisons between Wales and other regions of the UK that distinguish between LESE and elsewhere. This approach is taken throughout the remainder of the report.

From Table 1.1 it can be seen that across a variety of dimensions, the composition of the Welsh population is generally closer to the characteristics of the other Outer UK regions compared to the population of LESE. In terms of its age composition, the population of Wales is relatively old. Forty four per cent of the Welsh population are aged 45 or over; 5 percentage points higher than that observed within LESE. Ninety seven per cent of the Welsh population are recorded by the LFS as being of white descent, 4 percentage points higher than the average observed in other 'outer' regions of the UK and 14 percentage points higher than LESE. It should also be noted that within this group, the proportion of people who are of white non-British ethnic origin is relatively low in Wales. The largest non-white ethnic group in Wales is the Asian group, although this group still only comprise 1% of the Welsh population. In terms of religious beliefs, approximately three quarters of the Welsh population report that they are Christians. Reflecting the ethnic composition of Wales, the proportion of people who report being of a non-Christian belief is relatively low in Wales. Interestingly, almost a quarter of people in Wales report that they have no religion, higher than the average for the Outer UK and of LESE.

Table 1.1 finally considers the relative incidence of disability in Wales. Several definitions of disability have emerged in the course of surveying the population in general surveys and in more specialised data collection devoted to disabled people. The concept of disability is difficult to define and measure using personal surveys that rely on the respondent self-reporting disability and other health problems (see Cousins et al 1998). Respondents to the LFS are asked if they have a health problem or disability that is expected to last more than a year and, if so, whether this health problem limits their activity (Disability Discrimination Act disabled (DDA)). Respondents are then also asked whether their health problem or disability affects the amount of paid work they can do (work-limiting disabled). It can be seen that 22% of the Welsh population (of working age) report having some form of disability, 4 percentage points higher than the UK average and 6 percentage points higher than that estimated for LESE.

Table 1.2 Characteristics of the Welsh Population (2004/5-2008/9)

	Wales	Outer UK	LESE	UK
Gender				
male	48.9	49.1	49.2	49.1
Age				
<16	19.0	19.1	19.4	19.2
16-24	12.2	12.2	11.3	11.9
25-34	11.3	12.2	14.9	13.1
35-44	14.0	14.8	15.9	15.2
45-54	13.2	13.4	12.9	13.2
55-64	13.0	12.2	11.1	11.9
65+	17.3	16.1	14.5	15.6
Ethnicity				
White	**97.0**	**92.9**	**83.3**	**89.6**
British	*94.6*	*89.3*	*75.2*	*84.5*
Other White	*2.4*	*3.5*	*8.1*	*5.1*
Mixed	**0.6**	**0.8**	**1.7**	**1.1**
White and Black Caribbean	*0.2*	*0.3*	*0.5*	*0.4*
White and Black African	*0.1*	*0.1*	*0.3*	*0.2*
White and Asian	*0.1*	*0.2*	*0.4*	*0.3*
Other Mixed	*0.1*	*0.2*	*0.5*	*0.3*
Asian	**1.2**	**4.1**	**7.0**	**5.0**
Indian	*0.3*	*1.6*	*3.0*	*2.0*
Pakistani	*0.2*	*1.9*	*1.4*	*1.6*
Bangladeshi	*0.3*	*0.3*	*1.2*	*0.6*
Other Asian	*0.3*	*0.4*	*1.5*	*0.8*
Black	**0.4**	**1.1**	**4.9**	**2.5**
Black Caribbean	*0.1*	*0.6*	*1.9*	*1.0*
Black African	*0.2*	*0.5*	*2.7*	*1.3*
Other Black	*0.0*	*0.1*	*0.2*	*0.1*
Other	**0.9**	**1.1**	**3.2**	**1.8**
Chinese	*0.2*	*0.3*	*0.6*	*0.4*
Other	*0.7*	*0.8*	*2.6*	*1.4*
Religion				
Christian	**73.6**	**76.8**	**71.0**	**74.5**
Non-Christian	**2.5**	**5.5**	**11.0**	**7.4**
Buddhist	*0.2*	*0.2*	*0.6*	*0.3*
Hindu	*0.2*	*0.7*	*2.1*	*1.2*
Jewish	*0.1*	*0.2*	*1.0*	*0.5*
Muslim	*1.1*	*3.2*	*5.4*	*3.9*
Sikh	*0.1*	*0.6*	*0.8*	*0.6*
Other religion	**0.8**	**0.7**	**1.2**	**0.9**
No religion	**23.9**	**17.7**	**18.0**	**18.1**
Disability (working age)				
Not disabled	78.0	80.4	83.8	81.5
Work-limiting disable	2.9	3.2	3.1	3.2
DDA disabled	4.6	4.2	3.9	4.1
DDA and work limiting	14.5	12.2	9.2	11.3
Average Population (2004-2008)	2942200	35907800	21236000	60086000
Average Sample (2004-2008)	39900	238900	99100	377900

Source: APS, 2004/5-2008/9. Data are weighted.

1.7 Structure of the Report

This introduction has highlighted the relative economic difficulties faced by Wales. The most recent estimates reveal that Wales demonstrates a productivity gap relative to the UK as a whole, and this gap has continued to widen since the period of de-industrialisation. As a consequence, individuals' earnings in Wales are, on average, lower than the UK average resulting in in-work poverty within Welsh households (see Monitoring Poverty and Social Exclusion in Wales, Kenway and Palmer 2007, 2009). Furthermore, areas of Wales dominate league tables for incapacity benefit and 'real' unemployment (see Beatty, Fothergill, Gore and Powell, 2007). The quality of opportunities at the lower end of the labour market in Wales may have particular impacts on those who already face the greatest disadvantage in the labour market (women, disabled people and ethnic minorities). On the other hand, inequality within Wales may benefit from policies implemented by a devolved government and a relatively large public sector where there is greater opportunity to implement good practice in aspects of education and health and in relation to the employment and remuneration of protected groups. While Wales is a less diverse country compared to other areas of the UK in terms of ethnicity, there is a higher incidence of vulnerable groups in Wales such as older people and disabled people. Irrespective of their preponderance, it is important to understand the relative economic position of such groups in Wales.

The remainder of this report is structured as follows. Chapter 2 considers levels of education attainment, including analysis of exam results achieved by children based on data from the National Pupil Database and information on highest qualification attained for the working-age population from the APS. Chapter 3 considers both participation in employment and the quality of employment held by sub-groups of the population in Wales. Quality of employment is considered in terms of employment in low paid occupations, hours worked and contractual status. A further measure of the quality of employment is provided by the analysis of earnings in Chapter 4. The relative wages received across different sub-groups in Wales will be considered. Chapter 5 considers levels of income, poverty and wealth in Wales, drawing upon data from the (HBAI) data set and the Wealth and Assets Survey (WAS). The relative persistence of poverty is also considered. Chapter 6 concludes by drawing together our key findings to provide a cross cutting summary of the position of protected groups in Wales. The chapter reflects on the findings in the context of equality policies in Wales.

The report provides succinct evidence that covers a range of topic areas and considers the position of different groups. However, the analysis is inevitably limited in terms of the level of detail in which these issues can be examined. A final chapter therefore provides several short papers that outline particular issues in the field of equalities research identifying where additional research is required. The findings in this report offer a new way to consider equality in Wales. Through interpretation and application over time, there is opportunity to exceed the compliance model where 'advancing equality' is interpreted as observing vertical anti-discrimination measures. Equality is a transversal policy issue. Social and economic policy responses directly influence who has access to the resources necessary to attain economic rewards.

[i] For a review of Welsh policy to promote equality in Wales see the Charles and Davies (2010), Chaney, Mackay and McAllister (2007), Chaney and Fevre (2005) and see especially Chaney 2009.
[ii] For an explanation of intersectionality and approaches to investigating disadvantage on this basis see Parken 2010 and additional references by the same author cited in section 7.4 for promoting equality across the equality dimensions in Wales.
[iii] For a full list of devolved fields see Chapter 32, Schedule 5 of the Government of Wales Act 2006.
[iv] However, in recent evidence to the National Assembly for Wales' Finance Committee, Chief Secretary to the Treasury, Danny Alexander, stated that there was a 'strong case for giving Wales some tax and borrowing powers if there is cross-party consensus in the assembly' (The Record, NAW, Finance Committee 22/10/11).
[v] See Paul Chaney's review (2009) for a comprehensive assessment of the political ideology, policies and governance mechanisms that have influenced the integration of equalities in the work of the National Assembly and the Welsh Assembly Government over its first decade.
[vi] On this basis efficiency arguments have been used to establish single equality bodies in several European Union member states, notably England, Scotland, Wales and Northern Ireland (Walby et.al 2009).
[vii] The IPM is the equality impact assessment mechanism within the Policy Gateway process.
[viii] Gross value added (GVA) is a measure of economic activity at basic prices, which includes taxes (less subsidies) on production but excludes taxes (less subsidies) on products.
[ix] We are mindful of the 'grey' literature and some empirical data sets produce for the EHRC by the Bevan Foundation (2008) 'Unequal Wales', the series of 'Statistical Focus' reports on diversity from Statistics Wales, and the work undertaken to improve the collection of evidence upon equalities issues. We have chosen not to repeat or summarise this data but instead to 'go from here' by concentrating on available secondary analysis.
[x] The exception to this relates to the analysis of the National Pupil Database which draws upon published data produced by WAG.
[xi] It is acknowledge that the APS data is not used to provide official population estimates. However, as the data forms the basis of much of the analysis of this report, it is important to understand the relative characteristics of the Welsh population based on this source.

Chapter 2: Inequalities in Educational Outcomes in Wales

Stephen Drinkwater, Mamata Parhi and Chris Taylor

2.1 Introduction

Raising standards of education and skills development at each stage of an individual's education is essential for countries that want to achieve sustainable and equitable economic growth and prosperity. The aim of this chapter is to gauge the extent of inequalities in education in Wales. The majority of the chapter is based on analysing Annual Population Survey (APS) data, as well as some school examination statistics. We begin, however, by reviewing some of the key issues associated with educational inequalities and summarise some of the existing literature, where possible making reference to Wales, although many of the findings are similar in other parts of the UK and in other developed countries.

Education can be considered to be both a cause and effect of inequality. Having few or no qualifications and lacking basic skills can produce negative outcomes in terms of employment, income, standard of living, health and public engagement. Varying allocation of resources to children from different socio-economic backgrounds has been linked to lower test scores and low participation rates in higher education. People from disadvantaged backgrounds often perform less well at school and gain fewer qualifications than those from more advantaged backgrounds. Advantage or disadvantage can also be passed down through generations, where a person's educational attainment is related to that of their parents. But at the same time, it is mainly through education that disadvantaged people can become empowered to succeed economically and integrate more fully with mainstream society.

A key concept here is that of social mobility. Social mobility refers to the movement in class status from one generation to another. Contrary to the notion that anyone has the ability to be upwardly mobile no matter what background they come from, sociologists and economists have found evidence that social mobility has remained stagnant and even decreased over the past thirty years. Research published for the Sutton Trust by Blanden *et al.* (2005) suggests that social mobility across generations has declined in the UK in recent decades, although this may now have bottomed out. Some of the limited social mobility may be explained by the stratified educational system, which often leads to low-income families placing their children into poorer performing schools. Thus these children are typically not presented with the same educational opportunities as, and have different motivations to, children from better-off families. Blanden *et al.* (2005) note that the UK has one of the highest associations between social class and educational performance in the Organisation for Economic Co-operation and Development (OECD). It has also been argued that a large majority of young people in the UK have negative experiences in their late teens. This is supported by the UK's relatively low ranking in terms of educational wellbeing (UNICEF, 2010).[xii]

It is also very clear from previous research that educational disadvantage starts from a very young age. For instance, Feinstein (2003) using data from the 1970 British Birth Cohort finds significant gaps between children from high and low socio-economic backgrounds on an index of development, which is derived from tests of ability (at 22 months) in cube stacking, language use, drawing and personal development. The gap between the advantaged and disadvantaged also tends to

widen as children age and progress through the education system. Feinstein (2003) maps the development of children from 22 months to ten years old, and shows that the gaps between high and low socio-economic status children widen slightly from 22 months to five years and then more substantially from five to ten years. Further evidence of the continued importance of early years education is provided by a recent report published by the Independent Review on Poverty and Life Chances, commissioned by the Prime Minister and chaired by Frank Field.[xiii] The report recommends establishing a set of Life Chances Indicators as well as establishing the first pillar of a new education system, The Foundation Years, which span a child's first five years. The objective of such a system is to improve the chances of poor children, in particular by narrowing class differences by the time that children start school.[xiv]

The Welsh Assembly Government (WAG) has recognised the vital role that early years education plays in shaping a child's life chances, particularly those from poorer backgrounds. As a result, they have introduced various initiatives in early years education in an attempt to improve later pupil performance. The Foundation Phase is a flagship policy for 3-7 year olds in Wales, first introduced to a cohort of 3-4 year olds in 2008/09. Flying Start was first delivered in 2007/08 for 0-3 year olds and their families who live in deprived areas of Wales. Both policies aim to improve the language, physical, cognitive and social/emotional development of children and provide the basis for greater educational achievement for all groups of children.

The largest inequalities in the attainment of GCSEs can be found between children of parents belonging to different socio-economic groups. For instance, in 2002, 77 percent of the children with parents in higher professional occupations in England and Wales gained five or more higher grade GCSEs, more than double the proportion of children with parents in routine occupations (32 percent).[xv] Moreover, the gap in GCSE attainment by parental socio-economic group has increased over time.[xvi] Pupils with highly educated parents tended to achieve higher grades than children with less well educated parents. In 2002, 71% of pupils in England and Wales with at least one parent with a degree level qualification achieved five or more higher grade GCSEs. The same level of attainment was obtained by 60% of pupils who had at least one parent with an A level, and by 40% of pupils where neither parent had an A level. This indicates the importance of parental support in maximising a pupil's potential since parental involvement is strongly related to achievement (Deforges and Aboucharr, 2003). Parental involvement can take many forms, and is characterised by such activities as good parenting in the home, engagement with the school and intellectual stimulation of the child.

The majority of children continue to study after they complete their compulsory education as participation in higher education has been shown to have positive social and economic benefits including improved employment opportunities and earning potential, besides other health and general wellbeing benefits. Young people from higher socio-economic backgrounds show a much higher likelihood of continuing their education than those from lower socio-economic strata. A study by Department for Education and Skills found that in 2002, 87% of those with parents in better occupational categories (viz., professional occupations) in England and Wales participated in full-time education, compared with 58% of those with parents from lower supervisory occupations and 60% of those with parents in more routine occupations. However, the differences between students decreased significantly

once prior attainment levels were taken into consideration. People with the best qualifications from school were more likely to continue their studies irrespective of their social background. Other student characteristics such as their ethnic origin and gender also demonstrated notable differences as to whether a student continued their full-time education.

Ethnicity has been found to have an impact on educational outcomes at all levels in many parts of the UK including Wales. However, in a study undertaken for the WAG by Briggs *et al.* (2006) on the achievement of ethnic minority pupils, few significant differences in ethnic minority students' scores in Wales are reported when poverty in particular is taken into account. It is found that girls do better than boys, except among Indian and Chinese students, and much better than boys among Pakistani students. Although Black Caribbean pupils outperform White British pupils at age 11, Briggs *et al.* (2006) note that by the time Black Caribbean pupils leave school, they are the only group to perform worse than White British pupils. The authors suggest that aspirations and values drawn from families and communities can be a contributing factor.

EALAW (2003) note that the factors effecting differences in educational inequality among ethnic groups are proficiency in English (as students' proficiency in English increases, girls 'close the attainment gap' but not boys); gender; Special Educational Needs (SEN); attendance; socio-economic background; time in UK (and whether born here); parental education and literacy (particularly of the mother). Additionally the study found that low achievement for most ethnic minority groups is more pronounced in secondary than in primary school. Black Caribbean pupils were found to do better than average at Key Stage 1, but suffer a marked decline at Key Stage 4. Croke and Crowley (2007) identify other groups whose educational attainment is significantly below average: working class white boys and children from Gypsy Traveller and Roma backgrounds, Black ethnic groups and some Asian ethnic groups. The report also noted that levels of training and confidence amongst teachers on cultural diversity and dealing with racism were unacceptably low. The recommendations included that better efforts should be made to involve parents and to develop a diverse curriculum.

2.2 Overview of Educational Outcomes in Wales

The examination performance of Welsh school children across various key stages/ levels is considered first. Table 2.1 reports information from the Statistical Bulletin released by WAG (2010). This contains details of pupil achievement on a consistent basis from 2000/1 to 2009/10. A general improvement can be observed in each of the performance measures listed. In particular, there has been around a 13 point increase in the percentage of pupils aged 15 at the start of the academic year achieving Level 2 and an 11 point increase in the percentage attaining higher grade GCSEs in core subjects. More modest increases can be seen in the percentage attaining Level 1 and Level 3, although these were already high at the start of the period and there has been a steady decline in the numbers with no recognised qualifications. As a result, less than 1% were in this category in 2009/10, compared with around 5% at the start of the decade.

Table 2.1 Examination Results in Wales, 2000/1-2009/10

	% aged 15 at the start of the academic year achieving				% aged 17 achieving Level 3
	Level 1	Level 2	GCSE A*-C in core subjects[1]	No recognised qualification	
2000/1	84.5	49.8	36.5	4.8	92.7
2001/2	84.8	53.5	36.9	4.7	94.4
2002/3	85.1	51.1	37.5	4.6	93.9
2003/4	85.3	51.4	37.7	4.4	94.9
2004/5	85.2	52.2	38.4	4.3	94.4
2005/6	86.0	53.8	39.7	3.9	93.9
2006/7	86.0	55.0	40.0	3.9	93.9
2007/8	86.8	58.0	44.4	2.5	94.2
2008/9	88.2	60.7	46.0	1.9	96.8
2009/10	89.3	63.1	47.4	0.6	94.6

[1] English or Welsh (first language), Mathematics and Science in combination. This measure is otherwise known as the CSI – Core Subject Indicator.
Source: Welsh Assembly Government

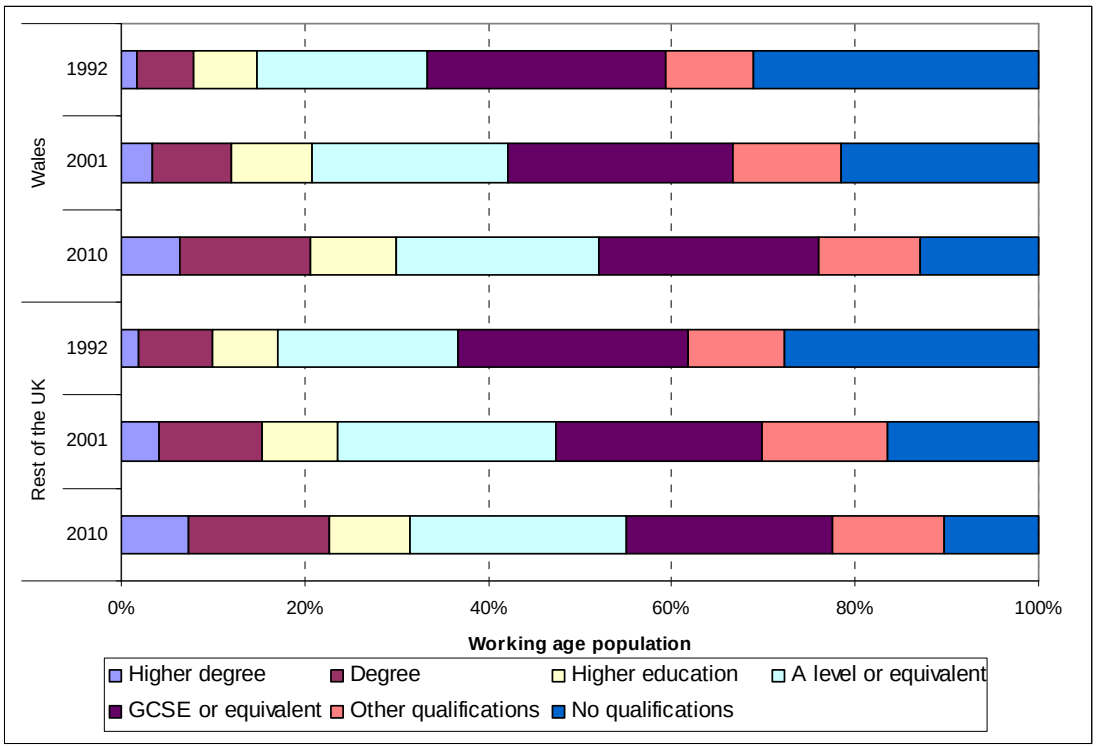
Although it is not straightforward to directly compare the performance of Welsh schoolchildren with that of those in other parts of the UK, it would appear that the increases experienced in Wales in recent years are smaller than those observed elsewhere, especially in England. For example, the percentage of pupils achieving Level 2 was 7 percentage points higher in England in 2008 (Welsh Assembly Government, 2009) This gap has widened over recent years since the percentage of pupils with 5 or more GCSE grades A*-C was more or less identical in 2000. A far more detailed analysis has recently been carried out by Burgess *et al.* (2010), who use advanced statistical techniques to compare examination results in England and Wales by matching similar schools. They report a fall of 1.92 GCSE grades per student per year in Wales relative to England between 2002 and 2008, which they mainly attribute to the absence of league tables in Wales. Interestingly, they also find that this mainly affected Welsh schools in the lower part of the distribution in terms of ability and poverty since schools in the top quartile tend not to have been affected to the same extent as what might be considered to be poorer schools. In particular, they find that the 'educational reform' had no significant effect in the relatively better off schools in Wales, as measured by being in the lowest Free School Meals (FSM) quartile, since GCSE performance was reduced on average by well under one grade compared to similar schools in England. In contrast, the poorest schools in Wales (those in the highest FSM quartile) were affected to a far greater extent, suffering a reduction of more than 3 GCSE grades in comparison to equivalent schools in England.

This evidence is also consistent with the recent Programme for International Student Assessment (PISA) statistics that have been released by the OECD. These show that Welsh pupils aged 15 performed significantly less well than pupils from other parts of the UK in reading, maths and science in 2009 and that pupil performance in each of these areas in Wales had fallen in comparison to the 2006 results. For example, the average scores in these three disciplines in Wales in 2009 were 476, 472 and 496 respectively compared to 494, 493 and 515 in England; 500, 499 and 514 in Scotland; 499, 492 and 511 in Northern Ireland and an OECD average of 493, 496 and 501. Moreover, these scores placed Wales, and other parts of the UK quite

well down the international rankings. Welsh pupils were ranked 38th (out of 67 countries) in reading, 40th in maths and 30th in science. Countries performing particularly well included Finland, Korea, Japan and Australia.

Nevertheless, the improved performance at the school level over time, in absolute terms, has translated in higher levels of attainment in the working age population, as successive cohorts of more highly qualified individuals enter the labour market.[xvii] This can be seen by comparing the educational attainment of the working age population in 2010 with that observed in 1992. Figure 2.1 reports this information for Wales and other parts of the UK, using information from the Labour Force Survey (LFS). Information is also reported for 2001 as this represents the mid-point between the first year of the LFS and the most recent data that are available.

Figure 2.1 Highest Educational Qualification of Working Age Population in Wales and Rest of the UK, 1992-2010



Source: Labour Force Survey
Note: Percentages are based on weighted data from the April-June quarter using only respondents stating their highest qualification.

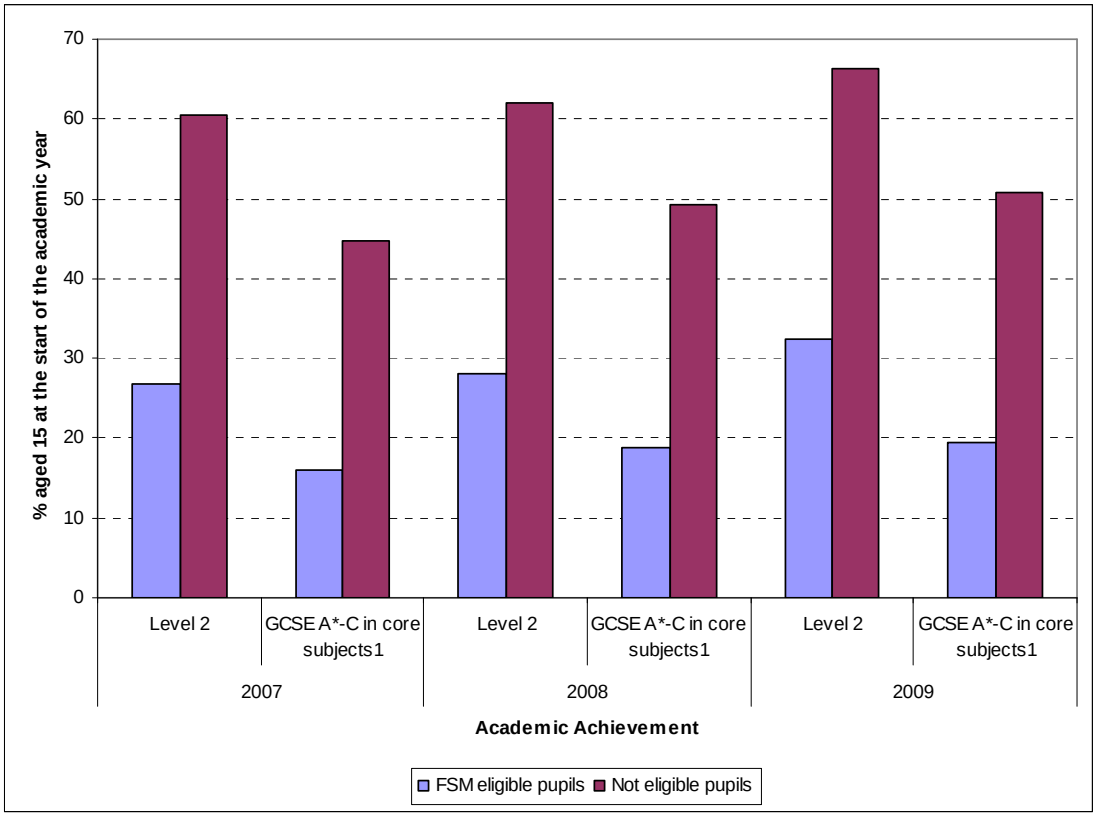
The figure indicates that the percentage with no qualifications has fallen dramatically in Wales, from around 31% in 1992 to 13% in 2010. However, this figure is still more than two percentage points higher than in other parts of the UK. Furthermore, despite a large increase in the percentage of graduates (now over 20 per cent), Wales again lags behind other parts of the UK by around two percentage points. The rise in the proportion with a higher degree is particularly noteworthy since it has roughly quadrupled in both Wales and other parts of the UK. These patterns have been observed in most regions but persistent regional differences in educational attainment remain. For example, the percentage of graduates is highest in London, where 12% of the working age population have a higher degree and 23% a degree. Despite lagging some way behind London in this respect, Wales lies in the middle of regional rankings with respect to the percentage with degrees. The percentage with

no qualifications is highest in Northern Ireland since slightly over 20% of the working age population reported no formal qualifications. Even though the percentage in this category is much lower in Wales, it was still ranked, jointly with the West Midlands, as the next highest region in terms of having an unqualified potential labour force.

2.3 Detailed Analysis of the Performance of School Children in Wales

As already discussed, the most significant inequality in educational attainment across the UK relates to the socio-economic background of pupils. Further evidence for this can be provided by using eligibility for FSM as a proxy for socio-economic background. In Wales pupils eligible for FSM perform well below the national average at all Key Stages. At Key Stage 4, pupils that are not eligible for FSM are two and a half times more likely to achieve A*-C grades in the core subjects at GCSE than pupils eligible for FSM (Figure 2.2).

Figure 2.2 KS4 Examination Results in Wales by FSM Entitlement, 2007-2009



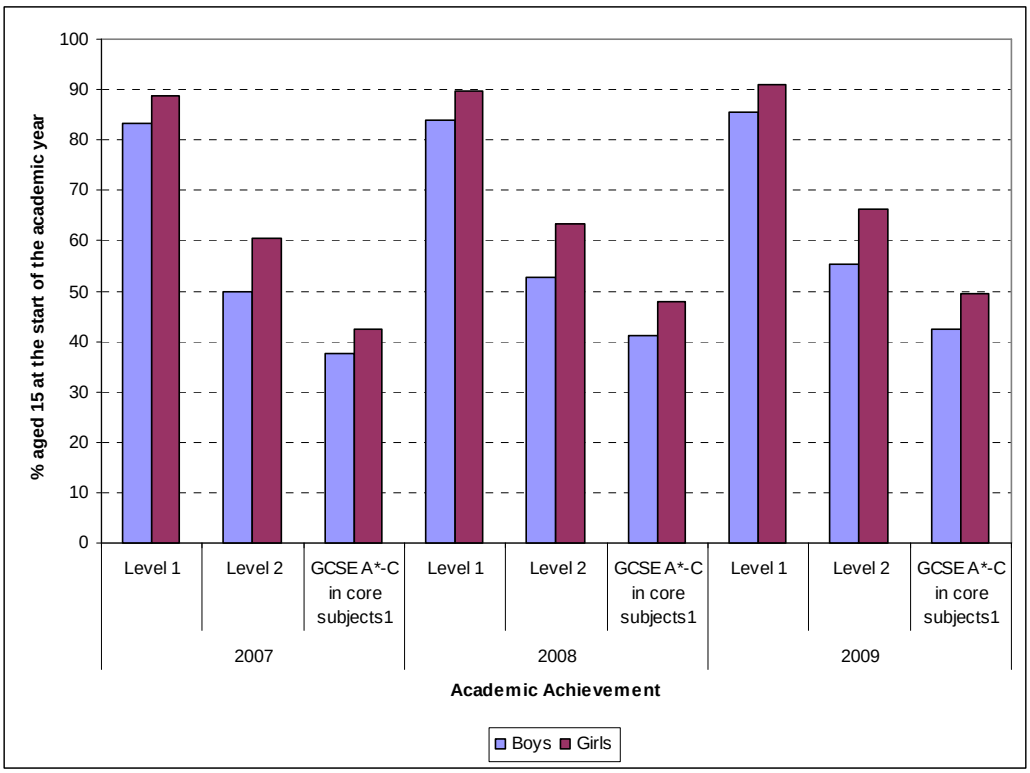
[1] English or Welsh (first language), Mathematics and Science in combination. This measure is otherwise known as the CSI – Core Subject Indicator.
Source: Welsh Assembly Government

As with the overall improvement in education achievement in recent years more pupils eligible for FSM have reached benchmark levels over time. However, the gap between the percentage of eligible and non-eligible pupils achieving grades C or above in the core subjects at GCSE *widened* between 2007 and 2009 (a 29 percentage point difference in 2007 to a 31 percentage point difference in 2009). And although the 'rate of improvement' for pupils eligible for FSM is greater than for non-eligible pupils this is not particularly significant given the relative difference in the levels of achievement for the two groups at the beginning of the period.

Another important area of education inequality that has been given much attention in recent years is the difference in achievement of girls and boys. Since the introduction of GCSEs girls have generally achieved higher grades than their male counterparts and are more likely to have reached national benchmark levels. Recent figures from Wales demonstrate that this gap in achievement exists at all Key Stages. Furthermore, between 2007 and 2009 the 'gap' between the percentage of boys and the percentage of girls achieving national benchmark levels has widened at all Key Stages except Key Stage 1, where the 'gap' has very slightly narrowed. Similarly the gap in boys' and girls' achievement can be found in all core subjects, although it is generally smaller in mathematics and science than in English or Welsh.

In Key Stage 4 the gap between the percentage of boys and the percentage of girls achieving a grade C or above in all core subjects has widened from 5 percentage points in 2007 to 7 percentage points in 2009 (Figure 2.3). This 'gap' is exacerbated further by a greater rate of improvement in the percentage of girls obtaining such grades than the rate of improvement for boys over the same time period. Other significant differences in educational achievement relate to the ethnic background of the school children. For example, Chinese pupils in Wales are more than twice as likely to achieve a grade C or above in all core subjects at GCSE than Black Caribbean and Black African pupils (Table 2.2). Indeed, Black Caribbean and Black African pupils tend to achieve poorly at all Key Stages. There is also significant variation in the achievement of pupils within other ethnic groups. For example, Bangladeshi pupils are amongst the lowest achieving pupils, whereas Indian pupils are amongst the highest achieving pupils (Table 2.2). As discussed earlier the relationship between ethnic background and socio-economic background is very important in understanding these differences in pupil achievement.

Figure 2.3 KS4 Examination Results in Wales by Gender, 2007-2009



1 – English or Welsh (first language), Mathematics and Science in combination. Source: Welsh Assembly Government

Table 2.2 KS4 Examination Results in Wales by Ethnic Background, 2007-2009

Ethnic Background	% aged 15 at the start of the academic year achieving	
	Level 2	GCSE A*-C in core subjects[1]
White	**58.3**	**44.1**
White - British	58.3	44.1
Any other White background	59.8	46.5
Mixed	**58.4**	**42.2**
White and Black Caribbean	51.7	33.6
White and Black African	48.6	38.6
White and Asian	68.5	53.6
Any other Mixed background	60.2	43.3
Asian	**57.2**	**43.5**
Indian	63.9	50.6
Pakistani	54.2	42.8
Bangladeshi	52.9	37.3
Any other Asian background	66.3	51.2
Black	**44.3**	**30.9**
Caribbean	46.3	31.3
African	42.8	30.0
Any other Black background	49.3	34.8
Chinese or Chinese British	**80.0**	**68.2**
Any other ethnic group	**62.9**	**48.4**
Unknown	**57.6**	**45.9**
All pupils	**66.1**	**49.5**

[1] English or Welsh (first language), Mathematics and Science in combination. This measure is otherwise known as the CSI – Core Subject Indicator.
Source: Welsh Assembly Government

Table 2.3 KS4 Examination Results in Wales by SEN, 2007-2009

Year	Gender	% aged 15 at the start of the academic year achieving	
		Level 2	GCSE A*-C in core subjects[1]
2007	All pupils on SEN register	17.2	10.2
	Statemented	10.5	6.3
	School Action Plus	17.3	10.2
	School Action	19.7	11.6
2008	All pupils on SEN register	15.8	9.3
	Statemented	9.6	5.1
	School Action Plus	15.7	9.4
	School Action	18.3	10.8
2009	All pupils on SEN register	22.6	12.2
	Statemented	13.4	7.4
	School Action Plus	21.9	12.8
	School Action	26.5	13.6

[1] English or Welsh (first language), Mathematics and Science in combination. This measure is otherwise known as the CSI – Core Subject Indicator.
Source: Welsh Assembly Government

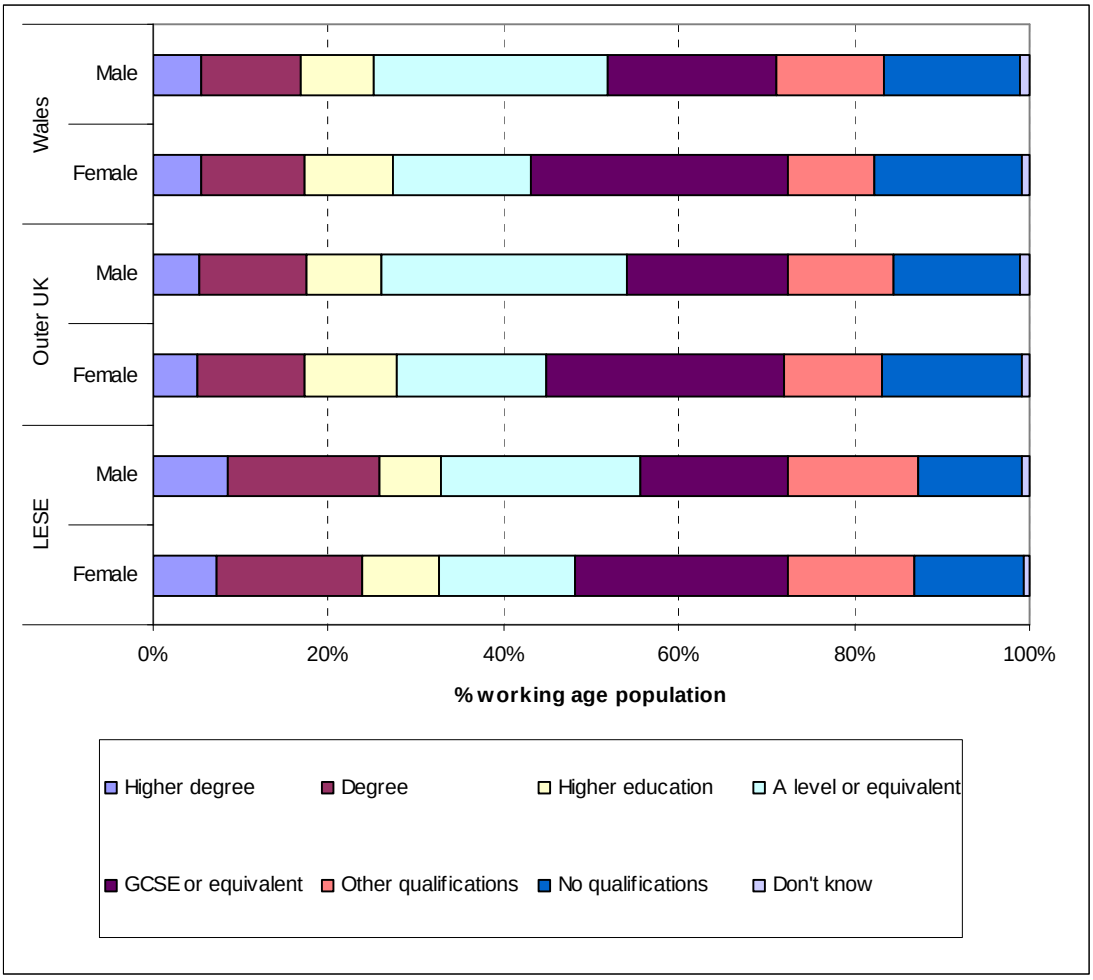
Despite these very important and significant differences between pupils in Wales based on their socio-economic status, gender and ethnic background, the main sub-group of pupils with the lowest levels of achievement are pupils with special educational needs (SEN). In 2009 only 12% of pupils on the SEN register in Wales achieved a grade C or above in all core subjects at GCSE (Table 2.3). Although proportionally more SEN pupils reached national benchmark levels at Key Stage 4 in 2009 than did in 2007 there was no consistent improvement over the three years despite year-on-year improvements in the educational achievements for the majority of other groups of pupils.

2.4. Highest Qualifications Held among the Working Age Population

The analysis in this section is based upon data from APS as outlined in Chapter 1 and Annex 1. The tables in this section and the qualification categories used are similar to those included in the National Equality Panel (NEP) report.[xviii] The socio-economic characteristics that are focused on are gender, age, ethnicity, religion, disability and housing tenure. Separate information is also presented for Wales relating to Welsh speaking and Welsh identity.[xix] Those adults reporting that they are full-time students have been excluded from the subsequent analysis because they have not yet completed their studies and because some students will be excluded from the APS because the sampling frame tends not to contain residents of communal establishments, implying that many students living in halls of residence will not be eligible for inclusion.[xx] For example, 16 year olds currently doing their GCSEs may go on to attain a PhD and the inclusion of such individuals may distort the figures if participation rates in post-compulsory education are much higher amongst particular groups.

Figure 2.4 reports the highest educational qualification of the working age population (excluding full-time students) in Wales, the Outer UK and LESE for both males and females. It is noticeable that overall achievement levels are much higher for both males and females in London, the East and the South East (LESE) than in either Wales or the Outer UK. This is more noticeable for males. For example, around 12% of the Welsh working age population, and those living in the Outer UK, have a degree and 5% have a higher degree, compared with around 17% and 8% living in LESE. Welsh respondents are most likely to report that they have no formal qualifications, with 16% of males and 17% of females in this category, compared with 15% and 16% in the rest of the UK and 12% in LESE. In all three areas, a far higher percentage of males report that A-levels (or equivalent) are their highest qualifications, whereas this position is reversed in terms of GCSE or equivalent qualifications.

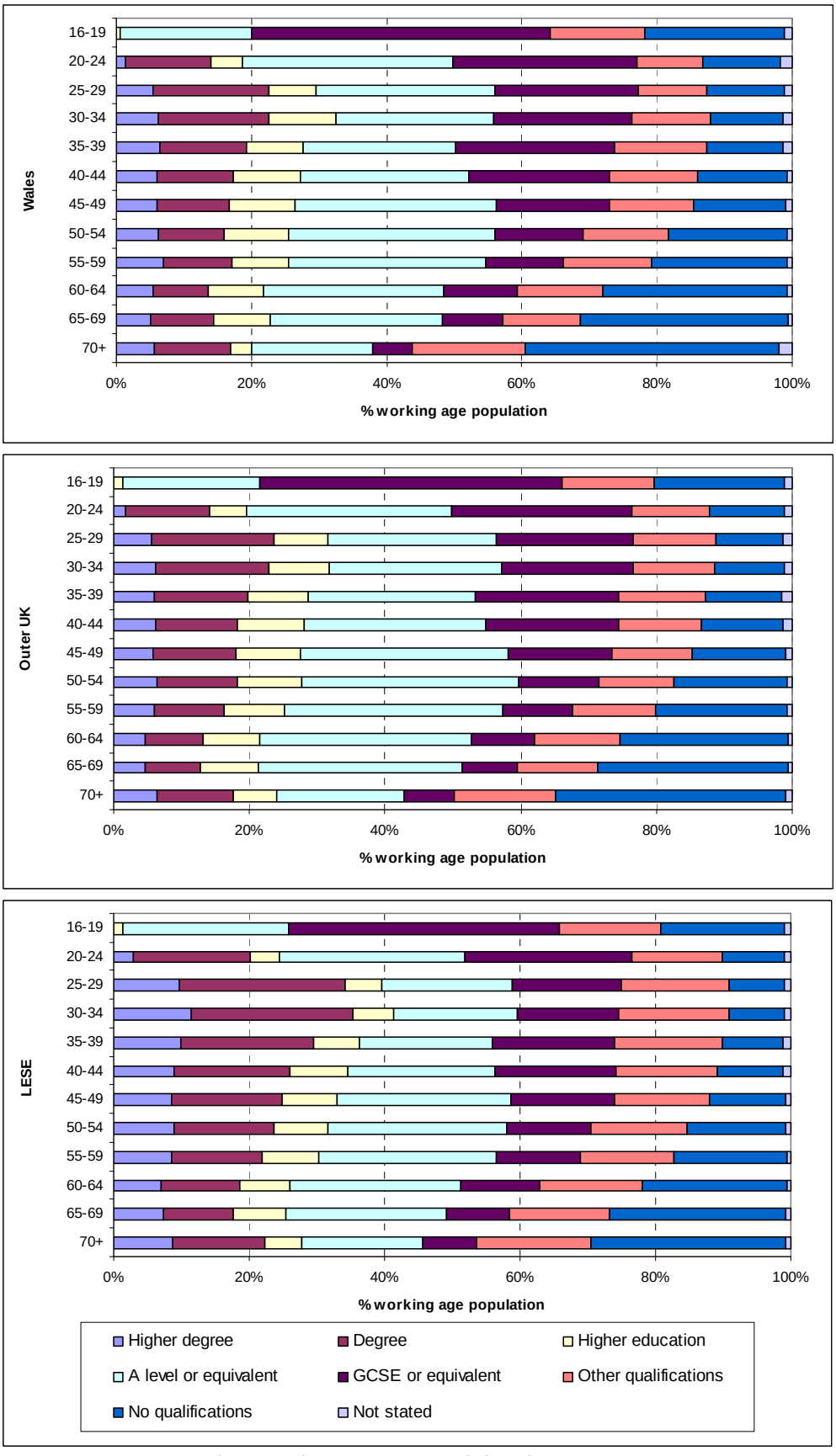
Figure 2.4 Highest Educational Qualification of the Working Age (Non-Full Time Student) Population



Source: APS, 2004/5-2008/9. Data are weighted.

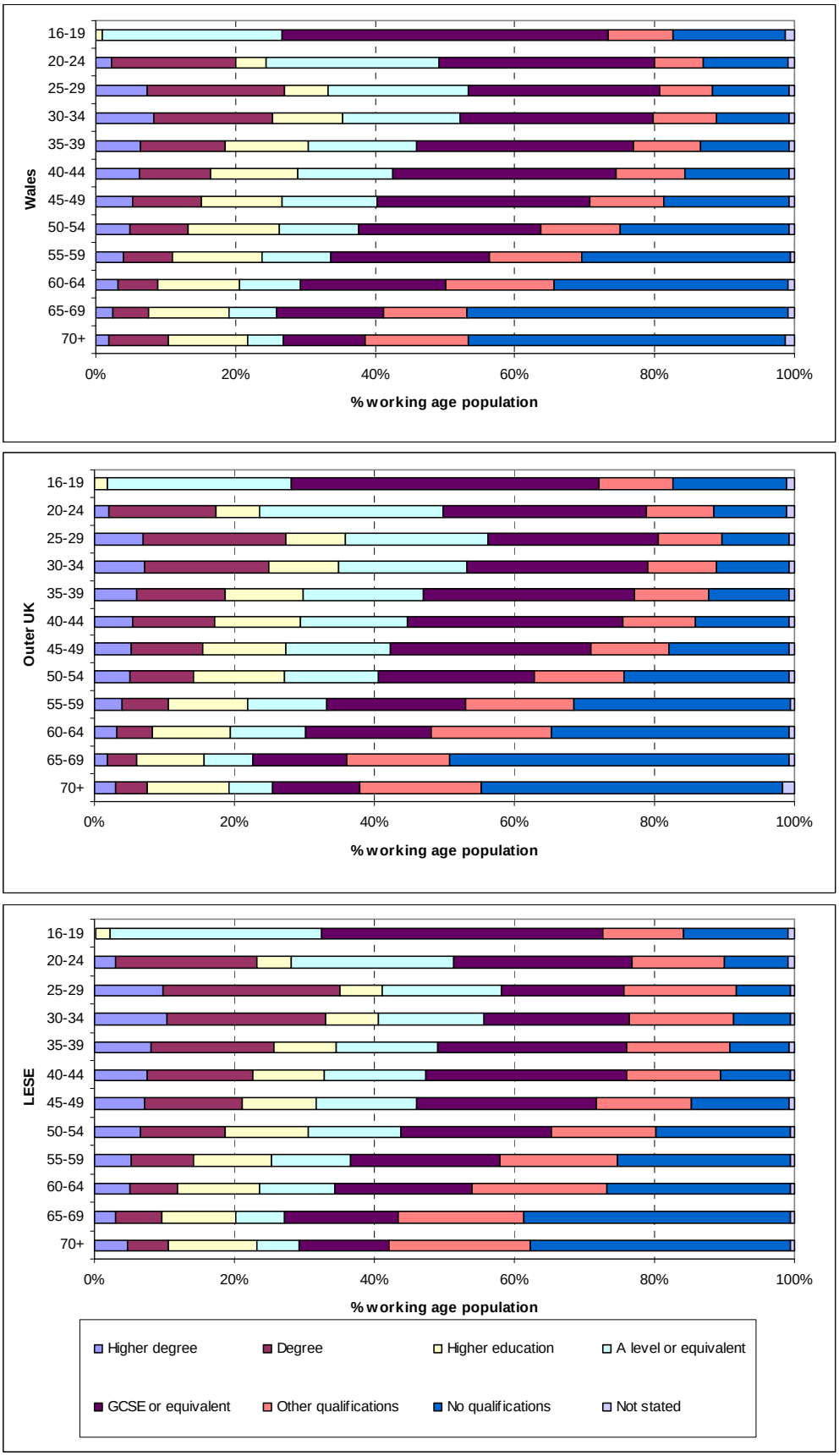
Figures 2.5 and 2.6 present differences in qualifications by age. Similar patterns are found to exist in Wales, the Outer UK and LESE for males (Figure 2.5) and females (Figure 2.6) respectively. Most notably, recent cohorts tend to be highly qualified, with an increasing proportion of graduates and a far lower percentage without any formal qualifications in comparison to older age groups, especially those aged over 50.[xxi] This pattern is particularly evident for females. Fairly similar percentages are found in each age category compared to the Outer UK with respect to highest qualification attained and fairly constant differences between these two areas and LESE, with the percentage with a degree (no qualifications) being around 3-4 percentage points lower (higher) in Wales. The tables reveal some interesting statistics including a relatively high percentage of females aged at least 70 with a degree in Wales (9%) compared to the Outer UK (5%), which may be due to the migration of relatively well educated older workers to popular retirement locations in Wales.

Figure 2.5 Highest Educational Qualification of the Male Working Age (Non-Full Time Student) Population, by Age Group



Source: APS, 2004/5-2008/9. Data are weighted.

Figure 2.6 Highest Educational Qualification of the Female Working Age (Non-Full Time Student) Population, by Age Group



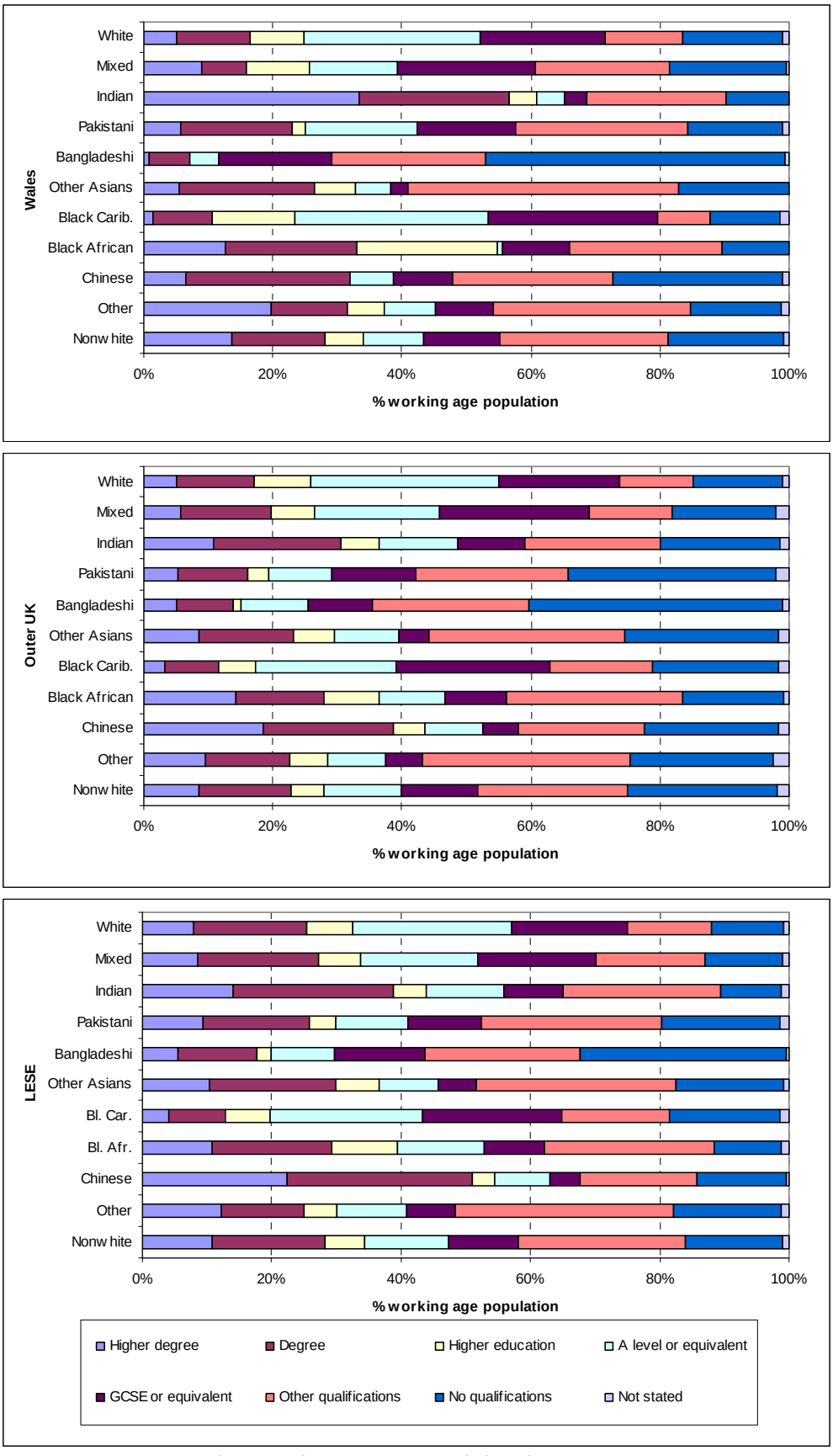
Source: APS, 2004/5-2008/9. Data are weighted.

Figures 2.7 and 2.8 show ethnic variations in educational attainment in Wales, the Outer UK and LESE for males (Figure 2.7) and females (Figure 2.8) respectively. For both males and females, the percentage of all ethnic minorities at each qualification level is reported (referred to as non-white) in addition to the main ethnic minority groups because of some small cell sizes for some of the groups (e.g. there are only around 40 working age Black Caribbean males in the Welsh sample).[xxii] Therefore, although this aggregated category loses some of the detail that we would like; it does provide us with an overall comparison to the white majority in Wales.

The percentage of graduates amongst ethnic minorities as a whole is higher in Wales than in the Outer UK but similar to that than in LESE. This is particularly the case for males since over 13% of ethnic minorities in the Welsh sample reported that they had a higher degree, compared with less than 9% in the Outer UK and 11% in LESE. However, the percentage of ethnic minorities with no qualifications is also higher in Wales, with the differential highest for females since 25% have no formal qualifications, compared to 23% in the Outer UK and 15% in LESE. Bearing in mind the small number of observations for some ethnic minorities in Wales, there appears to be substantial variation between the educational attainments of the different ethnic minority groups. Indian males in Wales are extremely well qualified, with almost 60% holding a degree, the majority of who have a higher degree. Chinese males come next, although in comparison to Indian males, the majority hold undergraduate degrees. These two groups also have the highest percentage of graduates amongst females, but this time there appear to be a relatively high proportion of Chinese females with post-graduate degrees. Almost a half of Bangladeshi males and females and over a third of Pakistani females in the Welsh sample have no qualifications. Despite the small cell sizes in many cases, the distribution of qualifications in Wales by ethnic group is similar to the patterns observed for other parts of the UK.

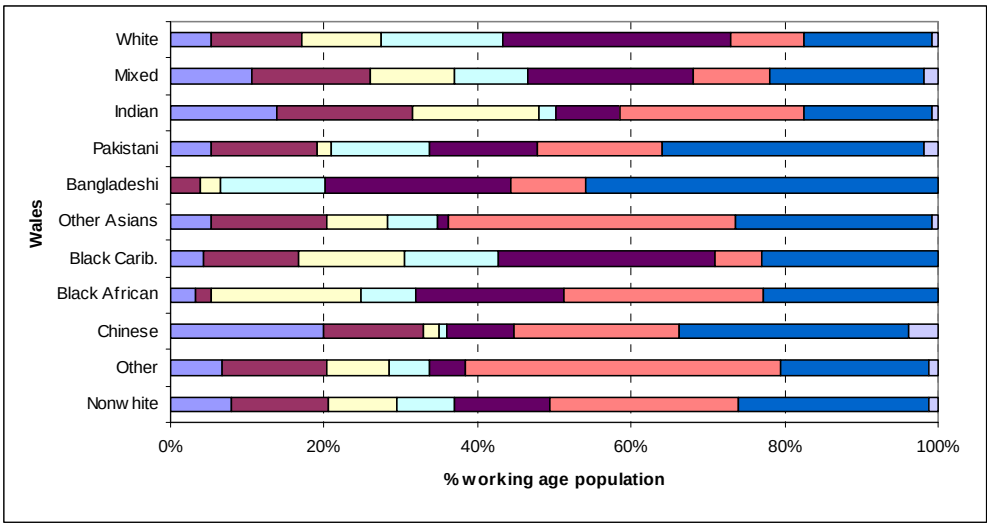
Differences in educational attainment by religious affiliation are displayed in Figure 2.9. It can be seen from the table that the percentage of male graduates is much higher amongst individuals practising other religions in comparison to those of Christian belief or individuals reporting that they were not religious. Most notably, well over half of Sikh males and Hindu males in the sample had a degree, the majority of whom had a higher degree. Further investigation indicates that many of these individuals are health professionals. However, 22% of Muslim males living in Wales have no formal qualifications; while a quarter also report that they have foreign qualifications, this is likely to reflect the high percentage of immigrants amongst this group. While females indicating that they were of Sikh/Hindu, Buddhist or were of other religious belief (including Jewish) were far more likely than Christians to have a degree, this is not true for Muslim females living in Wales. Furthermore, around a third of Muslim females reported that they had no qualifications and almost a quarter that they had other qualifications. These patterns are generally in accordance with those observed in other parts of the UK.

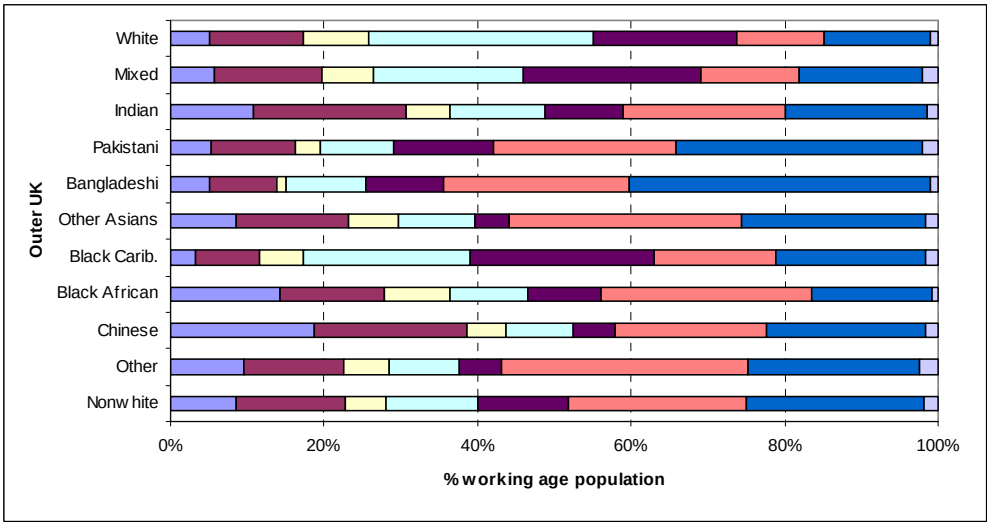
Figure 2.7 Highest Educational Qualification of the Male Working Age (Non-Full Time Student) Population, by Ethnic Group

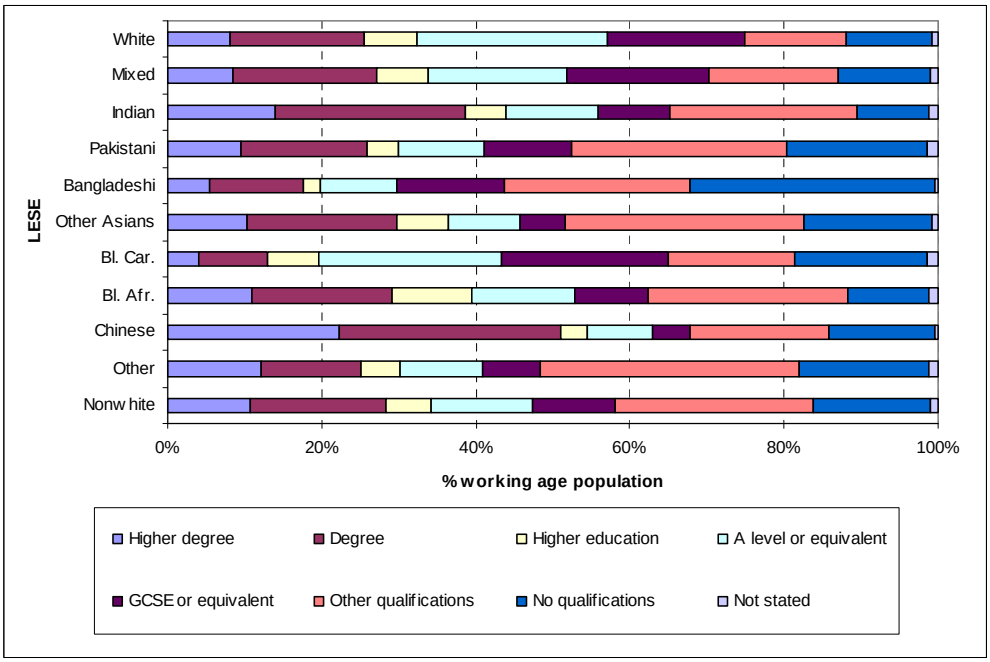


Source: APS, 2004/5-2008/9. Data are weighted.

Figure 2.8: Highest Educational Qualification of the Female Working Age (Non-Full Time Student) Population, by Ethnic Group

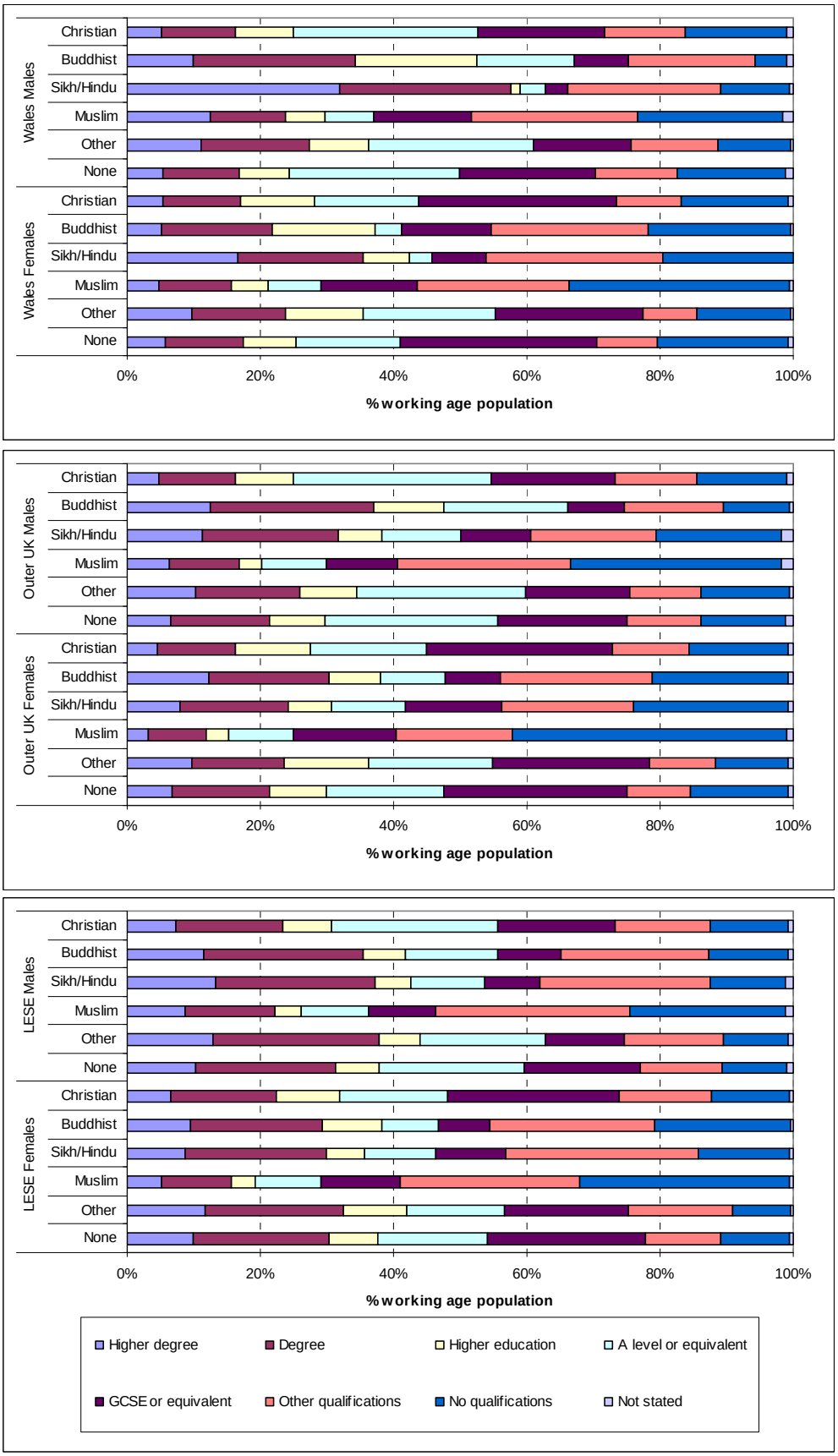






Source: APS, 2004/5-2008/9. Data are weighted.

Figure 2.9 Highest Educational Qualification of Age (Non-Full Time Student) Population, by Religious Groups

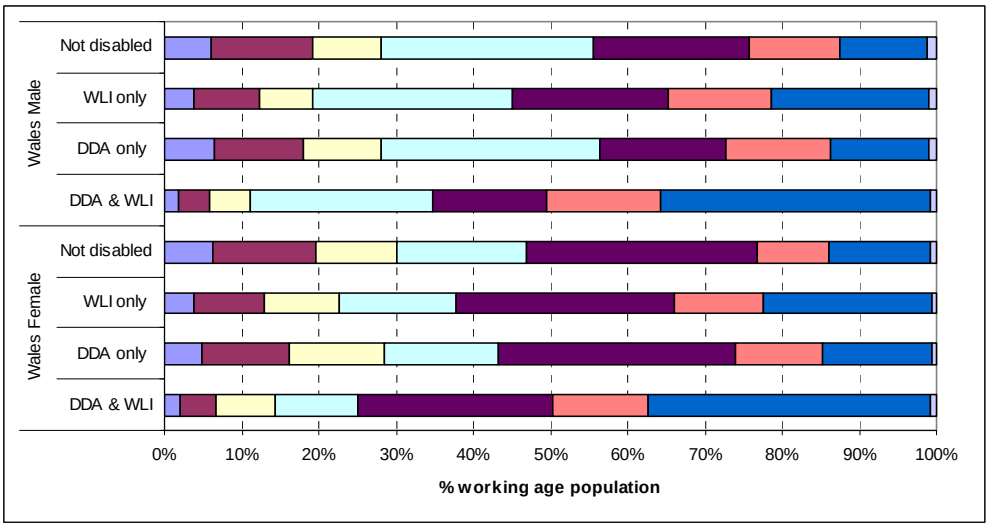


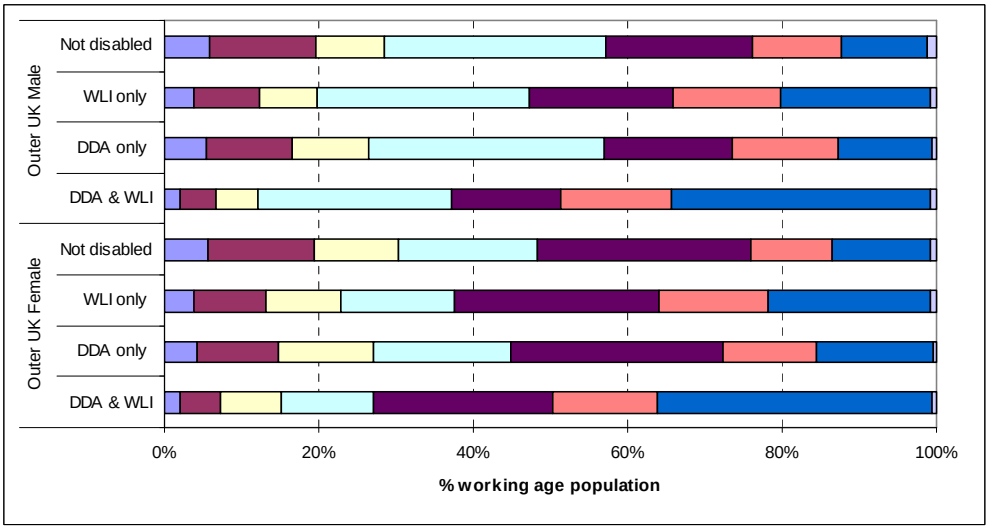
Source: APS, 2004/5-2008/9. Data are weighted.

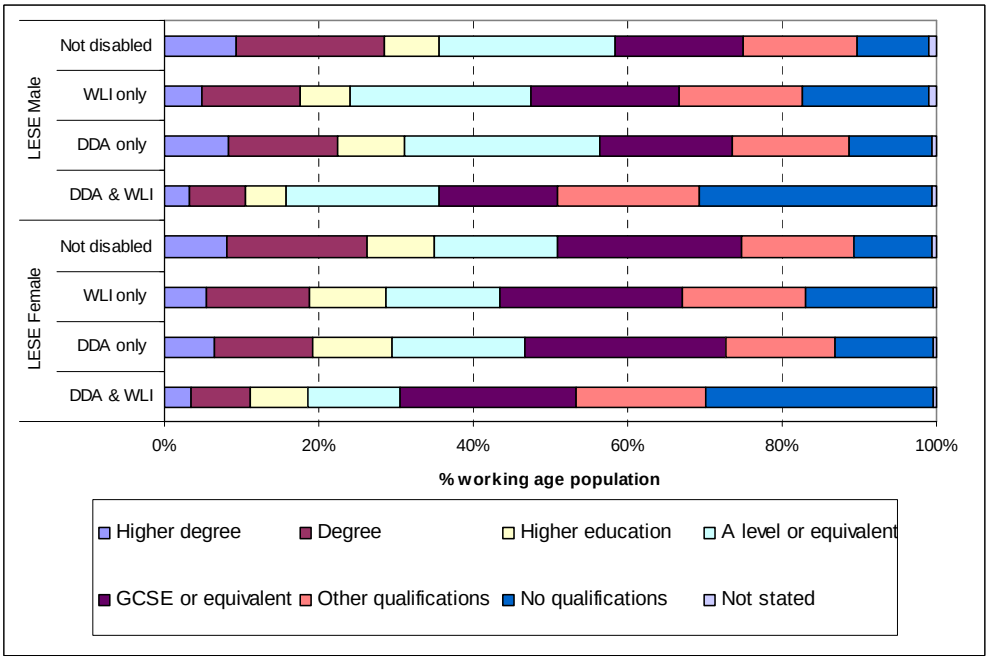
Given the relatively high incidence of health problems, especially in terms of work limiting illnesses and disabled people in Wales, it is interesting to examine how qualifications vary according to whether individuals report that they have a disability. This is displayed for Wales in Figure 2.10. Those reporting no disability have by far the best educational outcomes both in Wales and in the two comparative areas within the UK. However, the percentage with no qualifications is high in some of the other categories, particularly for those reporting that they are both Disability Discrimination Act (DDA) and work limiting disabled. This finding is particularly acute in Wales, where 35% of males and 37% of females in this group have no qualifications, compared to a slightly lower percentage in the Outer UK but only around 30% in LESE. Similarly, only around 6% of this group have a degree, compared with 7% in the Outer UK and more than 10% in LESE.

In terms of housing tenure, there are fairly similar levels of educational attainment for individuals living in private rented and owner-occupied accommodation, both in terms of buying the property and bought outright. The exception in terms of housing tenure, both in Wales and the Outer UK, are those living in social rented accommodation, whose educational outcomes are considerably worse than the other three categories. Figure 2.11 reveals that this is particularly the case in Wales, where almost 40% of both males and females have no qualifications, compared to around 35% in the Outer UK and 30% in LESE. Just over 2% of social renters in Wales have any sort of a degree compared to almost 20% in the other tenure categories. Only a slightly higher percentage of social renters have a degree in the Outer UK but the equivalent figure is quite a bit higher in LESE, with around 6% being graduates.

Figure 2.10 Highest Educational Qualification of Working Age (Non-Full Time Student) Population, by Type of Disability

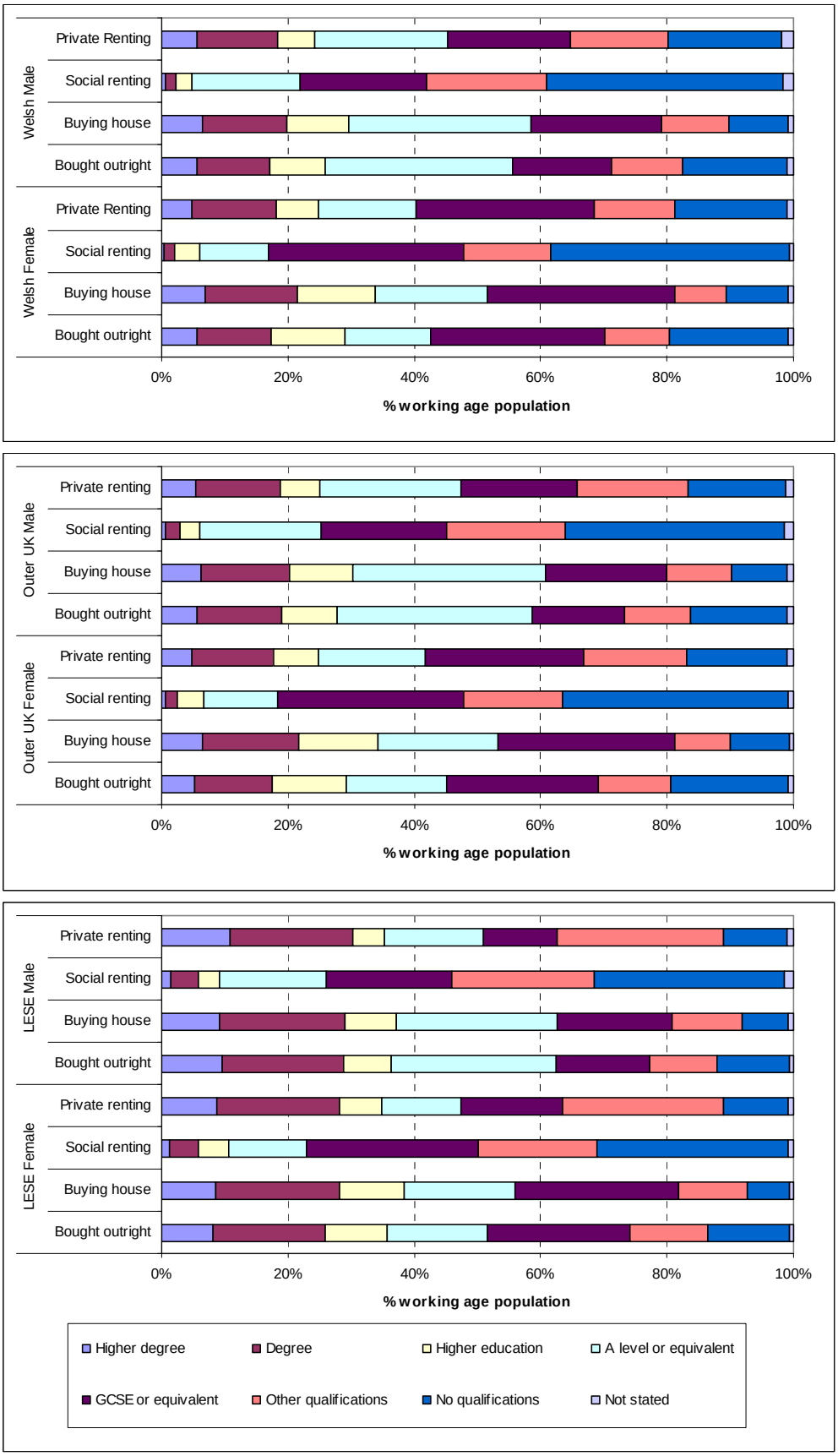






Source: APS, 2004/5-2008/9. Data are weighted.

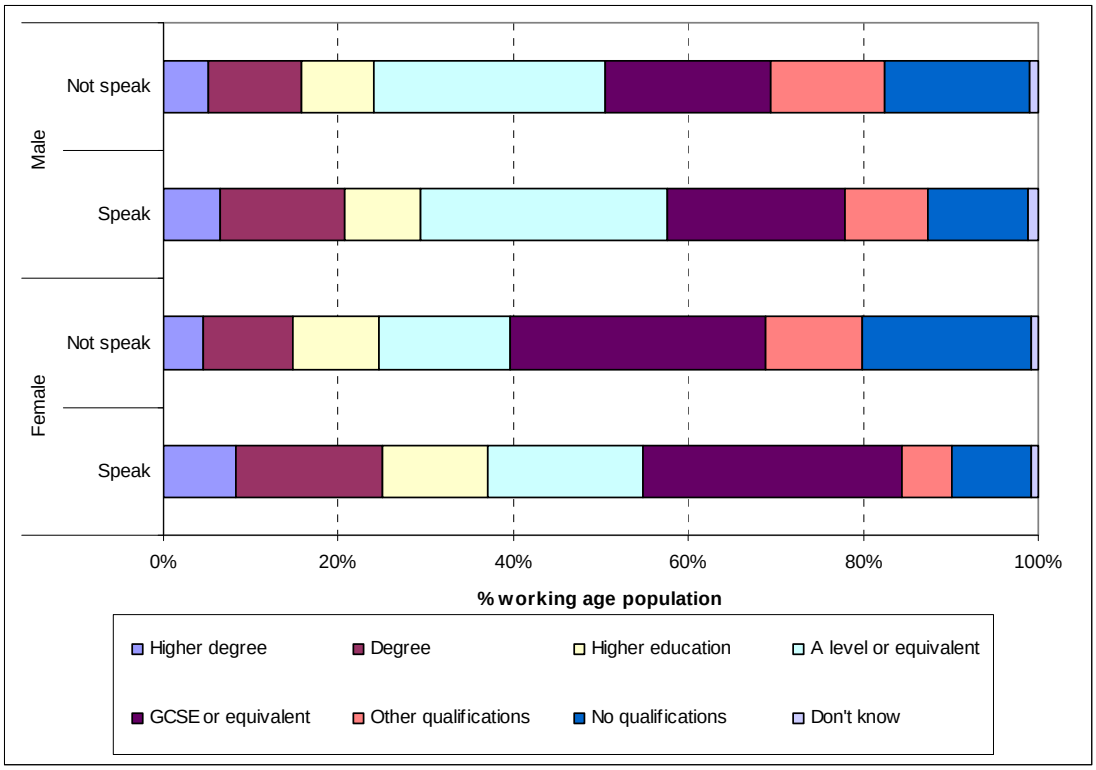
Figure 2.11 Highest Educational Qualification of Working Age (Non-Full Time Student) Population, by Housing Tenure



Source: APS, 2004/5-2008/9. Data are weighted.

Just for Wales, we also present information on the highest qualifications according to some specific questions asked to respondents living in Wales in the APS. Figure 2.12 reports educational attainment separately for those who do and do not speak Welsh and Figure 2.13 does likewise for individuals reporting that they had a Welsh identity compared to those who did not. Figure 2.13 shows that Welsh speakers were considerably more likely to be graduates than non-Welsh speakers. This was particularly true for females, since 8% of Welsh speakers had a higher degree and 17% had a degree, compared with 5% and 10% for non-Welsh speakers. Less than 10% of Welsh speaking females had no qualifications, which is over 10 percentage points lower than the equivalent figure for non-Welsh speakers. Some possible explanations for these patterns could include relatively higher levels of performance in Welsh medium schools and a higher likelihood of well educated Welsh speakers staying in Wales for cultural and job reasons.

Figure 2.12 Highest Educational Qualification of Working Age (Non-Full Time Student) Population in Wales, for Welsh and non-Welsh Speakers

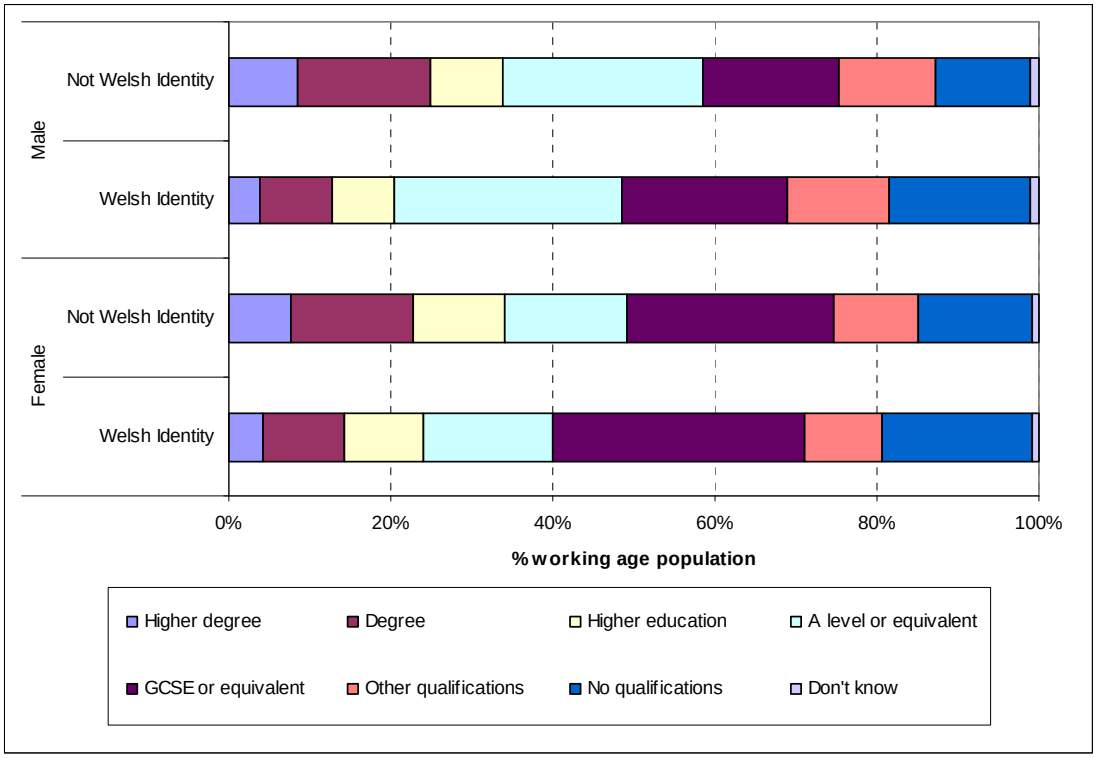


Source: APS, 2004/5-2008/9. Data are weighted.

In contrast to what was seen with regards to Welsh speaking, those reporting that they had a Welsh identity were less likely to be graduates and more likely to have no qualifications. This time greater differences are observed for males, with around a quarter of those not identifying themselves as Welsh reporting that they had a degree, which was around twice the percentage of Welsh identifiers. Similarly, 18 percent of respondents reporting a Welsh identity had no formal qualifications, compared with 12 percent of non-Welsh identifiers. Explanations for these patterns are likely to be associated with the geographical distribution of Welsh identity and the relatively high educational attainment of incomers to Wales. With respect to the former, the highest percentage of respondents reporting that they had a Welsh identity is found in the South Wales Valleys, where educational attainment tends to be lower. Whilst incomers from other parts of the UK as well as from outside of the

UK, are more likely to be well-qualified, especially as they tend to be far younger on average than the Welsh-born population.

Figure 2.13 Highest Educational Qualification of Working Age (Non-Full Time Student) Population in Wales, for Welsh Identity and non-Welsh Identity



Source: APS, 2004/5-2008/9. Data are weighted.

2.5 Disentangling the Characteristics Associated with Education Attainment

The preceding analysis has illustrated some of the variations in educational attainment that exist between various population sub-groups. A problem underlies these variations, in that it is not clear what the separate and additional contribution that each factor has upon the likelihood of an individual attaining a certain level of educational attainment is. For example, is the variation in attainment by disability status simply a consequence of the fact that disabled people are also more likely to be older and would have therefore completed their full-time education during a period when people were less likely to continue studying beyond compulsory schooling? Alternatively, is disability in itself associated with lower levels of educational attainment? Are differences in educational attainment that exist between ethnic groups a consequence of differences that exist between different religious groups or is it the case that ethnicity and religion are both associated with educational attainment? To develop a better understanding of these issues, we utilise a statistical approach that is able to identify how a range of personal characteristics contribute to observed levels of educational attainment. We employ a multivariate statistical technique (referred to as logistic regression) that allows us to simultaneously estimate the separate influence of these factors on the relative likelihood of an individual attaining high or low levels of educational attainment.

The concept of 'relative likelihood' is fundamental to the interpretation of the results presented in this section. Before presenting these results, we describe what we mean by risk. Within Figure 2.2, it was revealed that at Key Stage 4, only 20% of

pupils that were eligible for FSM achieved A*-C grades in the core subjects at GCSE. By comparison, 51% of pupils who were not eligible for FSM achieved such results. We therefore observe, based upon a comparison of rates of attainment, that pupils in receipt of FSM exhibit a higher relative likelihood of low educational attainment at Key Stage 4. An alternative way of expressing this increased risk of low educational attainment is to say that relative to pupils eligible for FSM, those who are not eligible are 2.5 times *as* likely (51% divided by 20%) as FSM pupils to achieve A*-C grades in the core subjects at GCSE. Alternatively, those pupils not eligible for FSM are 150% *more* likely (51 minus 20 expressed as a percentage of 20) as FSM pupils to achieve A*-C grades in the core subjects. This is how we present estimates of relative likelihood that are estimated from the regression analysis.

The full results from the statistical analysis, which includes separate analyses for Wales, LESE and the Outer UK, is presented in Annex 1. For ease of exposition, we only present results that consider the likelihood of being a graduate in Wales. These results are summarized in Figure 2.14. Separate analyses are conducted for men and women and are shown side by side in the figure. Bars that are shaded represent relationships that were estimated to be statistically significant at the 5% level. The bars are presented as groups of categories representing different personal characteristics (e.g. age, ethnicity). Within each group, one bar is chosen to act as a reference category against which the effects of other categories can be evaluated. The analysis reveals that among the Welsh working age population:

- Educational attainment is highest among younger age groups - although the probability of having a degree is lowest among 16-24 year olds for males because many will still be studying full-time. For females, the position is slightly different because of a lower percentage of graduates amongst older cohorts, with the 55-64 age group less likely to have a degree.

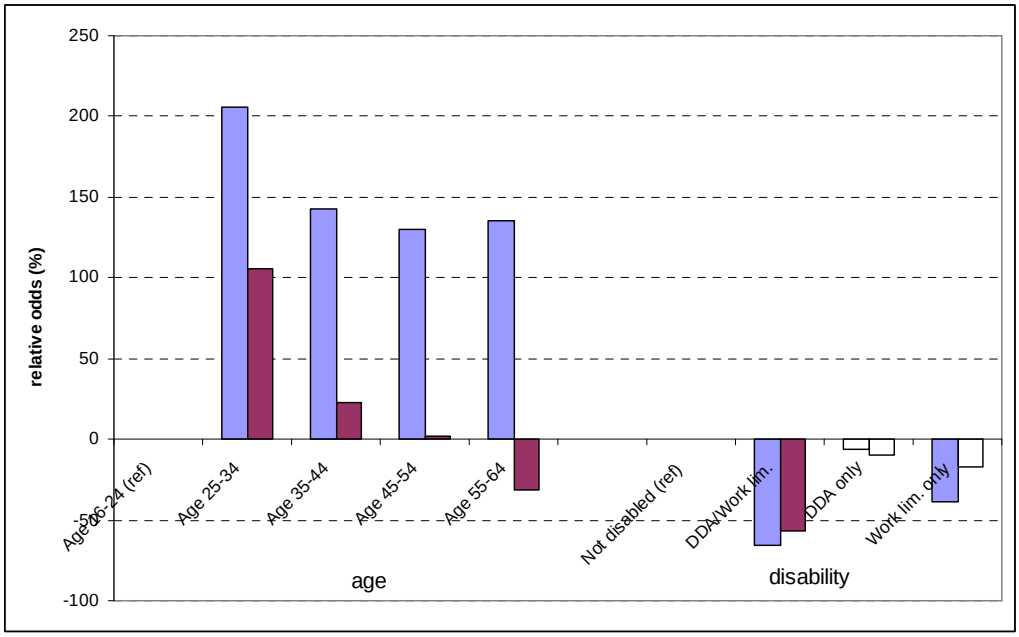
- Among both men and women in Wales, those who are both work limiting and DDA disabled people are approximately 60-70% less likely to have a degree.

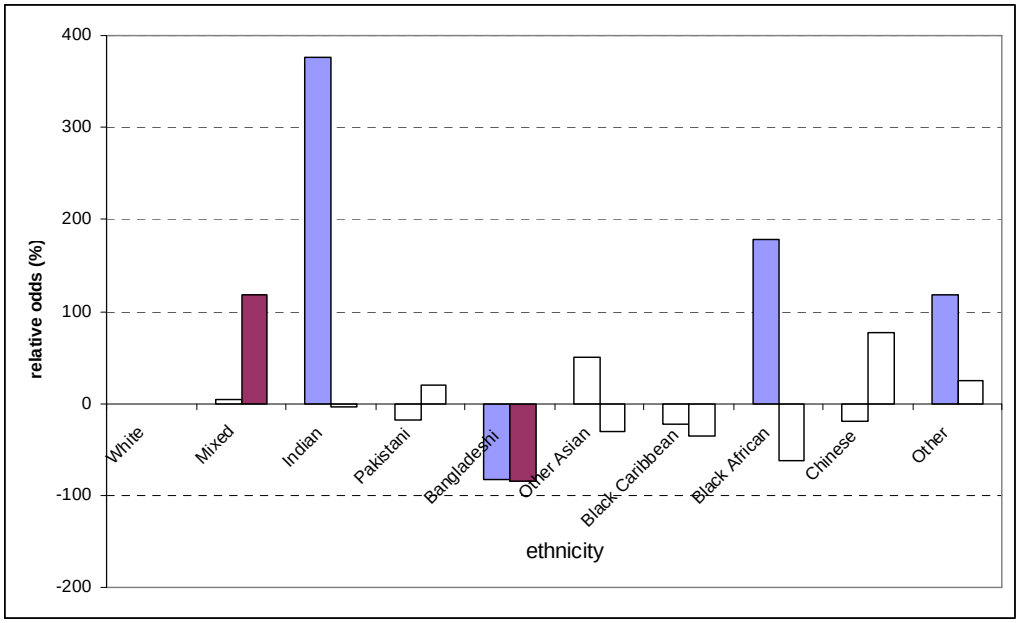
- Substantial variation can be seen by ethnic group, possibly reflecting the relatively small sample sizes that are available within the APS for some ethnic groups in Wales. In particular, Indian males are 400% more likely to possess a degree compared to white males. This differential is larger than that which exists in other areas of the UK where the relative differential is estimated to be 60%. Among both men and women, Bangladeshi people are 85% less likely than white people to have a degree (alternatively, white people are approximately 6-7 times more likely than Bangladeshi people to have a degree).

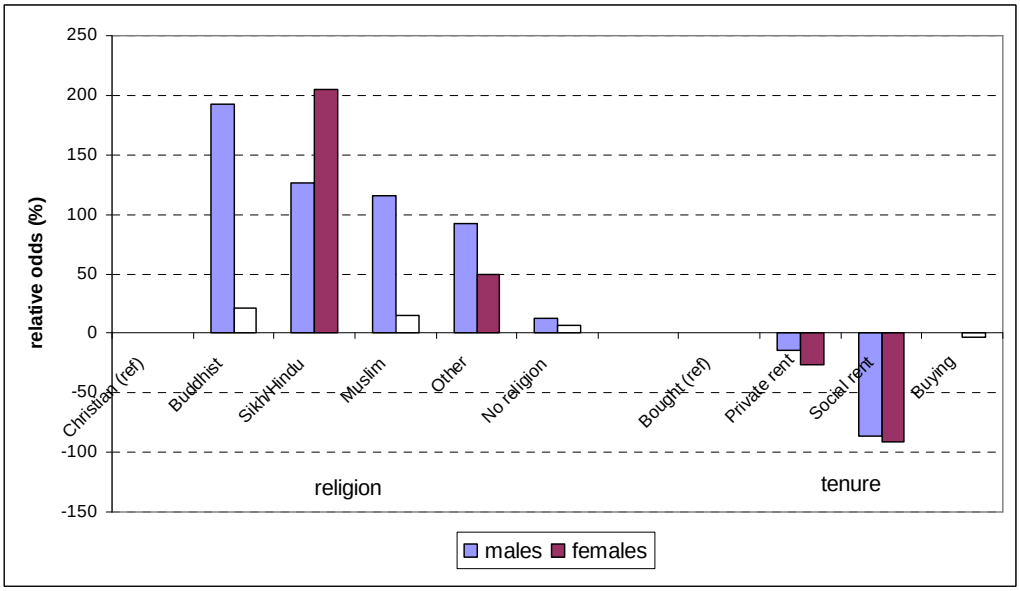
- Religious differences also persist after controlling for other influences (including ethnicity). Among both males and females, Christians and those with no religion are least likely to possess a degree.

- Variations are also seen by housing tenure (which will include some of the effect of occupation, which has been excluded from the estimates) and by far the biggest effect of all belongs to social renters, who are around 90% less likely to be a graduate in comparison to those living in owner-occupied accommodation.

Figure 2.14 Estimates of the Relative Likelihood of Being a Graduate







Analysis of the factors associated with having no qualifications are, unsurprisingly, the mirror image of the findings reported for the likelihood of being a graduate. This includes the far higher likelihood of Bangladeshi people, DDA and work limiting disabled people and social renters having no qualifications. There are also some other differences as well, for example Muslim females in Wales are almost twice as likely as white females to have no qualifications despite also being more likely to have a degree.

Further analysis was also undertaken to consider which characteristics among the 16-24 age group were associated with staying on in post-compulsory education. Full results are presented in Annex 2. Analysis revealed that in Wales and the rest of the UK, females are more likely to be full-time students but there is no significant gender effect in LESE. Respondents reporting a Chinese ethnic origin are by far the most likely to be full-time students in all three areas, although a high proportion in this category will have been born outside of the UK (and often return to their home countries after completing their studies). This difference is largest in Wales, with Chinese people living in Wales in the 16-24 age category being more than 10 times as likely to be full-time students in comparison to White people. People of Black African and Other Asian origin were also more likely than White people to be a full-time student. The only ethnic minority group in Wales to be less likely than those in the white people to be a full-time student are Bangladeshi people. Disabled people are less likely to be full-time students compared to those reporting as non- disabled, with the largest effect seen for those identifying themselves as both DDA and work limiting disabled. In all three areas, social renters are around half as likely to be full-time students in comparison to those coming from households that have bought their houses outright.

2.6 Conclusions

Education is a key determinant of labour market outcomes and hence differences in educational attainment can have a huge effect on economic inequality. However, education is not accessed on the same basis by different sections of the population, which can result in a further widening of inequality as relatively less qualified individuals from disadvantaged backgrounds often face barriers when they enter and try to progress through the labour market. Moreover, low levels of social mobility are often the result of the strong inter-generational link that exists in relation to educational outcomes, despite education probably being the main route needed to achieve upward social mobility.

Despite lower overall levels of educational attainment in Wales, especially compared to LESE, it is generally the case that sub-groups of the population have a very similar distribution of qualifications in Wales and the Outer UK. For example, educational attainment is lower among disabled individuals and those living in social housing. There are also educational variations by ethnic and religious groups in Wales and other parts of the UK but the outcomes are often better for ethnic minority and religious groups in comparison to the White-Christian majority. In particular, very high levels of educational achievement are observed for those reporting an Indian or Chinese ethnic background and for some religious groups such as Buddhists and Sikhs/Hindus. The impact of immigrant status and time of arrival in Wales/the UK is likely to be important in the analysis of ethnic and religious groups and is an aspect that could be further investigated. It also appears that the relative position of disadvantaged groups is slightly worse in Wales compared with the Outer UK,

especially LESE. This can be seen from both the descriptive and multivariate analysis, with the relative difference between the highest and lowest achieving educational groups according to ethnicity, housing tenure and disability tending to be greater in Wales compared with the remainder of the UK.

[xii] The UK ranked 13th out of 24 countries in the recent UNICEF report.
[xiii] The title of the report was *The Foundation Years: Preventing Poor Children Becoming Poor Adults*.
[xiv] The Welsh/UK educational is often split into four main categories: early years education and childcare, primary school, secondary school and further/higher education.
[xv] Youth Cohort Study, Department for Education and Skills.
[xvi] Ibid.
[xvii] Obviously large numbers Welsh pupils subsequently study in universities in the rest of the UK, many of whom do not return to Wales after graduating. Similarly, students from other parts of the UK and the world study in Welsh universities and may stay after completing their courses.
[xviii] The differences with regards to the NEP relate to GCSE and other qualifications. In this chapter, the categories of GCSE or equivalent and Other qualifications are used. These are derived from the compressed highest qualification variable in the LFS. Whereas in the NEP report, the two categories are labelled GCSE A*-C or equivalent and Level 1 and below. It appears that Level 1and below includes other qualifications, many of which have been obtained overseas, especially for immigrants.
[xix] Northern Ireland is excluded from the rest of the UK statistics, including from the regressions, when religion is examined because a different question is asked there.
[xx] A separate analysis of full-time students in the 16-24 age group appears at the end of section 5.
[xxi] The 16-19 group has relatively low levels of attainment because many in this group will still be in full-time education and hence not in our sample because they have no yet completed their studies.
[xxii] The mixed groups have been combined into one category and the Black Other group with Other ethnic group.

Chapter 3: Employment in Wales

Melanie Jones and Catherine Robinson

3.1 Introduction

The employment status of an individual is a key determinant of inequality. While much of the empirical literature on inequality focuses on wages, a pre-requisite for labour market earnings is employment. Without it, income is largely transfer payments and in the case of the retired, savings. From this position, a rise in unemployment or inactivity is likely, if anything, to increase income inequality. In addition, there are wider benefits to employment than simply income. Employment is thought to improve social interaction, health and contribute to mental wellbeing.

In this chapter we focus on a 9-category breakdown of employment status which we discuss in greater detail below but which broadly focuses separately on the employed, the unemployed and the inactive in Wales. We firstly provide a breakdown of employment categories by a variety of individual characteristics. In this way, we offer an overall picture of the relationship between employment status and characteristics, such as age, ethnicity and disability status. As well as considering employment status, we also look at those in employment and present some indication of the quality of their employment in terms of whether or not they are in the private sector, the type of contract, occupation and the incidence of low pay.

3.2 Employment Trends in Wales

Wales has traditionally performed less well than the UK average in terms of almost all economic indicators and this is also true for employment. Table 3.1 below shows the employment rate by category for males and females from 1992, 2001 and 2010 for both Wales and the rest of the UK. Note that on average, at each point in time, the rate of full-time employment among Welsh males is around 5 percentage points lower than the rest of the UK. The gap narrows by 2010; however, this may simply reflect a lag of the recession effects which will have firstly affected private sector employment. If we look at part-time employment shares we see that there is a general upward trend as flexible working increases. Unsurprisingly, part-time employment is particularly concentrated amongst females. The combined share of part-time and full-time employment suggests that the share of women in paid employment is at least comparable to males, and in some years, higher, although for women, the split between full-time and part-time is more even. Where we notice another big difference between the genders is when we consider self-employment. In the case of males, we note that in the rest of the UK, there is a comparative dip in self-employment as a proportion of the working population in the relative boom of 2001. This is also true for Wales and we note that between Wales and the rest of the UK there is not a large difference between the rates of self-employment. In the case of females, we see that the self-employment rate (at 5%) is less than half that for males (12%).

Table 3.1 Percentage shares of the working age population, 1992, 2001 and 2010.

	Female			Males		
Wales	**2010**	**2001**	**1992**	**2010**	**2001**	**1992**
Employed, full-time	33.4	33.5	31.2	51.3	55.6	53.4
Employed, part-time	28.2	26.8	26.7	7.5	4.3	4.1
Self-employed	5.1	2.9	4.7	12.2	11.6	13.8
ILO unemployed	5.4	3.0	3.8	8.2	5.6	9.2
Inactive, student	6.7	4.9	4.2	6.3	4.8	4.1
Inactive, looking after family, home	9.7	14.8	17.9	1.3	1.3	0.7
Inactive, disabled/long-term sick	8.4	8.4	5.8	8.0	11.9	6.5
Inactive, retired	0.9	1.2	0.8	2.8	3.0	0.4
Inactive, other reason, no reason given	2.3	3.6	4.9	2.4	1.9	7.9

	Female			Males		
Rest of UK	**2010**	**2001**	**1992**	**2010**	**2001**	**1992**
Employed, full-time	37.6	37.4	34.7	55.7	61.6	59.5
Employed, part-time	25.8	27.7	25.8	7.0	5.5	3.7
Self-employed	5.4	4.6	5.0	12.8	12.3	13.5
ILO unemployed	5.3	3.2	5.5	7.2	4.5	10.0
Inactive, student	6.4	4.9	4.1	6.1	4.4	4.0
Inactive, looking after family, home	11.2	12.6	16.7	1.1	0.9	0.4
Inactive, disabled/long-term sick	5.0	5.4	3.7	5.7	6.4	3.2
Inactive, retired	0.7	1.1	0.7	2.2	2.1	0.4
Inactive, other reason, no reason given	2.7	3.2	3.8	2.3	2.2	5.4

Source: LFS 1992, 2001 and 2010

For the rest of the UK, we see that the proportion in unemployment is reduced but still more than half of what it was in 1992 by 2001. For Wales, whilst unemployment also falls, the change is more modest. By 2010, rates of unemployment for males are up in both the rest of the UK and Wales, but are a percentage point higher in Wales than in the UK. In the case of females, we see that the shares are typically smaller than for males, and unemployment amongst females in Wales is generally lower in 1992 and 2001 compared with the rest of the UK.

We note that the share of the male working population inactive because of being a student has increased over the period, but looks quite similar in Wales and the rest of the UK – the Welsh share being slightly higher. Males and females do not differ drastically over the two regions, with a slightly higher share of the female working population inactive as students. As expected, females are classed as 'economically inactive' predominately because of looking after the family; however there is a slightly increased share of men in Wales that are inactive for this reason. Over time, the proportion of women inactive because of looking after the home is falling in Wales and the rest of the UK, but falling more dramatically in Wales. Inactivity because of long term illness or disability is most markedly higher for Welsh men than for those in the rest of the UK. In 1992 and 2001, it is double the level. By 2010, the discrepancy is less marked, but it is still substantially higher. This is mirrored in females, although the differences are less marked both over time and compared with

the rest of the UK. Women in Wales had an inactivity rate due to long term sickness or disability of around 8% for 2001 and 2010, compared to around 5% in the rest of the UK. In the case of retirement, we see little difference across countries, although there is a slightly higher prevalence of inactivity due to retirement in Wales. Finally, it is interesting to observe that the proportion of people inactive for no reason or another reason is much lower in 2001 than in 1992 for men. This is less true for women, where we see a continued decline in this residual category.

But where does Wales sit with respect to other regions? Table 3.2 below provides rankings of employment category by region in 2010, such that in column 1 for men, the East experiences the highest share of employment and Northern Ireland the lowest. Similarly, the South West has the lowest share of inactivity due to being a student, whereas Northern Ireland has the highest. Table 3.2 reveals that the variation across employment categories is significant. We note also that the rankings for most categories remain the same across gender, with the exception of inactivity because of taking care of the home, where females in Wales have a much lower proportion than in the rest of the UK. Patterns in these rankings across time do not change dramatically. We note also that the picture for Wales (highlighted in red) does suggest a relatively poor labour market position – ranking low on full-time employment, high on part-time employment and comparatively high rates of inactivity. In terms of the International labour Organisation (ILO)[xxiii] definition of unemployment however, Wales ranks somewhere in the middle (certainly for females) and the same is true for inactivity due to education.

Thus, from the aggregate picture, a number of trends are emerging. We note that for Wales, the overall employment outlook is consistent with other measures of performance; Wales has lower rates of full-time employment and higher rates of inactivity due to a disability or long term illness. Variation by gender is in line, by and large, with the rest of the UK, although there are some exceptions – inactivity because of looking after the home is less prevalent for females in Wales, compared with other regions.

Table 3.2 Government office regions ranked by highest employment and lowest inactivity, 2010

Highest Full Time	Highest Part Time	Highest Self Employment	Lowest Unemploy'd	Inactive Student	Inactive Home	Inactive Disabled	Inactive Retired	Inactive No Reason
Male								
East	London	Northern Ireland	South East	South West	London	East	London	South West
South East	South West	South East	South West	Scotland	South East	South East	West Midlands	East
East Midlands	West Midlands	London	East Midlands	North West	Yorkshire & Humber	London	South East	North East
South West	Wales	East	East	South East	West Midlands	South West	East	East Midlands
Scotland	Yorkshire & Humber	South West	Northern Ireland	East	East Midlands	East Midlands	East Midlands	West Midlands
North East	North West	Wales	North West	Yorkshire & Humber	South West	West Midlands	North West	Yorkshire & Humber
West Midlands	South East	Yorkshire & Humber	London	West Midlands	North West	Yorkshire & Humber	Scotland	Northern Ireland
North West	East Midlands	North West	Scotland	Wales	Scotland	Scotland	Yorkshire & Humber	North West
Yorkshire & Humber	Scotland	West Midlands	Wales	North East	Northern Ireland	North East	Northern Ireland	Wales
London	East	East Midlands	West Midlands	East Midlands	Wales	North West	North East	South East
Wales	North East	Scotland	North East	London	East	Northern Ireland	Wales	Scotland
Northern Ireland	Northern Ireland	North East	Yorkshire & Humber	Northern Ireland	North East	Wales	South West	London

Highest Full Time	Highest Part Time	Highest Self Employment	Lowest Unemploy'd	Inactive Student	Inactive Home	Inactive Disabled	Inactive Retired	Inactive No Reason
Female								
North West	South West	London	Northern Ireland	Scotland	Scotland	South East	London	Northern Ireland
Northern Ireland	East Midlands	South West	South East	South West	South West	London	West Midlands	North East
Scotland	Wales	South East	South West	North East	Wales	East	East Midlands	Yorkshire & Humber
East	Scotland	East	East	East	East Midlands	East Midlands	North West	Wales
Yorkshire & Humber	South East	Wales	North West	Yorkshire & Humber	North East	South West	East	Scotland
South East	East	Yorkshire & Humber	West Midlands	East Midlands	South East	Yorkshire & Humber	South West	West Midlands
London	North East	East Midlands	Wales	South East	North West	Midlands	Scotland	East
North East	Yorkshire & Humber	West Midlands	Yorkshire & Humber	North West	East	North West	Northern Ireland	South East
South West	West Midlands	Scotland	Scotland	Wales	Yorkshire & Humber	Scotland	Yorkshire & Humber	South West
East Midlands	North West	Northern Ireland	North East	West Midlands	Northern Ireland	North East	Wales	North West
West Midlands	Northern Ireland	North West	East Midlands	London	West Midlands	Northern Ireland	South East	East Midlands
Wales	London	North East	London	Northern Ireland	London	Wales	North East	London

Source: LFS, 2010. Quarter 2. Sample is constrained to those of working age.

3.3 Data Sources and Definitions

The primary data source used for the subsequent analysis in this chapter is the Annual Population Survey (APS) as outlined in Chapter 1. Our employment status measure is categorised into 9 groups, which include the employed, the unemployed and the inactive. Firstly, we consider three components of employment. Full-time employment is what we traditionally think of when discussing employment and indeed for the bulk of the workforce, this is the dominant category. However, our second category of part-time employment is particularly prevalent amongst female workers and there are general indications that this more flexible approach to work is increasing, in part due to changes in industrial structure and the move towards services, and also because of recent economic events the move to part-time work is seen as one way firms may adjust their capacity utilisation. Part-time work may be defined as working less than 30 hours a week but here it is defined by the individual. Self-employment is an alternative form of employment. It is largely encouraged as a means of raising entrepreneurial activity, which is thought to raise productivity through increased innovation and economic activity. In contrast to entrepreneurial self-employment, higher levels of self-employment may also be an indication of poor employment opportunities. Need based self-employment is not generally growth enhancing and is likely to pay poorly. The implication from this is that the nature of self-employment will determine whether or not it is likely to have a positive impact on reducing inequality.

Whilst fairly easy to grasp conceptually, the definition of unemployment is complex and there are a number of variations available. Here we consider the unemployed as defined by the ILO. They are defined as 'those who have not worked for more than one hour during a short reference period (a week) but who are available for and actively seeking work' (O'Higgins, 1997) and this definition provides us with a consistent measure across countries and over time.

There is a third group within the working population that it is important to consider, and these are the inactive: those without employment who, for a variety of reasons, are not actively seeking employment. In the case of Wales, this group is of particular interest. Inactivity can be the result of a number of social as well as personal factors. Increased education participation in recent years is likely because of the policy drive to encourage greater numbers into higher education. Inactivity as the result of long-term illness or disability may be a consequence of attempts to move workers off unemployment benefits and the fact that incapacity benefit has historically been more generous than job seekers allowance. Finally, inactivity due to retirement may vary because of different age profiles across areas, but also because early retirement may for some result as a consequence of less employment opportunities for older workers and also may reflect in-migration as UK workers retire into Wales. Our final inactivity category relates to respondents who do not give a reason for their inactivity or who gave a reason that does not correspond to the other options available. The characteristics we consider in relation to employment status are age, ethnicity, religion, disability status, welsh identity and language, and housing tenure.

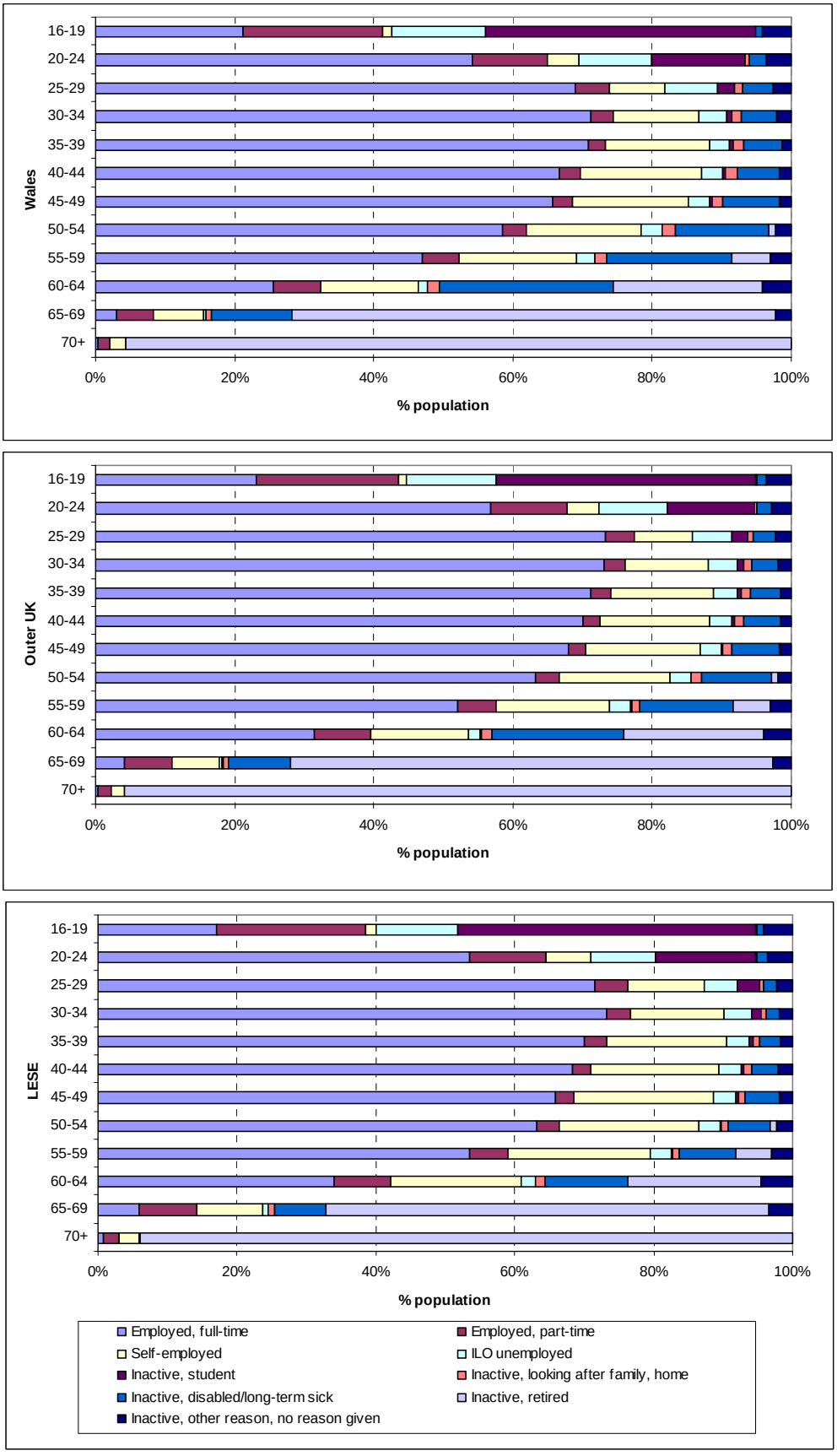
3.4 Participation in Employment among Population Sub-Groups

3.4.1 Age and Employment[xxiv]

The distribution of the age of a workforce can offer clues about its vitality and flexibility. As technology changes, the demand for skills changes and as such, older workers may face a tougher time in the jobs market. This may also be true of lower skilled workers (see chapter 2 on education). Figures 3.1 and 3.2 show employment status in 5 year age bands for individuals resident in Wales, LESE and the Outer UK, over the 2004-2009 period for males and females, respectively. Rates of employment have an inverse 'U' shape, with the rate of employment peaking for males aged between 25 and 39, when around 70% are employed full-time. Part-time employment is more prevalent at either end of the distribution, particularly amongst 16 to 24 year olds, where workers are either participating in education or scaling down participation in preparation for retirement. It hovers around 2-3% for males aged 30-54. Rates of self-employment are highest in mid to late career for men, at around 17% of the population.

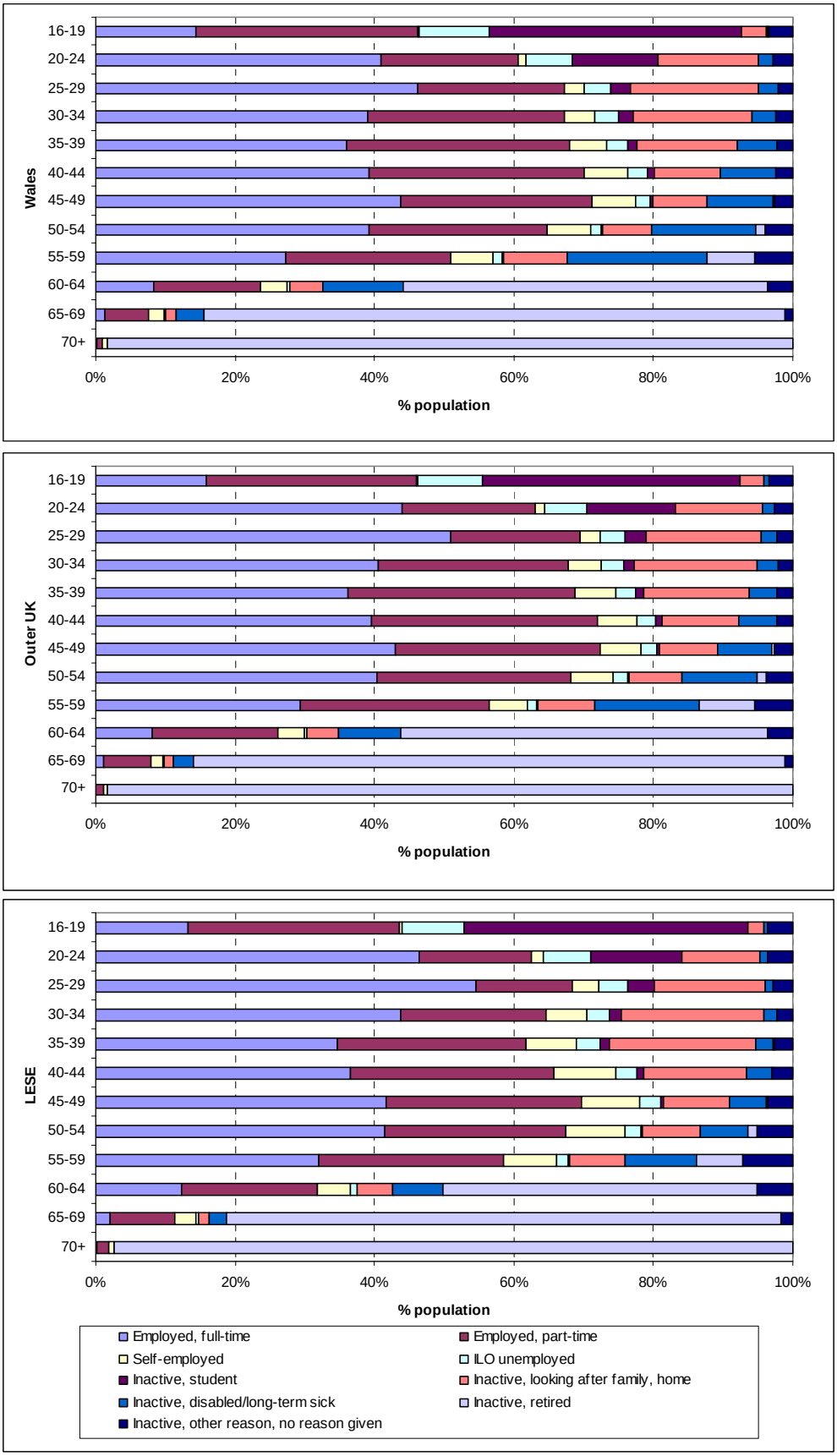
Compared to LESE or the Outer UK male employment declines more dramatically for those aged over 50 within Wales. Consistent with previous evidence (see for example, Blackaby *et al*., 2003) there is instead an increasing prevalence of inactivity due to long-term sickness or disability. This accounts for over a quarter of men aged 60-64 in Wales compared to 12% in LESE and 19% in the Outer UK. Looking at females by age band, the shares by employment category are broadly similar to males, except in relation to inactivity due to looking after family, which, unsurprisingly, is highest amongst women during the child rearing phase of their life, 20-40. The split between full-time and part-time employment is more evenly balanced than for males, with around 20-30 per cent of prime age females working part-time. Indeed, unlike for males, part-time work increases for females during the middle part of their working lives. Self-employment is considerably lower in all age categories for women, but especially in early stages of their working lives. Other forms of inactivity, aside from looking after the home, are not dramatically different from males.

Figure 3.1 Male population by employment category, by age



Source: APS, 2004/5-2008/9. Data are weighted.

Figure 3.2 Female population by employment category, by age



Source: APS, 2004/5-2008/9. Data are weighted.

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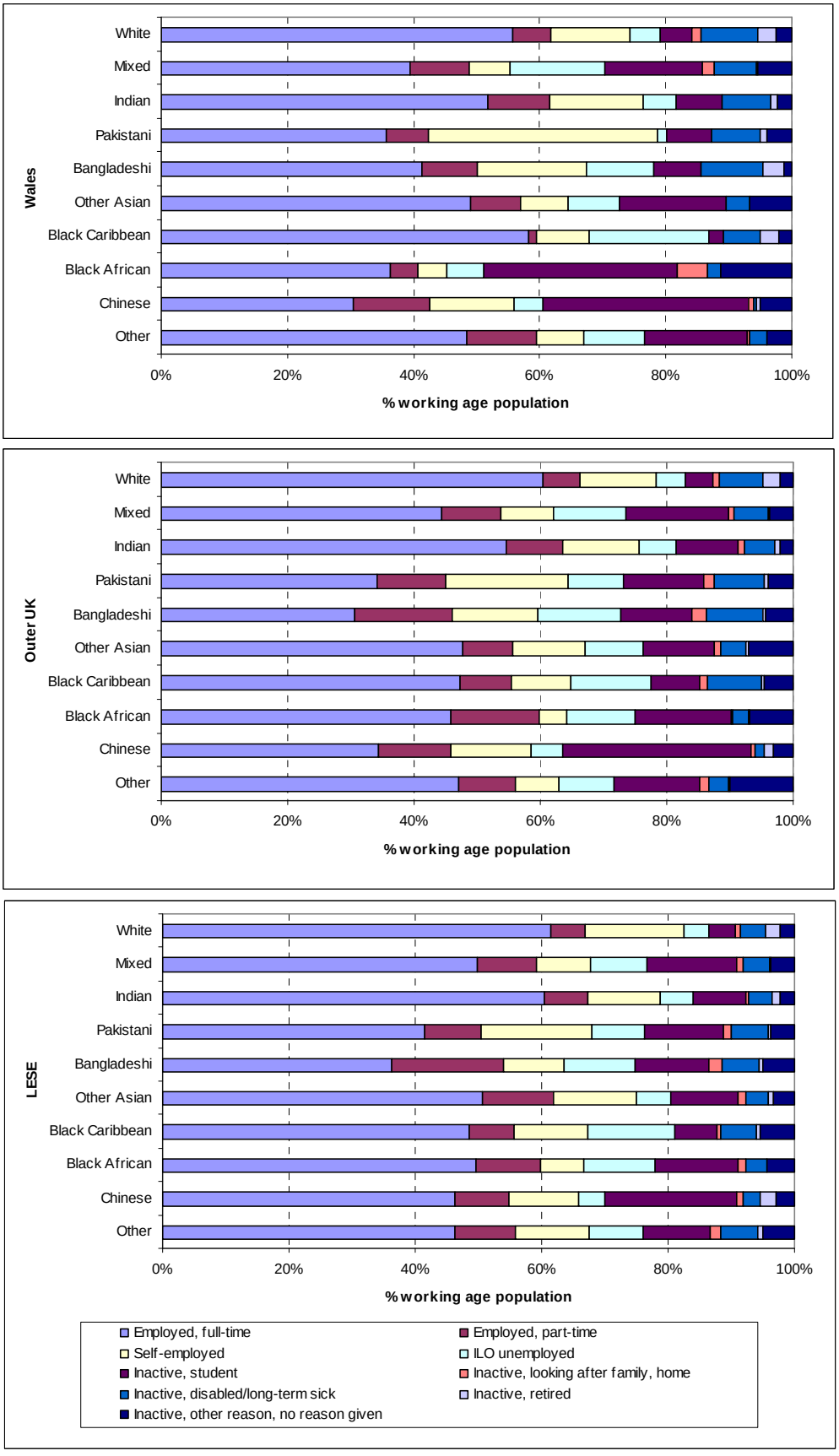
3.4.2 Employment and Ethnicity

Ethnicity is an issue which receives considerable attention from politicians, policy makers and the media. The role of ethnic minority groups within the labour market is thought to be of particular interest when looking to determine potential benefits (and costs) from migration. Here, we define ethnicity in 10 groups; White, mixed race, Indian, Pakistani, Bangladeshi, Other Asian, Black Caribbean, Black African, Chinese or other. In Wales, ethnic diversity is lower than in many other UK regions. Overall, 97% of the workforce in Wales classifies themselves as 'White' (compared to 83% and 93% in LESE and the Outer UK, respectively). Thus, only 3% of workers are included in all other (non-white) categories of ethnicity. As such, the cell sizes in a number of these breakdowns are relatively small and so caution ought to be exercised when interpreting these numbers. It is also worth highlighting the concentration of students among some ethnic minority groups (particularly Chinese and Black African). This is reflected in their concentration in the inactive student group, but should be taken into account when comparing the employment rates between the groups. Notwithstanding this, with the exception of the Black Caribbean group, the male full-time employment rate is generally higher among those classed as White.

Self-employment rates among the Pakistani working age population and to a lesser extent, those also of Bangladeshi, are considerably higher than for White people. Clark and Drinkwater (2000) investigate the reasons for this and find evidence of both 'push' and 'pull' factors, where employer discrimination would contribute to the former and cultural differences to the latter. It is particularly interesting to note that this concentration in self-employment among ethnic minority groups is more pronounced in Wales than in LESE and the Outer UK. This may reflect a lack of alternative employment opportunities in Wales.

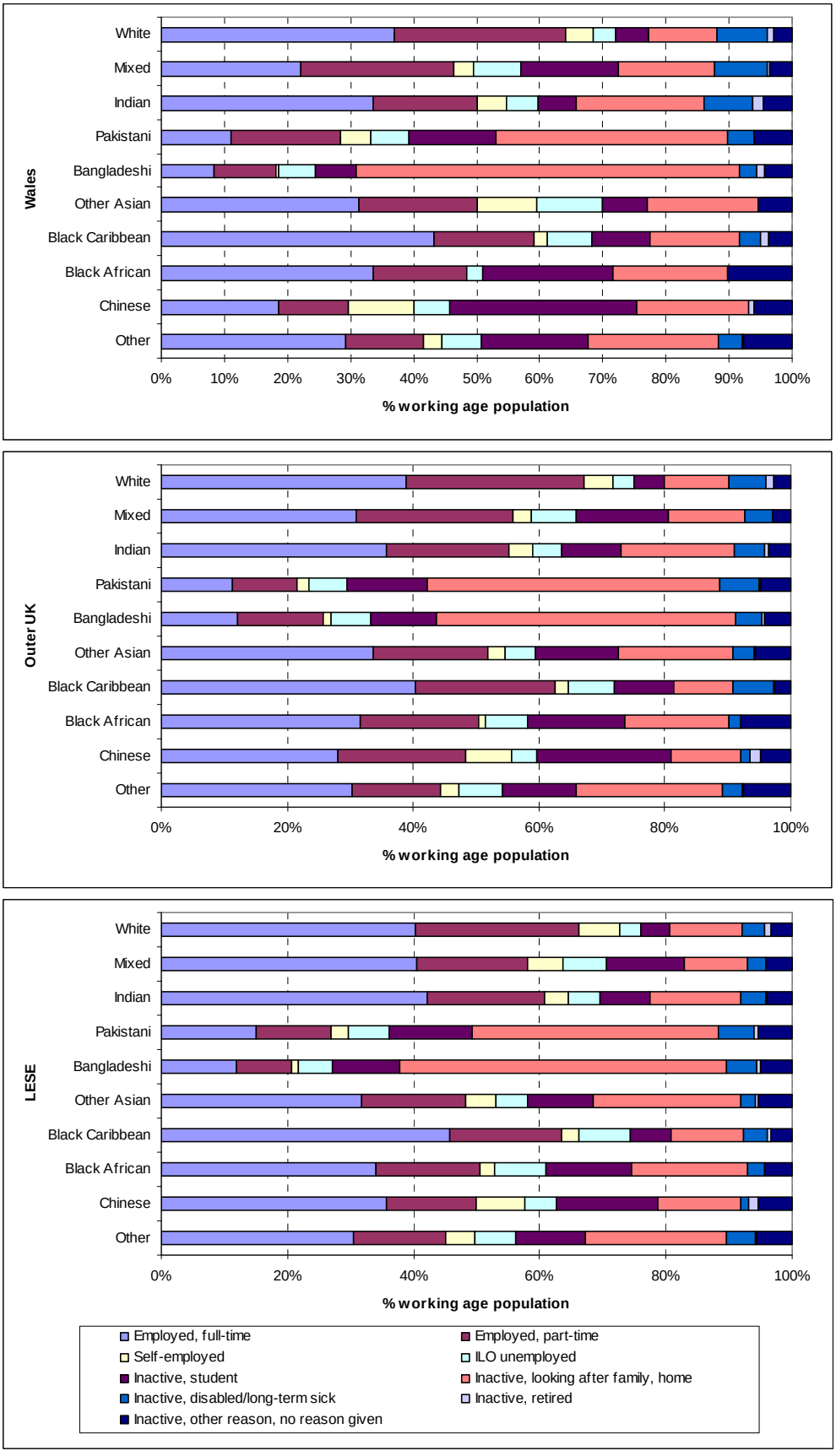
There is more dramatic variation in employment between ethnic groups when considering females, which may reflect cultural differences. Pakistani and Bangladeshi women have a far lower rate of employment than those in other groups; instead they are far more likely to be inactive looking after the home or family. For example, 37% of White women work full-time compared to 8% of Bangladeshi and 11% of Pakistani women. Part-time work is also generally less common for females from non-White ethnic backgrounds.

Figure 3.3 Male population by employment category, by ethnicity



Source: APS, 2004/5-2008/9. Data are weighted.

Figure 3.4 Female population by employment category, by ethnicity



Source: APS, 2004/5-2008/9. Data are weighted.

3.4.3 Religious Affiliation and Employment[xxv]

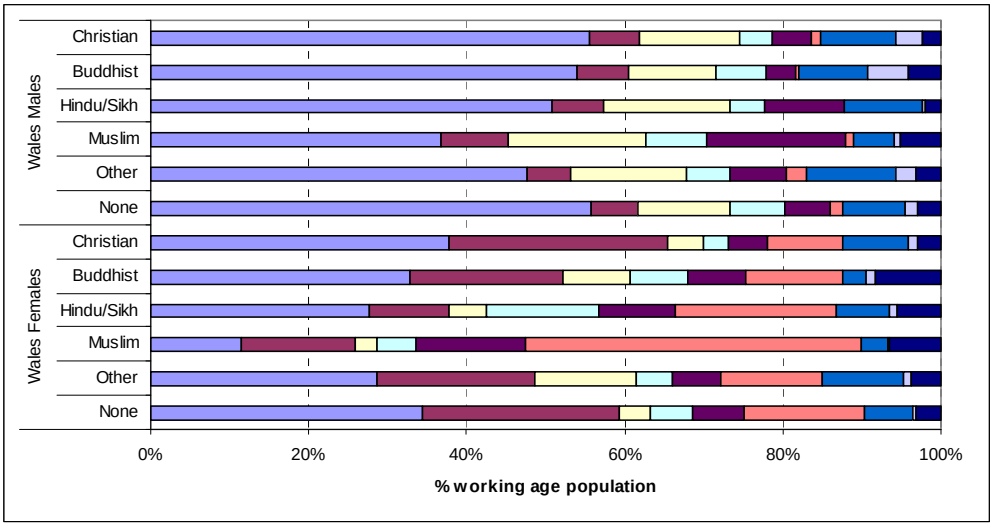
As well as age and ethnicity, it is possible that there may be differences in employment incidence across religious categories. Here we categorise religion or belief into 6 groups, including no religion and other, separately. Of the working population in Wales, over 71% report being Christian and 26% report no religion; therefore, once again we are discussing a split of around 2.6% of the working population of Wales, over 6 other religious groups. Figure 3.5 shows the percentage of the working population by religious category, across employment status. Note once again that small cell sizes are italicised. Around 56% of male Christians are in full-time employment, with only 6% in part-time employment. In the case of male Muslims, we see that the rate of self-employment is particularly high, as is the rate of inactivity due to being a student, when compared with Christian males or those of no religion. Indeed, in Wales, male Muslims are more than 3 times as likely to be a student as Christians which may reflect the concentration of temporary migrants among this religious group rather than genuine variation in participation in higher education among the population. In the case of females, an extremely large proportion of Muslims are inactive in order to look after the family – 42%, and very few are in full-time employment. Interestingly, women in religious groups other than Christian or no religion have a lower incidence of part-time employment.

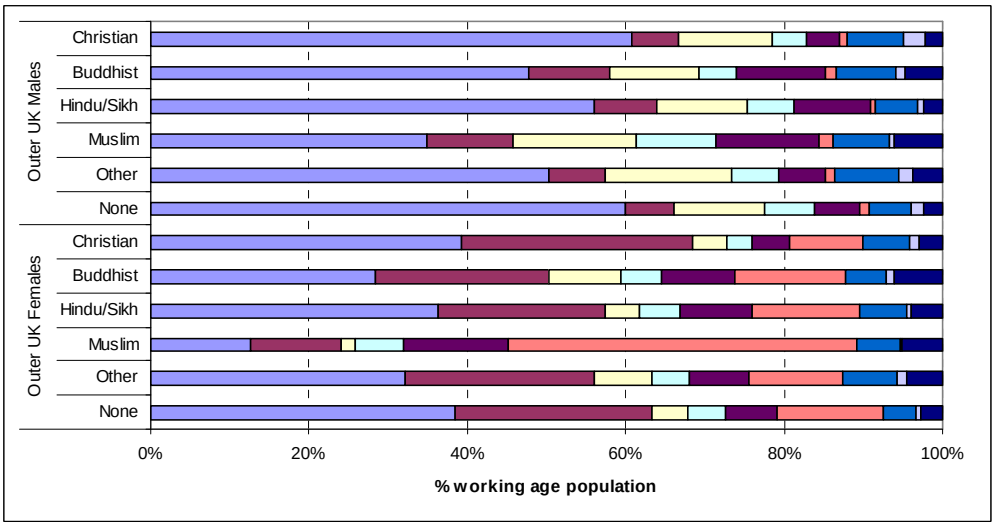
3.4.4 Disability Status and Employment

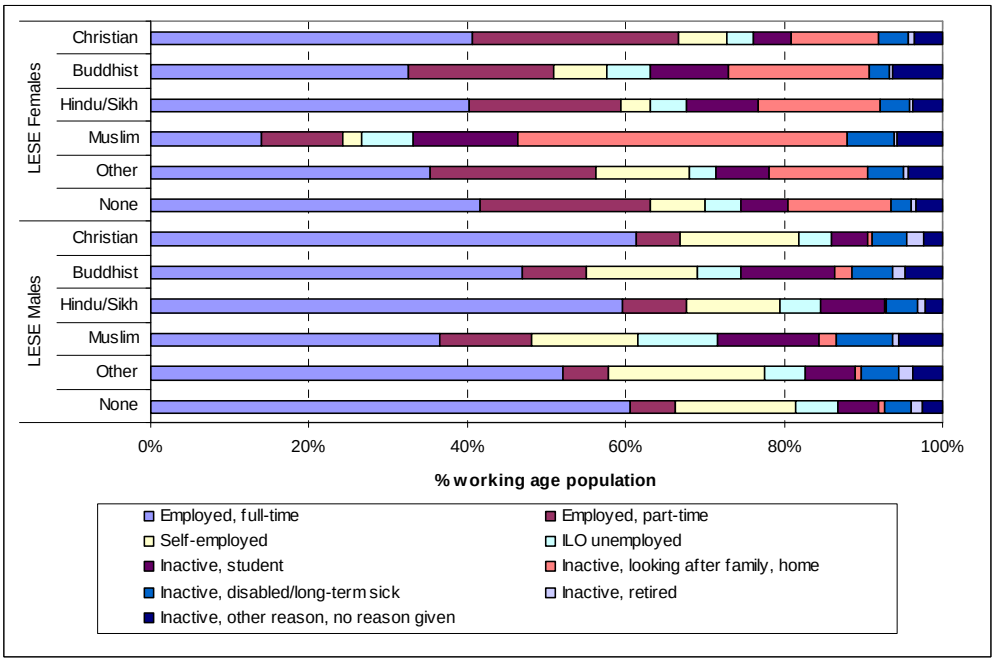
The extent to which disabled workers are able to participate in the labour market has been another area where there has been considerable legislation to eliminate discrimination and reduce inequality. In Figure 3.6, we explore the shares of employment categories by disability status categorised as those that are not disabled, those that are classed as disabled under the Disability Discrimination Act (DDA), 1995, those that are work limited by their disability and those that are both. In Wales, 78% of the working population are not disabled, a lower percentage than elsewhere in the UK. In contrast, around 15% are both DDA and work limited by their disability, which is over 5% larger than in LESE, and 2% higher than in the Outer UK.

Almost 63% of males that are not disabled are in full-time employment; this is slightly higher for DDA only disabled workers, but noticeably lower for work-limiting forms of disability status. There is also a lower incidence of part-time employment among the DDA and work-limited disabled group, although this actually represents a greater share of those in employment than the non-disabled group. It is also apparent that as a proportion of working opportunities (full/part/self-employment), self-employment is a significantly more important source of work for the DDA and work-limited disabled (consistent with Jones and Latreille, 2006), in part because of its flexibility. It is important to note that male DDA only disabled workers are in a very similar position to non-disabled males in Wales. This may, in part, be reflective of age differences and highlights the importance of controlling for other characteristics when interpreting trends.

Figure 3.5 Population by employment category, by religion and gender

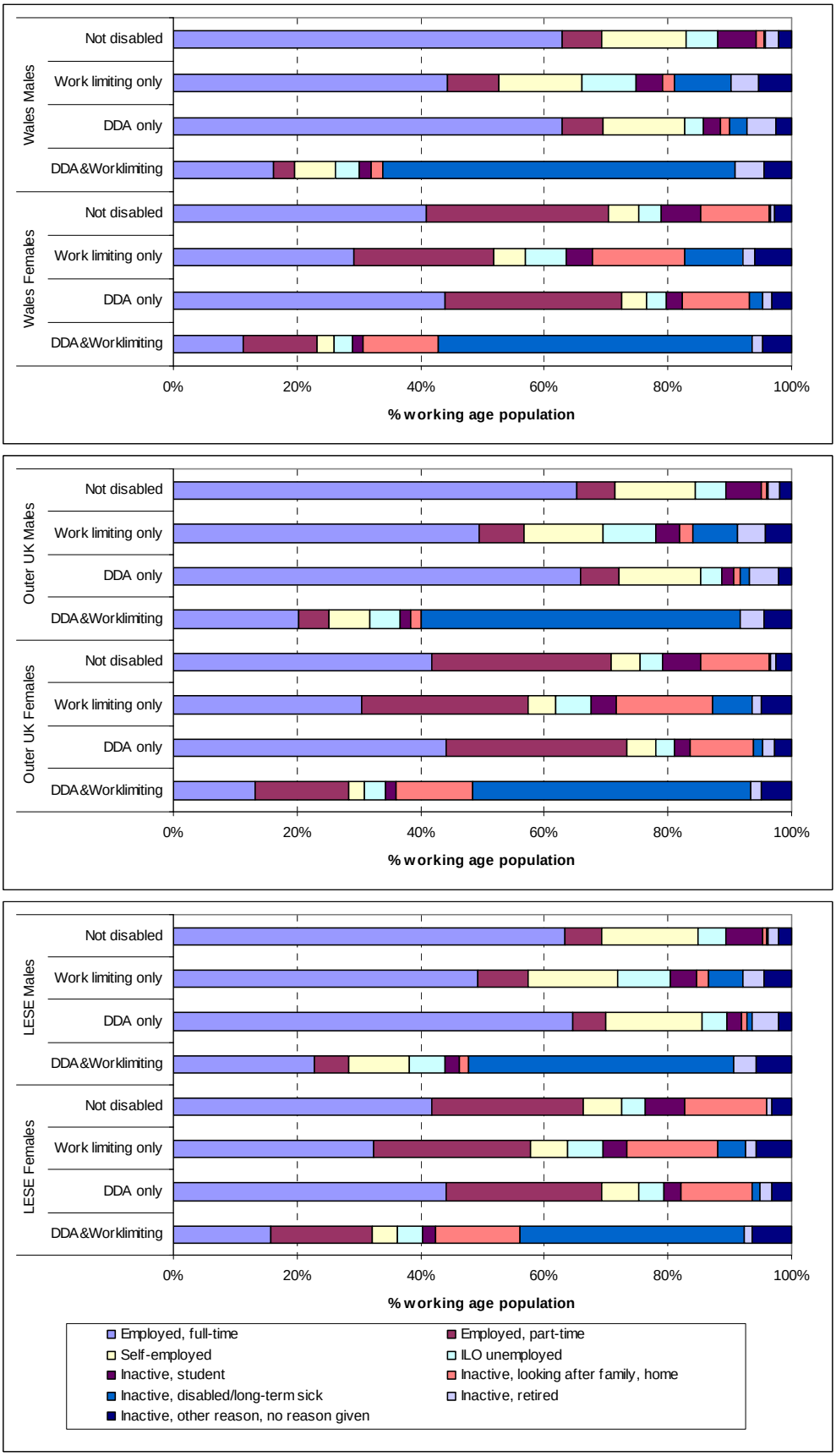






Source: APS, 2004/5-2008/9. Data are weighted. Notes: Religion is only consistently available for respondents resident in Great Britain and therefore these results exclude observations from Northern Ireland.

Figure 3.6 Population by employment category, by disability and gender



Source: APS, 2004/5-2008/9. Data are weighted.

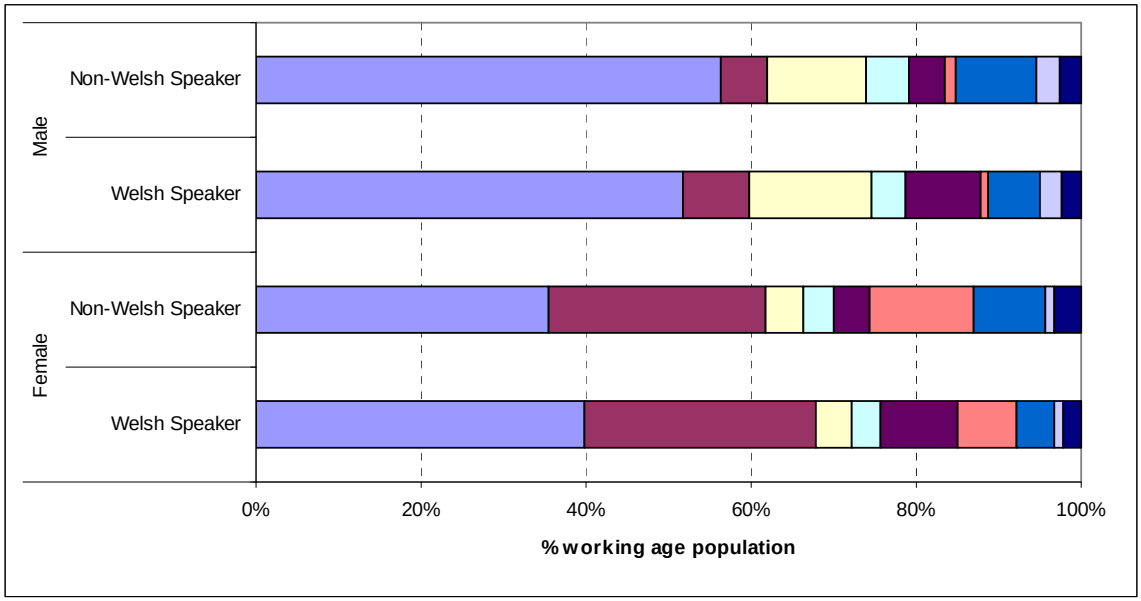
In the case of females, again we see a similar labour market position of DDA only disabled workers (be it full-time, part-time) and non-disabled workers. However the employment differences noted above for males are also evident. Only 11% of DDA and work-limiting disabled females are in full-time employment compared to 41% of the non-disabled group. Rates of inactivity because of being a student are lower for anyone classified as a disabled person, male or female, and contribute to the differences in educational attainment identified in Chapter 2. Unsurprisingly, a large proportion (over 50%) of males and females that have a disability which is defined by the DDA and is work-limiting are inactive due to being disabled or long term sick.

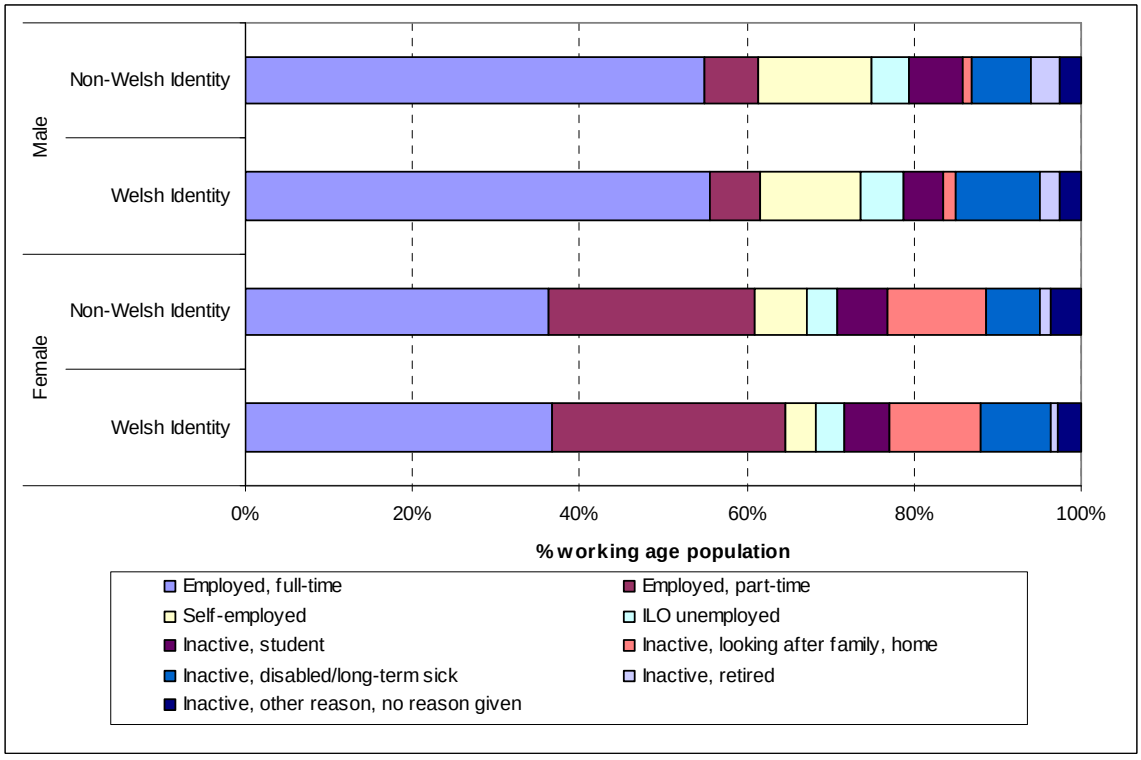
In terms of comparisons between the impact of disability in Wales, LESE and the Outer UK it is worth noting the employment rate for DDA and work-limiting disabled people is lower for both males and females resident in Wales than in the other regions and that the regional gap is more pronounced than for the non-disabled. Jones et al. (2006) also highlight similar evidence. Consistent with this, a greater proportion of individuals (57% of disabled males in Wales compared to 43% in LESE and 52% in the Outer UK) are inactive due to disability or long-term sickness.

3.4.5 Welsh Identity, Welsh Language and Employment

Welsh speakers account for almost 23% of the Welsh working age population and 66% classify their national identity as Welsh. Figure 3.7 shows, by gender, employment status split by Welsh speaking and Welsh national identity. This information is only available for residents in Wales. For males, those who speak Welsh are less likely to be in full-time employment and are more likely to be inactive due to being a student. This may be a cohort effect amongst younger males, as the Welsh language has in recent times been more positively promoted. It may also be due to those who have Welsh as an additional language being more academically able and therefore more likely to remain in education for longer. For females, there is also a greater concentration of inactivity due to being a student among those who speak Welsh but, in contrast to the discussion for males, Welsh speakers are also more likely to be employed full-time. Using data from the 1991 Census, Drinkwater and O'Leary (1997) find that unemployment rates are lower for Welsh speakers relative to those who only speak English. Consistent with this, the unemployment rate for Welsh speakers appears to be lower for males. The differences by Welsh identity are more modest. The concentration of those who identify themselves as Welsh among the inactive disabled group is probably the main feature worth highlighting. It is, however, worth noting that differences in the composition of these groups (for example, in terms of age and geographical concentration) may explain the results.

Figure 3.7 Welsh population by employment category, Welsh identity and Welsh language and gender.





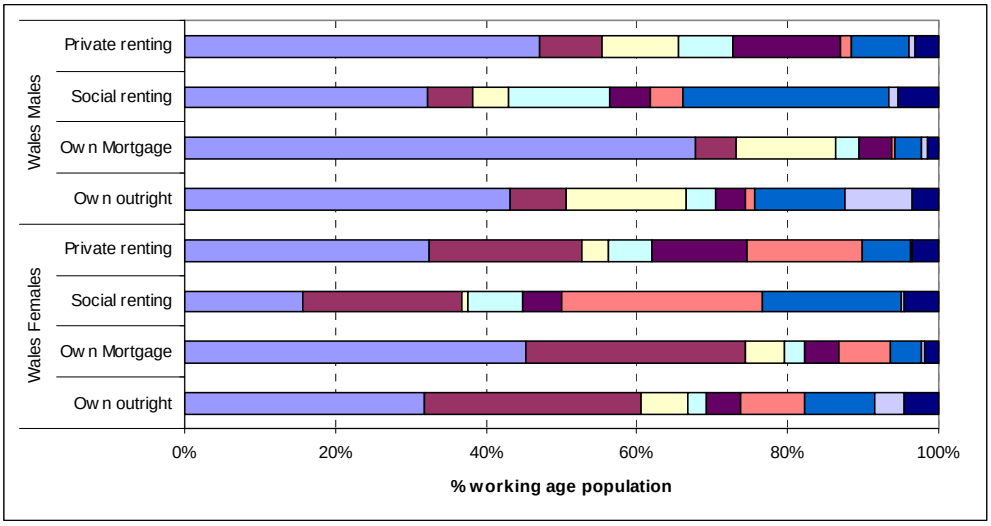
Source: APS, 2004/5-2008/9. Data are weighted.

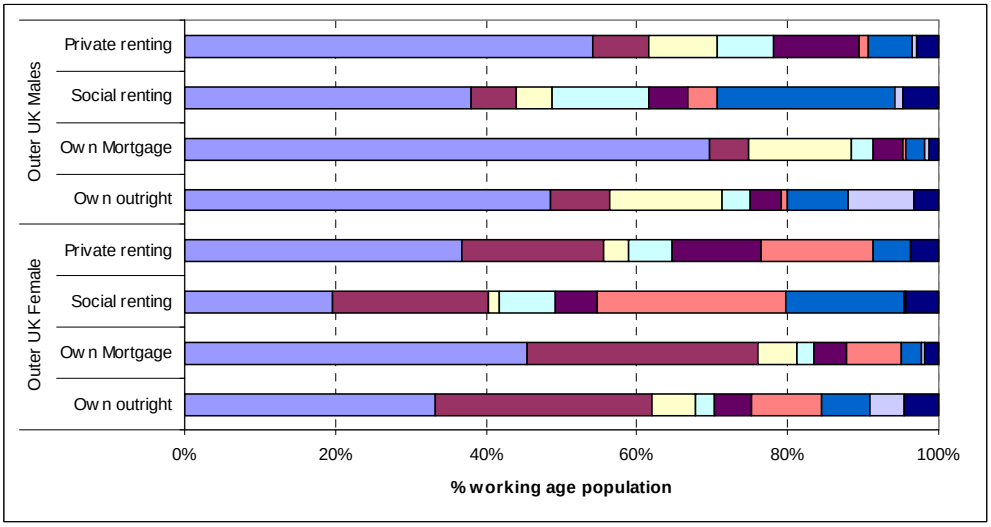
3.4.6 Housing Tenure and Employment

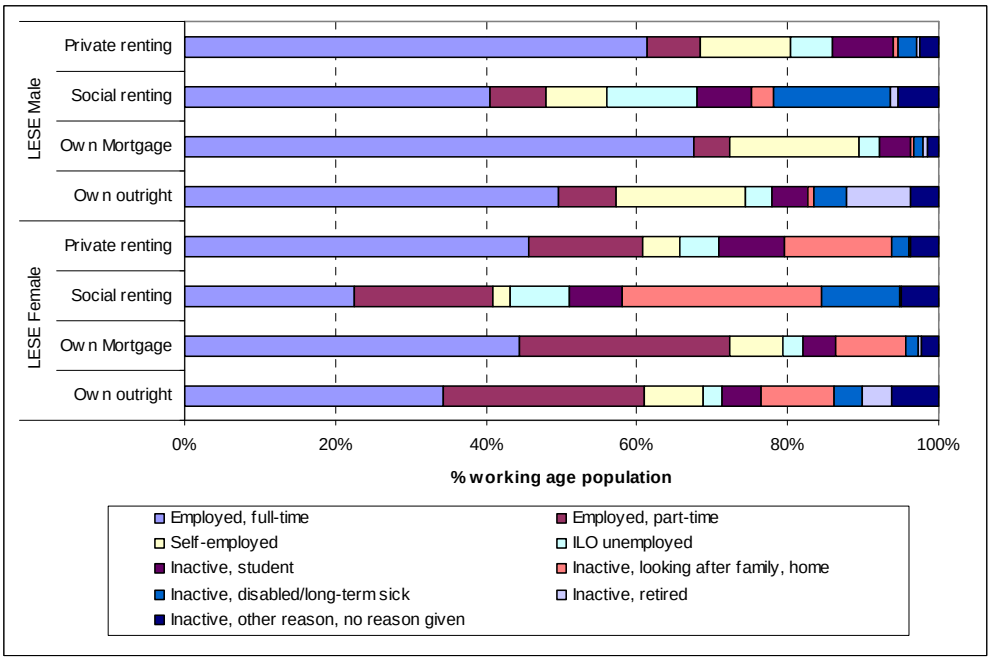
Owning one's own home is seen increasingly as an indicator of inequality in terms of wealth that may have long run effects on individuals. Housing is viewed as a long run investment, often thought of as a 'pension fund' for those who have few other valuable assets or savings. Ownership (either being bought with a mortgage, or owned outright) accounts for the largest proportion of males and females (75% of all housing tenure, male and female combined shares). Without home ownership, rent accrues to other individuals or organisation rather than adding to personal wealth. Therefore, the balance in housing tenure is likely to shed light on inequalities that have longer run implications.

Figure 3.8 shows housing tenure by employment category. The proportion in full-time employment varies considerably by housing tenure as may be expected since employment status, through its effect on wealth, is a determinant of housing tenure. Those living in socially rented accommodation have the lowest rates of full-time employment (less than half the corresponding rate for those with a mortgage). Individuals in social housing are instead more likely to be unemployed, inactive because of long term sickness or disability or inactive looking after family than the other residential groups. Unsurprisingly, there is a concentration of private renters in the inactive student category. The lower rates of full-time employment among those who own their house outright compared to those with a mortgage may reflect differing age compositions between the two groups. This also appears to be reflected in the concentration of inactive retired in the owned outright housing group. Consistent with the previous discussion it is not surprising to see higher employment rates in LESE and the Outer UK compared to Wales. However, it is worth noting that, consistent with the differences in the housing market in London and the South East, the rate of full-time employment among private renters is considerably greater in LESE compared to Wales and the Outer UK.

Figure 3.8 Population by employment category, housing tenure and gender







Source: APS, 2004/5-2008/9. Data are weighted.

3.5 Employment Quality among Population Sub-Groups

So far, we have considered those in and out of employment, but the quality of employment is also important in determining inequality in the UK. In this section we focus on several dimensions of employment that provide information on its likely quality. Firstly, we consider the security of job tenure that an employee has; in permanent jobs, the worker will have stronger bargaining power, not only over wages but also over working conditions. We also consider other main features of employment such as the sector (public/private) and occupation (in terms of broad groupings). Finally, we consider the quality of employment by examining whether or not the occupation in which the individual is employed is classed as low paying. Here we use the most recent definition of low paying occupation, as measured by the Low Pay Commission in their National Minimum Wage Annual Report (LPC, 2010). Table 3.3 below lists the sectors and the occupations which are considered to be low paying.

Table 3.3 Low paying occupations defined

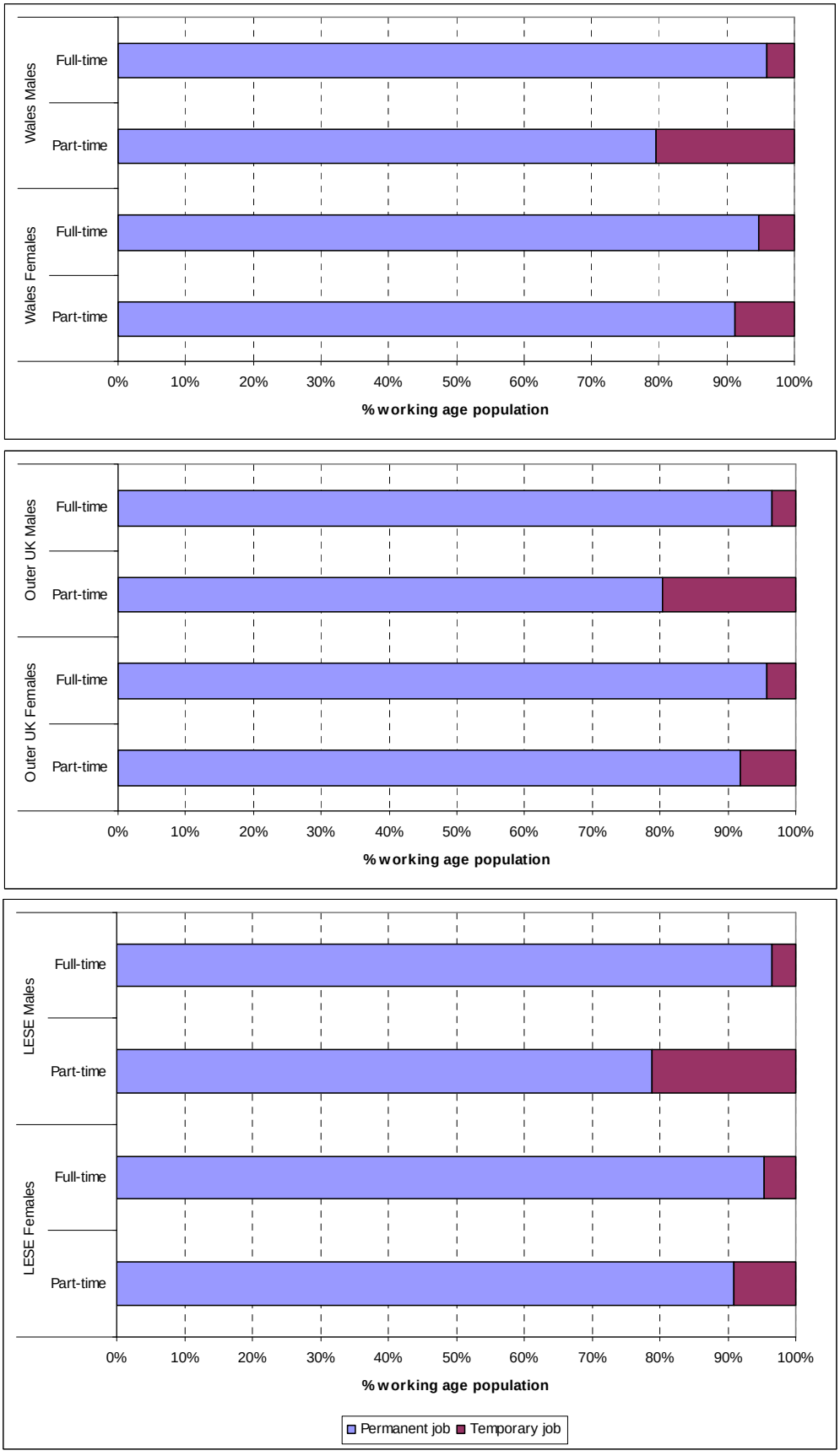
Low Paying Occupation	Occupation Based Definition (SOC2000)
Retail	711, 721, 925
Hospitality	5434, 9222, 9223, 9224, 9225
Social Care	6115
Cleaning	6231, 9132, 923
Security	9241, 9245, 9249
Hairdressing	622
Textiles and Clothing	5414, 5419, 8113, 8136, 8137
Agriculture	911
Childcare	6121, 6122, 6123, 9243, 9244
Food processing	5431, 5432, 5433, 8111
Leisure, travel and sport	6211, 6213, 9226, 9229
Office work	4141, 4216, 9219

Source: Adapted from LPC (2010).

Figure 3.9 shows the proportion of employees, in part-time and full-time employment, that have permanent or temporary contracts. The vast majority of men working full-time are on a permanent contract and this does not differ substantially for Wales compared with the Outer UK. The rate of temporary work is considerably higher among part-time workers in both Wales and the Outer UK, particularly for males.

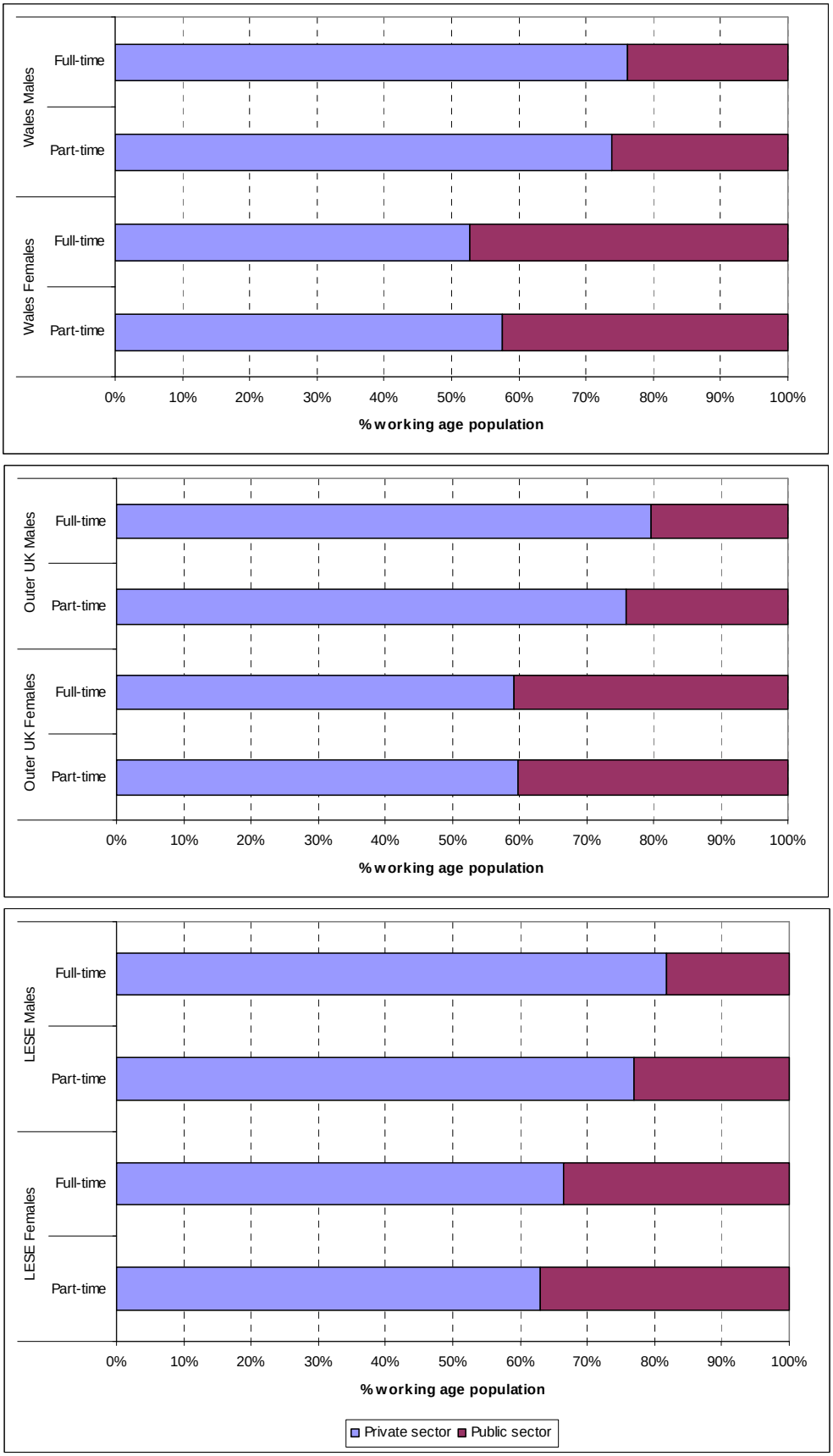
In Figure 3.10, the share of workers that are employed by the public or private sectors of the economy are presented. From a regional development perspective, a vibrant private sector is seen to be a driver of economic growth. We note from Figure 3.10 that Wales has a larger public sector share of workers than other parts of the UK, particularly for full-time workers. In the case of part-time workers, the split between public and private sector workers is more uniform across the various regions, although part-time workers in Wales are slightly more likely to be in the private than the public sector. These patterns hold true for females, although the split between public and private sector employment is more evenly split for both full and part-time workers, indicating the relative concentration of females in the public sector.

Figure 3.9 Percentage of workers on permanent or temporary contract.



Source: APS, 2004/5-2008/9. Data are weighted.

Figure 3.10 Percentage of workers in the public and private sectors



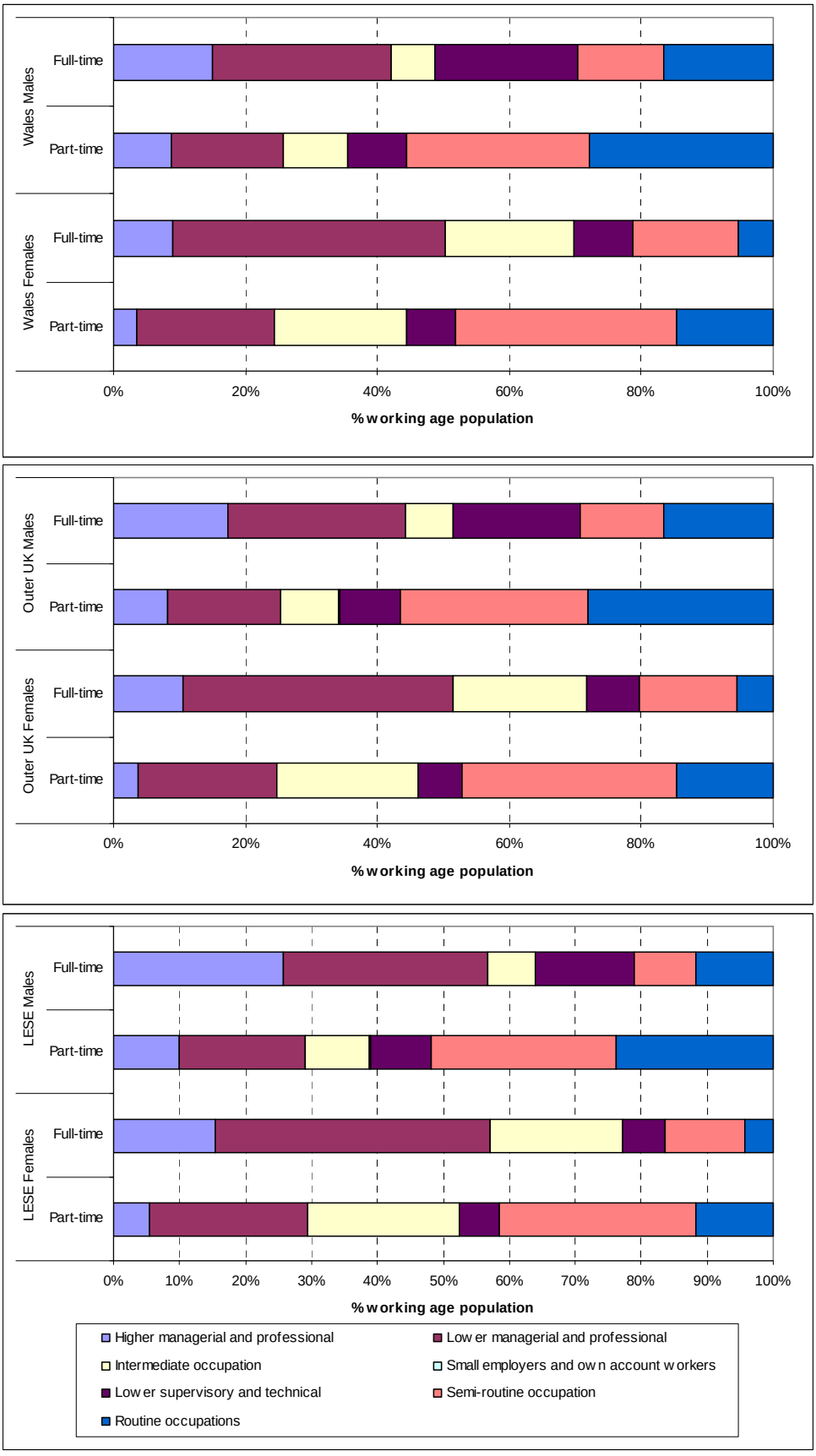
Source: APS, 2004/5-2008/9. Data are weighted. Notes: Sample restricted to current employees only.

In Figure 3.11, the jobs held by workers are classified according to the National Statistics Socio-economic Classification (NSSeC). The NSSeC provides a measure of social class, and in this case, is derived on the basis of the characteristics of jobs held by people in the APS data. It is therefore important to note that this classification does not relate to social class background which would require information on the jobs held by parents. The analysis shows that Wales has the lowest percentage of males in Higher Managerial and Professional occupations, compared with other regions. Compared with LESE, the biggest discrepancy for men within Wales is among the Lower Supervisory and Technical category, accounting for over one fifth of full-time workers in Wales, compared with 14% in LESE. The difference is considerably less marked compared with the Outer UK. In the case of females, patterns are similar, although the share of full-time women in Lower Managerial and Professional, and Intermediate occupations does not differ greatly across regions. There are, however, a number of differences within Wales, both between genders and by part-time or full-time contract. A lower proportion of women (even those who work full-time) are employed in Higher Managerial and Professional Occupations. Instead, women appear to be concentrated in Lower Managerial and Professional, and Intermediate occupations relative to men. Those working part-time (either males or females) are more concentrated in occupations which typically require fewer skills and are therefore lower paid, including those working in Routine and Semi-Routine occupations.

Figure 3.12 shows the proportion of workers in a low paying occupation, again split by gender and for Wales, LESE and the Outer UK. Women employed full-time are more likely to be in low paid employment than men and for both groups part-time workers are also more likely to work in low paying sectors. For example, over 50% of part-time workers are in low paid occupations. It is also interesting to note that self-employed females are more likely to be in low paid occupations than full-time female employees highlighting the heterogeneity in self-employment. For females in particular the overall concentration in low pay is greater in Wales (37%) than in LESE (29%), but relatively similar to the Outer UK (35%).

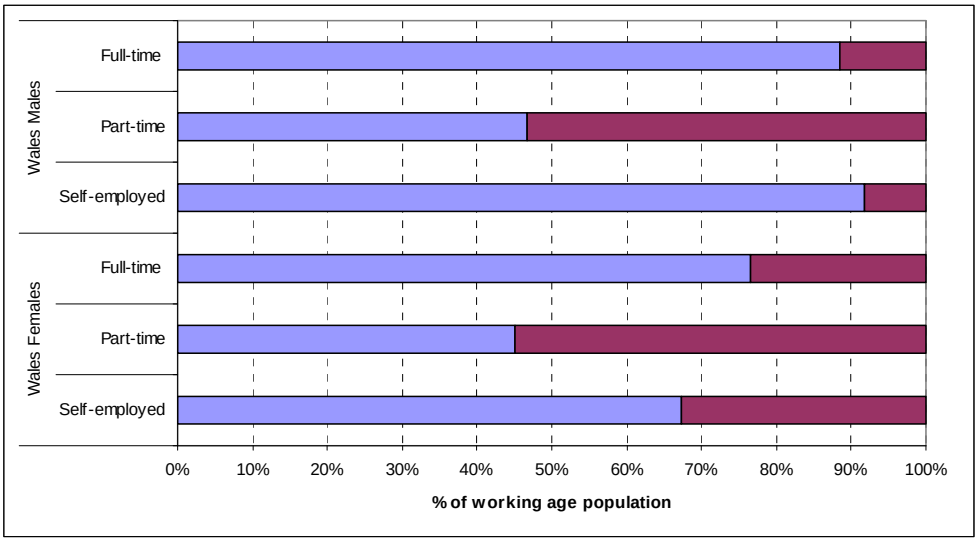
Overall, these quality characteristics do not suggest that Wales is dramatically different from the UK. There is, however evidence that female and part-time workers have lower job quality in terms of the indicators considered here. Of course, these variables may be reflecting other effects, such as the level of education. It may also be reflective of the other characteristics that we have reviewed above. Therefore, in order to go a little further in establishing which characteristics are really driving differences in employment, we go on to test which factors affect the probability of employment, within a multivariate framework.

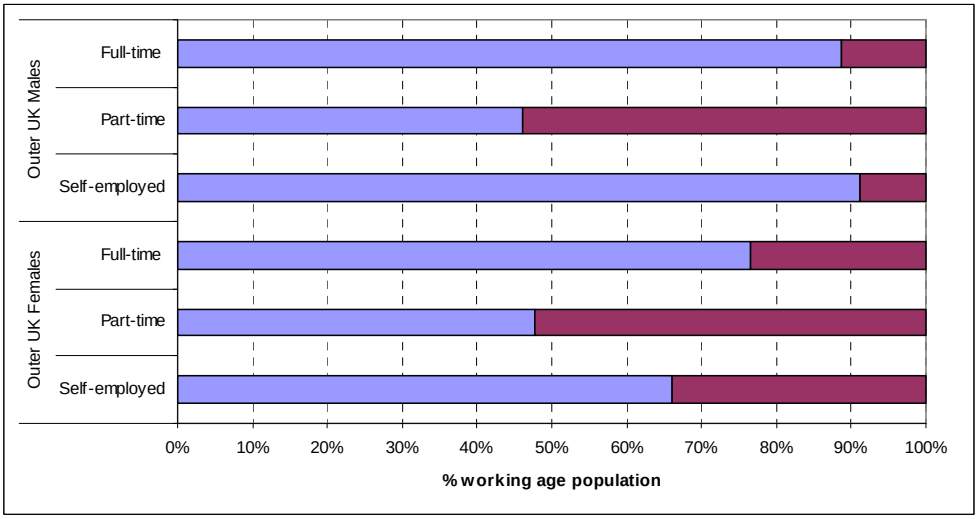
Figure 3.11 Employment by National Statistics Socio-Economic Classification

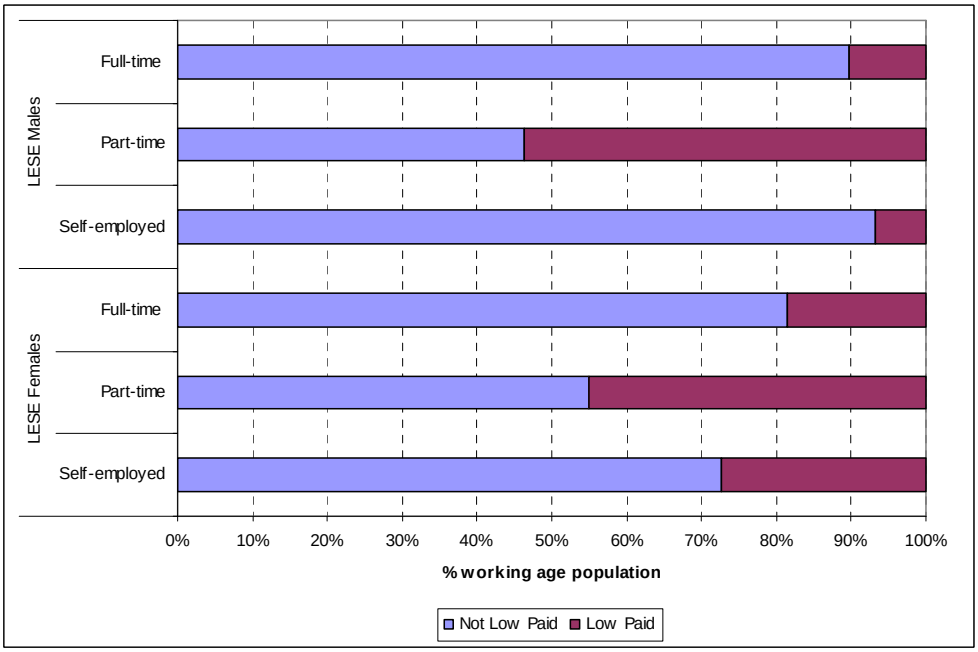


Source: APS, 2004/5-2008/9. Data are weighted.
Notes: Sample relates to employees only.

Figure 3.12 Percentage shares of workers in low paying sectors







Source: APS, 2004/5-2008/9. Data are weighted.
Notes: Sample relates to employees and the self-employed.

3.6 Disentangling the Characteristics Associated with Employment

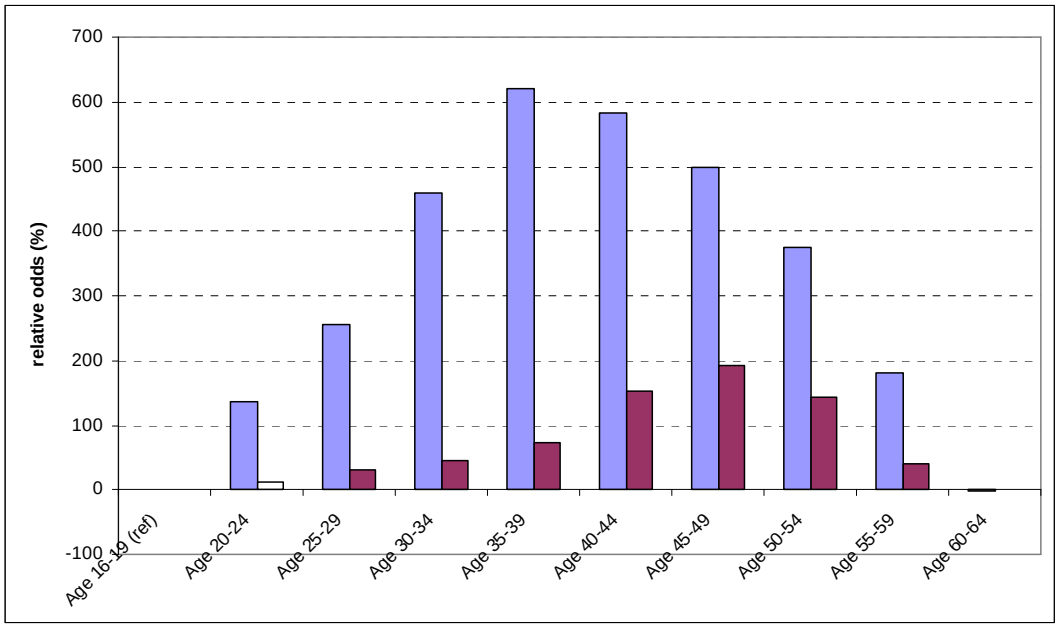
As with the analysis of educational attainment in Chapter 2, we conclude this chapter by undertaking a more detailed analysis of the characteristics that influence an individual's participation in employment. By utilising multivariate statistical techniques, we are able to examine more accurately how particular characteristics influence participation in employment after having simultaneously controlled for a range of other characteristics. We utilise the same statistical technique (logistic regression) and the graphical presentation of results as that used in Chapter 2. Shaded bars represent relationships that were estimated to be statistically significant. We focus only on individuals of working age and define employment to include paid employees (both in part-time or full-time employment) and the self-employed. In the analysis which follows, we consider three issues:

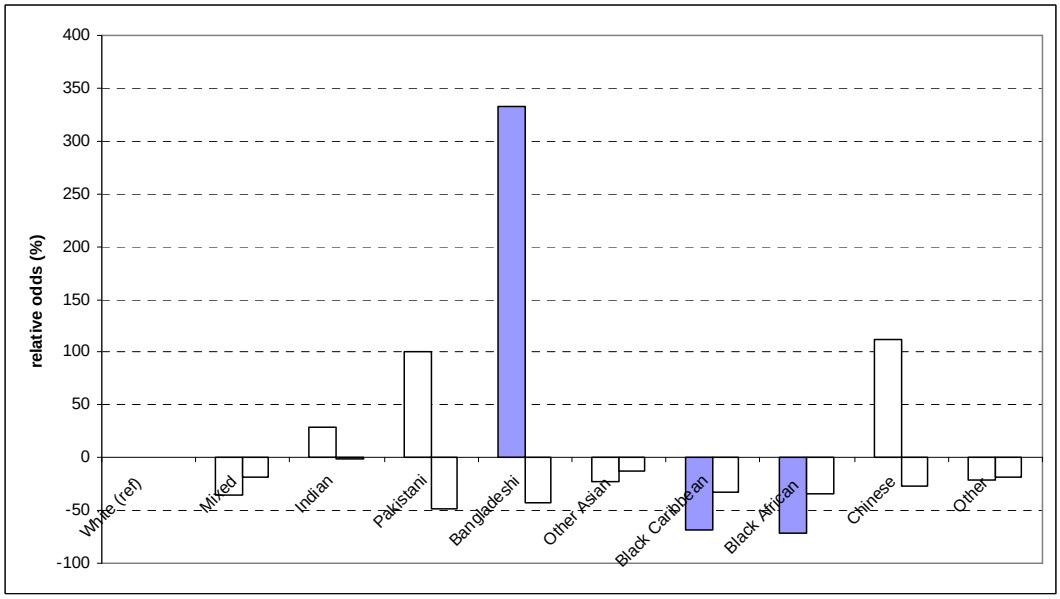
- What are the characteristics associated with an individual being in employment?
- Among those in employment, which people are more likely to be employed on a part time basis?
- Among those in employment, who are most likely to be employed in a low paid occupation?

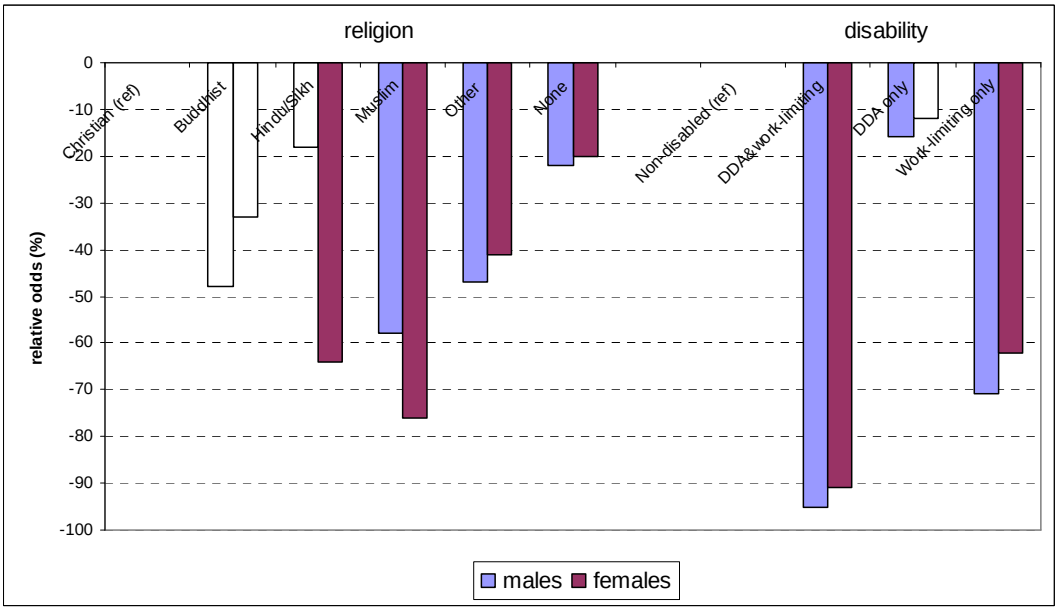
Figure 3.13 considers which personal characteristics are associated with an increased or decreased likelihood of being in paid employment. Separate analyses are conducted for men and women and we again focus on the results of analysis conducted for people living in Wales. Full results, including analyses for LESE and Outer UK are presented in Annex 4 (see Tables A4.1 and A4.2). Analysis reveals that:

- For males the likelihood of being in employment increases until about the age of 45, after which it declines. Age has less of an effect on the participation of women in employment. Women aged 45-49 are most likely to be in work. This later 'peak' in employment participation among women is likely to reflect return to work patterns as dependent children enter full time employment.
- Relative to white males, Bangladeshi males are 330% more likely to be in employment. In contrast, Black Caribbean and Black African males are less than half as likely as being in employment. There is no significant influence of ethnicity on participation in employment for females once accounting for other characteristics.
- Religion is a much more significant determinant of employment than ethnicity. Among males, those of Muslim belief are approximately half as likely to be in employment as those of Christian belief. The association between religion and reduced levels of participation in employment is stronger among women. Hindu and Sikh women are 64% *less* likely (or put another way, a third *as* likely) than Christian women of being in employment. Muslim women are 76% less likely (or a quarter *as* likely) than Christian women of being in employment.
- Being an activity and work-limiting disabled person (as defined by the DDA) is associated with the substantially reduced likelihood of being in employment compared to non-disabled people. Both work-limiting and activity limiting disabled males are only 5% as likely to be in employment than non-disabled males. The figure for women is similar at 10%.

Figure 3.13 Estimates of the Relative Likelihood of Being in Employment







The characteristics associated with part-time employment among those in work are presented in Figure 3.14. Analysis reveals that:

- For males, virtually all older age groups are less likely to be in part-time employment than those aged 16-19, although part-time employment appears to be a more important source of employment among older groups (particularly those aged over 60). In contrast, the likelihood of part-time employment among women is highest for those aged 30-44, as this group try to combine work and family life.
- For males, being from a non-white ethnic group is associated with increased participation in part time employment. For females, Indian and other Asian women, Black Caribbean and Black African women are all less likely to be in part-time employment than White women. This suggests that part-time employment is a more important source of work for White women than for other ethnic groups.
- Religion has no influence over part-time employment for males. Whilst religion was an important factor associated with participation in employment among females, among those women who are in work, it does not appear to be associated with the decision to work full or part time.
- Being an activity and work-limiting disabled person increases the odds of part-time employment consistent with this being a mechanism through which the group can accommodate the demands of employment (see Jones, 2007) but, in Wales, being a DDA only disabled person does not significantly affect the odds of part-time employment.

The characteristics associated with employment in low paid occupations are presented in Figure 3.15. Analysis reveals that:

- Being in any age group older than age 16-19 is associated with a reduced likelihood of being in low paid employment. Among both men and women, those aged 30-50 are only 25% as likely as those aged 16-19 to be in a low paid job.
- Males of Bangladeshi ethnicity are more than 7 times as likely to be in low pay compared to an otherwise comparable white male. Black African males, Chinese males and men classified to the 'other' ethnic group are also more likely to be low paid than White males. Ethnicity does not appear to be associated with low pay among women.
- Among males, Buddhists are more likely to be in a low paid occupation compared to those with Christian beliefs. There is no significant influence of religion on being in a low paid occupation for females.
- In Wales DDA and work-limiting disabled people have an increased likelihood of being in low paying occupations but there is no significant difference between non-disabled and DDA disabled people only. The magnitude of the influence of disability for females is smaller in Wales than in the rest of the UK (see table A4.6).
- It is also worth briefly noting the importance of education as a route out of low pay (results not reported). A male with no qualifications in Wales has 13 times higher odds of being in a low paid occupation compared to an otherwise identical individual with a higher degree. The corresponding figure for females is 60 times.

Figure 3.14 Estimates of the Likelihood of Being in Part-Time Employment

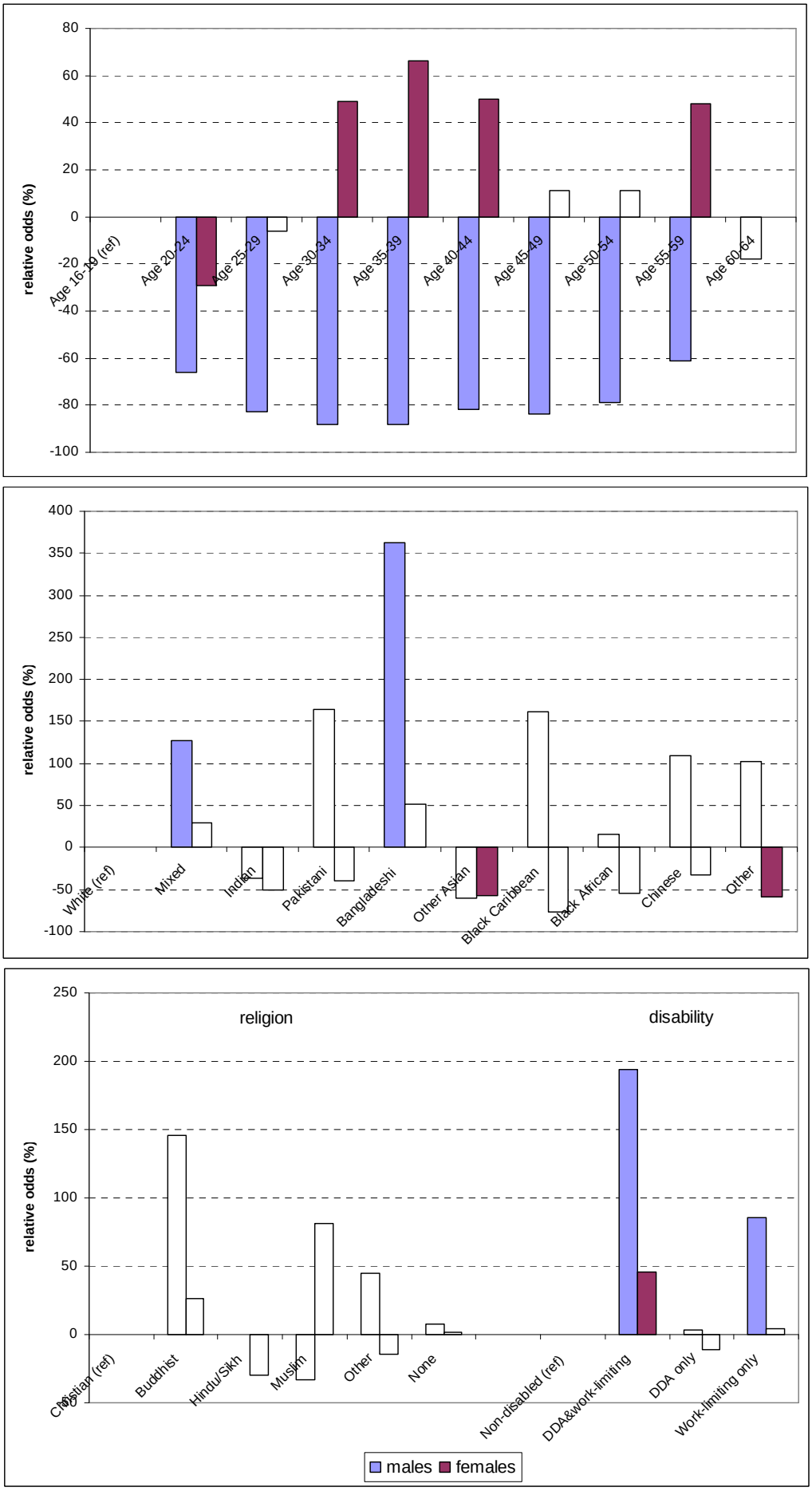
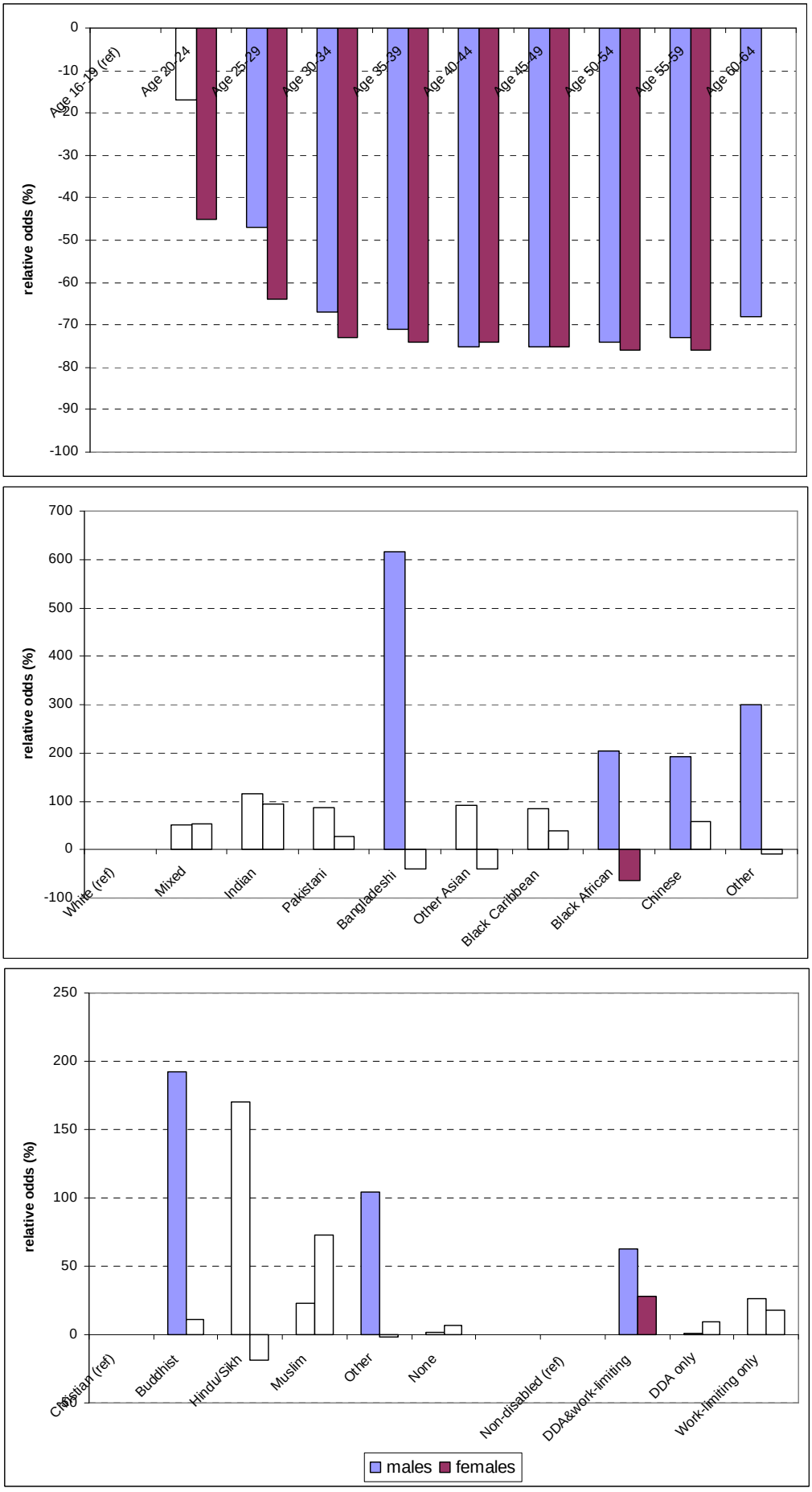


Figure 3.15 Estimates of the Likelihood of Being in Low Paid Employment



3.7 Summary and Conclusions

The purpose of this chapter has been to outline the way in which employment status differs across various characteristics in order to identify less advantaged sections of the workforce. Before considering the influence of personal characteristics it is worth briefly highlighting differences between Wales and the rest of the UK. A defining feature of Wales has been the relatively low employment rate. Whilst this 'gap' has narrowed over time males remain about 5 percentage points less likely to be in full-time employment in Wales relative the rest of the UK. This 'gap' is concentrated amongst older males (that is those age over 40) and is matched by a concentration in inactivity due to being long term sick or disabled. The same trend is evident for females but the magnitude is smaller.

In terms of employment there are several differences between genders that are worthy of note. Consistent with the situation in the rest of the UK part-time employment provides a more important source of work for females particularly for those aged 30-44. Females have a substantially lower likelihood of self-employment (less than half the rate of men). Although declining over time, there remains an important concentration of females who are classed as 'economically inactive and looking after family'. This group accounts for less than 1% of working age men compared to 8% of women. Even amongst those who work, important gender differences in occupation, sector and low pay are evident. Consistent with previous evidence we find females in Wales are more concentrated in public sector employment, are less likely to be employed in higher managerial and professional occupations and are more likely to work in a low paying occupation. These differences cannot be attributed entirely to their concentration in part-time work.

We explore the differences between various age groups and their employment status. However, age is correlated with both education and experience and may therefore reflect these characteristics. Employment is lowest among those just entering or leaving working age and this is particularly pronounced for males. Inactivity is more prevalent among both ends of the age distribution, though the reasons differ. Young individuals (particularly those aged 16-19) are more likely to be full-time students, whereas for those aged over 50, inactivity due to disability or retirement becomes more important.

Differences in overall employment and, particularly self-employment, are evident for males from the Pakistani and Bangladeshi groups. However, religion is correlated with ethnicity and simple comparisons of rates of employment between different groups are unable to identify the relative importance of ethnicity and religion. Interestingly, in the multivariate analysis religion (and not ethnicity) appears to be the key driver of the differences in female employment with lower employment rates for Hindu/Sikh, other and no religion groups relative to the Christian group.

Disability that is work-limiting and activity (or DDA) limiting has profound consequences for employment, both in terms of undertaking work, but also in terms of hours and being in a low paid occupation. Results from the descriptive analysis show that about 26% of disabled people are in employment and that the influence of disability is more acute in Wales than in LESE or the Outer UK. The effect is more similar across areas in the multivariate analysis suggesting that differences in education within the disabled group are one potential contributory factor. Overall, the influence of disability is far more pronounced for those who are work-limiting and

DDA disabled than for those who are defined as disabled by either definition in isolation. If this is used as a proxy for the severity of the disability then our results suggest that this is a fundamental determinant of employment outcomes and highlights the wide variety of circumstances faced by disabled people.

This chapter attempts to examine how key employment outcomes vary by personal characteristics. There are a number of caveats that we need to raise and also a number of issues that are beyond the scope of this chapter. Even in the multivariate analysis presented here we only take in to account some of the key determinants of employment. The differences observed may therefore be a consequence of factors which we do not or cannot control for. At no point should these differences therefore be attributed to unfair treatment by employers or discrimination. There are also other aspects of employment quality which we do not consider. One other feature, namely earnings, is analysed in the following chapter. Finally, given our focus on the data for Wales, it is also worth highlighting that our regional definitions relate to those who live (and not necessarily work) in the area. This chapter therefore ignores commuting across geographical borders.

[xxiii] International Labour Organisation

[xxiv] Note that in relation to age, we do not restrict our sample to the working age population, but those over 16.

[xxv] Note that in the APS, the variable on which these tables are based are not asked of respondents in Northern Ireland.

Chapter 4: Earnings in Wales

Gerry Makepeace and Victoria Wass

4.1 Introduction

For most households, earnings from paid employment comprise the largest source of household income. Therefore, inequality in earnings is a key determinant of inequality in many other aspects of life including health, well being, life expectancy and personal and household achievement (Wilkinson and Pickett 2008).[xxvi] Earnings growth which exceeds the growth in prices is called real earnings growth and is associated with rising living standards. As different groups of employees experience different rates of earnings growth, the distribution of earnings over the working-age population changes. In the UK earnings have become considerably more unequal since the 1980s. In general this is because those groups of employees with relatively high earnings in 1980 have experienced higher earnings growth than have those with relatively low earnings. The resulting increase in earnings inequality is the highest since records began and, with the exception of the USA, unmatched amongst the UK's international comparators (NEP 2010).

This chapter uses data from the Annual Population Survey (APS) to describe earnings in Wales and in the UK focusing on differences in earnings within and between different groups of employees. We measure earnings as real gross hourly wages for both full- and part-time employees and real gross weekly earnings for full-time employees. Earnings are measured only for employees[xxvii]. People in jobs or self-employment account for 73% of the working-age population (77% if full time students are excluded). Our analysis of earnings is confined to that relatively privileged majority of the working age people who are both active in the labour force and in paid work.

4.2 Presenting Information on Earnings and Earnings Inequality

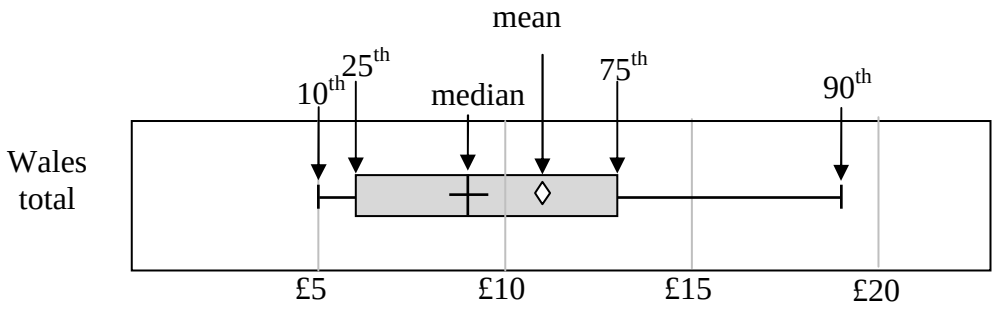
Earnings are distributed in a characteristic pattern across the working-age population with particular social groups tending to be ranked in a predictable way within this pattern. Inequality is often thought to comprise the different positions of these social groups. However, each group has its own distribution and these overlap within the overall earnings hierarchy. It is therefore of interest to consider earnings inequality within each group (the range of earnings amongst employees within the same group) as well as differences in earnings between groups. In order to capture both we provide an array of measures which summarise the distribution of earnings within each group and the earnings position of each group relative to other groups.

In each section of the chapter, we summarise the earnings distributions of a particular group using percentiles, and we particularly focus on the earnings associated with 10^{th}, 25^{th}, 50^{th}, 75^{th} and 90^{th} percentiles. For example, if the 10^{th} percentile of gross hourly earnings among a particular group is £7, then 10% of people within that group are estimated to have earnings of £7 per hour or below. Likewise, if the 90^{th} percentile of gross hourly earnings is £30, then 90% of that particular group have earnings of £30 per hour or less; with only 10% having higher hourly earnings. The 50^{th} percentile is more commonly referred to as the median and in our example refers to the hourly earnings associated with a person being located

in the middle of the earnings distribution, with 50% of people in the that group having lower hourly earnings and 50% having higher hourly earnings.

In the remainder of this chapter, this type of information is presented graphically in Box Plots. The Box Plot is a graphical technique which is useful in summarizing both the earnings of different groups and the relative 'spread' of earnings within these groups. An example of a Box Plot is provided in Figure 4.1 below. Real gross hourly earnings are measured on the horizontal axis. The shaded box contains the middle 50 per cent of earnings observations that lie between the 25th (£6/hr) and 75th (£13/hr) percentiles. The median (50th percentile, £9/hr) is marked on the box as a cross. The left whisker describes the 10th (£5/hr) percentile at the bottom of the earnings distribution and the right whisker describes the 90th (£19/hr) percentile at the top. The mean is depicted by a diamond (at £11/hr). Although the mean is more commonly used to measure the average, it is often less appropriate as a measure of average earnings because it can be heavily influenced by small numbers of people who have very high earnings. By contrast, the median simply reports the earnings of the person who is in the middle of the earnings distribution and its value is therefore not affected by the level of earnings received by those at the very top (or bottom) end of the earnings distribution[xxviii]. Finally, we summarise earnings inequality by comparing the earnings of a high earner to those of a low earner using the ratio of the 90th to the 10th percentiles. The spread of earnings at the bottom of the distribution is more compressed than at the top and so the difference between the 10th and 25th percentiles (£1) is much smaller than that between the 75th and 90th percentiles (£6) and the difference between the median and the 25th percentile (£3) is smaller than that between the median and the 75th percentile (£4).

Figure 4.1 Box Plot Example: real gross hourly earnings for all employees in Wales 2008/9



Wales typically has lower earnings than other regions so that the corresponding percentiles at the UK level are bigger. (For instance the medians are approximately £10 in the UK and £9 in Wales). The earnings gap between Wales and the UK typically increases as earnings increase. Thus the exact differences in 2008/09 at each percentile between the UK and Wales are: £0.24 (10th), £0.47 (25th), £0.88 (50th), £1.61 (75th) and £2.76 (90th). This is important as the differences in equality are often driven by differences between those who have the highest earnings. For example, high earnings within the City of London may be expected to contribute to increased levels of inequality within the LESE region compared to Wales where high earners earn less. Furthermore, comparisons within a particular group are often as important as comparisons between groups. The differences in hourly earnings

between the UK and Wales at the 90th percentile is less than £3 but the difference within Wales between 25th (£6) and 75th (£13) percentiles is more than twice this amount. Differences between the highest and lowest earners within Wales are greater than the differences that exist between high earners in Wales and high earners elsewhere.

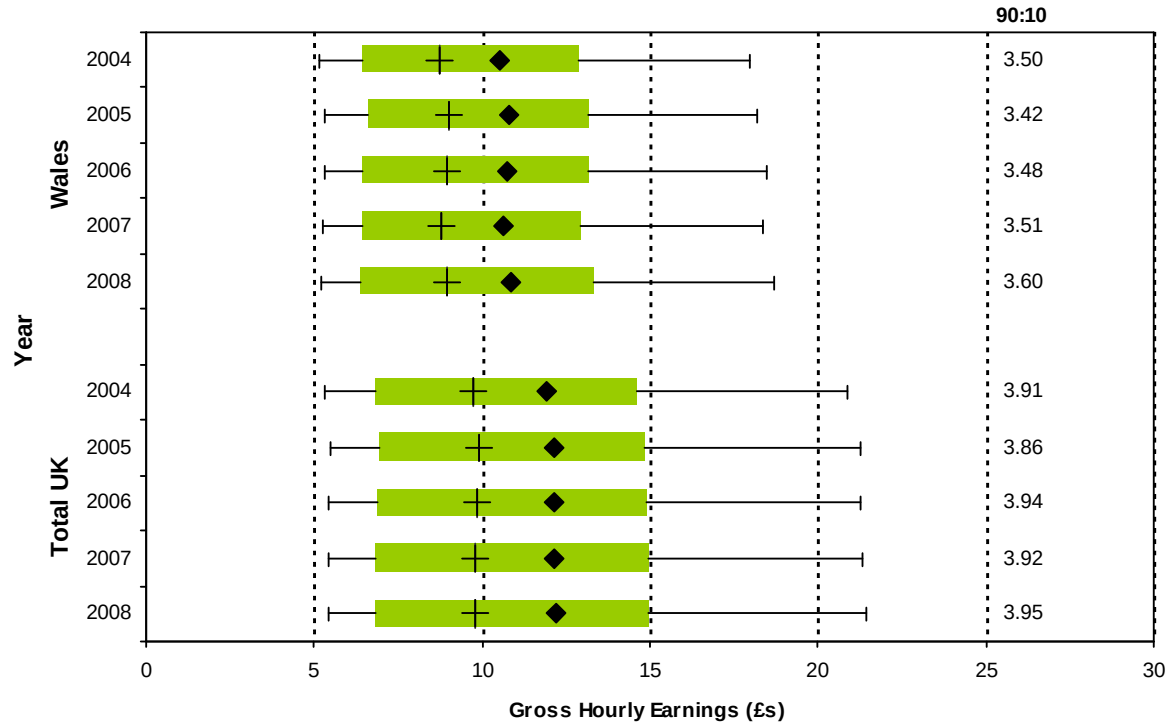
As a result, there is considerable overlap in the earnings distributions. For example, 25% of Welsh employees earn more than £13 per hour, which is considerably more than the earnings of the poorest 50 per cent of employees in the UK as a whole. Our earnings comparisons often focus on the median but it is perfectly possible for one group to have a larger median than another but, simultaneously, a smaller 10th or 75th percentile. Such outcomes can be identified in the Box Plots. In order to compare the earnings position of different groups with each other, we also report the position of the group median as a percentile within the whole UK population. For example, 43% of earnings values in the UK were found to be smaller than the median level of earnings for Wales (£8.88). Therefore, we can say that median value of earnings in Wales is located in the 43rd percentile of the UK distribution. All earnings figures are expressed in real terms at constant 2009 prices.[xxix] The analysis of earnings is confined to employees in the traditional working age population, that is men aged 16 to 65 years and women aged 16 to 60 years.

4.3 Recent Trends in Earnings

We firstly provide a brief overview of changes in the distribution of real wages between 2004/5 and 2008/9 in Wales and in the UK (including Wales).[xxx] It is worth remembering that there has been a national minimum wage in all years between 1999 and 2009 which provides a wage floor for low paid workers. As illustration of the magnitudes involved, for the years from October to September the adult rates were £4.5 per hour (2003/04), £5.35 (2006/07) and £5.73 (2008/09).[xxxi] In Figure 4.2 we report the real annual gross hourly earnings quantiles for all employees during the period 2004/5-2008/9 for the UK and for Wales. Earnings in Wales are consistently lower than for the UK as a whole at each quantile point and in each year. Both the median and mean are lower in Wales in each year. The skew, reflecting the presence of relatively small numbers of high earners, is positive for both Wales and the UK but is lower in Wales. The lower and upper quartiles (the 25th and 75th percentiles) are also smaller in Wales. The lower whisker which depicts the earnings of the lowest 25% to 10% of employees is located at slightly smaller values of earnings in Wales. The upper whisker which depicts the earnings of the top 25% to 10% of employees is shorter in Wales and at a much smaller value.

Although earnings in Wales are lower at the 10th and 25th percentiles, the differences at the bottom are relatively small. A much larger gap emerges at the median and this difference continues to grow through the distribution to become more substantial at the 75th and, especially, the 90th percentiles. Earnings inequality as measured by the 90:10 ratios is smaller in Wales where the key driver is the relatively low density of high earnings in Wales compared with the UK as a whole.

Figure 4.2 Gross Hourly Earnings UK and Wales 2004/5-2008/9

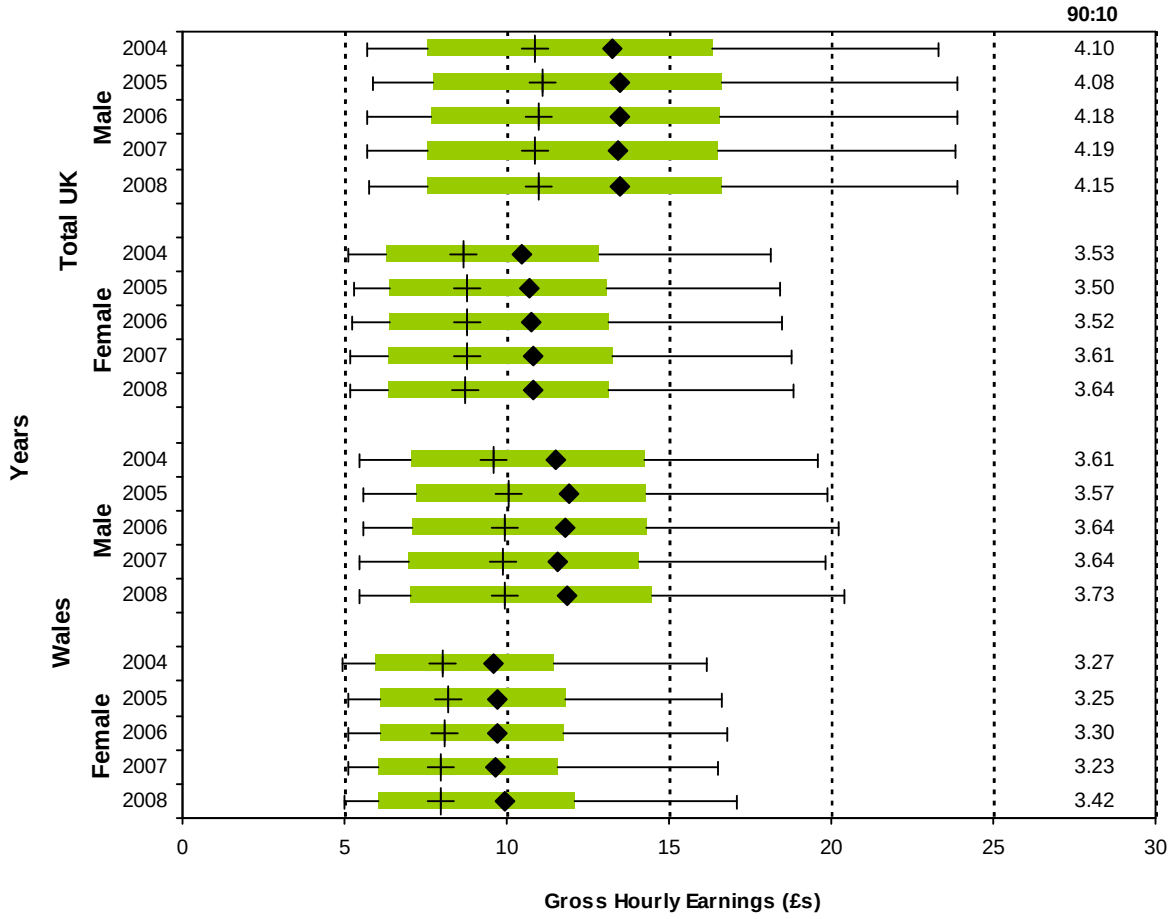


Source: APS, 2004/5-2008/9. Data are weighted.

Women and men present different employment-related characteristics and experience different treatment at work. It is therefore usual to present their earnings separately. For the remainder of this chapter, the earnings of different groups are compared separately for women and for men. In Figure 4.3, the time series of earnings distributions considered above are produced separately for men and women.

The top panel of Figure 4.3 reports earnings statistics, firstly, for men and, secondly, for women in the UK. The bottom panel repeats this exercise for Wales. Men earn more than women across the distribution within the UK and within Wales. There is greater asymmetry in men's earnings at the top and bottom of the distributions than in women's and the positive skew is greater for men than for women. For men, earnings are lower, less spread and less skewed in Wales than in the UK. Similarly, for women, but the difference in levels, spread and skew is less pronounced than for men. We will see this same geographical- and gender-based pattern of earnings replicated in the earnings distributions of the sub-groups considered later in the chapter. The gender-based earnings gap - measured as women's median earnings as a percentage of men's – remains more or less the same at the UK level. Women earn 79% of men's earnings. In Wales the gap increases from 74% in 2004/5 (lower than at the UK level) to 80% in 2008/9. In the remainder of the chapter we focus on differences in earnings between different groups of employees (including protected groups) within Wales and, for comparative purposes, within the Outer UK and in LESE.

Figure 4.3 Hourly Earnings UK and Wales Men and Women 2004-2009



Source: APS, 2004/5-2008/9. Data are weighted.

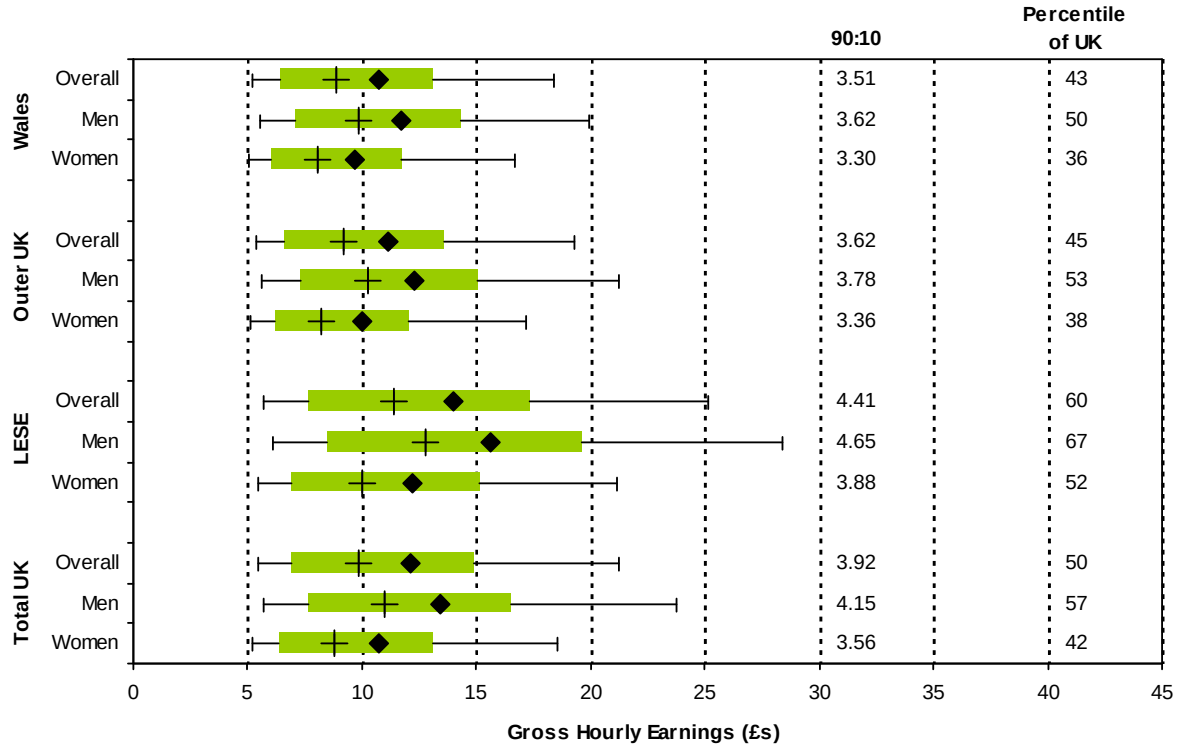
4.4 Relative Earnings among Population Sub-Groups

4.4.1 Earnings by Gender

In Figure 4.4 we summarise the real gross hourly earnings distribution for the pooled sample (2004/5-2008/9) in 2009 prices by men and women for Wales, for outer UK and for LESE. Within each panel of this Box Plot we present first the overall distribution in earnings (i.e. for men and women combined). Beneath this Box Plot, we then present distributions separately for men and women. In Figure 4.4, and all subsequent tables and figures in this chapter, the top panel reports summary statistics for different groups within Wales, the middle panel for different groups within outer UK and the lower panel for different groups within LESE.

At each point of the earnings distribution, earnings are lower in Wales than in both the Outer UK and in LESE. The geographical earnings gap is greater for men than for women. From the 90:10 ratios in Figure 4.4, we see that consistently the spread of earnings in Wales is smaller than in the Outer UK and is very noticeably smaller than in LESE. Closer inspection reveals that these gaps in earnings widen towards the top of the distribution. Within each location, the level, spread and skew of earnings is less for women than it is for men. Women earn less than men in each area though the gender-based earnings gap at the median is larger in LESE (women's earnings are 79% of men's) than in Wales (81%) and Outer UK (81%).

Figure 4.4 Hourly wages by gender and region for all employees



Source: APS, 2004/5-2008/9. Data are weighted

4.4.2 Earnings by Age

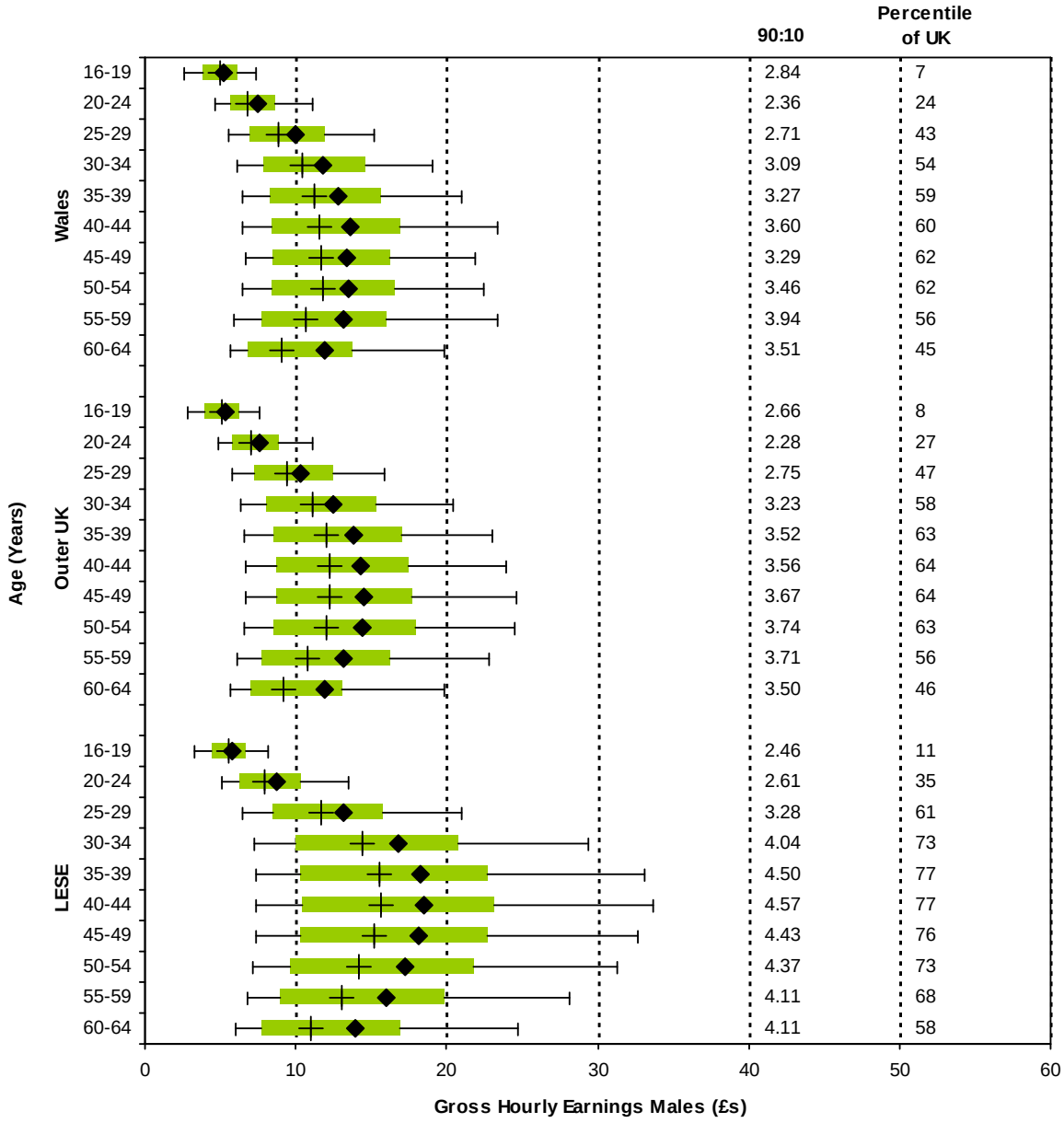
The pattern of earnings over a working life time is called the age-earnings profile. Typically earnings increase as individuals gain experience and improve their position in the labour force, reach a peak and then stagnate or decrease as illustrated in Figures 4.5 and 4.6. These figures show the impact of age by gender for Wales, the Outer UK and LESE. For example, the top panel of Figure 4.4 presents the earnings distribution for working-age male employees in Wales disaggregated by ten age groups. The pattern is clear: wages increase with age and peak (or plateau) at slightly different ages according to the percentile. Thereafter earnings do not grow but typically fall. The profile for men on median earnings in Wales shows a rapid growth at younger ages but this growth falls off after 35. Although median earnings peak for the age group 50-54, there has been relatively little growth from 45-49. Women's earnings follow a qualitatively similar path but often peak earlier, for instance at 30-34 years at the median in all regions. Women's labour market experience differs from men over their lifetime because of family commitments leading to spells out of the labour market and movements between full-time and part-time work. It is difficult to identify these types of effect from summary statistics.[xxxii]

The age-earnings profiles are qualitatively similar for men and women and also across the Outer UK and LESE. Earnings are typically lower in Wales in the youngest age group and this differential tends to increase as workers age, reach a peak and decrease at older ages. The precise age-group at which the earning differentials reach their maximum differs by gender, percentile and regional comparison. The most pronounced differences in the age-earnings profiles are

between men and women, at higher percentiles and when Wales is compared to LESE.

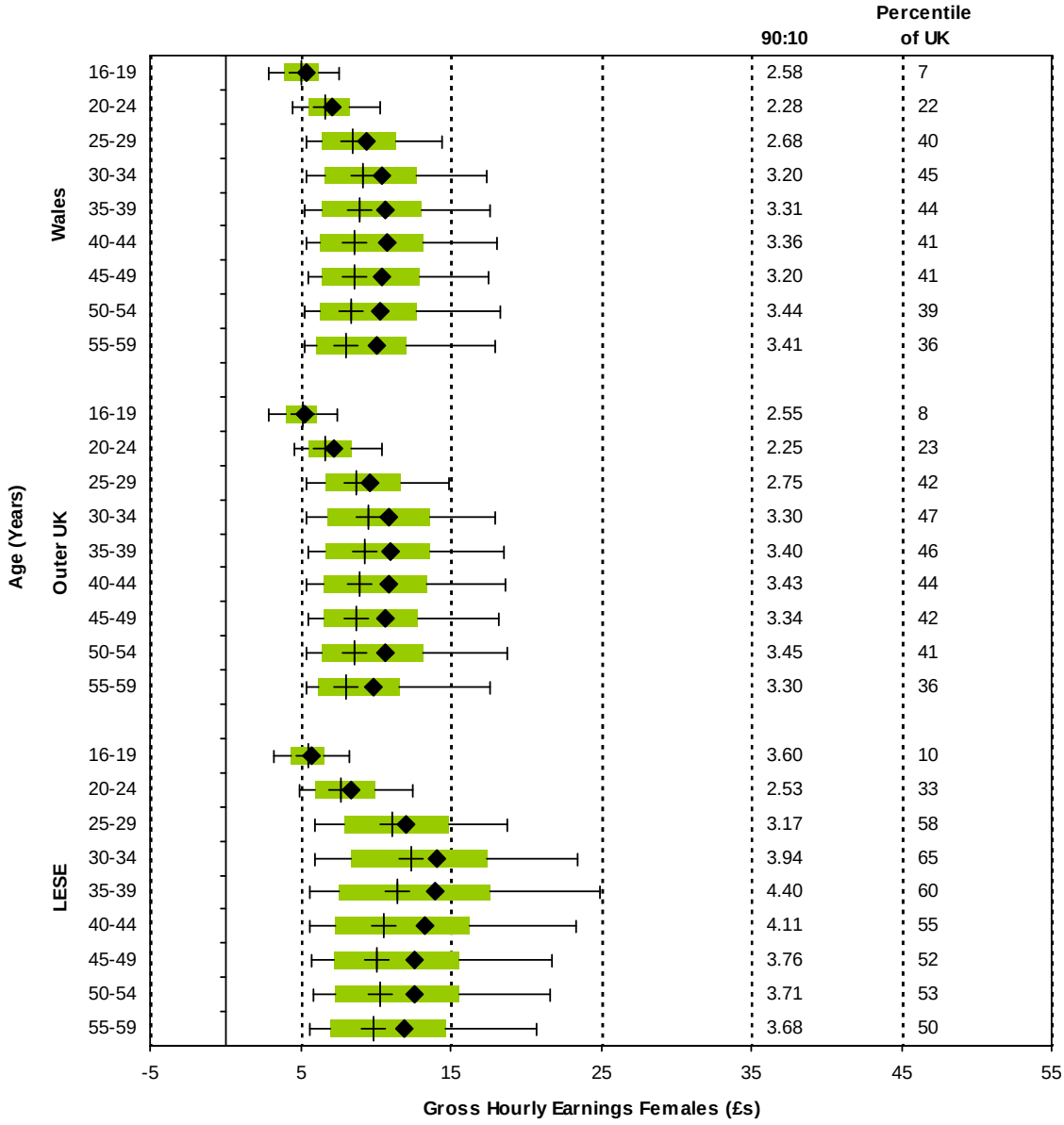
As earnings increase with age, the spread and skew of earnings also increases at least up to the 50-59 age groups (for Wales and the Outer UK) and slightly younger groups in LESE (40-44 for men and 35-39 for women). This can be seen from the 90:10 ratios, the increasing distance between the median and the mean and in the length of both the box and the whiskers above the median in Figures 4.5 and 4.6. Median earnings for young employees, aged below 25 years lie below the 33rd percentile of aggregate earnings (except for 20-24 year old men in LESE). These age groups account for just under one third of employees of working age.

Figure 4.5 Hourly earnings for men by age



Source: APS, 2004/5-2008/9. Data are weighted

Figure 4.6 Hourly earnings for women by age



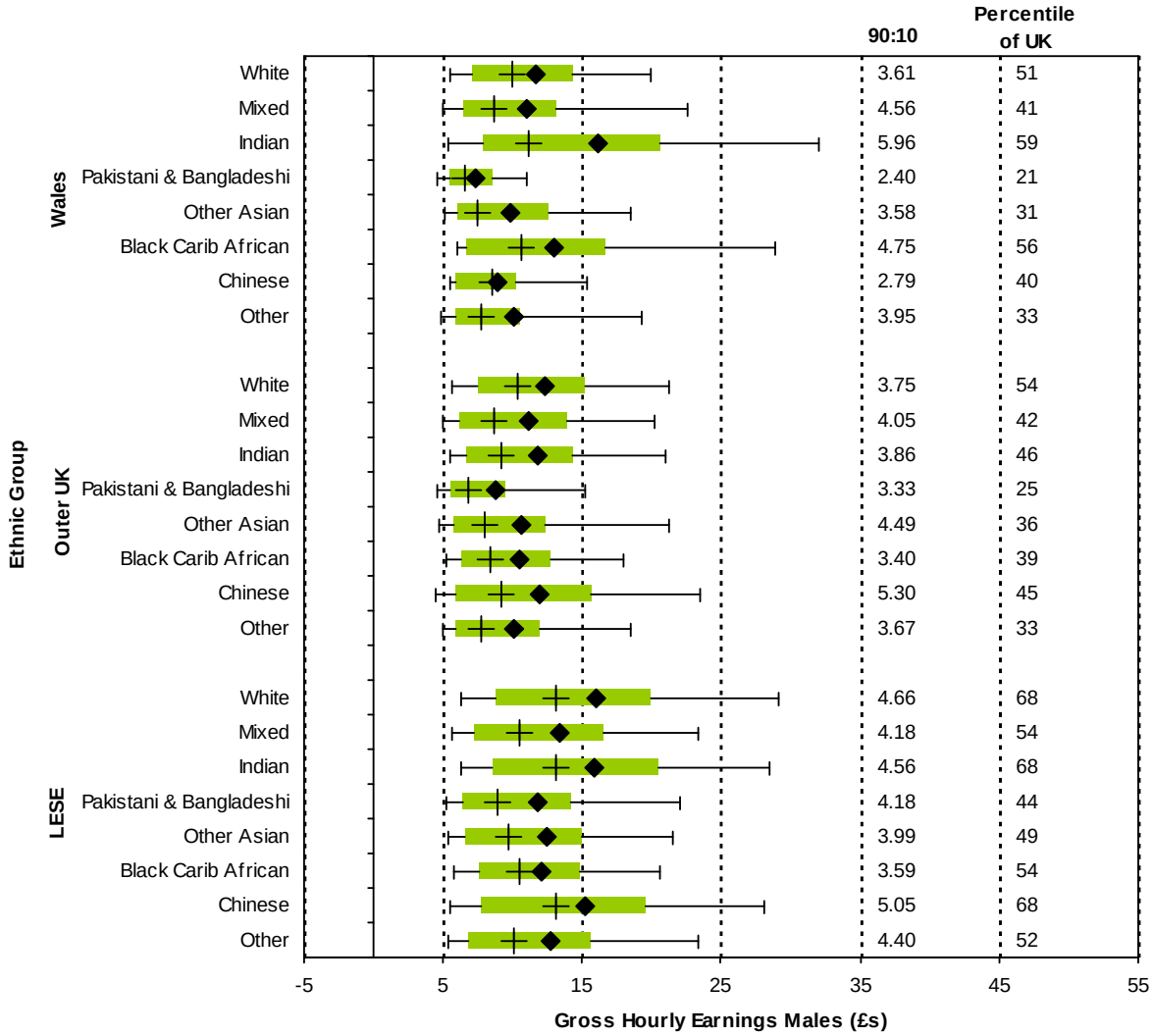
Source: APS, 2004/5-2008/9. Data are weighted

4.4.3 Earnings by Ethnicity and Religious Affiliation

Figures 4.7 and 4.8 show the hourly earnings for men and women for different ethnic groups. There is considerable variation between ethnic groups and across regions and the Welsh figures sometimes appear out of line with the rest of the UK. The ethnic population is smaller in absolute and relative terms in Wales than in the other regions and nations of the UK (with the exception of Northern Ireland). Non-white ethnic groups account for 2.6% of male employees in Wales, compared to 5.1% in the Outer UK and 13.5% in LESE. Proportions for women employees are lower. Earnings estimates based upon small cell sizes therefore must be treated with caution. Indian and Black African and Black Caribbean ethnic groups have the highest earnings in Wales for both men and women but this reflects the relatively high concentration of these groups in relatively well paid occupations.

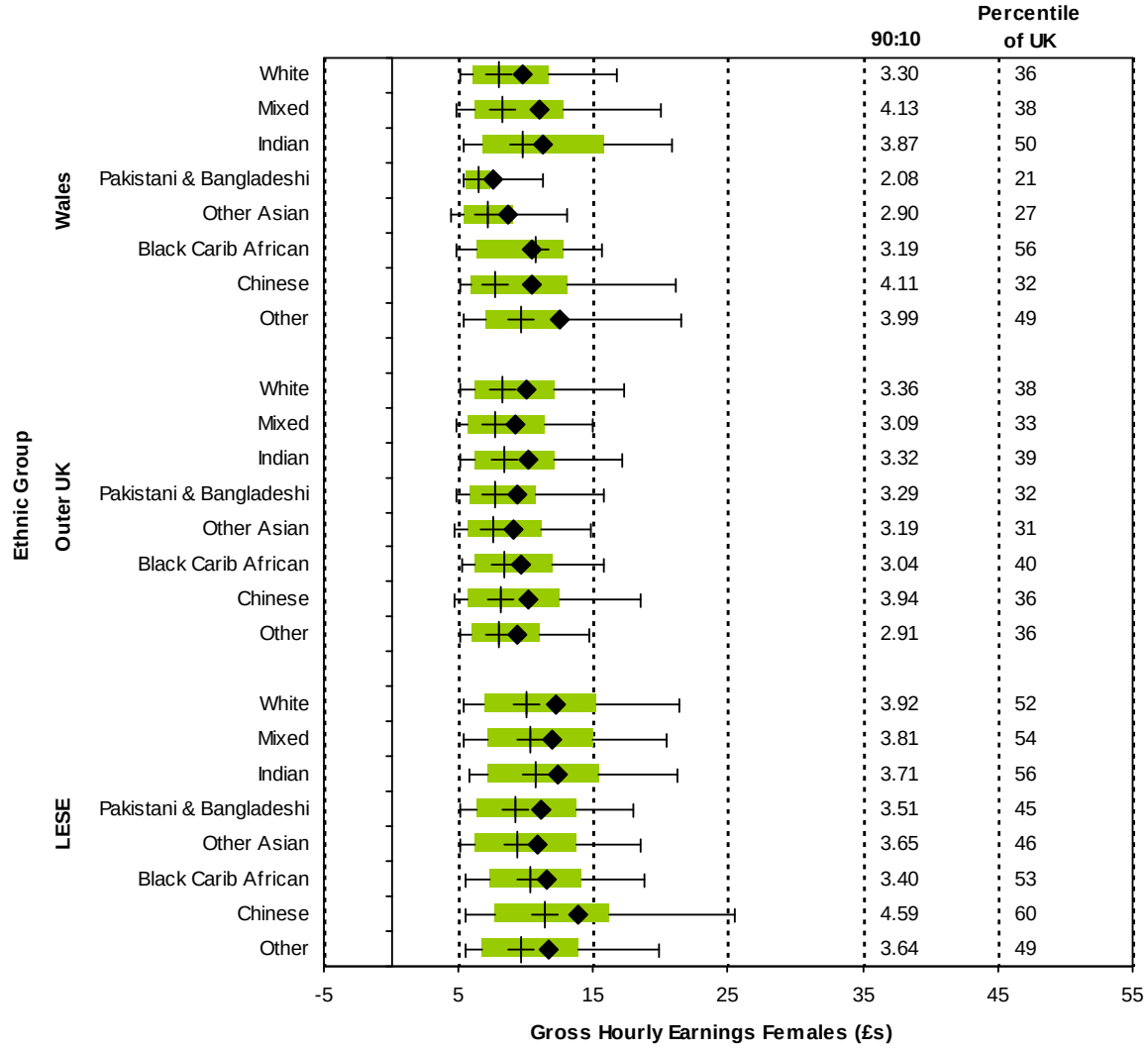
Ignoring these groups, for male employees, white ethnic groups have the highest earnings and Pakistani and Bangladeshi groups the lowest. Similar results are found for the Outer UK and LESE (with the exception for high earnings for Chinese male employees in Outer UK and Pakistani and Bangladeshi male employees in LESE). Chinese and Indian men do best among the non-white groups in the Outer UK and LESE but still typically do less well than those of white ethnicity. Amongst women employees, the Pakistani and Bangladeshi ethnic group has the lowest earnings but further generalisations about the ordering of earnings for women are hard to make. Black African and Black Caribbean women, for example, have higher earnings than whites at the median but lower earnings at the 90th percentile. There are also large differences in earnings within each ethnic group as indicated by the 90:10 ratios and the length of the whiskers on the Box Plots. Median earnings for employees of Bangladeshi or Pakistani origin and sometimes 'Other Asian' fall within the lowest third of the aggregate earnings.

Figure 4.7 Hourly earnings for men by ethnic group



Source: APS, 2004/5-2008/9. Data are weighted

Figure 4.8 Real hourly earnings for women by ethnic group



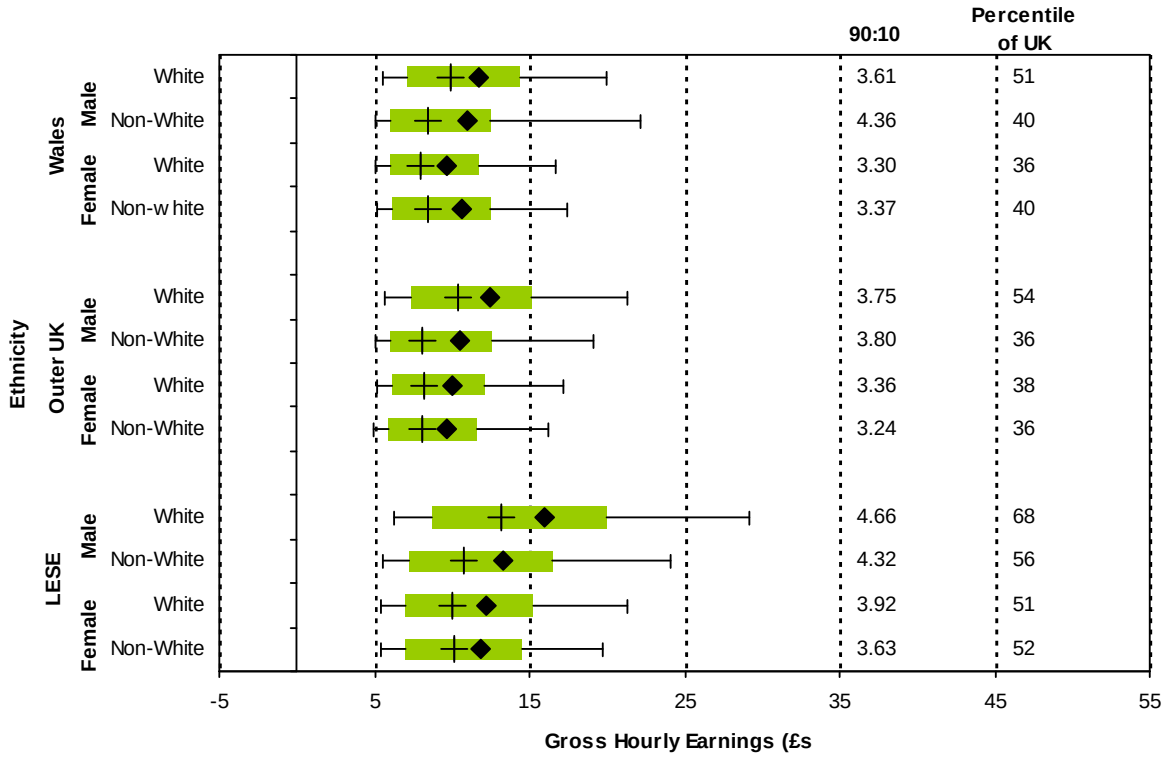
Source: APS, 2004/5-2008/9. Data are weighted

In Figure 4.9 we compare earnings for white ethnic groups with those from all non-white groups combined. This aggregation boosts the cell sizes for the non-white ethnic groups in Wales but conceals the differences in earnings within the non-white group. Generally, this comparison confirms the earnings advantage that white groups have in the Outer UK and LESE. The statistics for men in Wales confirm this except for some high earnings in non-white ethnic groups. Earnings for women show the rather counter-intuitive result that ethnic minorities tend to have higher earnings. This reflects high earnings and low cell sizes in Mixed, Indian, Black African and Caribbean and Chinese groups in Wales.

In terms of religious affiliation, sample sizes are again small for Wales. The vast majority of employees (98% in Wales, 96% in outer UK and 91% in LESE) express either Christian faith or no religion. There is a consistent pattern of relatively low wages for those whose religious affiliation is Muslim (see Figures 4.10 and 4.11). Differences between groups based upon expressed religious affiliations are greater between men than between women. The median earnings of Muslim men and

women employees in Wales and in outer UK fall within the bottom third of aggregate earnings.

Figure 4.9 Hourly earnings for men and women by white/non-white ethnic group



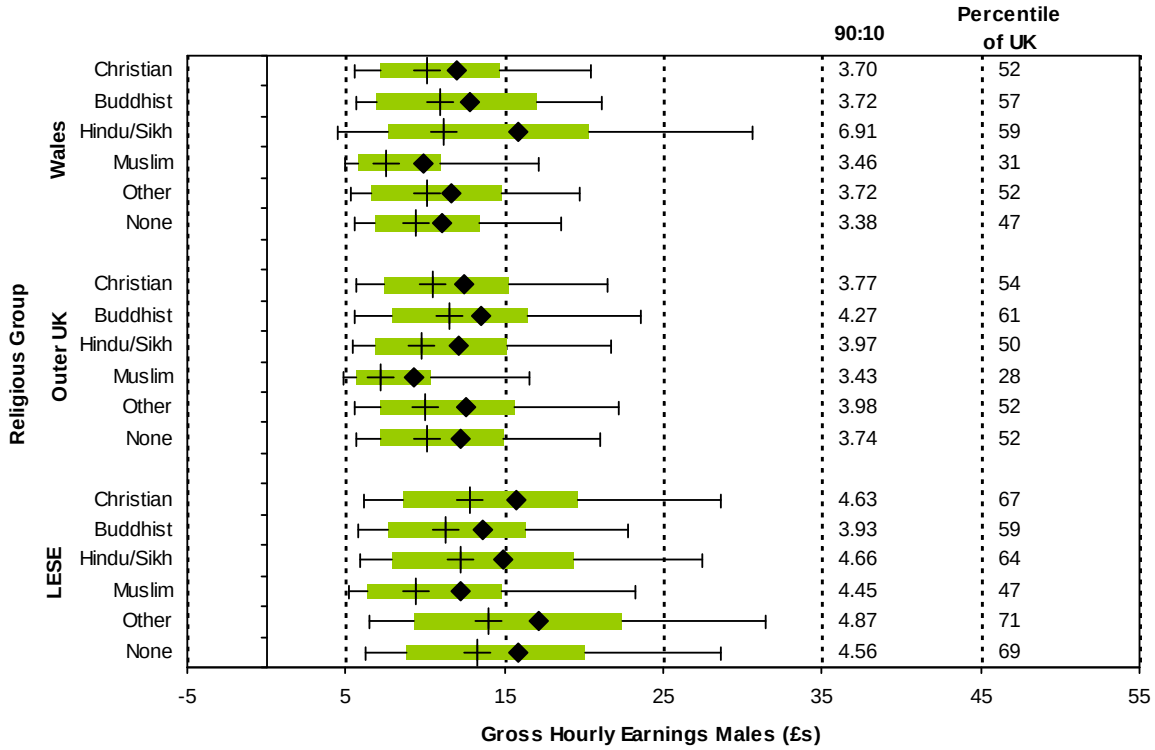
Source: APS, 2004/5-2008/9. Data are weighted

4.4.4 Earnings by Disability

There is a great deal of variation in the severity and type of impairment within the disabled category. We have noted in a previous chapter that disability is associated with a very substantial employment disadvantage. When we consider the impact of disability on earnings, the penalty is much less than for employment and, in terms of earnings is less than for other disadvantaged groups. In fact, for a DDA disability which is not work-limiting, earnings are higher than for employees who do not report a disability. This reflects a favourable occupational mix. In considering the wages of disabled people, we are considering only around 40% (see chapter 3) of the working-age disabled population. Employed disabled people are characterised by greater and more transferable skills than disabled people who are non-employed.

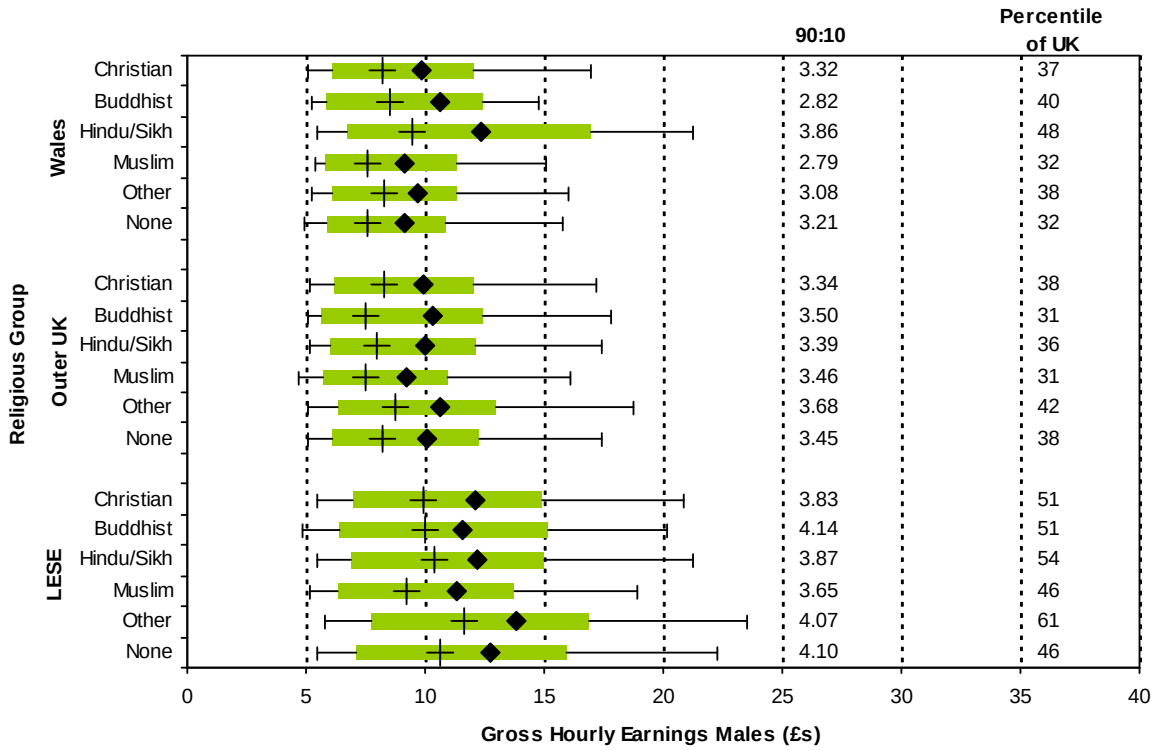
The familiar gender-geographical pattern is repeated for disability (see Figures 4.12 and 4.13). The earnings of disabled (DDA and work limited) employees in Wales are below those measured in LESE and those in the Outer UK for men and at most percentiles for women. However, the earnings gap between disabled people (DDA and work limited) and non-disabled people in Wales is smaller than for the Outer UK which in turn is smaller than that for LESE.

Figure 4.10 Hourly earnings for men by religious group



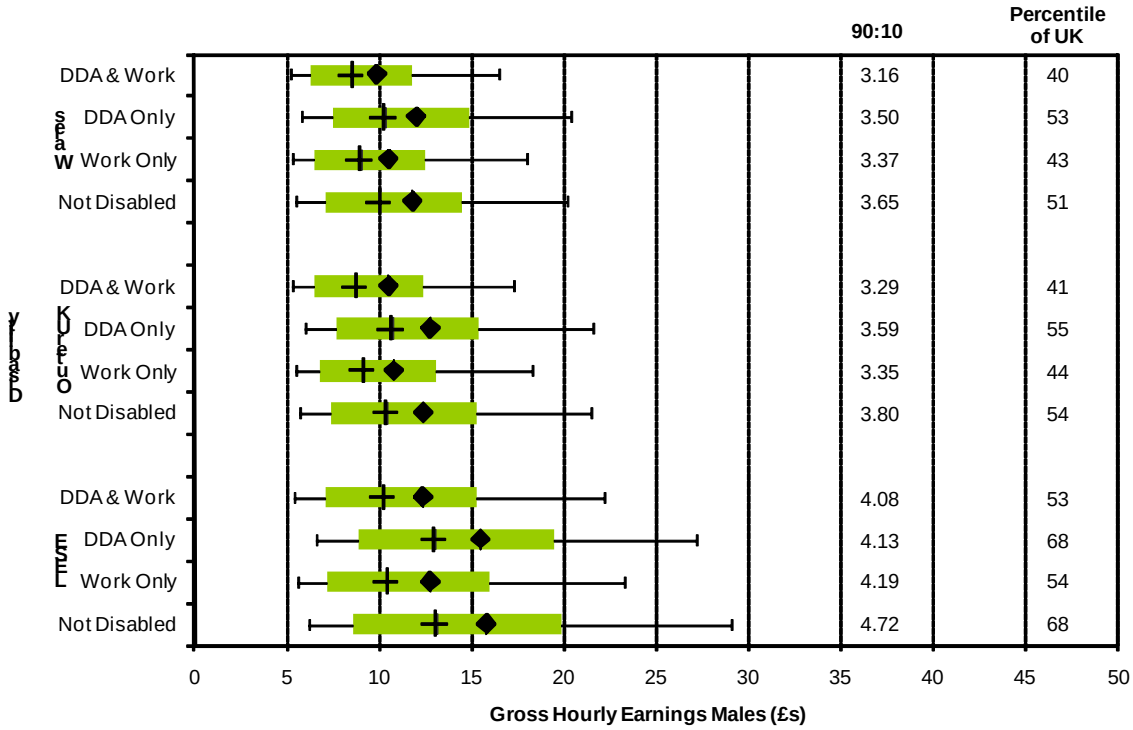
Source: APS, 2004/5-2008/9. Data are weighted

Figure 4.11 Hourly earnings for women by religious group



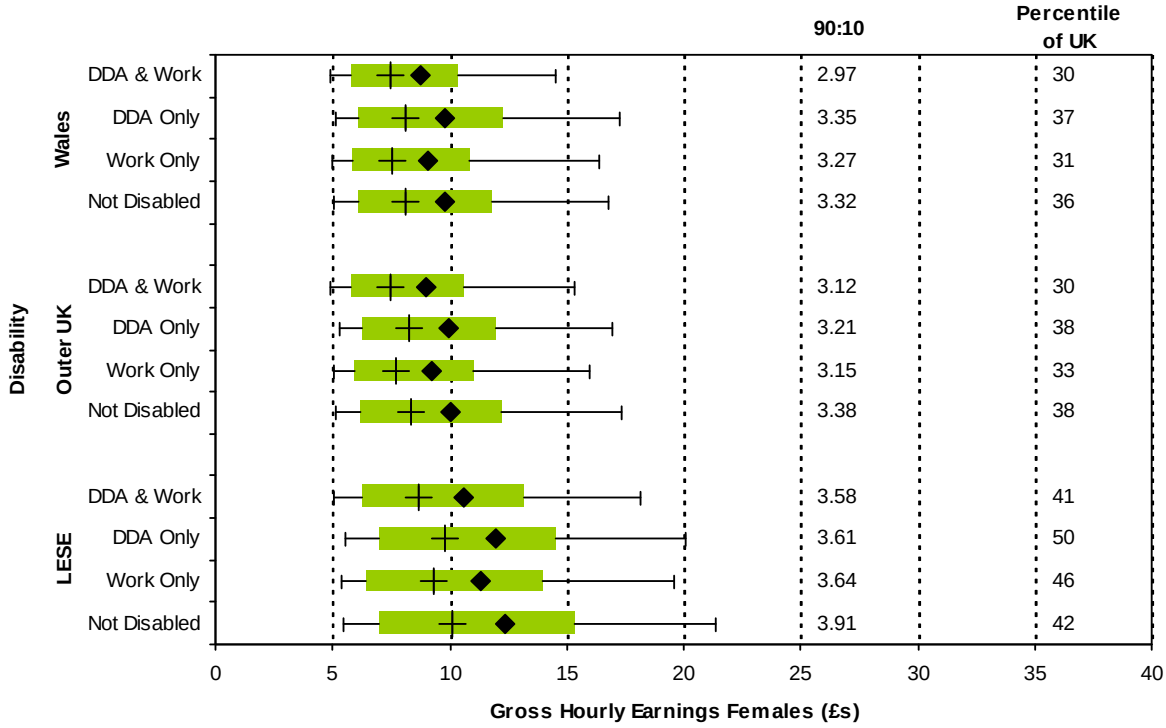
Source: APS, 2004/5-2008/9. Data are weighted

Figure 4.12 Hourly earnings for men by disability



Source: APS, 2004/5-2008/9. Data are weighted

Figure 4.13 Hourly earnings for women by disability

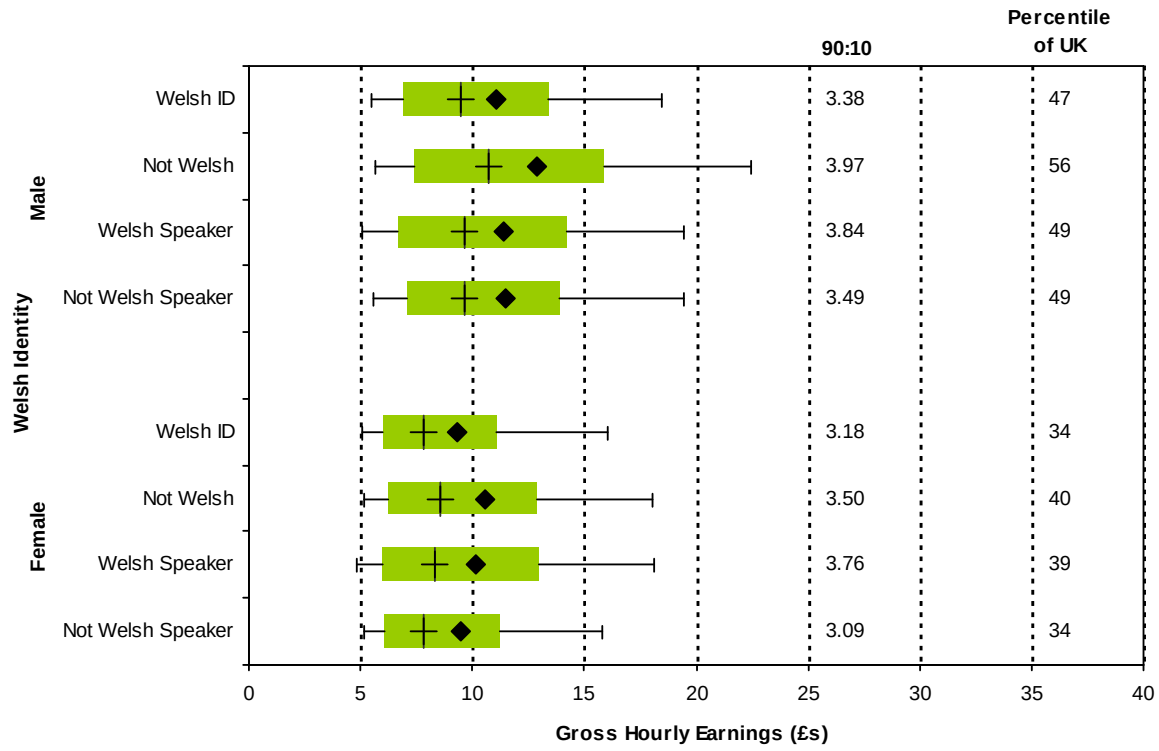


Source: APS, 2004/5-2008/9. Data are weighted

4.4.5 Earnings by National Identity and Welsh Language

This section compares the earnings of employees within Wales by whether individuals report a Welsh identity and whether they report speaking Welsh. The top panel of Figure 4.14 reports earnings distributions for men working in Wales and the bottom panel earnings distributions for women working in Wales. Just under two-thirds of employees in Wales consider themselves Welsh. 'Welsh' employees are relatively disadvantaged within Wales in terms of their earnings. The difference due to national identity is greater for men than for women and this is largely as a result of higher and more positively skewed earnings for non-Welsh male employees. Welsh speakers account for 25% employees working in Wales and 20% of men. Welsh speakers earn more than non-Welsh speakers if they are female and if they are males earning at least median earnings.

Figure 4.14 Hourly earnings by Welsh nationality of workers in Wales



Source: APS, 2004/5-2008/9. Data are weighted

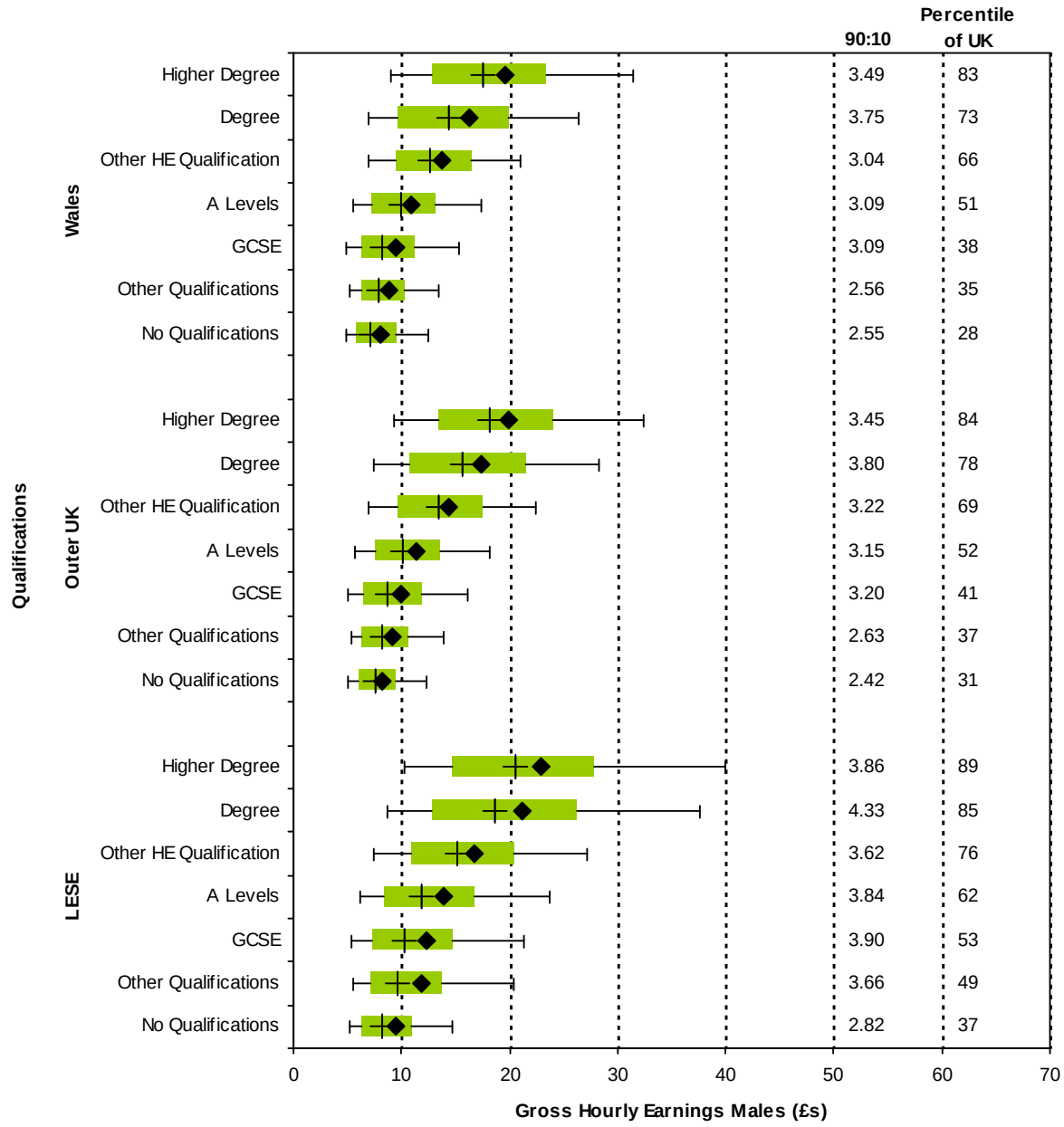
4.5 Earnings, Education and Qualifications

This section examines the impact of qualifications by gender. We use the detailed grouping of highest qualification employed by the APS with separate categories for degree and higher degree giving the 6 groups: Higher degree, Degree, A levels, GCSEs, Other qualifications and No qualifications. The LFS typology incorporates vocational as well as academic qualifications so, for instance, someone who left school with no GCSEs could report an 'A-level equivalent' RSA or City and Guilds qualification. There are small differences between Wales and the Outer UK in the composition of workforce using the more detailed typology but the striking feature is the much higher proportion of graduates in LESE compared to the rest of the UK.

Not surprisingly, highest qualification has a large positive effect on earnings. Median earnings increase with highest qualification in each region for both men (Figure 4.15) and women (Figure 4.16). This pattern is almost invariably repeated at each quantile although there are some exceptions with the ranking of GCSE and other qualifications.[xxxiii] There are considerable overlaps in the distributions for different qualifications so that it will be common for a person without a higher qualification to be paid more than someone with a higher qualification.[xxxiv] The Box Plots make clear that the spread of earnings in absolute terms, as well as the level, increases with highest qualification. Thus in Wales the difference between the 90th and 10th percentiles for men is £7.61 (=12.52 - 4.91) per hour for no qualifications but £19.31 (=26.33 - 7.02) for a degree. Although the minimum value of the 90/10 percentile ratio is under 2 (for women with no qualifications in Wales and the Outer UK), it is normally much larger and often above 3. The ratio is slightly smaller in Wales than in LESE for both men and women. Much of the difference is due to the differences between the regions at the 90th percentile. For instance, the hourly earnings of non-graduates in Wales at the 90th percentile were 3.1 (men) and 2.8 (women) times those of non-graduates at the 10th percentile. The comparable ratios for LESE were 3.9 (men) and 3.3 (women). However the difference in earnings between Wales and LESE at the 10th percentile is much smaller than at the 90th (£0.39 at the 10th percentile against £5.80 for men and £0.27 against £3.37 for women). This reflects the greater degree of positive skew in the LESE distribution. For men, only the group without any qualifications have median earnings below the 33rd percentile of the UK aggregate earnings distribution, while for women outside LESE, all educational groups below higher education have a group median below the threshold.

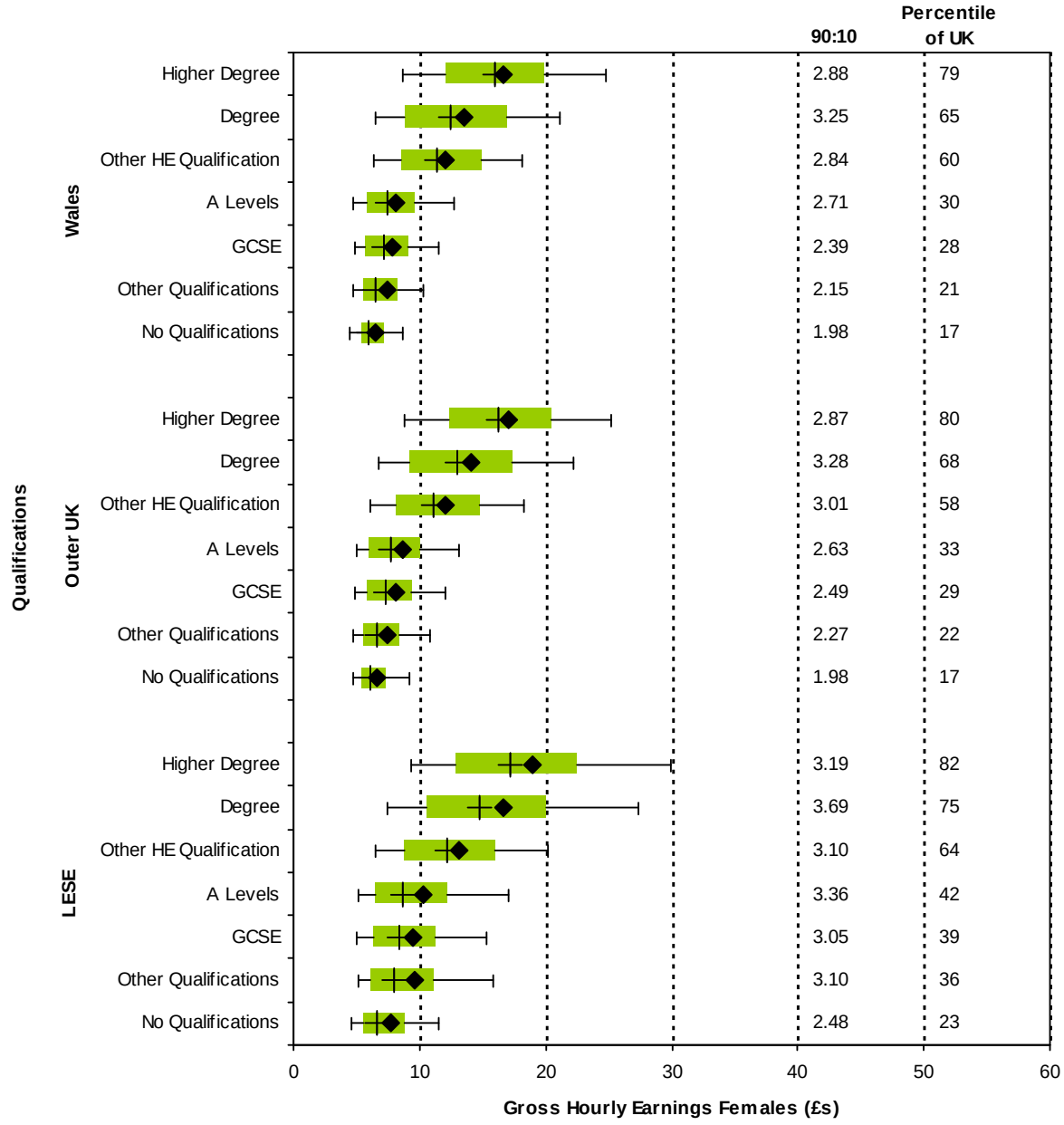
As a simple summary, we also compare individuals with and without graduate level qualifications (Figure 4.17). Graduates comprise 21.3% of the male workforce in Wales and nearly 22% of the female. The comparable figures for LESE are 30.2% (men) and 28.5% (women). There is a big difference in pay between men and women at the non-graduate level. The median earnings of male graduates and non-graduates are, respectively, £15.40 and £9.10 per hour in Wales, compared with £16.63 and £9.34 in the Outer UK and £19.31 and £10.81 in LESE. A similar pattern is observed for women although the medians are noticeably lower for women. The median female (male) graduate in Wales earned £13.53 (£15.40) and female non graduate £7.33 (£9.10). There is however considerable variation in the earnings of both graduates and non-graduates, resulting in an overlap in these earnings distributions. For example, 25 per cent of male non-graduates in Wales were paid more than £12.50 per hour while 25 per cent of male graduates in Wales were paid less than £10.64.

Figure 4.15 Hourly earnings for men by highest qualification



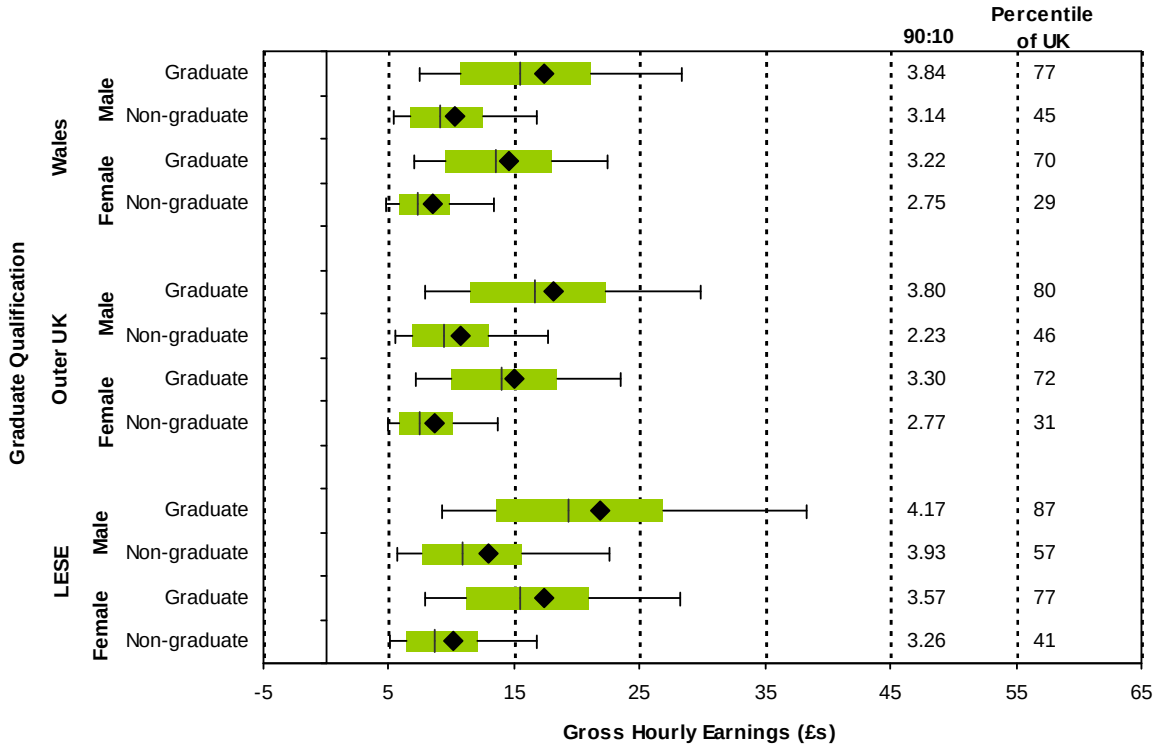
Source: APS, 2004/5-2008/9. Data are weighted

Figure 4.16 Hourly earnings for women by highest qualification



Source: APS, 2004/5-2008/9. Data are weighted

Figure 4.17 Hourly earnings by graduate/non-graduate



Source: APS, 2004/5-2008/9. Data are weighted

4.6 Earnings and the Characteristics of Employment

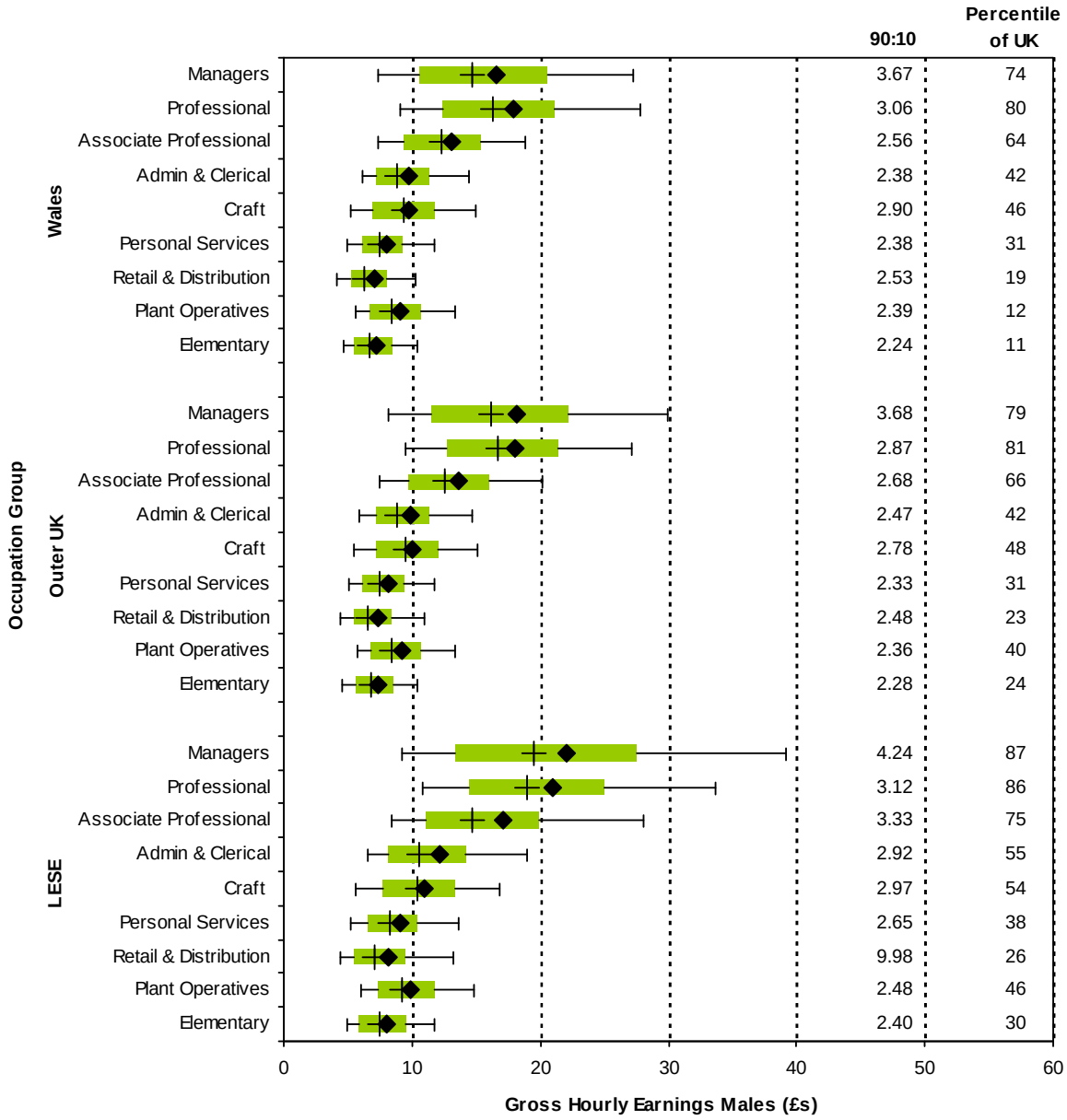
In the following sections we consider the impact of characteristics associated with job quality on earnings. These include occupation-based variables, full-time or part-time contract, temporary or permanent contract and whether or not the employer is public or private sector. Although these are not a means of defining a protected group, job quality is a key determinant of earnings inequality and in identifying groups who experience the greatest earnings disadvantage.

4.6.1 Occupation and Earnings

Occupation is closely associated with the type and level of skills and as such is a key determinant of earnings. This is reflected in large inter-group differences at the level of occupation. Occupation is defined broadly here at the one digit level into nine separate categories using the Standard Occupational Classification for 2000. Figures 4.18 and 4.19 summarise occupational wages for Wales, the Outer UK and LESE separately for men and women. There are large inter-group differences in occupational wages and the pattern of inter-group occupational wages is stable over location. Managers, Professionals and Associate Professionals have the largest quantiles and a large spread of earnings. Skilled and Administrative/Secretarial occupations have the next largest medians although their ordering differs; skilled is better paid for men in Wales and the Outer UK but Administrative/Secretarial for women and men in LESE. Of the less well paid occupations, Operatives is the best for men and Personal Services for women. Sales and Elementary occupations are the lowest paid.

Groups in the lowest third of aggregate earnings are defined by occupation rather than by gender or region. Employees in Personal Services (except men in LESE), Sales and Customer Services, Process Operatives (except men in LESE) and in Elementary Occupations have median earnings below the 33rd percentile threshold.

Figure 4.18 Hourly earnings for men by occupational group

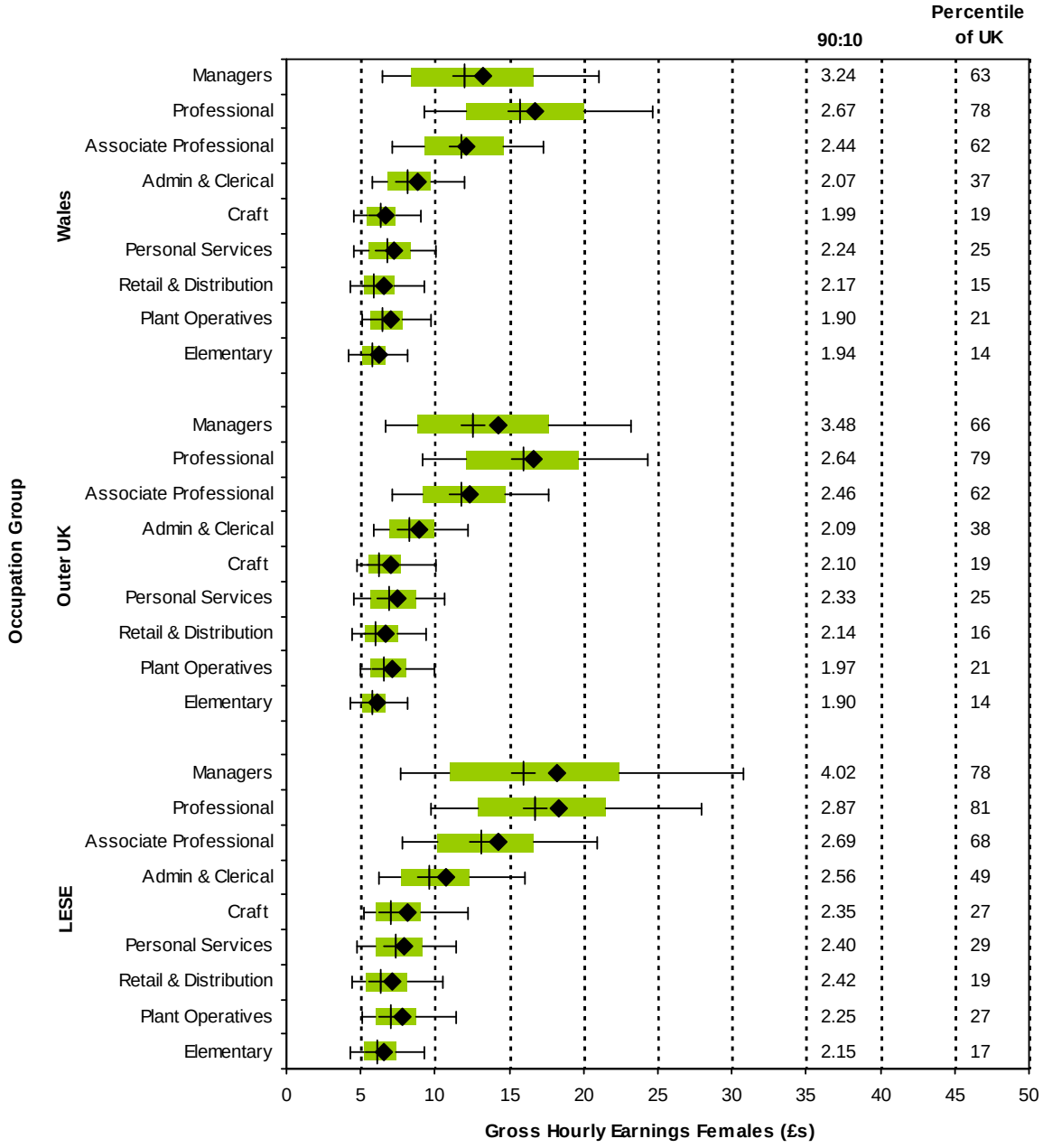


Source: APS, 2004/5-2008/9. Data are weighted

Occupational earnings are slightly lower at the median in Wales than in the Outer UK and very noticeably lower than in LESE for both men and women. For women in Wales, occupational wages and the distribution of employment are very close to that in the Outer UK. For men, wages are lower in Wales and there are relatively fewer men employed in the top occupational groups. However, any differences between Wales and the Outer UK are dwarfed by the differences between both these areas and LESE where occupational wages are consistently higher and a larger proportion of employees are working in the top occupational groups. We note large inter-group

earnings differences indicating that occupation is a key determinant of earnings. These inter-group differences are present in each area and for men and women. There is a larger spread of earnings in the top occupational groups.

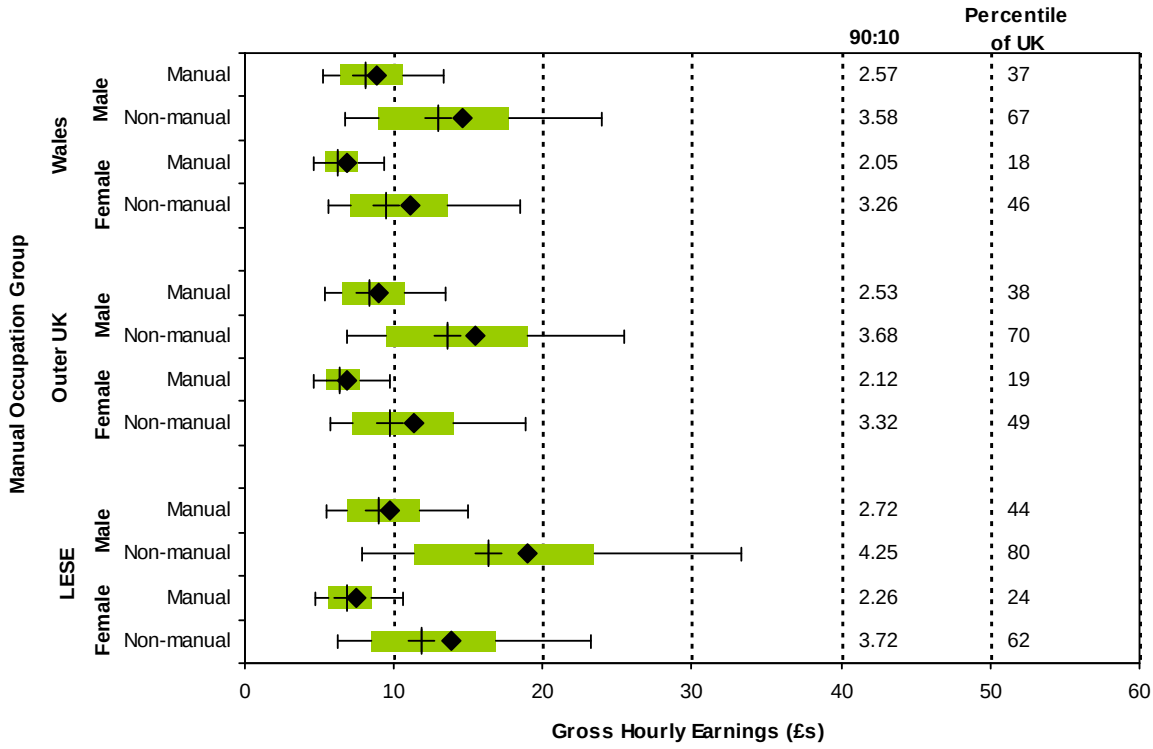
Figure 4.19 Hourly earnings for women by occupational group



Source: APS, 2004/5-2008/9. Data are weighted

A useful summary classification of occupations is provided by the distinction between manual and non-manual occupations. There is a big gap between non-manual and manual earnings (see Figure 4.20). The spread of non-manual earnings is much greater than for manual employees. Women manual workers account for just less than 30% in Wales and in the Outer UK compared to 46% for men. Both proportions are lower in LESE. Earnings for women manual employees in each area are a long way below the 33rd percentile of the UK aggregate earnings distribution.

Figure 4.20 Hourly earnings for men and women by manual/non-manual



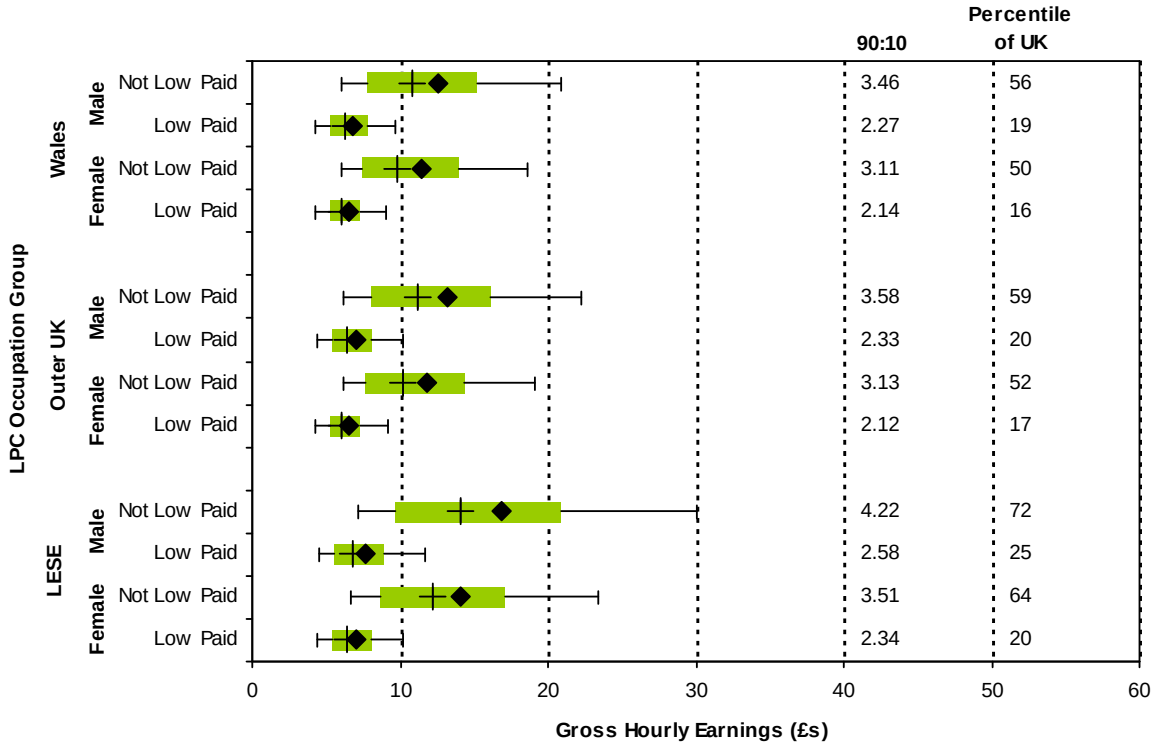
Source: APS, 2004/5-2008/9. Data are weighted

A second aggregate measure which relates to job quality looks specifically at those occupations defined by the Low Pay Commission (LPC) as low pay groups. There is a much higher proportion of women than men within the LPC-defined low pay groups: in Wales 36% compared to 15% for men (see Figure 4.21). The LPC-defined low pay groups report very low pay. Median wages for men are at the 19th (Wales), 20th (Outer UK) and 25st (LESE) percentiles of aggregate earnings. Median wages for women are at the 16th (Wales), 17th (Outer UK) and 20th (LESE) percentiles of aggregate earnings. In fact, for women in Wales and the outer UK, even the upper quartile earnings (75th percentile) of the LPC-defined low paid occupational groups fall within the bottom third of aggregate earnings.

4.6.2 Earnings by Part Time or Full Time Employment

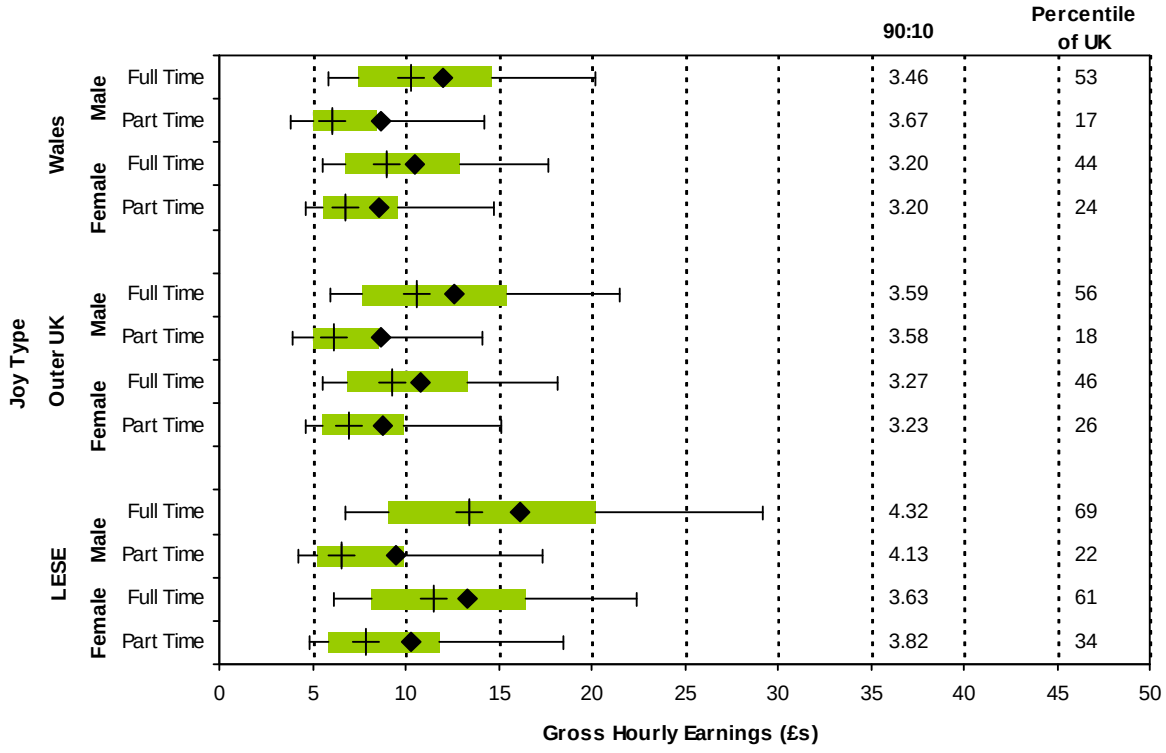
Even though earnings are measured per hour, we observe a large differential between full-time and part-time employees, particularly for men (see Figure 4.22). In fact, this is the only category in which men's earnings are on average below those of women. Part-time employment accounts for less than 10% of male employment compared to around 40% of female employment. The median earnings for each group of part-time employees lies within the bottom third of aggregate earnings.

Figure 4.21 Hourly earnings for men and women by LPC-defined low paid occupational group



Source: APS, 2004-2009. Data are weighted

Figure 4.22 Hourly earnings for men and women by full time/part time

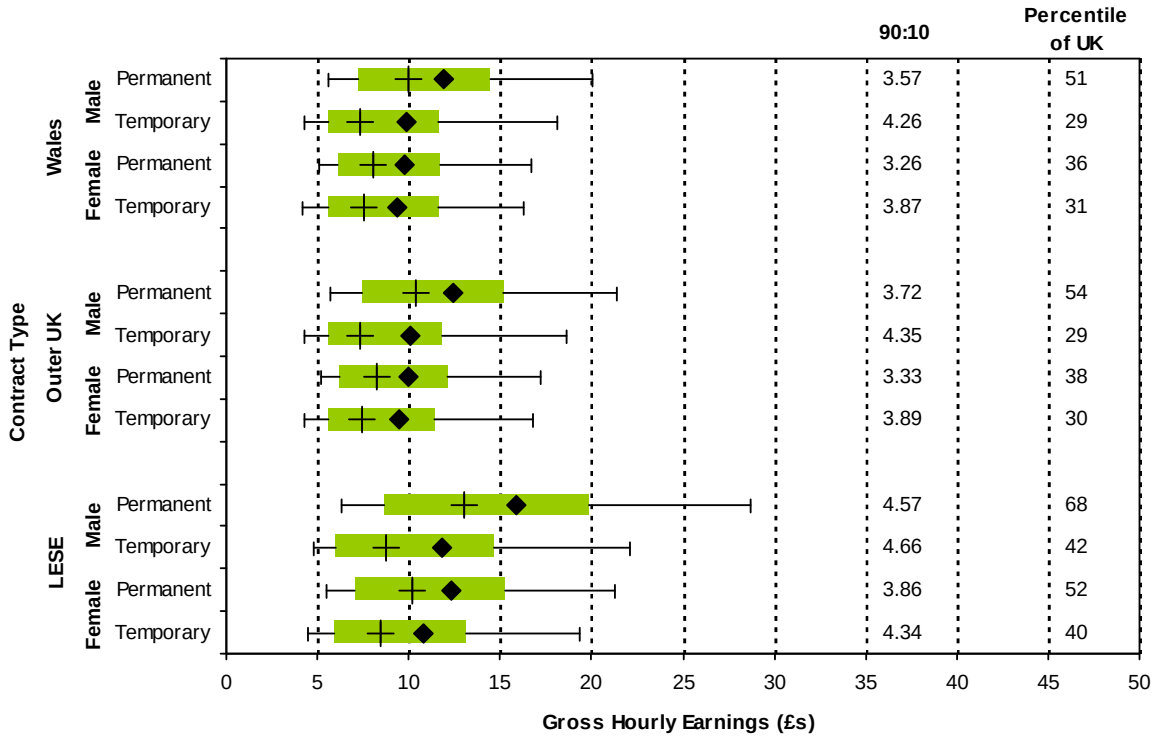


Source: APS, 2004/5-2008/9. Data are weighted

4.6.3 Earnings by Contractual Status

Around 5% of male employees and 6% of female employees are on contracts defined in some way as being less than permanent. The proportion of such employees is higher in Wales than in the Outer UK and in LESE. Earnings for male and female employees on temporary contracts are consistently below the earnings of those on a permanent employment contract (see Figure 4.23).

Figure 4.23 Hourly earnings for men and women by contract of employment

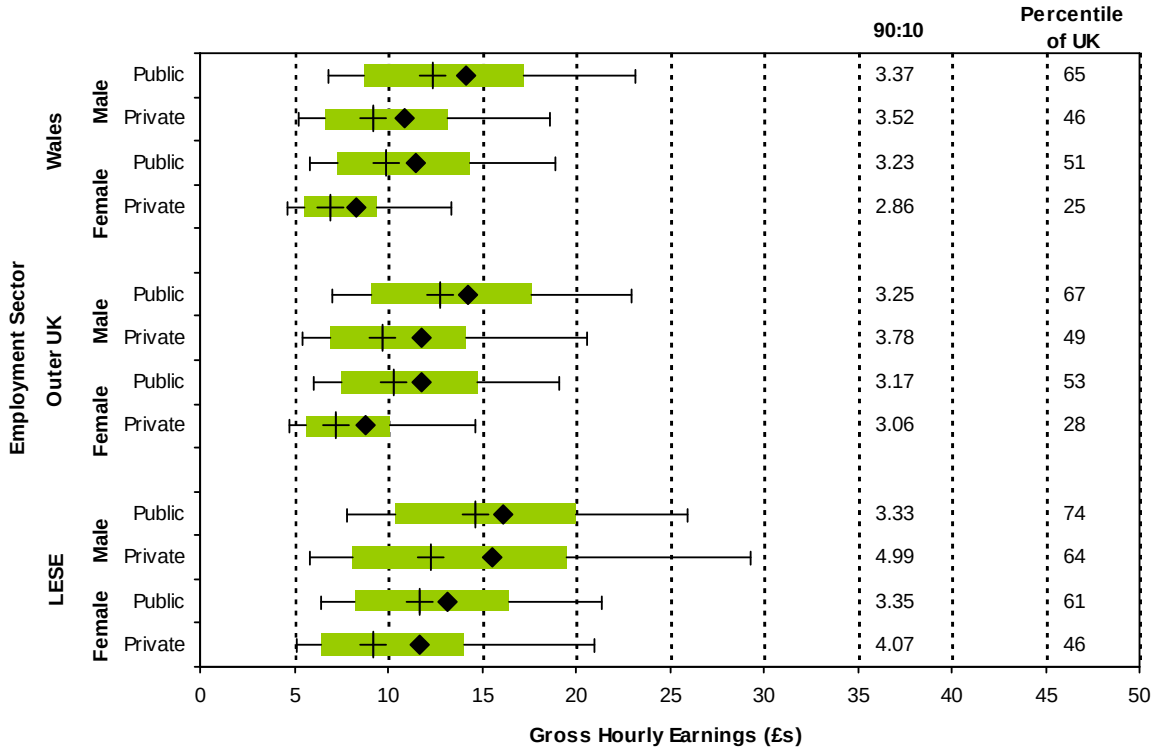


Source: APS, 2004/5-2008/9. Data are weighted

4.6.4 Earnings by Sector of Employment

The public sector accounts for more employees in Wales than in the Outer UK and LESE and for many more women than men in each area. Median earnings are higher in the public sector than in the private sector for men and women in each area except for high earning men in LESE (see Figure 4.24). The mean level of earnings is greater in the public sector than in the private sector. On this breakdown, it is women employees in the private sector in Wales and outer UK whose median earnings fall below the 33rd percentile of aggregate earnings. With some exceptions at the bottom, earnings differentials, whether by geography or gender, are lower in the public sector than in the private sector. A relatively large public sector in Wales therefore has the effect of reducing the average pay penalty associated with living in Wales, the gender-based pay gap in Wales and earnings inequality in Wales compared to other regions and nations of the UK.

Figure 4.24 Hourly earnings for men and women by sector



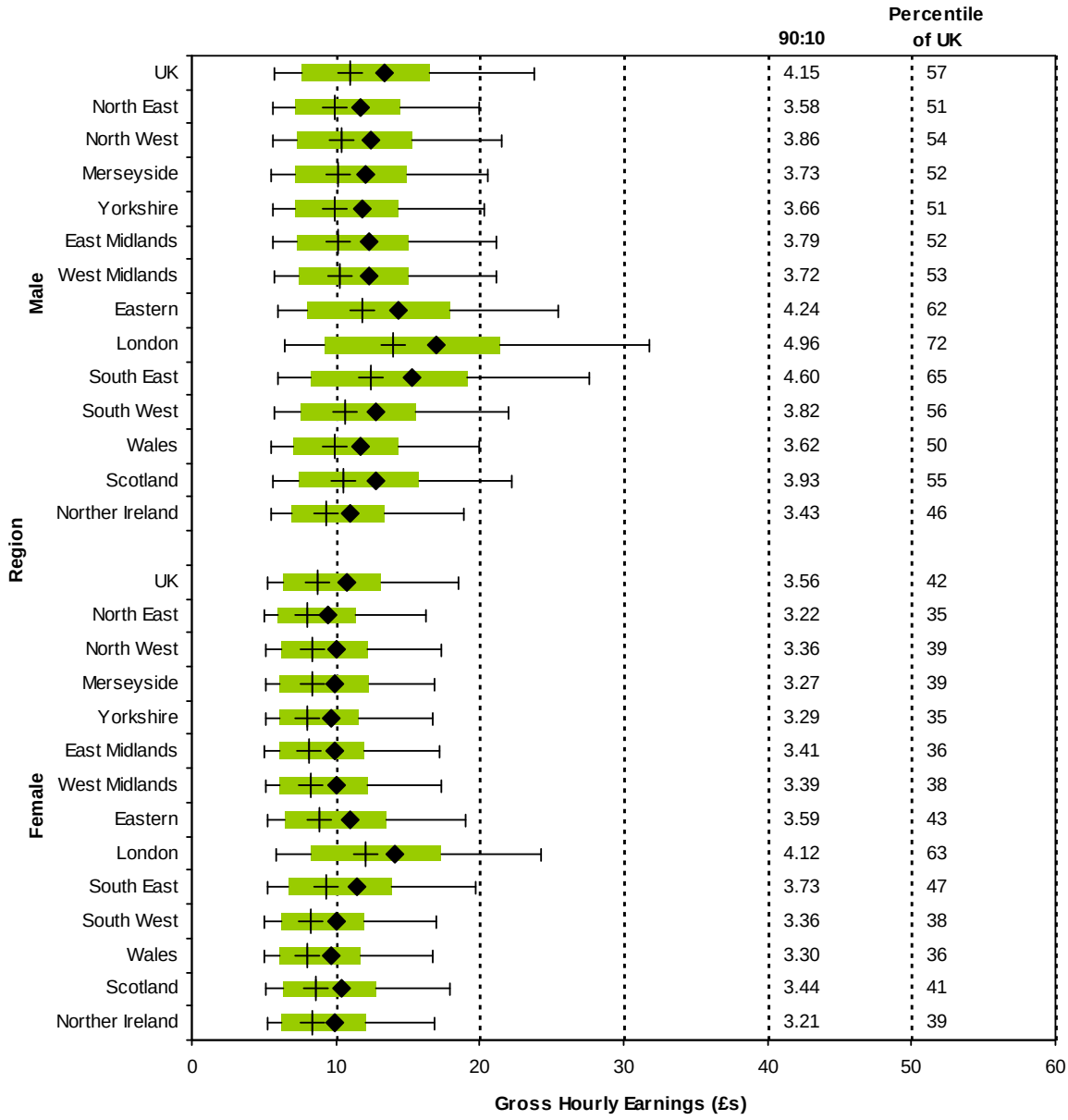
Source: APS, 2004/5-2008/9. Data are weighted

4.6.5 Earnings by Nation and Region

The median level of earnings for both women and men employees in each of the devolved nations is below that for the UK as a whole, but so too are the median earnings of most English regions, except for London, the South East and the East of England. Median earnings in Wales are close to the bottom of the earnings hierarchy. For women, earnings in Yorkshire and the North East of England are lower than in Wales. Male earnings in Northern Ireland are slightly lower than in Wales.

The familiar pattern in which inter-group wage differentials are lower for women than for men is also found at the regional level. The spread and positive skew found in each of the distributions reported in Figures 4.25 is lower for women than for men and lower for the regions and nations outside the South Eastern corner of the UK. On a regional disaggregation, no group median falls below the 33rd percentile of aggregate earnings.

Figure 4.25 Hourly earnings for men and women by region

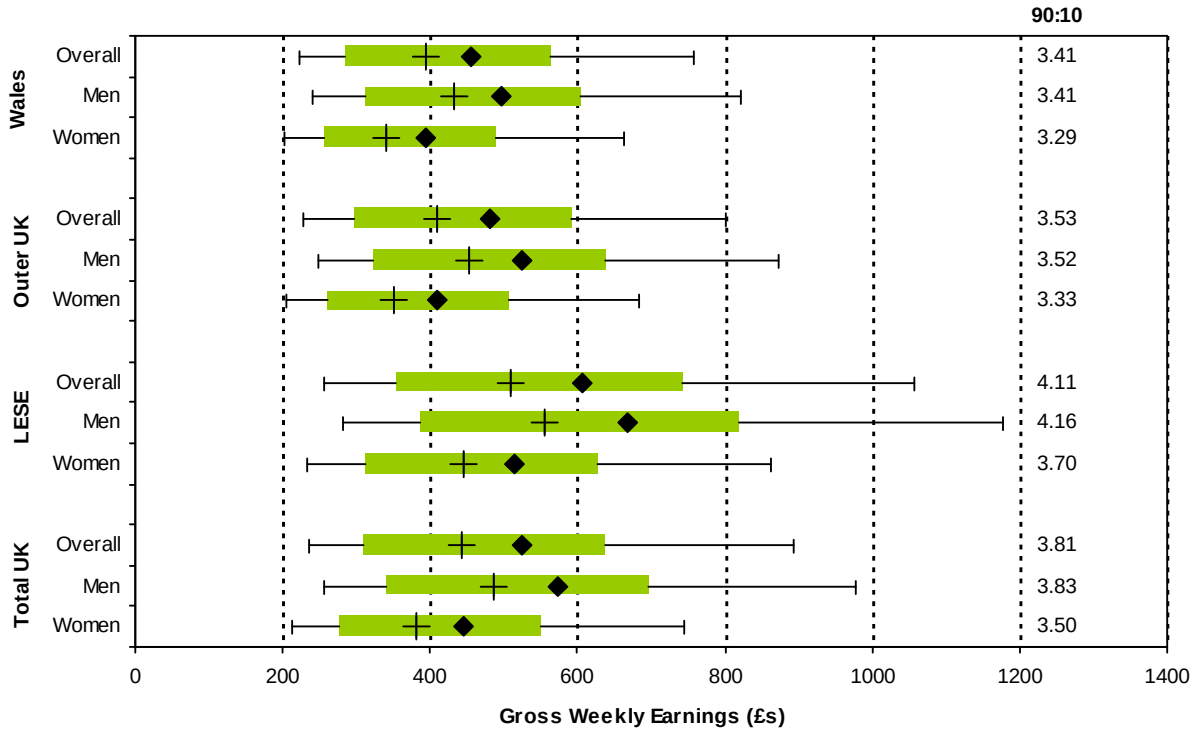


Source: APS, 2004/5-2008/9. Data are weighted

4.6.6 Weekly Earnings for Men and Women

Figure 4.26 reports gross weekly earnings for full-time employees. The figure is directly comparable to the earlier Figure 4.4 for hourly wages for all employees. The 90:10 ratios indicate that intra-group inequality is lower for full time weekly earnings than for hourly earnings for all employees. This is because the restriction to full-time work generates a less diverse group of employees. Although the same gender and geographical patterns and are observed across each measure, differences between geographical areas and between men and women are greater for full-time weekly wages than for hourly wages. This is a first indication that inter-group differences are greater for weekly earnings than for hourly wages. This result is explored further in Chapter 6.

Figure 4.26 Gross Weekly Earnings by gender and region for full-time employees



Source: APS, 2004/5-2008/9. Data are weighted

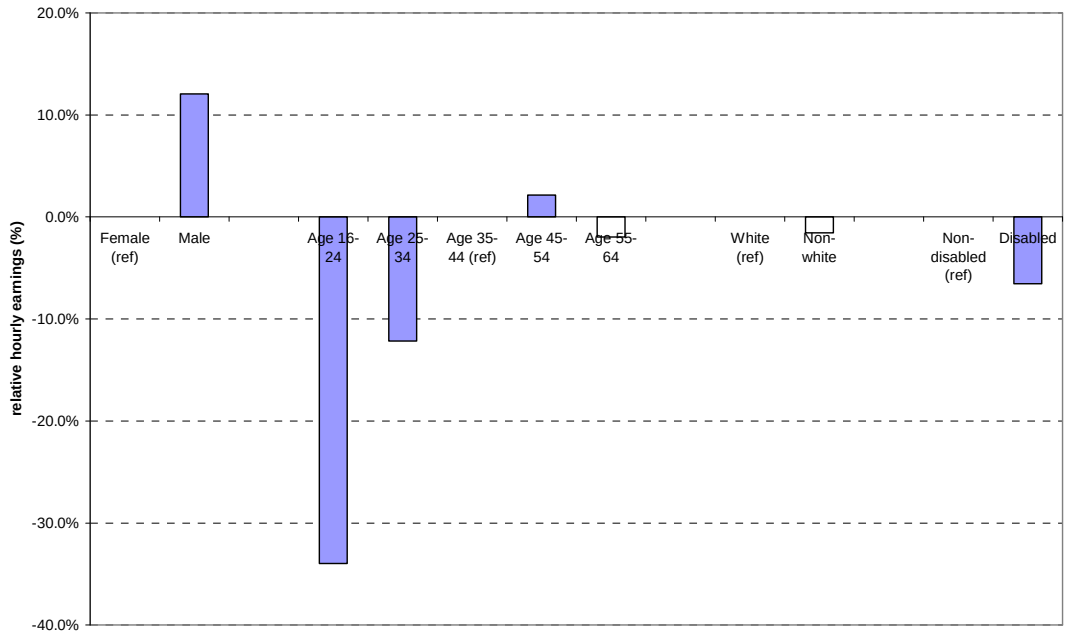
4.7 Disentangling the Characteristics Associated with Earnings

The previous sections have demonstrated that earnings change with many different factors such as gender, age and qualifications but this analysis did not take into account the possible inter-relationships between those factors. For example, public sector workers are better qualified than private sector workers, so a comparison of earnings between the two groups will be, in part, due to the different qualifications of workers in each sector. It is therefore important to understand whether higher earnings within the public sector can be accounted for by the higher levels of qualifications held by workers in the sector or whether working in the public sector can be identified as having a separate and additional effect on earnings after other personal and job related characteristics have been taken in to account. To investigate these issues, we undertake multivariate regression analysis. Regression is a technique for identifying the effect of one variable on earnings holding the values of all the other variables constant. It also provides a simple test for the statistical significance of a variable.

As with Chapters 2 and 3, we present the results from the analysis using graphical techniques. The bars on the charts that follow represent the percentage differential earnings that can be attributed to a particular characteristic after having controlled for other characteristics. As before, results are presented for sets of categories where one category acts as a reference group. Shaded bars represent estimates that are statistically significant. Selected results from the statistical model based upon respondents to the APS in Wales are presented in Figure 4.26. The heights of the bars represent the percentage difference in earnings that can be attributed to a

particular characteristic when we compare two individuals who are otherwise identical in all other respects. Full results from this model and separate models estimated for the Outer UK and LESE are shown in Annex 5.

Figure 4.27 The Estimated Effects of Personal Characteristics on Earnings in Wales



Key results from the statistical analysis are summarised below. We focus on the results for Wales, although also refer to results for the Outer UK and LESE. In terms of personal characteristics, analysis reveals that:

- The earnings advantage of men is well defined in all regions but smallest in Wales at 12% compared to women (14% in Outer UK, 13% in LESE);
- Earnings are lowest for those groups aged 19-24 and 25-34. Earnings reach a peak/plateau between the ages of 35-54, after which they fall back. The differential between low earnings at the start and end of a working-life and the peak at middle age is lower in Wales than in Outer UK and LESE;
- The earnings of a disabled worker are about 7% lower than those of a fully comparable full time employee. This finding is consistent across the regions and nations of the UK;
- Outside Wales, being of non-white ethnic origin is associated with lower earnings of approximately 6% compared to employees of white ethnic origin. There is no significant impact estimated within Wales;
- Qualifications have a major impact on earnings and the impact is greater in Wales than that measured elsewhere. Having a GCSE at the highest qualification is the reference group and employees with A levels or an HE qualification below graduate level experience an earnings premium of 9%.those with a degree experience a 22% earnings premium. The penalty

attached to having no qualifications is 12% and to having 'other' qualifications is 6%.

As well as estimating how earnings varying between different groups of respondents, the statistical analysis also considered the importance of a variety of job and workplace characteristics. Selected results reveal that:

- Public sector workers earn more than private sector workers outside London, with Wales having the largest public private sector wage differential of 9%. Within London, public sector employees actually earn less than otherwise comparable workers (2.5% pay penalty);
- In Wales, a premium of 11% attaches to having a permanent employment contract compared to a temporary one. This is slightly higher than in outer UK and LESE;
- In Wales a premium attaches to full-time employment over part-time employment of 7% which is in line with that in outer UK but less than the 12% in LESE.

4.8 Summarising Earnings Disadvantage

By way of conclusion, in this section we identify the personal and job characteristics that are associated with relative earnings disadvantage. We define earnings disadvantage as occurring when a particular group has a median value of earnings which is less than the 33rd percentile (£7.73) of the aggregate UK earnings distribution.[xxxv] Groups are defined by a different set of personal employment-related characteristics or a set of job-related characteristics. Each of these groups is disaggregated by area and by gender. We list the group characteristics which meet this disadvantage criterion first for men and women in all areas. For the second list, the employment-related personal characteristic or the job characteristic only passes the threshold when combined with the labour market disadvantage of being female. In many groups, living in London raises median earnings above the threshold. Although earnings in Wales are below those in the Outer UK, the regional penalty is less than that arising from other characteristics. Broadly speaking, on this definition of disadvantage, living in Wales is not responsible for identification as a disadvantaged group.

For both men and women, the following characteristics are associated with relative earnings disadvantage:

1. Employment in SOC7 (Sales and Customer Service Occupations) for men and women in each location
2. Employment in SOC9 (Elementary Occupations) for men and women in each location
3. Employment in LPC-defined low paid occupations for men and women in each location
4. Part-time employment for men and women in each location (except men in LESE)

5. Being young (aged below 25 years) for men and women in each location (except men in LESE)
6. Having no qualifications for men and women in each location (except men in LESE)
7. Employment in SOC6 (Personal Service Occupations) for men and women in each location (except men in LESE)
8. Employment in SOC8 (Process, Machine and Plant Operatives) for men and women in each location (except men in LESE)
9. Being of Pakistani & Bangladeshi ethnic origin for men and women in each location (except men and women in LESE)
10. Muslim men and women outside LESE
11. Temporary workers except those in LESE

Further groups which are disadvantaged for women

1. Women in manual occupation in all locations
2. Other Asian women outside LESE
3. Employment in SOC 5 Craft Occupations for women outside LESE
4. Employment in the private sector for women outside LESE
5. Women non-graduates outside LESE
6. Women whose highest qualification is A level or equivalent outside LESE
7. Women whose highest qualification is GCSE or equivalent outside LESE
8. Women who report 'other qualification' as their highest qualification outside LESE
9. Women who report a work-affecting disability outside LESE

[xxvi] Wilkinson R and K Pickett (2008) the Spirit Level: Why more equal; Societies almost always do better Allen Lane, London

[xxvii] We do not include the earnings are of self-employed because their earnings are not collected in the LFS.

[xxviii] We also exclude employees who report working in excess of 90 hours per week, those whose reported real gross weekly earnings are in excess of £3,500 for non-manual employees and £1,000 for manual employees, and those whose hourly pay is zero.

[xxix] Prices are calibrated so that the average of the monthly figures for 2009 is 100 using series CHAW, available from the Office for National Statistics website

[xxx] The years are defined seasonally so 2008/9 lasts from Spring (Mar-May) 2008 to Winter (Dec-Feb) 2008/9.

[xxxi] The values of the minimum wage are given on the Low Pay Commission website homepage (http://www.lowpay.gov.uk).

[xxxii] Similar arguments apply to men but their effect is less obvious in the statistics.

[xxxiii] See the 10th and 25th percentiles for men in Wales, 10th percentile for men in Outer and LESE.

[xxxiv] In general variations in education can explain at best about 30% of the variation in earnings.

[xxxv] A range of earnings around 7.73 is linked to the 33rd percentile. For this classifications, it is whether or not the group median earnings lies below 7.73 which determines its definition as disadvantaged.

Chapter 5: Income, Poverty and Wealth

Rhys Davies and Huw Lloyd-Williams

5.1 Introduction

The report has provided a detailed insight into economic conditions within Wales and describes the extent and nature of low paid employment among different sub-groups of the Welsh population. Wales demonstrates a productivity gap relative to the UK as a whole and this gap has been widening. The region's industrial and business structure has resulted in a relatively weak demand for skills, with individuals' earnings in Wales being, on average, lower than the UK average. It has been demonstrated that employment within Wales is characterised by a significant number of low paid and low skilled jobs. Average earnings within Wales are relatively low compared to the rest of the UK. Within Wales, it has been shown that education, employment and earnings vary between sub-groups of the population. In some instances, the disadvantage faced by groups protected by equalities legislation is wider in Wales.

The previous chapter provided a detailed picture of earnings and the nature of low paid work in Wales. Whilst earnings from employment are an important source of income and are likely to be highly correlated with poverty, these measures do not explicitly consider the living conditions of people living within Wales. To consider these issues, this Chapter presents an analysis of income in Wales and how income varies between sub-groups of the population. Of particular interest is how variations in household income between population sub-groups in turn translate in to different levels of poverty. In addition to presenting analyses of income and poverty, this chapter also considers the relative incidence of in-work poverty in Wales, recognising that engagement in paid employment is not necessarily sufficient for a household to avoid poverty. We also consider the relative persistence of poverty in Wales, looking at the relative incidence different groups, enter poverty, remain in poverty or leave poverty. The chapter concludes with an analysis of the distribution of wealth in Wales, reflecting the accumulation of assets by individuals over the life course.

5.2 Income and Poverty

5.2.1 Data from Households Below Average Income

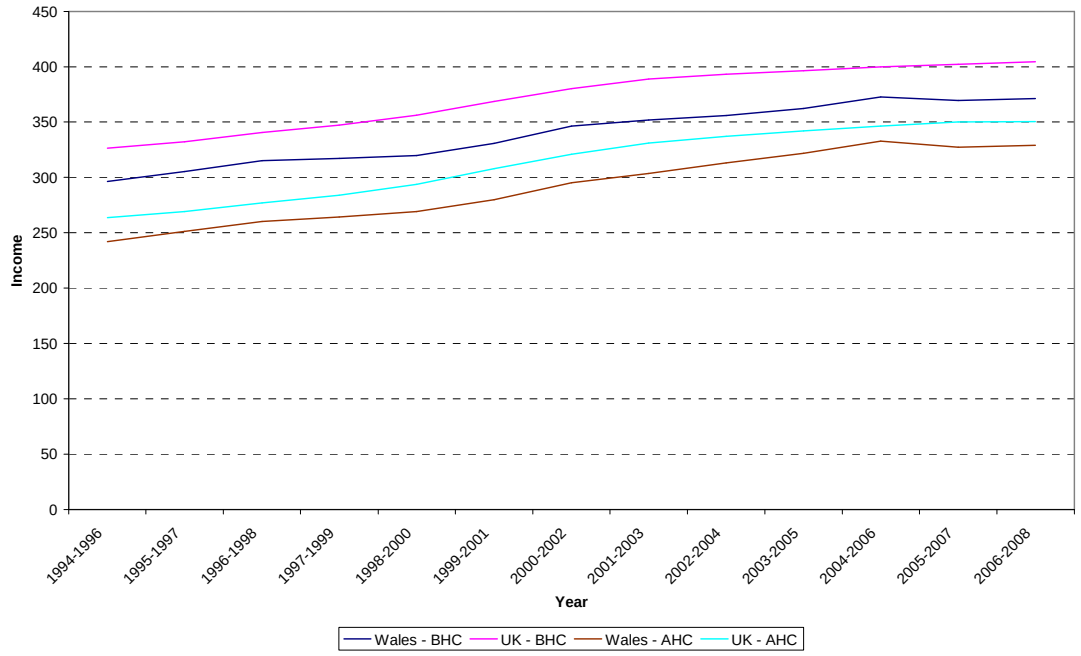
Households Below Average Income (HBAI) data are derived from the Family Resources Survey (FRS) and are regarded as the key dataset for analyses of poverty within the UK (details of these data sets are presented in Annex 1). The HBAI uses household disposable incomes, after adjusting for the household size and composition, as a proxy for material living standards. All individuals in the household are assumed to benefit equally from the combined income of the household and are therefore each allocated the same equivalised household income. Due to the relatively small size of the Family Resources Survey, the analysis is generally based on 5 years worth of HBAI data covering the period 2004/5-2008/9. In the analysis of ethnicity, we utilise data covering a 15 year period from 1994/5-2008/9. Later in this chapter we also consider differences in income measured on an individual basis.

5.2.2 Trends and Regional Variations in Household Income

Figure 5.1 presents information on median levels of equivalised net weekly income for Wales compared to the UK (or Great Britain prior to 2002/3) since 1994. Both

series exhibit an increase over time, reflecting the effects of improvements in real standards of living that accompany economic growth. However, in both series it can be seen that equivalent net incomes in Wales are lower than those observed within the UK as a whole. Before housing costs, over the fifteen year period it is estimated that levels of median equivalent net income in Wales are 91% of the levels observed in the UK. After housing costs, the average income gap decreases by 2 percentage points. This reflects the lower costs of housing in Wales, resulting in an improvement in the relative income position of Welsh households after housing costs are taken in to account.

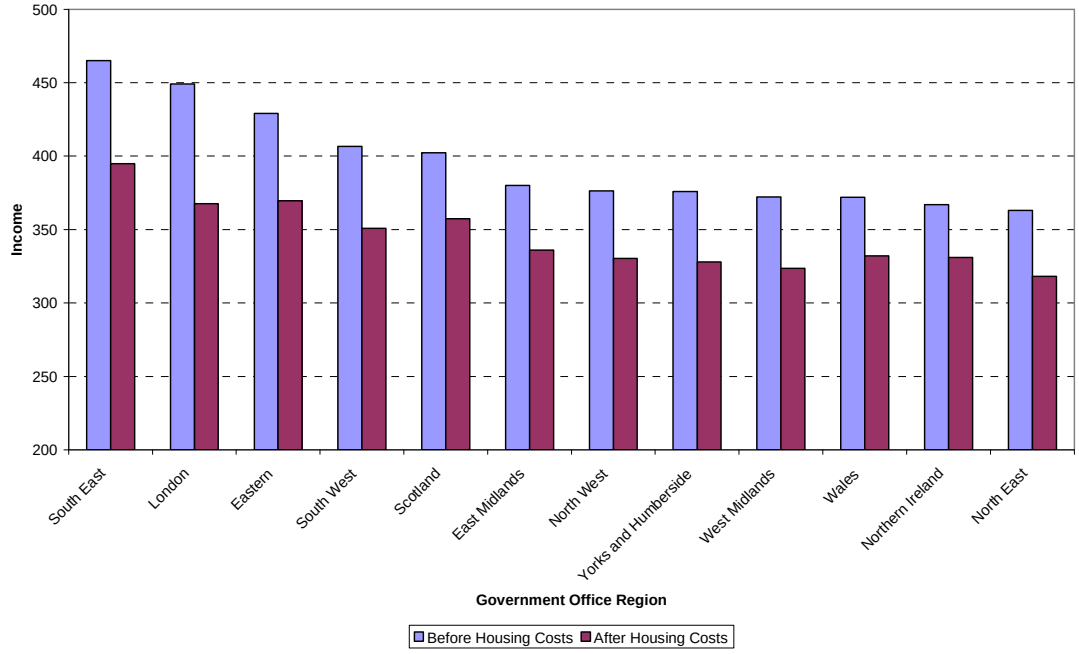
Figure 5.1 Trends in Equivalent Net Weekly Income



Source: HBAI, 1994/5-2008/9: Data are weighted.

The importance of the treatment of housing costs is underlined by the regional analysis of equivalent net income presented in Figure 5.2. It can be seen that before housing costs are taken into account, only Northern Ireland and the North East exhibit lower levels of equivalent net income than Wales. After taking housing costs in to account, the North East, West Midlands, Yorkshire and Humberside and the North West exhibit levels of income that are lower than those in Wales. Households living in London and the South East experience the largest declines in weekly income after taking account of the costs of housing.

Figure 5.2 Regional Variations in Equivalent Net Income



Source: HBAI, 2004-2008: Data are weighted.

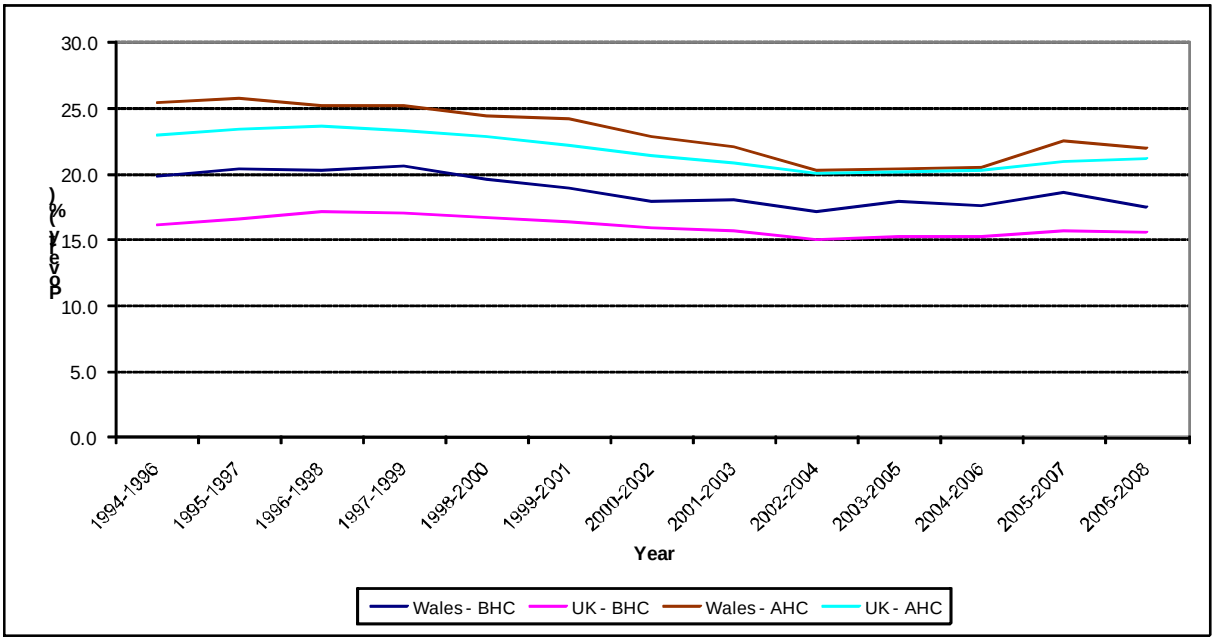
5.2.3 Trends and Regional Variations in Poverty

Of particular interest is how such variations in income in turn translate in to the proportion of people who live in poverty. There is no single preferred definition of poverty. Within publications based upon the HBAI, figures are presented on the number of people living in households that have income below certain thresholds of median income, with results being typically presented for less than 50%, less than 60& and less than 70% of median income. Of these measures, the principal marker of low income is generally regarded as being the number of people living in households with less than 60 per cent of median income and so this is the definition that we adopt in the analysis of poverty within Wales that follows. Once again, estimates of the number of people living beneath HBAI income thresholds are presented both before and after housing costs to take into account variations in housing costs.

Figure 5.3 presents information on the proportion of individuals living in families which have levels of equivalised income that are less than 60% of median income for the UK (or Great Britain prior to 2002/3). It can be seen that during the latter part of the 1990s, the proportion of people living within poverty in the UK was approximately 17 per cent Before Housing Costs (BHC) and 23% After Housing Costs (AHC). During the following decade, the incidence of both poverty and in-work poverty appear to decline during the period of sustained economic growth. The proportion of individuals living in poverty in Wales before housing costs is generally 3 percentage points higher than that observed for the UK as a whole. After taking housing costs in to account, the incidence of poverty in Wales is between 1 and 2 percentage points higher than that observed in the UK.

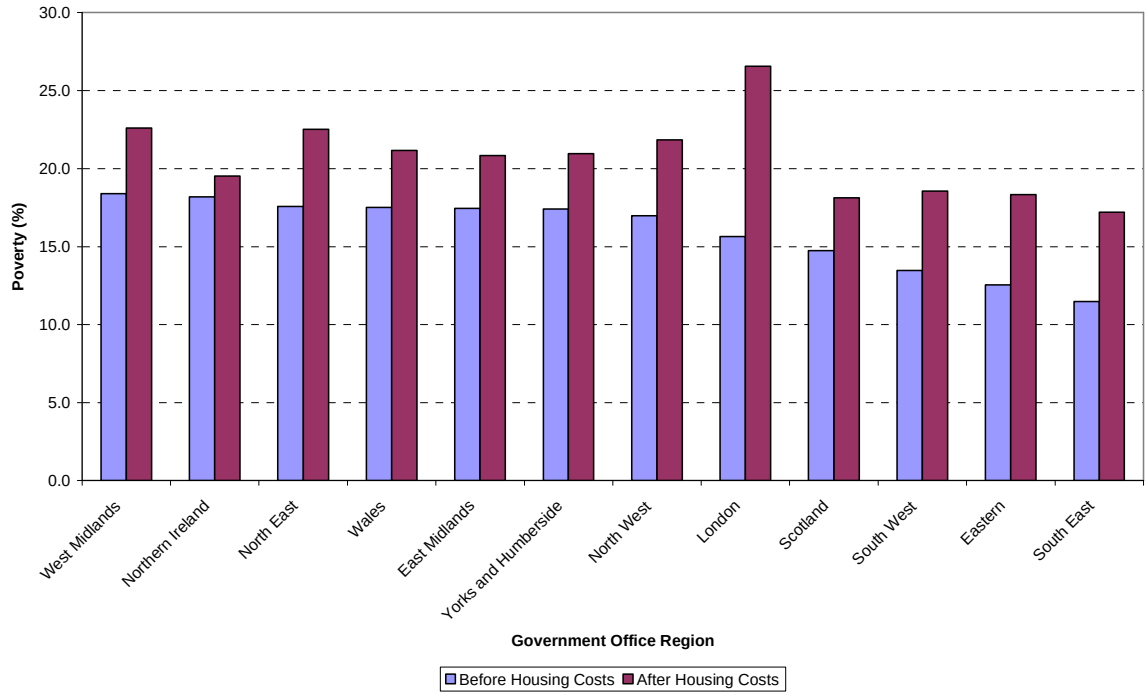
Regional variations in the incidence of poverty are presented in Figure 5.4. Before housing costs are taken in to account, Wales takes up a relatively high position compared to other areas of the UK in terms of overall levels of poverty. Before housing costs, approximately 18% of people in Wales are living within families that have levels of equivalised household income that are less than 60%t of the median level of income. This places Wales in a comparable position to the North East, the West Midlands and Northern Ireland in terms of the incidence of poverty. After taking into account housing costs, the proportion of people living in in-work families that are classified as poor increases to 21 per cent. The relative position of Wales in terms of the proportion of people living in poverty improves, reflecting the relatively cheap costs of accommodation within the region. The effect of the treatment of housing costs in the analysis of in-work poverty is most clearly demonstrated within those regions in the south of England, including London, the South West, the South East and the East. For example, the high costs of accommodation within London increase the incidence of poverty from 16% to 27%, making it the region of the UK with the highest incidence of poverty.

Figure 5.3 Population Living in Families with <60% Equivalised Median Household Income



Source: HBAI, 1994-2008: Data are weighted.

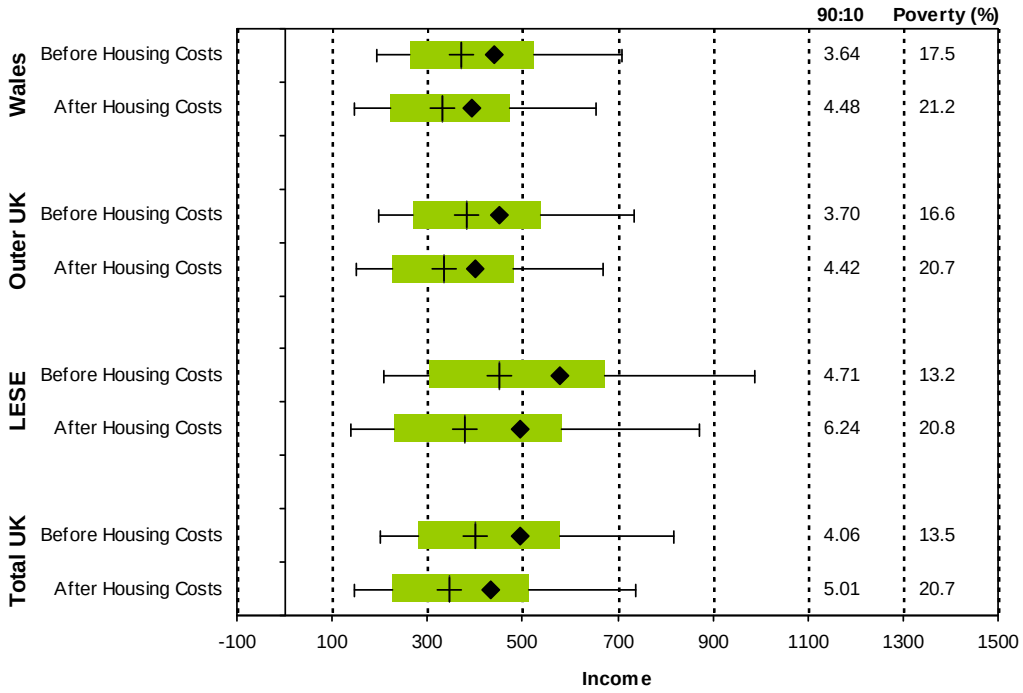
Figure 5.4 Regional Variations Population Living in Families with less than 60% Equivalised Median Household Income



Source: HBAI, 2004-2008: Data are weighted.

As with the analysis of earnings in Chapter 4, for the remainder of this chapter we present information on both the levels and distribution of incomes in the form of box and whisker plots as shown in Figure 5.5 which reveal the spread of equivalent net incomes of all individuals in the population and the relative incidence of poverty covering a period of 5 years from 2004 to 2008. During this period, the average median equivalent net income in the Wales was £332 (as indicated by the cross in the middle of the shaded bars). This figure is comparable to the average of other 'Outer UK' regions (£335 after housing costs) but lower than that observed within LESE (£378 after housing costs). The relatively large difference observed between mean household income (£495 after housing costs) and median incomes within LESE reveals the relatively skewed nature of the income distribution within this region, with the very incomes of some households having the effect of 'dragging up' estimates of mean household incomes in this region.

Figure 5.5 Income and Poverty Measured Before and After Housing Costs



Source: HBAI, 2004-2008: Data are weighted.

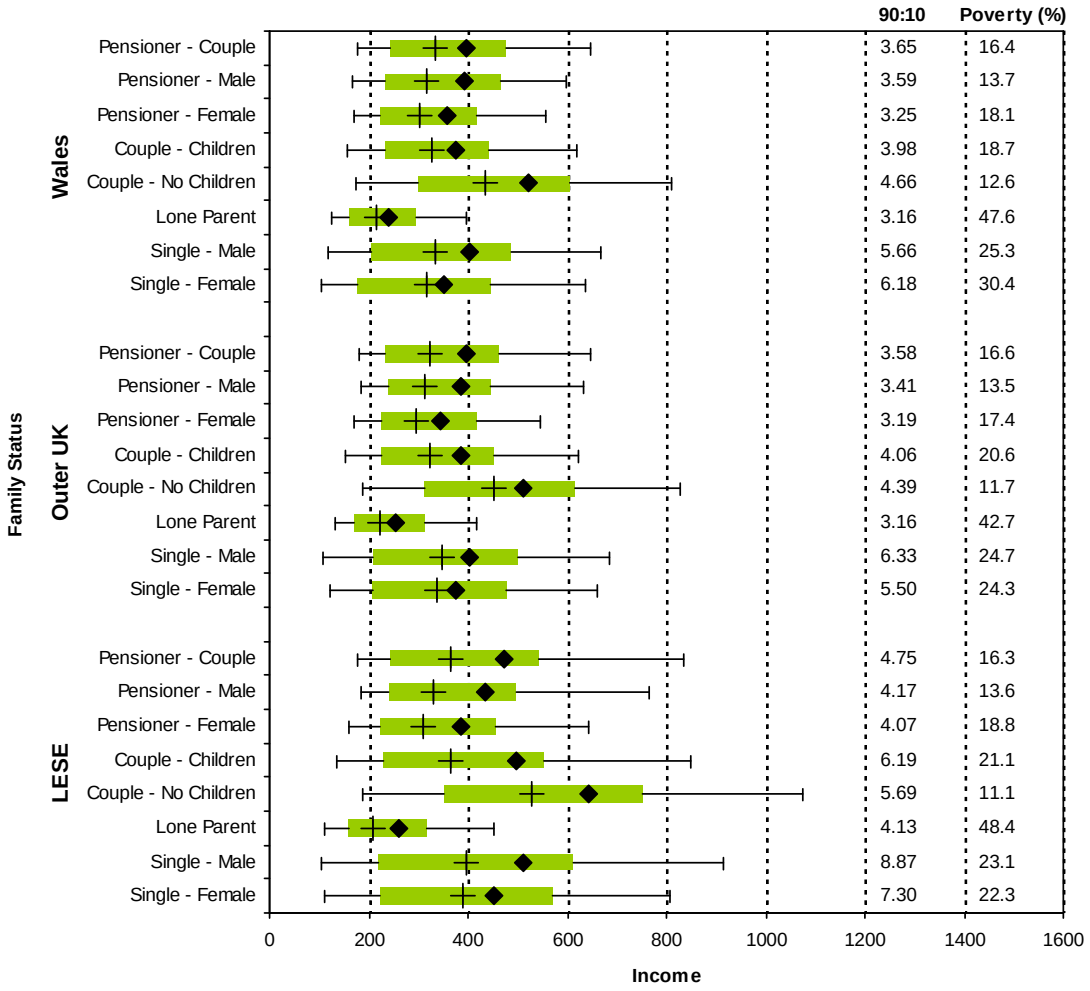
The chart also displays the income values associated with the 25th and 75th percentiles (as indicated by the lower and upper edges of the shaded bars) and the income values associated with the 10th and 90th percentiles (as indicated by the lower and upper edges of the whiskers). The degree of dispersion in the distribution can again be summarised by the ratio between the cut-offs for the top and bottom tenths of the income distribution. Within Wales, the 90:10 ratio is estimated to be 4.5, comparable to the average observed across other Outer UK regions (4.4), but significantly narrower than that observed within LESE (6.3). Finally, the right hand side of the chart presents information on the proportion of people that are living in poverty. After housing costs, approximately 21% of people in Wales living within families that have levels of equivalised household income that are less than 60% of the median level of income. This figure is comparable to the incidence of poverty in other areas of the UK. For ease of exposition, the analysis from this point on only considers equivalent net incomes after the deduction of housing costs.

5.2.4 Income, Poverty and Family Status

Figure 5.6 presents estimates of income and poverty by family status based on data covering a 5 year period for 2004 to 2008. It can be seen that equivalent net weekly incomes are relatively uniform across different types of family. The largest differences in income between different family types emerge as a result of the presence (or absence) of children in the household. Household incomes are highest among couples who do not have any children. The absence of children combined with an increased likelihood of both adults being in full time employment contributes to an average equivalent income of £434 among such groups in Wales. As such, only 13% of such families are estimated to be living in poverty. By comparison, couples with children have an equivalent weekly income of £328 reflecting the

increased pressure on gross income within larger families. Nineteen percent of such families are estimated as living in poverty.

Figure 5.6 Equivalent net income and poverty (AHC) by family type



Source: HBAI, 2004-2008: Data are weighted.

By contrast, household incomes are lowest among lone parents, where within Wales such families have an average equivalent income of £215. As such, some 48% of lone parent households in Wales (which are predominantly headed by women) are estimated to be in poverty. This figure is 5 percentage points higher than that estimated for lone parents in other UK regions outside of LESE. Furthermore, 30% of childless women in single households in Wales are estimated to be in poverty. This figure is both 5 percentage points higher than that estimated for single households in Wales that are headed by males, 6 percentage points higher than of single female households in other Outer UK regions and 8 percentage points higher than that of single female households located in LESE. In Wales, 14% of single pensioner households headed by males are in poverty. This is compared to 18% of such households that are headed by females. The analysis points to the relative disadvantage of households headed by women in Wales.

In terms of income inequality, across regions income inequality is lowest among pensioner households and lone parents, reflecting the low and relatively uniform incomes received by these groups. Income inequality is highest among single male

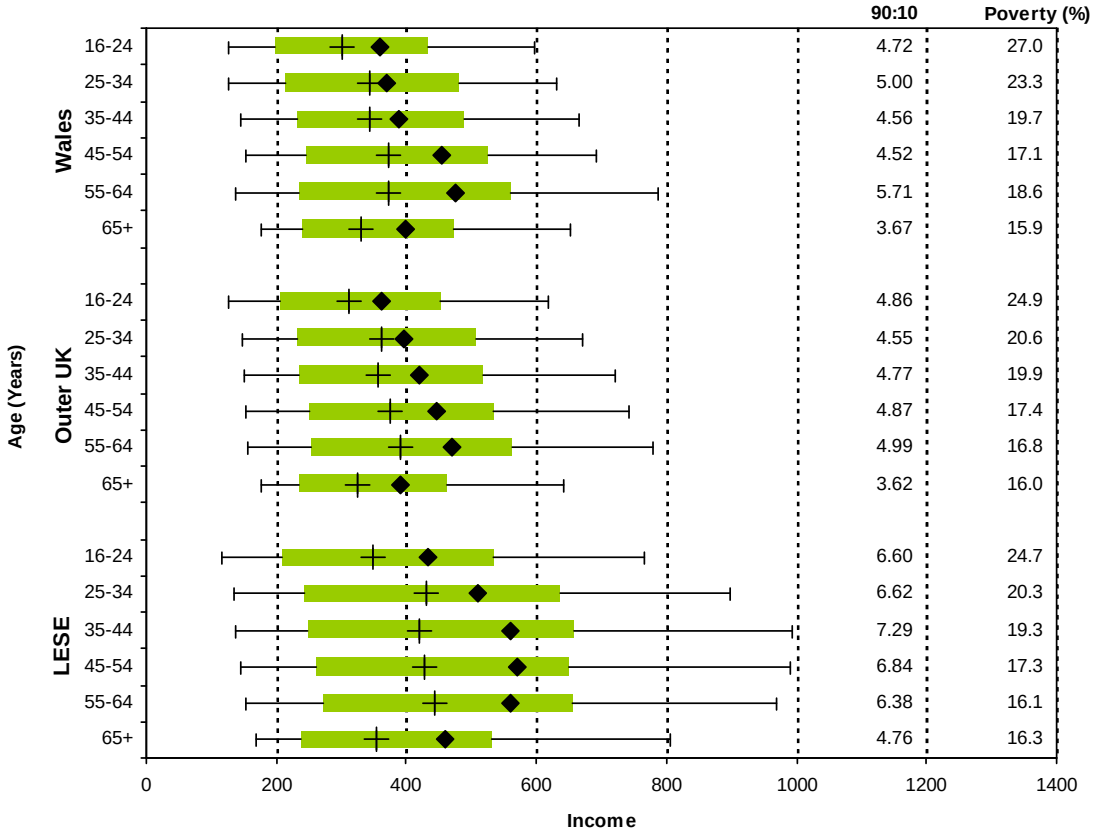
and single female households. Within Wales, we observe that income inequality within single female households is higher than that observed among single male households, which again will reflect the higher incidence of single female households on relatively low incomes.

5.2.5 Income, Poverty and Age

Figure 5.7 shows, for all individuals, the range of equivalent net incomes (after housing costs) by age group. We again utilise HBAI data covering a five year period from 2004 to 2008. Figure 5.6 has already demonstrated the lower incomes of households where there are children present and so therefore Figure 5.7 focuses upon the population aged 16 and over. It can be seen that within Wales and the UK more widely, equivalent incomes initially increase between the ages of 16-24 and 25-34 as people progress in the labour market. Then, during a period typically characterised by family formation, net incomes remain relatively stable over the next 10 years. Incomes once again increase among those aged 45-54 and reaches a peak among those aged 55-64 (£373 in Wales). The increase in equivalent net income among this older age group is likely to reflect a period where dependent children are likely to have left home. Median incomes then decline over the remainder of the life course as individuals approach and enter in to retirement.

These variations in income contribute to relatively high levels of poverty among younger age groups. It is also noted that levels of poverty are 2 to 4 percentage points higher in Wales among those under the age of 35 compared to other areas of the UK. Those in Wales aged 55-64 also appear to exhibit higher levels of poverty compared to elsewhere in the UK. It is also observed that across all age ranges, the distribution of equivalent net incomes is narrower within Wales than it is within LESE. The narrower income distribution in Wales is particularly evident among those people aged 35-54, with 90:10 ratios of approximately 4.5 compared to approximately 7 in LESE. The relative absence of well paid jobs in Wales that are typically associated with the presence of the headquarters of large private sector organisations may in part be responsible for a narrower distribution of incomes, particularly among those age groups who typically fill senior positions in such organisations.

Figure 5.7 Equivalent net income and poverty (AHC) by age



Source: HBAI, 2004-2008: Data are weighted.

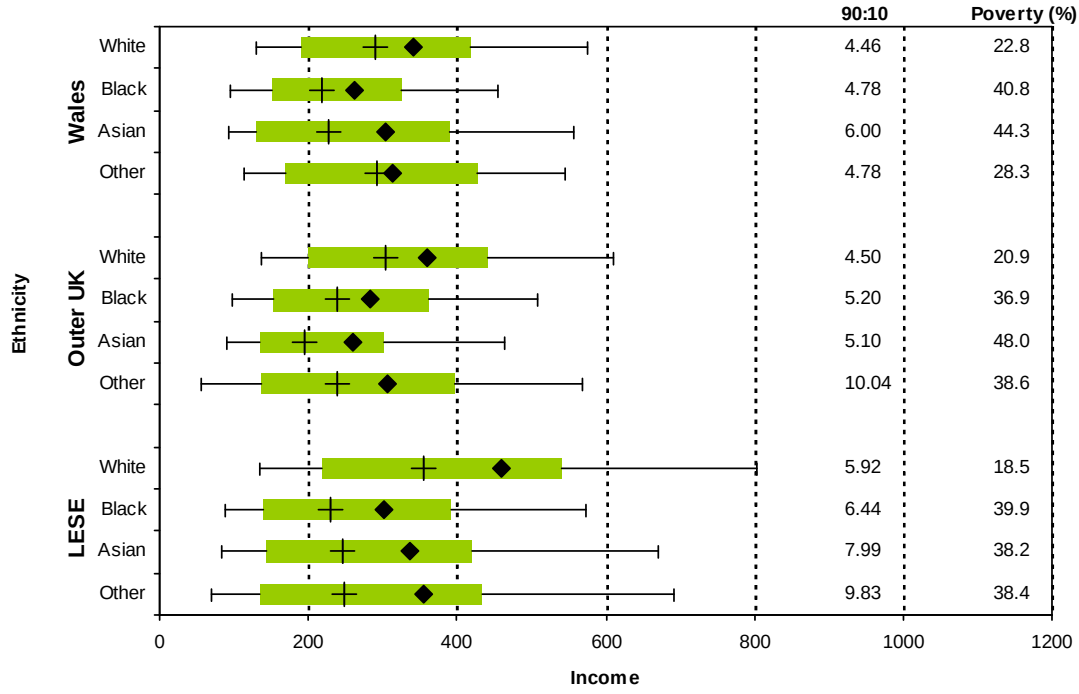
5.2.6 Income, Poverty and Ethnicity

The HBAI data set classifies households to particular ethnic groups. Due to the relatively small size of the FRS survey upon which the HBAI data is based, in the analysis of net equivalent income by ethnicity it has been necessary to merge data covering a period of 15 years from 1994/5 to 2008/9. Due to the inclusion of earlier years of data, estimates of average income in this section are lower than those presented earlier. Despite the inclusion of additional data, it is still not possible to conduct an analysis of average income in Wales by ethnicity that utilises detailed ethnic breakdowns comparable to those which been used in earlier chapters of this report that draw upon data from the Labour Force Survey. Figure 5.8 compares the positions of people living in households classified as White (white British or other white), Black (Black Caribbean, Black African, Mixed), Asian (Indian, Pakistani, Bangladeshi) or Other (including Chinese).

It must be acknowledged at the outset that broadly aggregating ethnic groups in this way will disguise differences that are known to exist between different groups, such as the differences between Bangladeshis and other ethnic groups of Asian origin in terms of their employment and earnings. Figure 5.8 reveals that within Wales, those living in white households exhibit higher median incomes (£289 per week) compared to other ethnic groups. Within Wales, people living in black households are estimated to have the lowest equivalent incomes (£218 per week), whilst those living in Asian households (£227) also exhibit incomes that are significantly lower than

those of white households. These lower levels of income translate in to significantly higher levels of poverty in Wales within Black (41%) and Asian (44%) households compared to those in white households (23%). Higher income levels in Wales within Asian households appear to contribute to lower levels of poverty among this group compared to those living in Asian households in other Outer UK regions. However, it is noted that the combination of diverse ethnic groups in to relatively broad categories may confound comparisons made across regions of the UK.

Figure 5.8 Equivalent net income (AHC) by household ethnicity

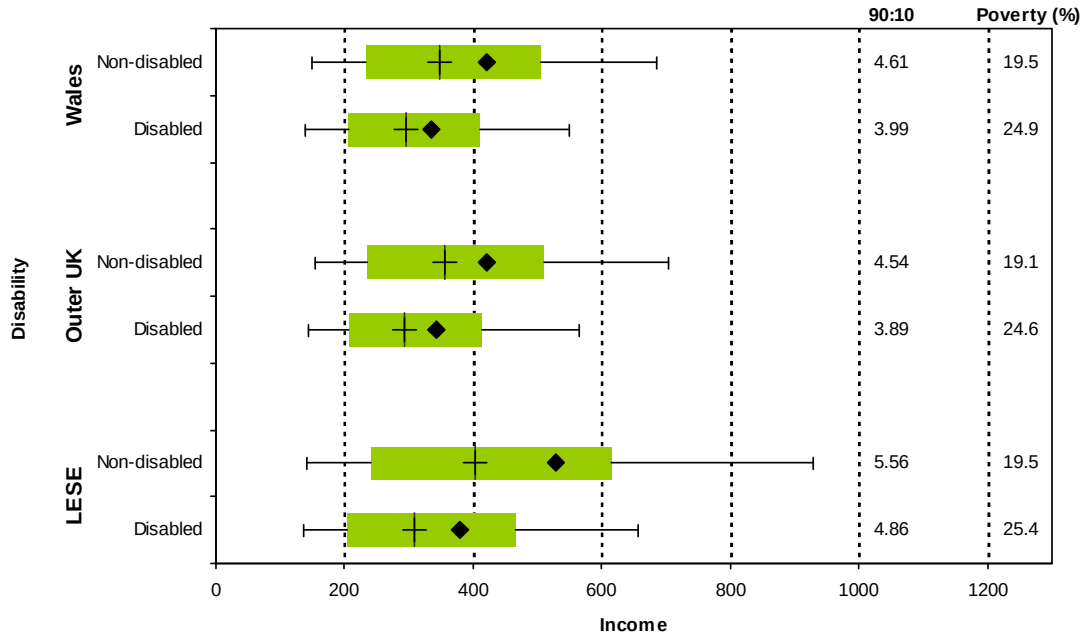


Source: HBAI, 1994-2008: Data are weighted.

5.2.7 Income, Poverty and Disability

The HBAI data set identifies households where there is a disabled person (or persons) present. In Figure 5.9, it can be seen that individuals living in households where a disabled person is present have a median income that is lower than those living in non-disabled households. Within Wales, the net equivalent income of those in non-disabled households is 18% higher than those in disabled households. This differential is lower than that observed for other parts of the UK (21% within the Outer UK and 30% in LESE). In terms of poverty, within Wales it is estimated that 25% of individuals living in households where a disabled person is present are living in poverty, 6 percentage points higher than that observed within non-disabled households. This differential is identical to that observed within the Outer UK and LESE. In terms of income inequality, it is observed that that the income distribution (as measured by the 90:10 UK ratio) of disabled households in Wales (4.0) is narrower than that of non-disabled households (4.6), reflecting the lower earnings of well paid disabled people compared to those who are not disabled and who are in well paid jobs. It is also noted that the income distribution of disabled households is narrower in Wales and the Outer UK compared to LESE (as measured by a 90:10 ratio of 5), reflecting the increased ability of both non-disabled and disabled people within LESE to access well paid positions.

Figure 5.9 Equivalent net income and poverty (AHC) by disability



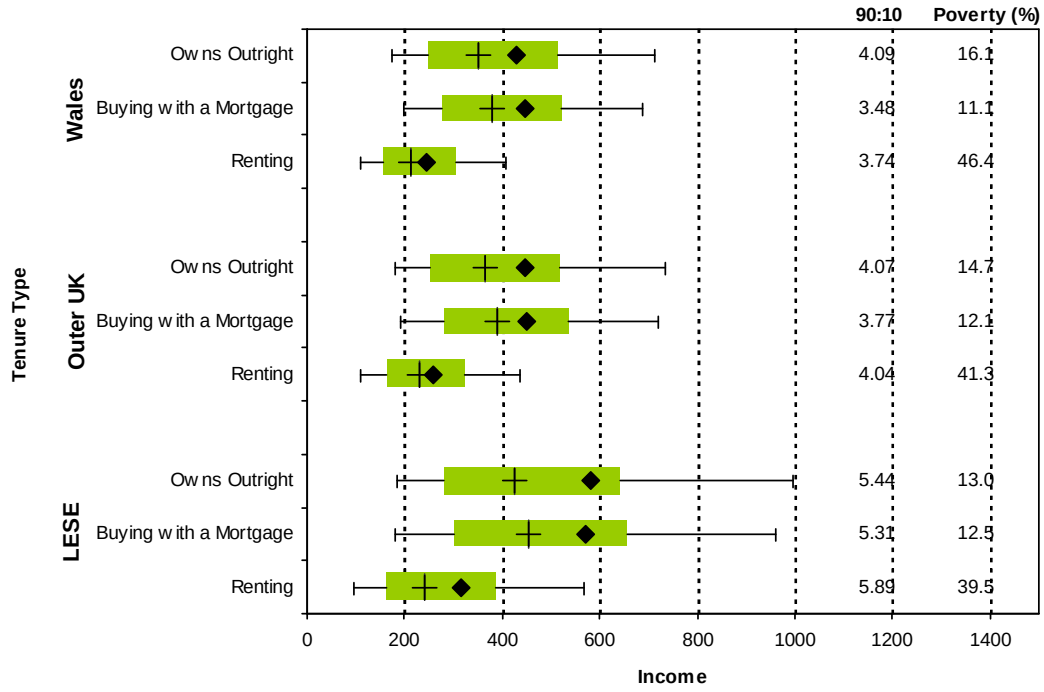
Source: HBAI, 2004-2008: Data are weighted.

5.2.8 Income, Poverty and Housing Tenure

The HBAI data set identifies individuals according to different types of housing tenure. In Figure 5.10 it can be seen that individuals both in Wales and the UK more widely living in rented accommodation have a median income that is lower than those living in households where the property is owned outright or is being purchased with the assistance of a mortgage. Within Wales, incomes are highest among those who are purchasing their property with a mortgage (£380 per week), followed by those who own their own home (£353). This difference reflects the fact that pensioner households characterised by lower incomes are more likely to own their own home. Among those individuals living in rented accommodation in Wales, median weekly income is estimated to be £214. In terms of poverty, within Wales it is estimated that almost half (46%) of those in rented accommodation have levels of equivalised household income that are less than 60% of the median level of income.

Within Wales, income inequality is widest among those who own their properties outright. Home owners in Wales exhibit a 90:10 ratio of 4.1, compared to a ratio of 3.5 among those with a mortgage and 3.8 among those who are renting. This is likely to reflect the diversity in the economic circumstances of those who own their homes outright. This group will include in-work households characterised by older groups where children have left the family home and those in work will receive higher earnings reflecting their greater labour market experience. However, this group will also include those who have retired and who have lower incomes. The relatively low levels of income inequality within Wales (and elsewhere in the Outer UK) among those who are renting is in contrast to the relatively high levels of income inequality observed among renters within LESE (as measured by a 90:10 ratio of 5.9). This is likely to reflect the greater association between renting and low incomes in Wales compared to LESE where many households with relatively high incomes may rent due to an inability to secure a mortgage to purchase their own homes.

Figure 5.10 Equivalent net income (AHC) by tenure



Source: HBAI, 2004-2008: Data are weighted.

5.2.9 In-Work Poverty

Our analysis of poverty is concluded by an examination of in-work poverty. The polarisation/segmentation of the UK labour market between those who are working in relatively stable, well paid, skilled jobs on the one hand, and those who are in unstable, low skilled, low paid employment on the other (see Goos and Manning, 2007) and accompanying wage inequality (see Hills *et al*., 2010: 28-30) is important to understanding overall levels of poverty in Wales and its relative incidence between different groups. Concern with in-work poverty was clearly acknowledged by the New Labour Government in 2008: "Work is the surest route out of poverty but not an immediate guarantee: a combination of low wages and/or low hours in low skilled jobs may mean that working families remain in poverty" (HM Treasury, 2008: 20). Given the relative low skilled nature of jobs within the Welsh labour market, we therefore consider the incidence of poverty within those *families* where at least one person is in work.

The analysis that follows defines in-work poverty as *the number of people in families in private households where at least one person is in employment and where the equivalised household income of that benefit unit falls is less than 60% of median income*. The poverty threshold used in the definition of in-work poverty is based on the median income of all households, whether they are in or out of work. As such, the incidence of in-work poverty is lower than overall levels of poverty as being in work will generally be associated with higher levels of income and a reduced likelihood of household income falling below a particular poverty threshold.

The measurement of in-work poverty at the level of the household can mean that an individual who may be a low-wage earner will not necessarily be in poverty if the earnings of others in their household lift them above the poverty threshold. Alternatively, a low wage earner may not necessarily be in poverty if they work long

hours, hold several jobs, or receive state transfers through the tax and benefits system. Conversely, someone may be earning a wage that is not considered to be low, but because of their household context they may be classified as being in poverty.

Table 5.1 presents information on the proportion of individuals living in in-work families which have levels of equivalised income that are less than 60% of median income for the UK. With the exception of ethnicity, analysis is based upon data covering the period 2004-2008. After taking in to account housing costs, the proportion of people living within in work poverty within Wales is similar to levels observed in the UK as a whole, with 13% of people living in in-work households which have levels of equivalised income that are less than 60% of median income for the UK.

Table 5.1 The Incidence of In-Work Poverty (%)

	Wales	Outer UK	LESE	UK
Family Status				
couple - children	14.0	16.5	17.7	16.8
couple - no children	8.9	8.1	8.4	8.3
lone parent	25.7	20.0	24.4	21.7
single male	11.1	10.6	11.2	10.8
single female	14.7	12.4	12.1	12.4
Age				
16-24	13.5	12.4	13.1	12.7
25-34	13.0	11.9	12.9	12.4
35-44	13.4	13.3	13.9	13.5
45-54	10.6	11.8	12.4	12.0
55-64	10.6	9.3	10.1	9.6
Ethnicity*				
White	13.0	11.7	10.6	11.4
Black	25.5	20.2	21.4	21.1
Asian	34.7	36.8	27.8	32.1
Other	14.9	23.7	23.9	23.6
Disability				
non-disabled household	12.4	12.7	13.8	13.1
disabled household	15.2	15.5	16.0	15.6
Tenure				
renting	27.9	27.6	26.1	26.9
owns outright	11.0	8.9	8.1	10.2
buying with a mortgage	9.6	10.0	10.6	8.7
All	**12.9**	**13.1**	**14.1**	**13.5**

Source: HBAI, 2004-2008 (*1994-2008 for ethnicity): Data are weighted.

In terms of the relative incidence of in-work poverty across different groups, the same patterns emerge as those which were observed for overall levels of poverty. In terms of family status, lone parents exhibit the highest rates of in-work poverty. Within Wales, 1 in 4 lone parents (a large majority of whom are female) who are in work

remain in poverty. It can also be seen that within Wales, the proportion of single females who are in work and who remain in poverty is 4 percentage points higher than that observed among single males. Across all areas of the UK, in-work poverty is higher among younger age groups reflecting the lower earnings of these people and in those households where a disabled person is present. In terms of ethnicity, levels of in work poverty in Wales are twice as high in black households (25%) and almost three times as high in Asian households (35%) compared to the incidence observed in white households (13%) over this period. Among in-work households in Wales that are living in rented accommodation, it is estimated that 28% of people are living in poverty, almost 3 times the incidence of in-work poverty among households who are purchasing their home with the assistance of a mortgage.

5.2.10 Individual Incomes

Finally in this section we consider differences in income between sub-groups of the population measured on an individual basis. This distinction between household and individual incomes is particularly important in terms of understanding the relative incomes by gender. Whilst in some respects, the allocation of household income to women more accurately reflects the level of resources that they have available to them (and hence their standard of living), such an allocation can disguise the relatively low individual incomes of women (as alluded to in the analysis of earnings in the previous chapter) and hence their relative economic vulnerability and dependence upon others in the household. Analysis is based on data from the Family Resources Survey (FRS) covering the period 2002 to 2008. It is also noted that the FRS covers GB.

In Table 5.2 it can be seen that levels of median weekly income are lower in Wales (£199) compared to both LESE (£242) and the Outer GB (£208). Over the life course, average individual incomes are relatively even across different parts of the country among the youngest age groups. However, as incomes rise as people become established in their careers, the income gap between LESE and Wales widens. In terms of ethnicity, relative incomes among Indian people living in Wales are relatively high. However, as discussed in earlier chapters, in the absence of a large established Indian population within Wales, it may be the case that these figures are being distorted by a small number of relatively high earners within the FRS within Wales who are of Indian origin. An interesting result emerges in Wales in terms of housing tenure. While the incomes of those living in housing association (£180) or council properties (£167) are similar to those observed in other areas of the country, Wales is characterised by relatively low incomes among those living in privately owned furnished accommodation (£145).

Table 5.2 Individual Level Median Weekly Incomes (%)

	Wales	Outer GB	LESE	Total
Gender				
Male	239	251	305	268
Female	168	173	193	179
Age				
16 to 24	145	154	173	160
25 to 34	244	250	300	267
35 to 44	256	269	313	281
45 to 54	238	247	294	260
55 to 64	180	193	229	202
65+	165	169	180	172
Ethnicity				
White	200	210	247	220
Mixed Race	186	200	240	220
Indian	260	179	223	201
Pakistani and Bangladeshi	125	130	145	135
Black	183	199	233	220
Other (incl Chinese)	202	182	214	200
Disability				
no disability	209	217	253	229
DDA disabled only	189	198	216	203
WLD disabled only	155	152	181	160
DDA and WLD	152	167	184	170
Tenure				
rented from council	167	170	184	174
rented from housing association	180	186	201	192
rented privately unfurnished	199	208	254	226
rented privately furnished	145	168	241	198
owned with mortgage	189	200	231	209
owned outright	233	247	290	258
All	**199**	**208**	**242**	**219**

Source: FRS, 2002-2008: Data are weighted.

5.3 Poverty Persistence

The previous sections have provided a detailed picture of the relative incidence of poverty and in-work poverty in Wales. However, this information can only provide a 'snap shot' measure of poverty based upon data related to a single 'point in time'. Such a measure of poverty can disguise a more detailed and complex picture where overall rates of poverty are the result of a more complex dynamic process of entry and exit (Fairlie, 1999). Like unemployment, being in poverty is less likely to be problematic if it is a short term phenomena and is only experienced by households for a relatively limited period (e.g. between being made redundant and finding a new job). However, if the overall rate of poverty can be largely accounted for by the same group of people remaining in poverty from one year to the next, such persistent poverty will have significant adverse economic and social consequences for these people, their children and the communities in which they live. It is important to both

understand the relative incidence of poverty *and* the relative likelihood that different groups have of exiting poverty.

In this section, we therefore utilise data from the British Household Panel Survey (BHPS) to examine the persistence of poverty. The BHPS is a longitudinal survey which tracks the same individuals and households over time. A Welsh 'boost' to the BHPS has been included since 1999 (Wave 9). Utilising this data, we examine the persistence of poverty from one time period to the next. Specifically we consider of those who are in poverty during one period, what proportion remain in poverty during the next period and what proportion can be observed to exit poverty[xxxvi]. We have chosen two pairs of time periods (1999-2000, 2005-2006) so that we can measure changes in the circumstances of households from one period to the next, as well as examining what has happened to these households over a longer period of time (1999-2006). We utilise a measure of 'current net equivalised income', provided by Bardasi, Jenkins and Rigg (1999). As with the analysis of HBAI data, we define an individual to be poor if they come from a household which has income which is less than 60% of the contemporary median. Due to the scope of the BHPS data, it is not possible to adjust for costs of housing using the source. Further details of the BHPS are presented in Annex 1.

The overall incidence of poverty derived from the BHPS is presented in Table 5.3. It can be seen that rates of poverty are generally comparable to those derived from the HBAI data presented in Section 5.2.3, with the incidence of poverty in all areas declining between 1999 and 2006, with both Wales exhibiting a decline in poverty of approximately 3 percentage points (from 22% to 19%) over this period. In considering the persistence of poverty, it can be seen that approximately half of those in poverty tend to exit poverty during the following year. Within Wales, exit from poverty was relatively high between 1999 and 2000, where approximately 57% of people in poverty had exited poverty during the following 12 months. Between 2005 and 2006, within Wales about half of those in poverty remained in poverty during the following year. The relatively higher proportion of people who are exiting poverty between 1999 and 2000 would appear to be consistent with the relatively large decline in poverty that occurred in Wales during the latter half of the 1990s (see Figure 5.3).

The base of Table 5.3 considers the persistence of poverty over the much longer period of 6 years. Over this longer period, it can be seen that a majority of people who were classified as poor during 1999 are no longer in poverty by 2006. This decline can be expected given that rates of poverty are relatively high among younger households (see Figure 5.7). A number of factors such as career progression, children leaving the family home and completing mortgage payments can each contribute to the observation that a majority of people in poverty in 1999 are no longer in poverty during 2006. However, it remains the case that within Wales, approximately one in five of those who were in poverty during 1999 remain in poverty during 2006. Whilst this figure is comparable to that observed in Outer GB, within LESE only one in seven remain in poverty over this period. This finding would suggest that the labour market conditions in the relatively prosperous LESE region contribute to higher proportion of people exiting poverty during this 6 year period.

Table 5.3 Poverty Persistence and Exit from Poverty (%)

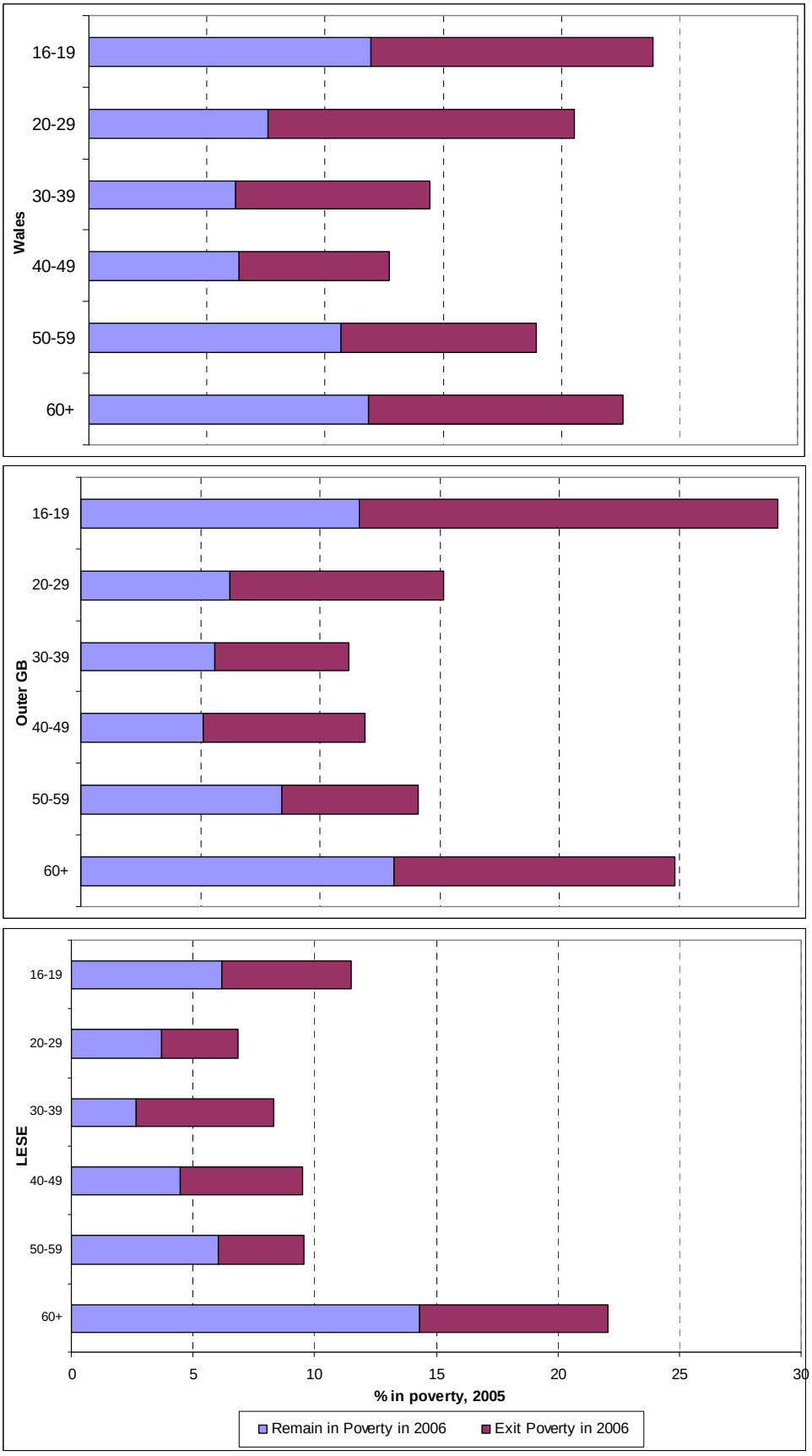
	Wales	Outer GB	LESE
1999-2000			
Headcount 1999	22.1	20.0	13.7
Exited poverty in 2000	12.8	9.1	7.0
Remained in poverty in 2000	9.4	10.9	6.7
2005-2006			
Headcount 2005	18.9	17.0	12.3
Exited poverty in 2006	9.6	8.7	5.3
Remained in poverty in 2006	9.3	8.3	7.0
1999-2006			
Headcount 1999	22.1	20.0	13.7
Exited poverty by 2006	17.5	16.1	11.8
Remained in poverty by 2006	4.7	3.9	2.0

Source: BHPS

Figure 5.11 considers the relative persistence of poverty by age using the more recent data which considers transitions between 2005 and 2006. It can be seen within Wales that among those who are aged between 20 and 29 and are in poverty in 2005, over 60% are estimated to have exited poverty by 2006. Interestingly, within LESE, those aged 30-39 are most likely to exit poverty between 2005 and 2006 (67%), probably reflecting higher levels of educational attainment and deferred decisions regarding partnership and family formation. Across all regions, those aged between 50 and 59 are most likely to remain in poverty, with between 56% to 60% remaining in poverty between 2005 and 2006.

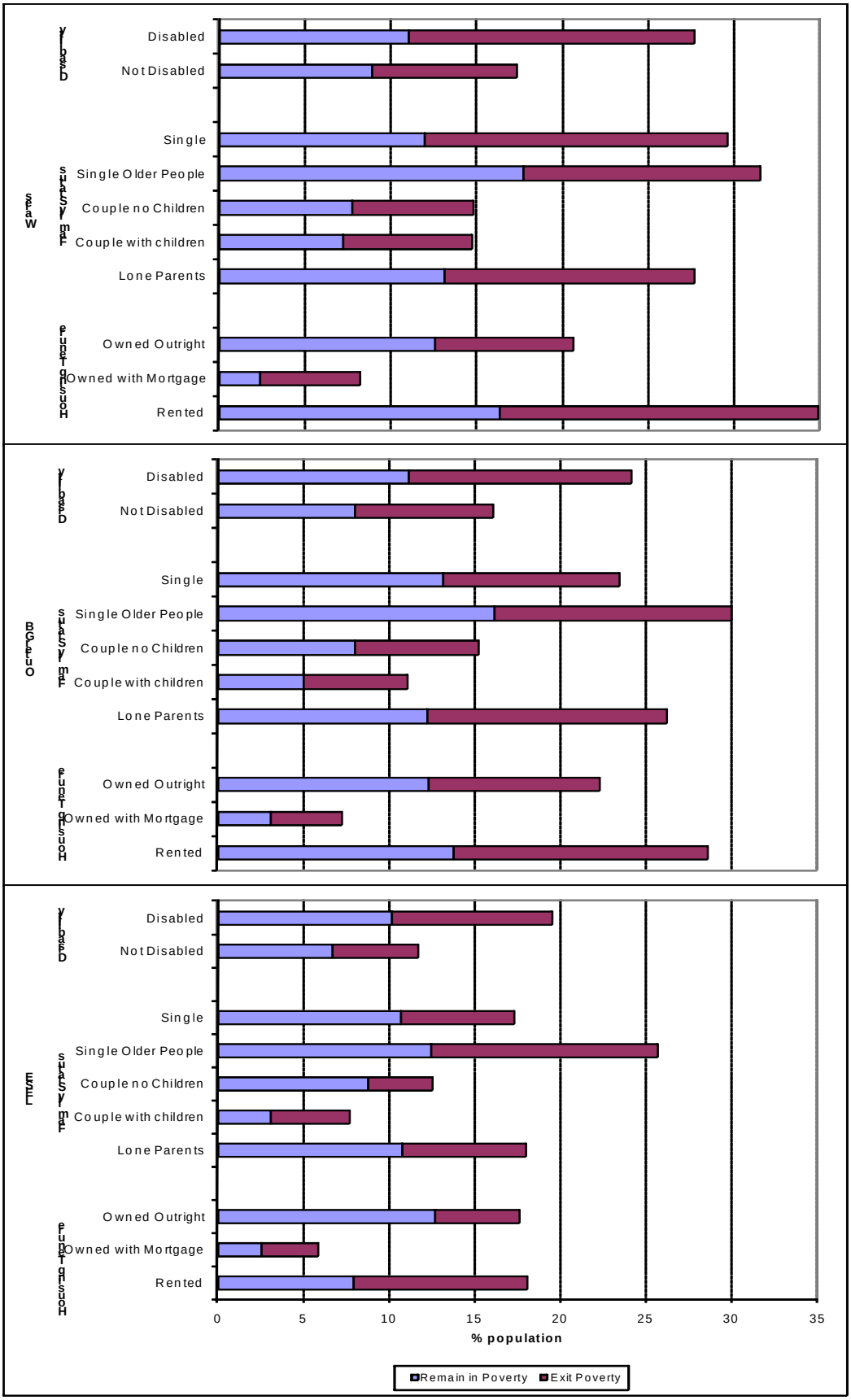
No consistent picture emerges in terms of family status (Figure 5.12). While lone parents in Wales exhibit relatively high rates of poverty compared to couples (consistent with Figure 5.6), their persistence in poverty appears to be comparable to that observed among other family groups. In terms of disability status (Figure 5.12), once again about half of disabled people who are in poverty in 2005 exit poverty by 2006, although this figure is higher in Wales at approximately 60%. Finally, in terms of housing tenure (Figure 5.12), within Wales rates of poverty are relatively high among those who either rent their homes (35%) or among those who own their homes outright (21%) compared to those who are purchasing their home with a mortgage (8%). Among those in poverty, the proportion that exits poverty is relatively low among those who own their homes outright. This is likely to reflect the higher numbers of pensioners within this category who may be wealth rich but income poor. Across all regions, a majority of those in poverty who are buying their house with the help of a mortgage exit poverty between 2005 and 2006. The relatively share of this group is particularly high in Wales at 71%.

Figure 5.11 Poverty, Poverty Persistence and Poverty Exit by Age



Source: BHPS 2005-2006

Figure 5.12 Poverty, Poverty Persistence and Poverty Exit by Disability, Family Status and Tenure



Source: BHPS 2005-2006

5.4 Distribution of Wealth in Wales

5.4.1 Information on Wealth from the Wealth and Assets Survey

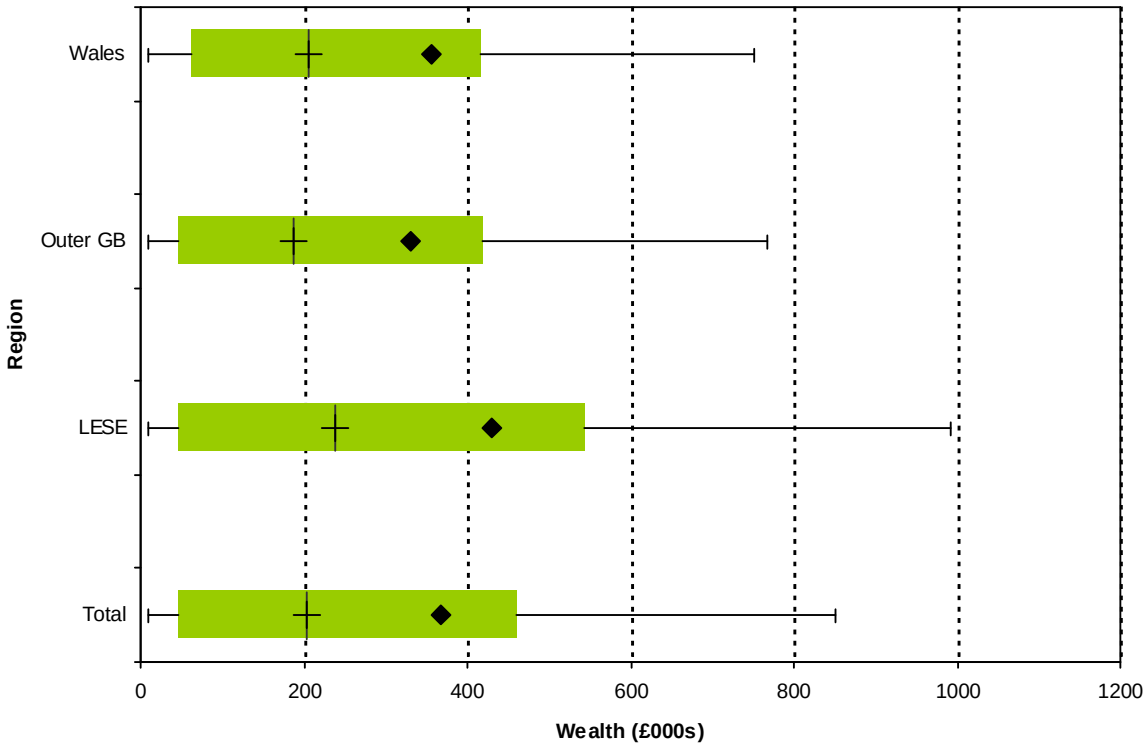
In this section we look at the distribution of Wealth in Wales using information from the Wealth and Assets Survey (WAS), a new survey conducted by the Office for National Statistics (ONS) that collects information from people living in private households across Great Britain. At the time of writing data was only available from the first Wave of WAS data covering the period June 2006 to June 2008. Wealth is calculated on a household basis as there is often no obvious way of ascribing certain aspects of wealth between individuals. As such, it is not possible to provide a breakdown of wealth by gender. However, the survey does allow us to present the distribution of wealth between households according to the age, disability status, ethnicity and religion of the household head. The distribution of wealth according to family status, housing tenure and social class is also considered.

5.4.2 Average Levels of Wealth in the UK

Figure 5.13 summarises the distribution of household wealth in GB, distinguishing between Wales, the Outer GB and LESE. Median wealth in Wales is estimated to be £205,000, similar to that observed within the UK as a whole. Wealth is estimated to be highest within LESE, at approximately £240,000. It is interesting to note that the median level of wealth in Wales is higher than that observed in the Outer Regions of the UK (£190,000). Across all areas, those in the least wealthy 10% of households have less than £10,000 of wealth.

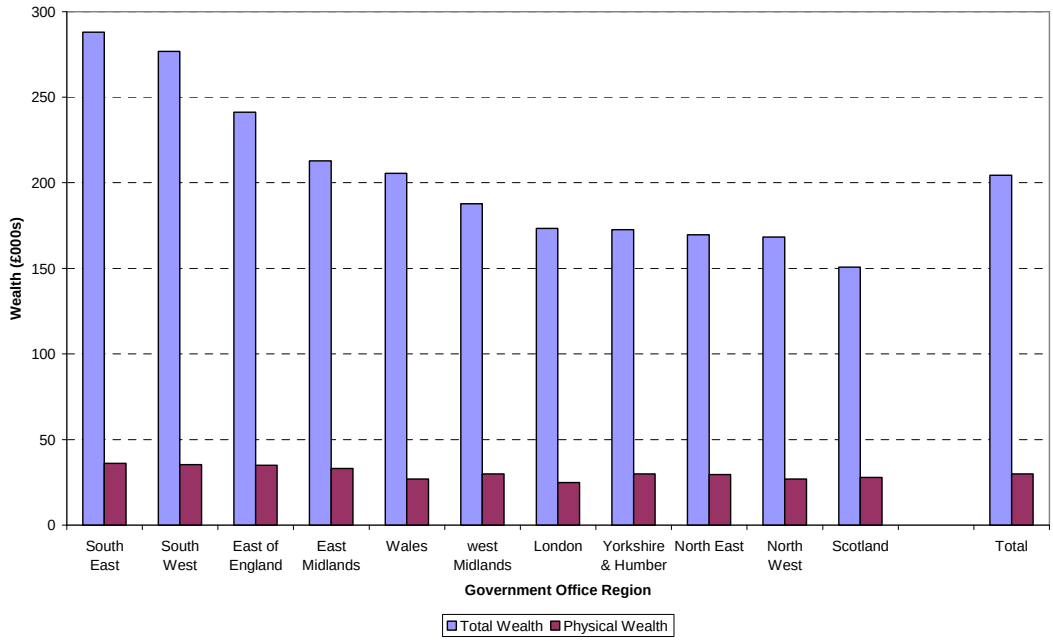
Within WAS, total wealth is assumed to be the sum of four component parts which include net property wealth (the sum of all property values **minus** value of all mortgages and value of amounts owed as a result of equity release), physical wealth (the contents of the main residence of a household and any other properties owned; collectables and valuables and vehicles), net financial wealth and private pension wealth. A drawback of the WAS data is that information on all four components of wealth is only collected from 57% of households included in the survey (referred to as the 'half' sample). Data on physical wealth is not collected from approximately 40% of households. Median levels of physical wealth are estimated to be £30,000, with regional variations being relatively small compared to those observed for total wealth (see Figure 5.14). As the emphasis of our analysis is upon comparing levels of wealth among often relatively small sub-groups of the population, the analysis which follows deliberately excludes physical wealth so that data from the full sample of respondents to WAS can be included in the analysis.

Figure 5.13 Distribution of Wealth in Great Britain



Source: Wealth and Assets Survey, 2006-2008. Data are weighted.

Figure 5.14 Regional Distribution of Wealth



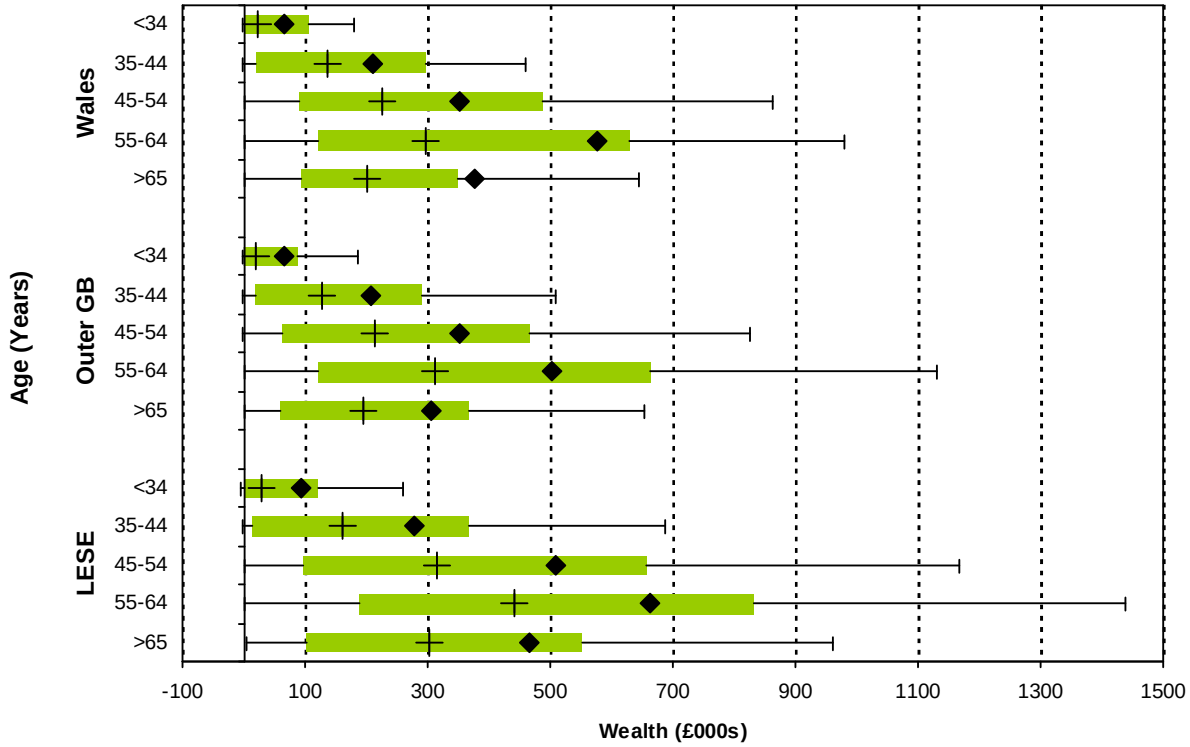
Source: Wealth and Assets Survey, 2006-2008. Data are weighted.

5.4.3 Distribution of Wealth by Age

Figure 5.15 demonstrates how households generally accumulate wealth during their life course. Within all regions of GB, levels of wealth are lowest among those households where the head is less than 35 years of age and highest among those

households headed by some aged 55 to 64. Levels of wealth then decline among older households as they draw upon their accumulated wealth during their retirement. Such differences will also reflect the different housing market conditions faced by different age cohorts. It is observed that the distribution of wealth is far wider in LESE than it is for other areas of GB. The situation in Wales in terms of both the levels and distribution of wealth is generally comparable to other Outer GB regions.

Figure 5.15 Distribution of Wealth by Age

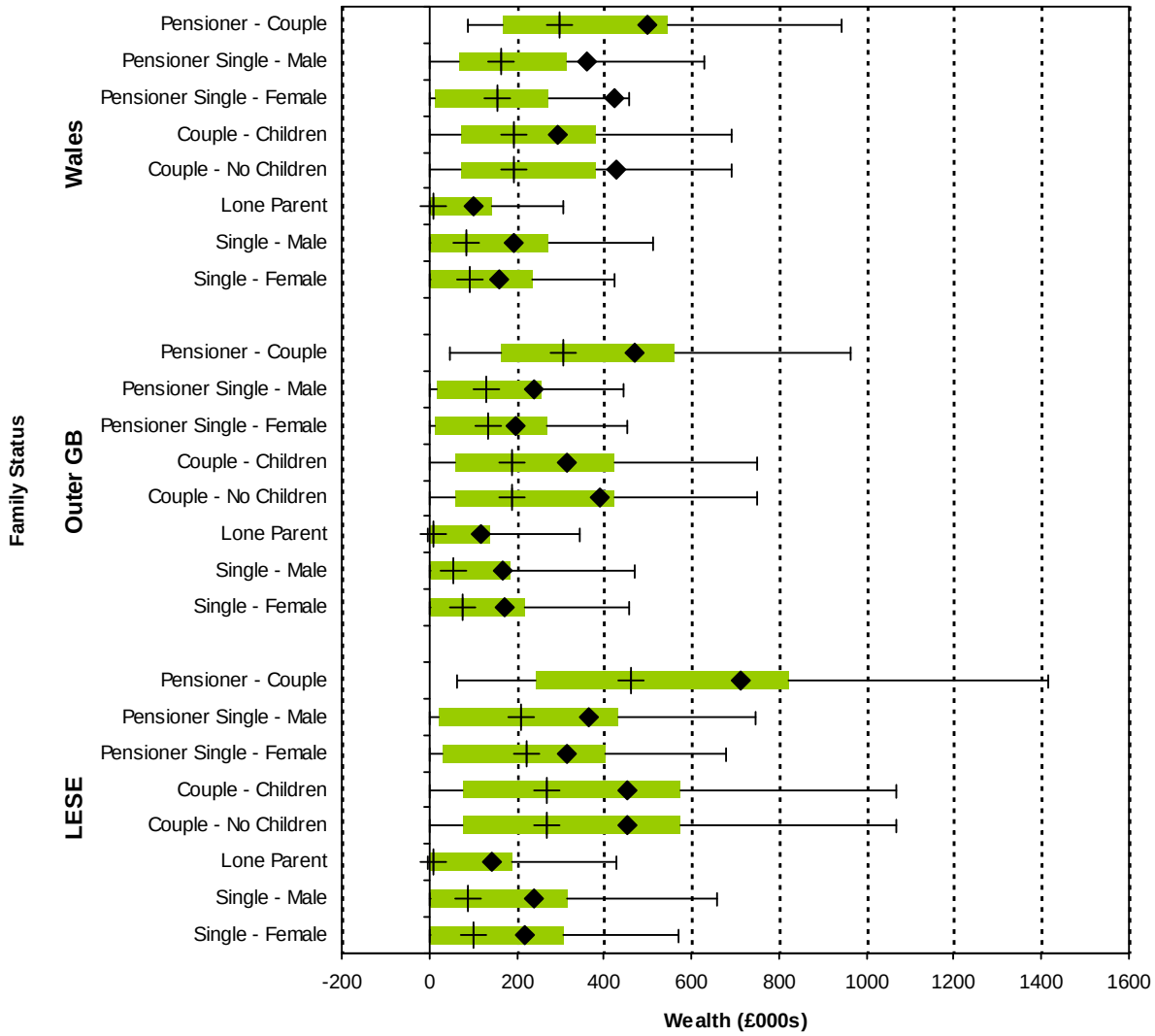


Source: Wealth and Assets Survey, 2006-2008. Data are weighted.

5.4.4 Distribution of Wealth by Family Status

Figure 5.16 shows the distribution of wealth by family status. The figure demonstrates the relatively wealthy position of couples compared to single households. Across all regions, the highest levels of wealth are held by pensioner couples (£298,000 in Wales). The low levels of wealth estimated among households who were headed by someone over the age of 65 are demonstrated to reflect the relatively low levels of wealth held by pensioners (both male and female) in single households. Across all regions, the lowest levels of wealth are held by lone parents (£11,000 in Wales), far less than that held by single males (£86,000 in Wales) and single females (£93,000 in Wales).

Figure 5.16 Distribution of Wealth by Family Status



Source: Wealth and Assets Survey, 2006-2008. Data are weighted.

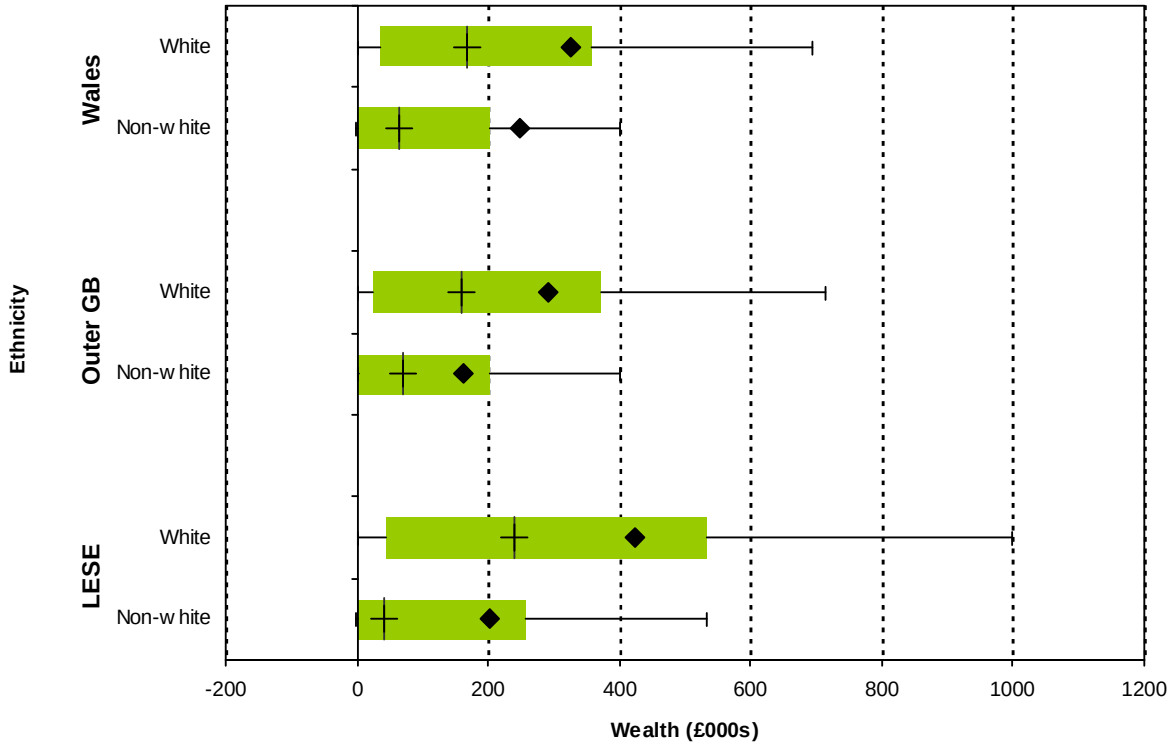
5.4.5 Distribution of Wealth by Ethnicity and Religion

The available sample sizes within the WAS data set are not sufficient to provide a breakdown of wealth by detailed categories of ethnicity or religious affiliation within Wales. For ethnicity, the analysis in this section is therefore only able to make a broad distinction between households headed by white people and those headed by Non-white people (see Figure 5.17). In terms of religious affiliation, it is only possible to distinguish between Christian households, non-Christian households and those households that report to be of no religion (see Figure 5.18). There will therefore be considerable heterogeneity in the composition of Non white and non-Christian households when comparing Wales with other parts of GB.

Despite this, consistent results emerge between regions. Within Wales, Figure 5.17 reveals that the median income of Non-white households (£66,000) is considerably less than those of white households (£169,000). However, this differential is considerably lower than that which exists between white households (£240,000) and Non-white households (£42,000) that exists within the LESE region. In terms of

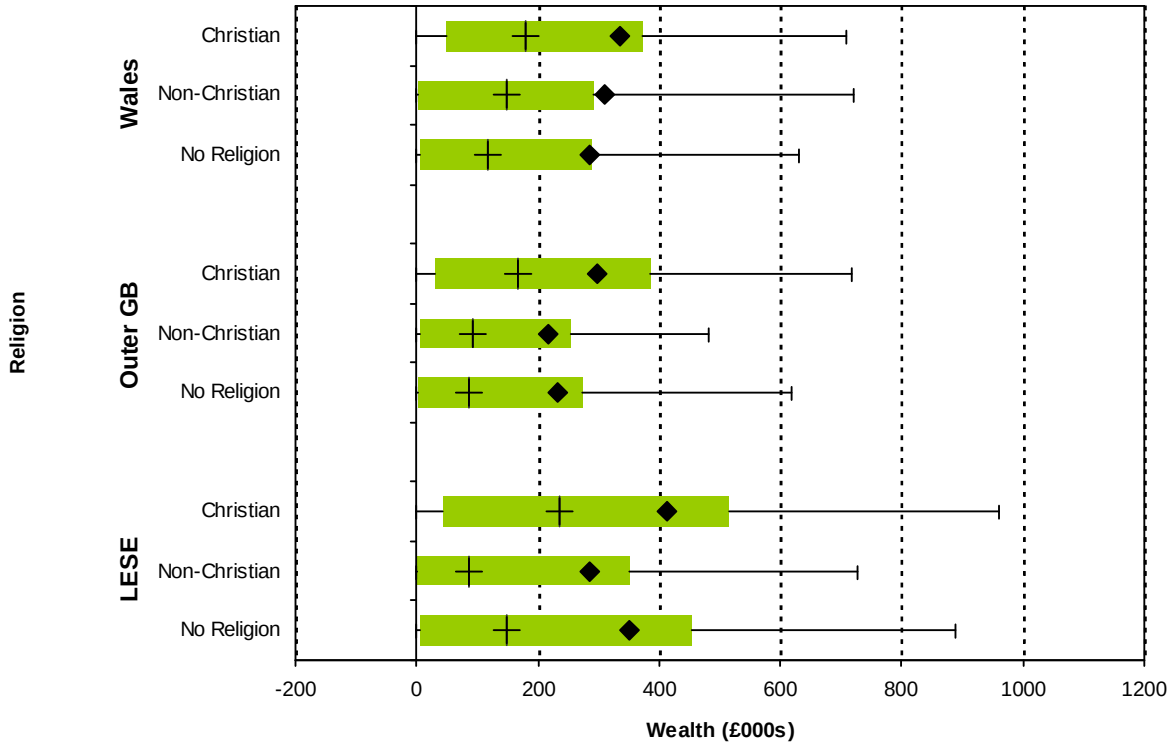
religious affiliation, Figure 5.16 shows that Christian households exhibit levels of wealth that are higher than both non-Christian households and those households that report being of no religion. However, it is noted that within Wales, differences in wealth by religious are relatively small compared to the Outer GB. Levels of wealth held by Christian households living in Wales (£179,000) are similar to levels of wealth held by Christian households living outside of LESE in the rest of GB (£169,000). However, Non-Christian households in Wales report higher levels of wealth (£148,000) compared to such households elsewhere in GGB (£93,000). Within Wales, those households with no religion report holding the lowest levels of wealth (£118,000).

Figure 5.17 Distribution of Wealth by Ethnicity



Source: Wealth and Assets Survey, 2006-2008. Data are weighted.

Figure 5.18 Distribution of Wealth by Religion

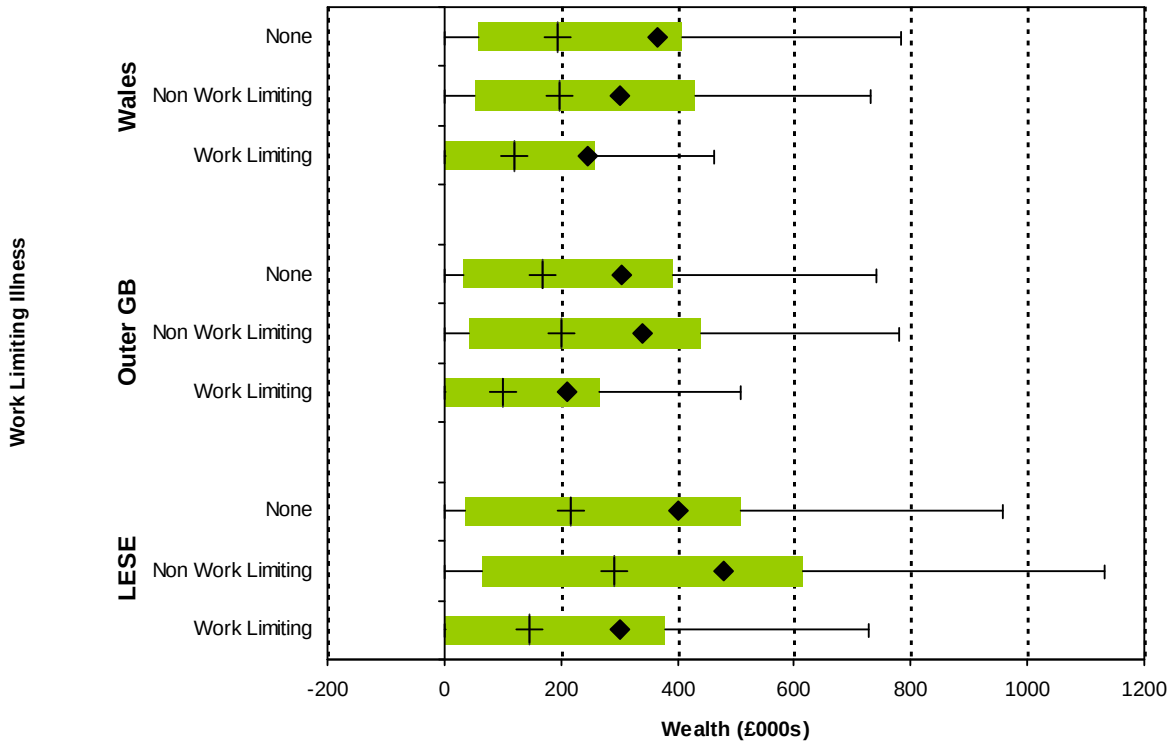


Source: Wealth and Assets Survey, 2006-2008. Data are weighted.

5.4.6 Distribution of Wealth by Health Status

Figure 5.19 presents information on the wealth of households according to whether or not that household contains a member that suffers from a long term limiting illness or disability. The UK NEP did not reveal the presence of large differences in the wealth held by households compared along this dimension. However, our analysis makes the additional distinction between those individuals with a long term limiting illness and those who have a condition that limits the amount or type of work that they can undertake. Analysis reveals the importance of this distinction. Within Wales, median wealth in households without a person who suffers from a work limiting illness or disability is £200,000. Those households who have a member who suffers from an illness or disability which is not work limiting report an average wealth of £197,000. However, those with a member who suffers from a work limiting condition report an average wealth of £126,000. Interestingly, having a non work limiting condition is also associated with lower earnings in Wales, a pattern which is not observed elsewhere in the UK.

Figure 5.19 Distribution of Wealth by Ill-Health Status



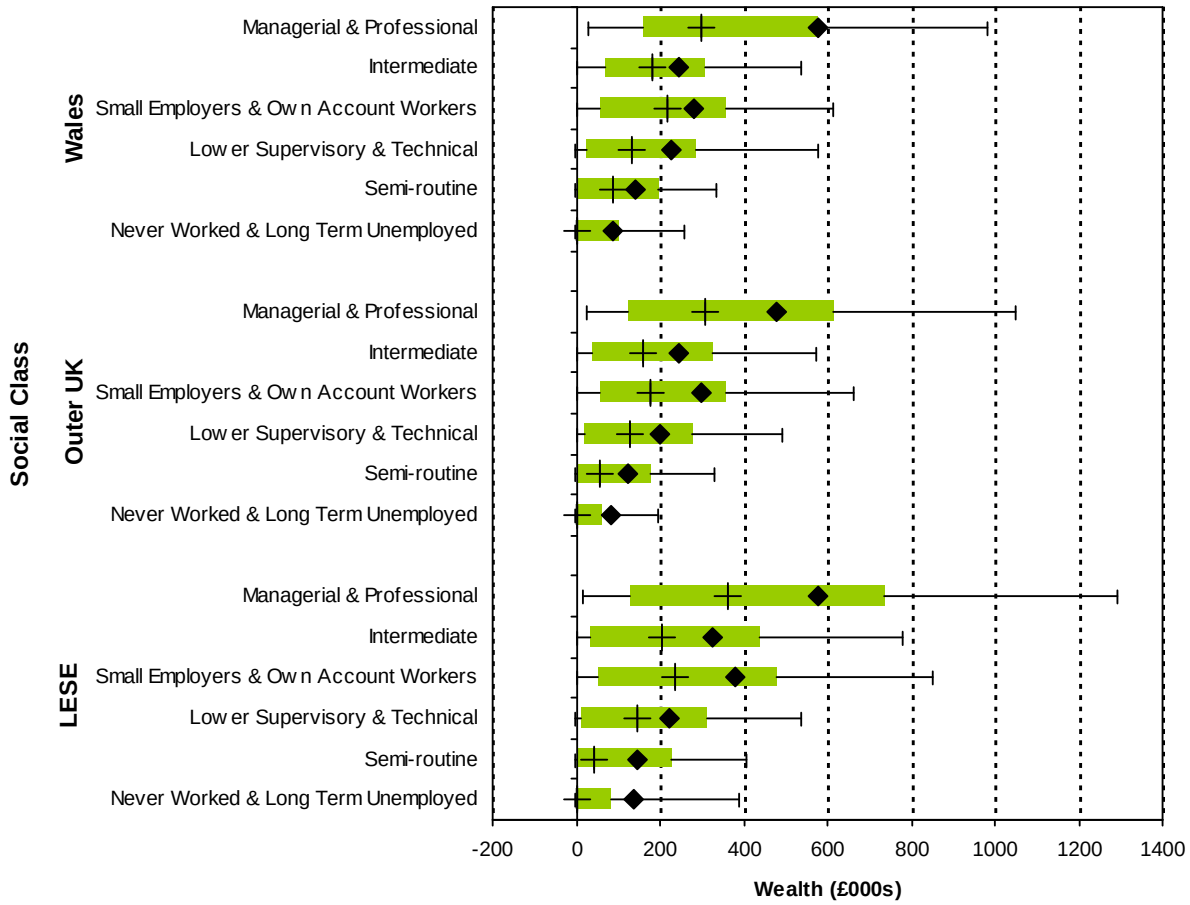
Source: Wealth and Assets Survey, 2006-2008. Data are weighted.

5.4.8 Distribution of Wealth by Social Class

Finally, the analysis concludes with an overview of the distribution of wealth by social class. Social class provides a measure of the socio-economic position of people within society as based upon a measure of their employment conditions. Social class is largely derived on the basis of the occupation held by the household head and their employment status (e.g. whether they are an employee or self-employed). Social class will be highly correlated with educational attainment as entry to many occupations is generally associated with a given level of education and/or training. Earnings will also be associated with educational attainment and the occupation held. As such, social class is a useful 'catch all' measure of labour market outcomes.

It can be seen in Figure 5.20 that households headed by those in Managerial and Professional occupations exhibit the highest levels of wealth across all parts of the UK. Within most social class groups, levels of wealth are relatively even across the UK. However, it can be seen that households headed by managers and professionals within Wales report lower average levels of wealth (£300,000) than that recorded for those in equivalent positions based within LESE (£361,000). It can be seen that the relative distribution of wealth held by this group in Wales is also narrower than that observed within other areas of GB. Within Wales, 30% of Managerial and Professional households hold more than £577,000 of wealth. Within LESE, 30% of such households hold more than £737,000 of wealth. These findings reflect the relative absence of well paid private sector jobs in Wales compared to those that exist within London and regional differences in property wealth.

Figure 5.20 Distribution of Wealth by Social Class



Source: Wealth and Assets Survey, 2006-2008. Data are weighted.

5.5 Conclusions

While earnings from employment are an important source of income and are likely to be highly correlated with poverty, these measures do not explicitly consider the living conditions of people living within Wales. This chapter has explored this issue in further detail by providing an overview of household income and wealth in Wales. Utilising information on household income from HBAI data, we have also presented estimates of relative incidence of poverty in Wales based upon the proportion of households that have an income of less than 60% of median household income. We have then considered levels of wealth in Wales

Real increases in household income during the recent period of sustained economic growth have contributed to falling levels of poverty in Wales. However, it remains the case that more than 1 in 5 households within Wales are living in poverty. As with earnings, income inequality is lower in Wales. In terms of family status, the group most susceptible to living in poverty are lone parents, followed by single females. The position of single female households in Wales appears to be worse than that observed in other regions. Poverty is also more prevalent in Black and Asian households, households where there is a disabled person present and within the rented sector. Being in work does not necessarily provide a route out of poverty, with 13% of in-work households in Wales living in poverty. In-work poverty is again most

prevalent among lone parent households, Asian households and those who are renting.

In terms of wealth, the median level of wealth held by households in Wales (approximately £205,000) is comparable to that held by households across the UK as a whole, although lower than that held by households in the LESE region (£240,000). Levels of wealth are lowest among young people, lone parents and single households, non-white households and those with a work limiting illness or disability. There is a clear correlation between the accumulation of wealth and the positions people hold in society as measured by their social class. Social class relates to an individual's employment status and occupation. Levels of wealth are highest among Managers and Professionals and lowest among those who have never worked. Given that the occupations people hold are related to skills acquired from both formal education and whilst at work, the lower levels of educational attainment observed among protected groups will clearly effect the positions they achieve in society and the resources and opportunities that these positions confer.

[xxxvi] For ease of exposition, we deliberately abstract from consider entry in to poverty among previously non-poor households.

Chapter 6: The Positions of Different Groups in Wales: A cross – cutting summary and conclusions

Caroline Joll, Alison Parken and Victoria Wass

6.1 Introduction

This report has examined economic inequality in Wales with respect to both non-financial outcomes: education and employment (chapters 2 and 3) and financial outcomes: hourly and weekly earnings (chapter 4), income (including poverty) and wealth (chapter 5). Each of these outcomes is of interest in its own right, and each displays a considerable degree of inequality. In this 'cross-cutting' chapter we explore the extent and nature of inequality and disadvantage in Wales by bringing together and comparing key results from the preceding analyses. The effect of different characteristics on outcomes in Wales is explored here in three different ways.

First, we ask 'Who is disadvantaged in Wales?' and answer by looking at the incidence of 'disadvantage' across different groups of the population with respect to all six outcomes. This analysis shows whether the pattern of disadvantage is the same across outcomes: is it the case that, in general, a population or protected group who fares badly with regard to, say, education also does badly with respect to other outcomes? The answer, perhaps predictably, is yes.

Second, we ask 'How much worse off are disadvantaged groups in Wales?' This question is addressed in two ways. We first explore the financial impact of belonging to a certain group by relating group median levels of earnings, income and wealth to overall UK median values of the same outcome. This enables us to measure the financial penalty attached to, say, living in Wales in social housing or living in Wales and having no educational qualifications. Secondly we look at group earnings differences within Wales only, and estimate the financial impact of belonging to a certain population group in Wales as the difference between group median hourly earnings and that of a 'reference group' in Wales.

The third and final question asks 'How big are earnings, income and wealth differences within population groups in Wales?' This is in recognition of the fact that, although some groups, predictably and systematically, experience average earnings and incomes below the overall levels, inequalities within groups can also be large and make a significant contribution to overall inequality.

6.2 Comparison of Inequality in Financial Outcomes

This section brings together summary statistics on the four financial outcomes, side-by-side, for the purposes of comparison. As well as showing average outcomes (based on the median), we present a measure of inequality using the 90:10 ratio. This convenient and accessible summary index of inequality simply expresses the earnings (or income or wealth) of those in the 90^{th} percentile (only 10% of individuals have earnings or income that is higher than this group) expressed as a multiple of the earnings (or income) of those located in the 10^{th} percentile (only 10% of individuals have earnings or income that is lower than this group). Within Table 6.1, the top figure in each cell relates to Wales and the lower figure (in brackets) to the UK.

Table 6.1 Inequality in earnings, income and wealth: Wales Compared to the UK

	Data source	10th percentile (£)	Median (£)	90th percentile (£)	90:10 ratio	90:50 ratio	50:10 ratio
Hourly earnings	APS 2004-8	5.24 (5.43)	8.88 (9.81)	18.39 (21.28)	3.51 (3.92)	2.01 (2.17)	1.69 (1.81)
Weekly earnings (f/t)	APS 2004-8	221.89 (234.36)	394.46 (442.64)	757.63 (892.74)	3.41 (3.81)	1.92 (2.02)	1.78 (1.89)
Net weekly household income (AHC)	HBAI 2004-8	146 (147)	332 (348)	654 (737)	4.48 (5.0)	1.97 (2.1)	2.27 (2.36)
Household wealth	WAS 2006-8	8,393 (8,820)	205,500 (204,500)	751,700 (853,100)	89.56 (97)	3.66 (4.2)	24.49 (23.2)

Sources: APS 2004/5-2008/9 constant 2009 prices; HBAI 2004-2008 at constant 2008/9 prices, WAS 2006-8.

As we move down Table 6.1, inequality increases: income is more unequally distributed than earnings, and wealth is hugely more unequal than any of the other distributions. The best-off 10% of people in Wales earn nearly three and a half times as much as the worst-off 10%. They have household incomes which are four and a half times as big, and enjoy a level of assets that is 90 times as high. Table 6.1 includes the equivalent UK values for purposes of comparison, and it can be seen that despite the considerable 90:10 ratios already quoted, Wales is a less unequal society than the UK as a whole. This applies to earnings, income and wealth.

Earnings (both hourly and weekly) are lower in Wales than for the UK at all levels of the distribution. Relatively speaking, low earners in Wales (those in the bottom 10% of the Welsh distribution) earn less than low earners measured across the UK (those in the bottom 10% of the UK wide earnings distribution). Likewise, high earners in Wales (those in the top 10% of the Welsh distribution) earn less than high earners in general. As was demonstrated in Chapter 4, much (but not all) of this differential is due to the distortionary effect of earnings in LESE. The gap between Wales and UK earnings increases as we move up the earnings distribution: the best-paid 10% of UK full-time employees earn 18% more per week than the best-paid 10% in Wales, while the equivalent difference for the lowest-paid 10% is only 5%. In the last two columns of Table 6.1, we separate out the contributions made to overall inequality by the top and bottom halves of the earnings distribution respectively using the 90:50 and 50:10 ratios. This allows us to compare inequality above and below the median within a group and between groups. Making the analogy with height might be useful here. Height measures the difference between the top of the head and the bottom of the feet, roughly cut in half at the hips. A high 50:10 ratio relative to the 90:10 ratio would indicate that the legs contribute more to the overall height than does the body. We find that inequality is lower in Wales in both halves of both earnings distributions: the values of the 50:10 and of the 90:50 ratios for Wales are below the corresponding UK values.

Net equivalent household weekly incomes are noticeably lower in Wales than in the UK in the top half of the income distribution: the 90th percentile for UK income in

2004-8 was £737, compared to £654 in Wales. However, as with gross individual weekly earnings, the gap between UK and Wales's income levels falls as we move down the distribution and the bottom 10% point of the two income distributions are almost identical. The richest (highest income) 10% of the UK population has a weekly income 13% above the Wales equivalent (after housing costs), while the equivalent difference for the poorest 10% is under 1%. This means that the overall level of income inequality in Wales, as measured by the 90:10 ratio, is below the UK level: 4.5 for Wales and 5 for the UK. Moreover, both halves of the income distribution exhibit less inequality in Wales: both 90:50 and 50:10 ratios are higher for the UK.

The wealth data in Table 6.1 come from the single available wave of the Wealth and Assets Survey (WAS). The tenth percentile and median wealth levels in Wales are similar to (slightly below and above respectively) the equivalent UK levels but the 90th percentile for the whole UK is £100,000 above that in Wales. The poorest 10% of the population in Wales has wealth of £8,300 or less, far below the median wealth level of over £200,000. In fact, the 50:10 ratio is marginally higher in Wales than in the UK, but the UK has a higher 90:50 ratio and a higher level of wealth inequality overall. The surprising feature of these wealth figures is that median wealth is higher in Wales than for the whole UK. However, wealth levels in the LESE regions (median of approximately £240,000) are much higher than in Wales. Relatively high wealth levels in Wales may also be partially explained by the population of Wales being on average older than elsewhere in the UK (see Table 1.2).

The ratios for Wales are all smaller than those for the UK as a whole, mainly because the top end of these financial distributions reaches lower monetary values in Wales. Top earners in Wales earn less than top earners in the UK (most of whom are in London), and Wales has relatively few residents who rank as 'super-rich' in either income or wealth terms. At the middle (median values) of the distributions, workers in Wales have lower earnings than in the UK, household incomes are lower but household wealth is about the same. Looking at the bottom 10% cut-off points, earnings are again below UK values in Wales, and so is wealth. However, despite lower earnings and employment rates, household incomes are kept at a very similar level by the operation of the tax and benefit systems. Using a low-pay threshold defined as two-thirds of UK median earnings, the proportion of employees who are low-paid is higher in Wales than in the UK as a whole. In terms of hourly earnings 26% of employees in Wales are low-paid, compared to 22% in the UK. If we consider weekly earnings for full-time employees, then 22% of workers in the UK and 28% of workers in Wales are low-paid.

Having compared inequality in the four financial outcomes, we now extend the inequality perspective to include educational qualifications and employment rates, and proceed to examine variations in these outcomes across population groups of interest.

6.3. Cross-cutting look at outcomes by group

Question 1: 'Who is disadvantaged in Wales?'

Here we define 'disadvantage' relative to UK outcomes. The definition of disadvantage for each outcome is given in Table 6.2. The data enables us to examine incidence of disadvantage by four 'equality strands': gender, age, ethnic group and disability. We are also able to analyse the impact of educational

qualifications on earnings and employment, and that of occupational grouping on earnings. Table 6.2 draws attention to the outstanding features of these findings, presenting results for outcomes in individual life cycle order, from educational achievements at Key stage 4 to household income. Due to data limitations, the only interaction between equality strands which can be studied for Wales is that between gender and age, ethnic group and disability. In virtually every case, women experience a higher level of disadvantage. This is so monotonously true that in discussing Table 6.2 we focus on groups of interest as a whole and return to the issue of gender disadvantage later.

Table 6.2 Incidence of disadvantage in Wales by population sub-group

Outcome/Disadvantage	Group showing highest incidence of disadvantage	Incidence (%)
Education. Definition of disadvantage: low or no educational qualifications: = highest is GCSE level or lower (UK 51.7%)	**By age:** Youngest age-groups (16-19)	72
	By ethnicity: Bangladeshi & Pakistani	68
	By disability: DDA and work disabled	74
	By housing tenure: Social housing	80
Employment. Definition of disadvantage: non-employment (excludes those in education (UK 22.3%)	**By age:** Oldest working age group (men aged 60-64)	53
	By ethnicity: Bangladeshi & Pakistani	46
	By disability: DDA and work disabled	74
	By housing tenure: Social housing	59
	By educational qualifications: No qualifications	53
Hourly Earnings. Definition of disadvantage: low earnings = hourly earnings less than 2/3 of UK median (UK 21.6%)	**By age:** Youngest age group (16-19)	82
	By ethnicity: Bangladeshi & Pakistani	51
	By disability: DDA and work disabled	33
	By housing tenure: Social housing	54
	By educational qualifications: No qualifications	52
	By occupation: Sales and Customer Service Occupations	62
Weekly Earnings. Definition of disadvantage: Low earnings = weekly earnings less than 2/3 of UK median weekly (UK 21.6%)	**By age:** Youngest age-group (16-19)	92
	By ethnicity: Bangladeshi & Pakistani	65
	By disability: DDA and work disabled	35
	By housing tenure: Social housing	56
	By educational qualifications: No qualifications	54
	By occupation: Sales and Customer Service Occupations	66
Income. Definition of disadvantage: Poverty = household income below 60% of median (AHC) (UK 20.7%)	**By age:** Youngest age-group (under 25)	27
	By ethnicity: Asian (includes Bangladeshi & Pakistani)	44
	By disability: DDA and work disabled	25
	By housing tenure: Renting	46

Sources: APS 2004/5-2008/9; HBAI 2004-2008.

We define educational disadvantage as having no qualifications above the category of GCSE. It might be objected that, since this choice defines around half of the working age population as disadvantaged (49% of the population of working age in the UK report a highest qualification at the GCSE level or below), we have taken too high a cut-off point. However, we are primarily interested in reporting variations in the incidence of disadvantage, and qualifications above this level are needed to impact positively on employment and earnings prospects. Table 6.2 shows that in Wales more than 71% of all 16-19 year-olds, 80% of those living in social housing, 68% of Bangladeshi or Pakistani ethnicity and 69% with a work-limiting disability have GCSE, or lower level qualification, as their highest achievement. The highest incidence of educational disadvantage in Wales applies to those residing in social housing, of whom 80% report a highest qualification at GCSE (or lower): considerably higher than (1.62 time) the overall UK percentage of 49%, and also way above the 52% figure for Wales.

The high level of educational disadvantage experienced by 16-19 year olds is not necessarily a cause for concern because many in this age group have not completed their education and may acquire further qualifications. However, Chapter 3 analyses complete data on Key Stage 4 qualifications obtained by pupils in Wales and shows the extent of inequality by background. While overall in 2009 two-thirds of pupils in Wales attained Key Stage 4 qualifications at National Qualifications Framework level 2 (NVQ level 2 or equivalent) by the time they were 16, of whom 50% gained 5 A*-C GCSE passes in core subjects, the chance of gaining these qualifications was strongly related to family income. Pupils not eligible for free school meals are two and a half times more likely than pupils who are eligible to achieve A*-C grades in core subjects. The gender gap in Key Stage 4 results is in favour of girls: in 2009 girls in Wales were 6.9 percentage points more likely than boys to achieve grade C or above in all core subjects (Chapter 2). Pupils from some ethnic groups (including Bangladeshi) also experience lower proportions gaining KS4 qualifications.

The next outcome in Table 6.2 concerns employment. Overall, 22% of people of working age in the UK were neither in employment nor in full-time education. This substantial part of the population may be viewed from an economic point of view as unused productive resources. From a social perspective, lack of employment often brings exclusion and financial hardship. For certain groups (men aged 60 and over, those with no qualifications or with a work-limiting disability, Bangladeshi women, those living in social housing) the non-employed share was over 50%. The most employment-disadvantaged group in Wales are people reporting a DDA and work-limiting disability. Nearly three-quarters (74%) of this group are neither employed nor in full time education, more than three times the overall UK proportion at 22%.

For those who are in employment (a majority of most population groups of working age), which groups are at highest risk of being low-paid? Table 6.2 looks at both hourly and weekly earnings, applying the same relative low-pay threshold of two-thirds of UK median earnings. At UK level, approximately 22% of all employees are low-paid according to both hourly and weekly earnings thresholds. However, in Wales the incidence of low pay is not only higher than in the UK, but also higher with respect to weekly earnings (28%) than hourly earnings (26%), suggesting that full-time employees work shorter hours in Wales than in the UK.

The same groups have the highest incidence rates of low pay per hour and of low weekly earnings, and moreover these are the same groups who have low educational qualifications and employment rates. Once again it is people in the youngest age-group, those who live in social housing, those of Bangladeshi or Pakistani ethnicity, those who have a work-limiting disability, or those who have no educational qualifications who are most likely to be low-paid. The jobs with the highest percentage of low paid workers are within Sales and Customer Service Occupations. Table 6.2 shows that the majority of many disadvantaged groups in Wales fall below this threshold, and this applies to almost all 16-19 year olds.

Finally from Table 6.2, we can comment on how the incidence of poverty varies across groups in Wales. Data on household income used to measure the percentage of those living below the poverty line come from the HBAI dataset, and sample size constraints mean that some age and ethnic groups have to be combined. However, the last section of Table 6.2 shows that the same groups show up as having a higher than average (21%) poverty rate: young people (here under 25), of Asian ethnicity, disabled people and those living in rented accommodation. Of these groups, occupants of rented accommodation and of Asian ethnicity experience poverty rates more than twice the UK average: nearly a half of both groups are in poverty defined relative to UK income levels.

This discussion has found that the population groups who experience the highest level of disadvantage in Wales, from lack of educational qualifications to higher risk of poverty, are those in the youngest age-bands, of Pakistani or Bangladeshi ethnicity, with a disability or living in social housing. In Section 6.4 we shall show that within each of these groups, women generally experience even higher levels of disadvantage.

Question 2: 'How much worse off are disadvantaged groups in Wales?'

Now that we know which groups are most likely to suffer unfavourable outcomes, the next stage is to examine the size of the financial penalties attached to membership of these groups.

Group median earnings, incomes, wealth levels in Wales compared to UK national medians

Twenty eight per cent of full-time workers in Wales are low paid, and 21% of the Welsh population live in poverty – but how far below UK median earnings or incomes do members of disadvantaged groups live? We first address this question by comparing median outcomes in Wales for particular population sub-groups with overall UK levels for these groups. We consider the overall position of people in these groups (both males and females), deferring discussion of how much lower again women's earnings and incomes may be. Table 6.3 presents selected results of interest: results for those groups already identified as disadvantaged, plus those for some relatively advantaged groups for comparison.

In Table 6.3 the financial penalty or 'income gap' is expressed in proportionate terms, i.e. the figures show median financial outcomes for population groups within Wales as a proportion of overall UK values, so a value above one indicates that this group's median outcome is above the UK median value. The top line in Table 6.3 gives the UK medians in £'s so anyone who wishes can convert the proportionate gaps into a

monetary shortfall. Figures in italics in Table 6.3 draw attention to particular groups with medians below two-thirds of the UK median, employing a relative cut-off at the same point of all four distributions (hourly and weekly earnings and income).

Table 6.3 Median earnings and income of selected groups in Wales as a proportion of overall UK median outcomes

	Hourly earnings	**Weekly earnings**	**Household net income**
UK median (£)	9.81	295.09	348
Wales median	0.91	0.89	0.95
Age			
16-19	***0.52***	***0.45***	0.87
20-24	0.68	***0.62***	
25-29	0.88	0.83	0.99
30-34	1.00	0.95	
35-39	1.03	1.00	0.99
40-44	1.01	1.01	
45-49	1.03	1.01	1.07
50-54	1.00	1.01	
Ethnicity			
White	0.91	0.89	0.83
Indian	1.09	0.99	***0.65***
Bangladeshi or Pakistani	***0.66***	***0.58***	
Other Asian	0.74	0.72	
Black A & C	1.09	0.94	***0.63***
Disability			
DDA & work disabled	0.81	0.78	0.70
not DDA & work disabled	0.91	0.90	1.11
Educational Attainment			
Degree	1.36	1.20	
no qualifications	***0.66***	***0.64***	
Housing Tenure			
Social housing	***0.65***	***0.63***	***0.61***
Private rented	0.74	0.71	
Owned outright	0.87	0.85	1.01
Owned with mortgage	1.00	0.97	1.00
Occupation			
Managers	1.40	1.27	
Professional	1.64	1.39	
Associate Professional	1.22	1.07	
Personal Services	0.71	***0.59***	
Retail & Customer Services	***0.61***	***0.59***	
Process Operatives	0.82	0.80	
Elementary	***0.62***	***0.64***	

Note: figures in i*talics denotes group median less than 2/3rds of UK median*

The first two columns apply respectively to hourly and weekly earnings. In almost all cases, median earnings in Wales are a higher proportion of UK median hourly earnings than of weekly earnings, again suggesting that on average shorter hours are worked in Wales. The effects of lower hourly earnings and a shorter working week therefore compound to give lower incomes from employment in Wales than in the UK. Which, if any, groups of workers in Wales earn more than the UK median? The answer is a select list of groups: males (for hourly but not weekly earnings), prime age-groups (aged 40 to 55), Indian and Black African or Black Caribbean workers (hourly earnings only), employees who have a Higher Education qualification, non-manual employees overall and more specifically employees in the three top occupational groups.

In order to focus on the lowest-paid groups, we here identify only those groups with median earnings below two-thirds (0.67) of UK median earnings. Not surprisingly, these tend to be the groups identified above as having the highest incidence of disadvantage. Groups whose median earnings fall below the 2/3 low-pay cut-off value are: those younger than 25 (weekly earnings) or 20 (hourly earnings); those of Bangladeshi or Pakistani ethnicity; workers with no educational qualifications, workers who live in social housing and people who work in Elementary Occupations, Retail and Customer Services and Personal Service occupations (weekly earnings only). The lowest-paid group of workers in Wales are those aged 16-19 who have weekly earnings below half the UK median level, and hourly earnings only just above 50% of the UK median. The weekly earnings of workers of Bangladeshi or Pakistani ethnicity and in Personal Services and Retail and Customer Service Occupations in Wales are also some way below the 2/3 cut-off for low paid jobs.

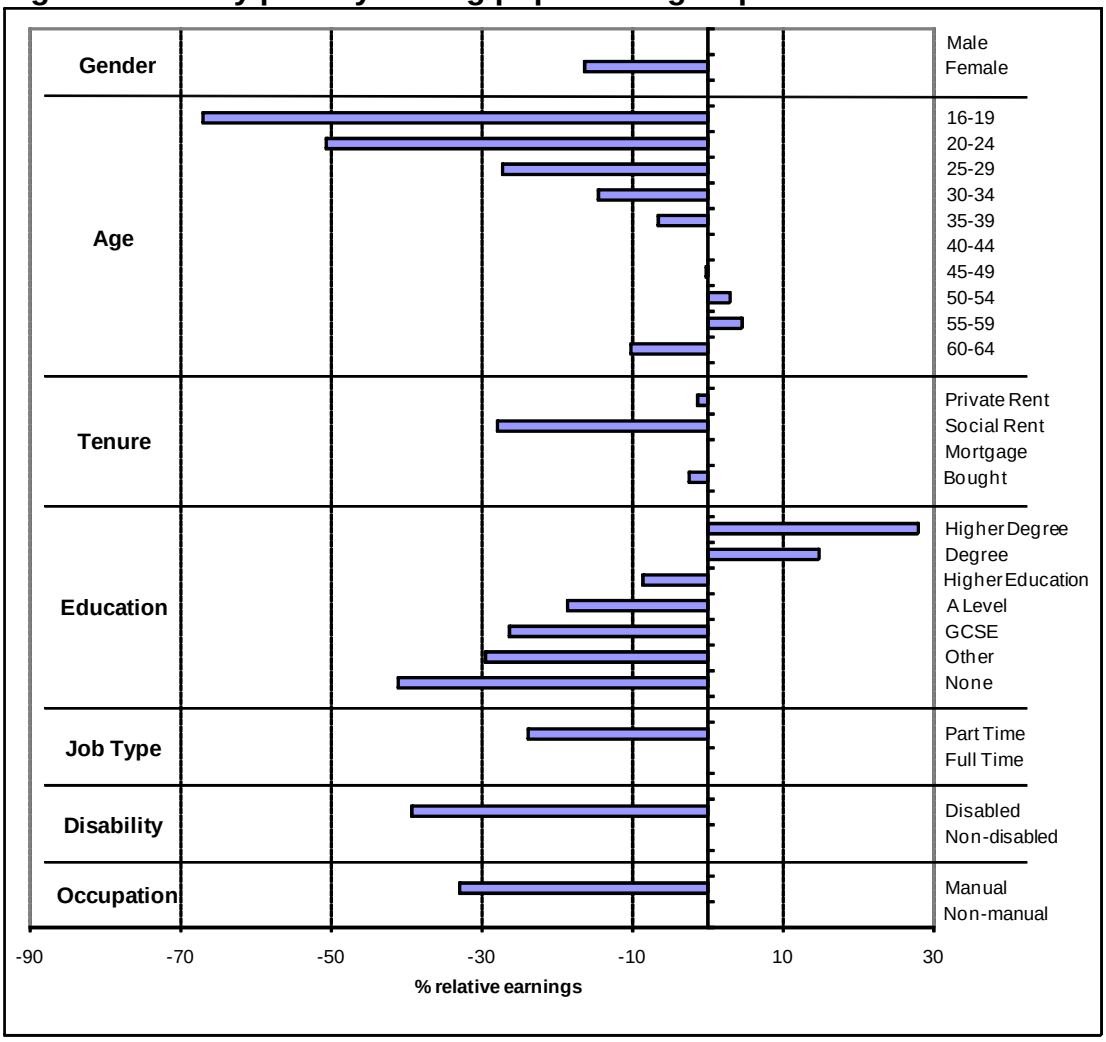
Turning to financial penalties in the form of income gaps, it is again necessary to combine some small age or ethnic groups in order to achieve sample sizes from available surveys that can provide reasonably robust estimates. There are only a few groups in Wales who have income above UK median values: no ethnic groups, the middle-aged (45-60), owner-occupiers and non-disabled people. Those living on the lowest incomes are once again the youngest people, disabled people, those of Pakistani and Bangladeshi ethnic origin. The very lowest income group comprises social or private renters.

Group median hourly earnings levels compared to Wales reference group earnings

Here we are still interested in measuring the scale of the financial penalties attached to belonging to certain population groups in Wales, but ask a narrower question, focusing on earnings differentials within Wales. This enables us both to present results in graphical form, and to examine gender differentials in earnings in two different ways. We define a relatively privileged **'Wales reference group'** consisting of individuals with the following characteristics: ***white***, ***male, living in Wales, in a non-manual occupation, working full-time, with A level or more advanced qualifications, non-disabled, 40-44 years of age, Christian and living in a house with a mortgage***. The median real hourly earnings of this group are some way above the UK median at £16.87.

Figure 6.1 shows the percentage difference in median earnings between a member of this reference group and an individual who differs in just *one* characteristic. It can be seen that the single change which would raise earnings most is the acquisition of a higher degree, while the biggest negative impacts are associated with being young and having no qualifications. The number of employees in detailed ethnic and religious minority groups is too low in Wales to include in this analysis. The fact that our defined reference group is relatively high-earning is shown by the preponderance of groups with lower than reference earnings (bars to the left of the vertical axis). Other characteristics which would reduce earnings by at least 20% compared to the reference groups are being younger than 25, having no reported educational qualifications beyond that of GCSE level or lower, being a social tenant, having a disability and working part-time or in a manual occupation. The only characteristics other than a higher degree which raise hourly earnings from the reference level are a first degree and being between 50 and 59 years i.e. in the highest-earnings age bands,

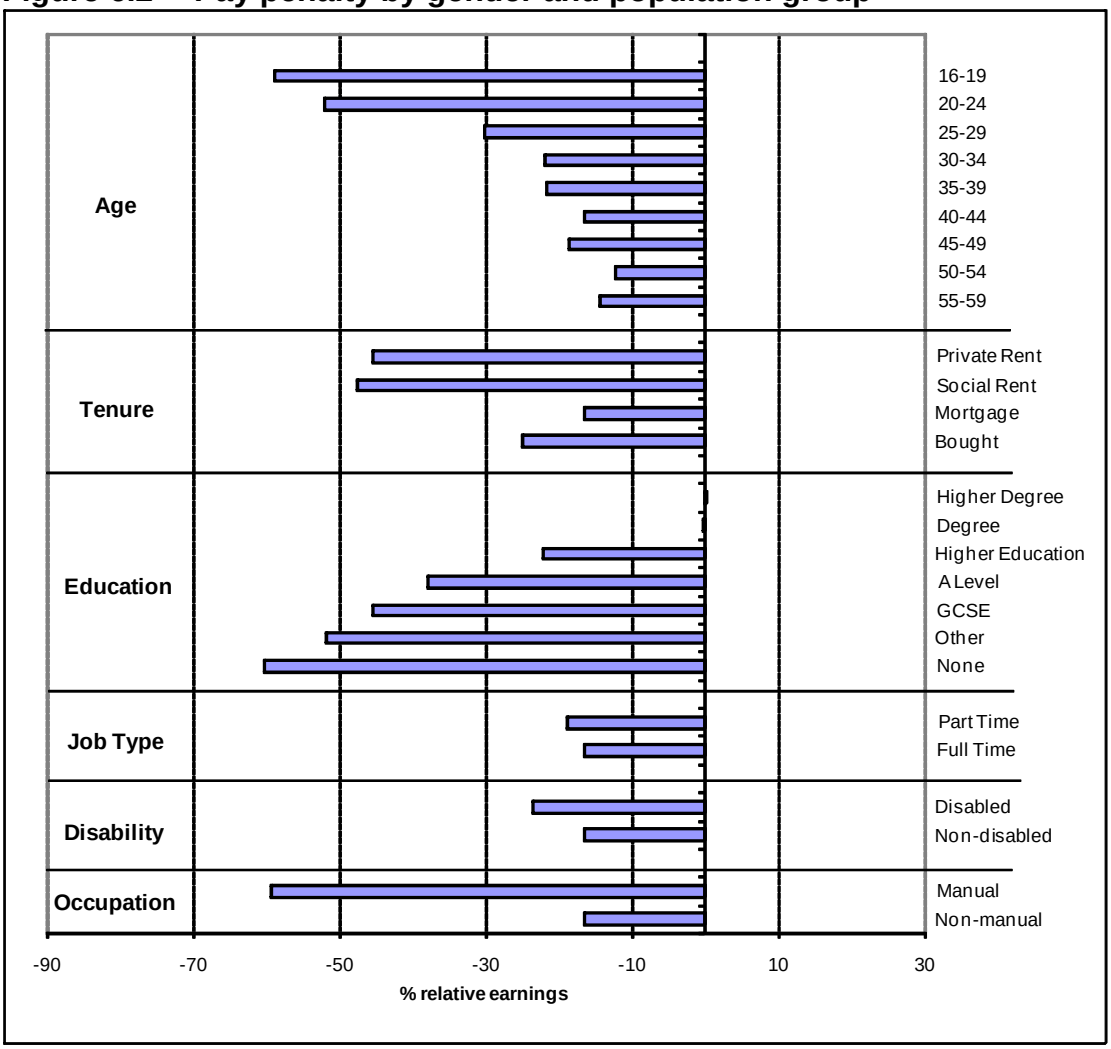
Figure 6.1 Pay penalty among population groups



The top bar of Figure 6.1 indicates that being female attracts a very considerable pay penalty: a woman with all the same characteristics as the male reference group would earn 17% less than the equivalent man. This estimate of the gender gap allows for no interaction between gender and other earnings-affecting characteristics. For example, it assumes that the effect of age on earnings is the same for both men

and women. This may not be accurate as women may have had career breaks associated with periods of family formation. Figure 6.2 therefore presents the results from a second analysis of earnings differentials in Wales which shows the combined impact on earnings of being a woman and differing in one other characteristic from the reference group. The negative bars in Figure 6.2 are longer than their equivalents in Figure 6.1, showing that the earnings-reducing impact of being female adds to the effects of having low qualifications, working part time, working in manual employment, being disabled and living in social or rented accommodation. The scale of the pay penalty facing some groups of female workers in Wales is alarming: women aged 16-19, with no educational qualifications and in manual occupations earn nearly 60% less than reference earnings. Only a higher degree can overcome the negative earnings impact experienced by women with otherwise reference group characteristics.

Figure 6.2 Pay penalty by gender and population group



Question 3: 'How big are earnings and income differences within population groups in Wales?'

Section 6.2 above drew attention to the overall level of inequality in Wales with regard to financial outcome variables. Overall inequality may be viewed as the sum of inequality *between* groups and that *within* groups. So far in this chapter, we have been investigating the former component. We now know much more not only about which groups typically have low incomes, but also about how much lower their incomes are. The final instalment of this investigation considers the so-far-missing within-group component of inequality by presenting data on the 90:10 ratios for hourly and weekly earnings and income levels, for each of the population groups we have been following. As we already know (section 6.2) there is a higher level of inequality in net household incomes than in individual earnings, and the 90:10 ratios in the last column of Table 6.4 are higher than those in the preceding columns. We exclude wealth from this analysis due to the relatively small sample sizes available from the WAS for Wales.

The 90:10 values in Table 6.4 tell a consistent story. The vast majority of the figures for specific groups are lower than the overall ratios at the top of the table, but not that much lower. The finding that the 90:10 ratios within most groups are smaller than that of the whole population indicates that inequality between groups, which we have already seen to be substantial, does indeed contribute to overall inequality. However, all the group 90:10 values are above two and so there is a considerable level of inequality between rich and poor within each of these groups, unconnected with and unexplained by group membership. Indeed, within group inequality is higher some groups than the overall measure of inequality.

The higher the 90:10 values in Table 6.4, the less confidently we can predict the earnings or income of any individual family or person in the group from knowledge of the average median value of that group. One group with notably high 90:10 values is those of Indian ethnicity. This indicates that the earnings of the highest earning 10% of this group living in Wales are at least 5 times that of the poorest 10% and, in turn, that this is a very heterogeneous ethnic group (the ratio for income among the more heterogeneous 'Asian' group is 6). This contrasts with the considerably lower values for social and private renters who, as well as having low median values as we have already seen, exhibit relatively low variation in earnings and income within the group, reflecting their relatively uniform and low earnings and relative reliance upon state benefits to maintain income levels.

We therefore need to recognise that, although certain groups of the population in Wales have median earnings and incomes far below median values for the UK, and indeed far below the median values for Wales, there is also substantial overlap between the earnings and incomes of disadvantaged and other population groups. This will particularly be the case for those groups within the population that have high intra-group variability. Policy interest has focused on inequality between certain groups, defined by gender, ethnicity and so on. Therefore in the last section of this chapter we briefly pull together our main findings about groups of policy interest.

Table 6.4 Earnings and income inequality within each group (90:10 ratios)

	Hourly earnings	Weekly earnings	Net household income
Overall	3.9	3.8	4.5
Gender			
Male	3.6	3.4	4.6
Female	3.3	3.3	4.4
Age			
16-19	2.7	4.0	4.7
20-24	2.3	2.3	
25-29	2.7	2.6	5.0
30-34	3.2	2.9	
35-39	3.5	3.3	4.6
40-44	3.6	3.6	
45-49	3.5	3.3	4.5
50-54	3.6	3.4	
55-59	3.7	3.6	5.7
60-64	3.5	3.3	
Ethnicity			
White	3.5	3.4	4.5
Mixed	4.5	3.8	
Indian	5.6	5.2	
Bangladeshi and Pakistani	2.2	3.9	6.0
Other Asian	3.1	3.3	
Black A & C	4.6	2.7	4.8
Chinese	3.2	2.6	4.8
Other	3.8	3.8	
Disability			
DDA & work	3.1	3.1	4.0
not disabled	3.5	3.4	4.6
Tenure			
Social housing	2.3	2.8	3.7
Private rented	2.9	2.9	
Owned outright	3.6	3.5	4.1
Owned with mortgage	3.5	3.4	3.5

6.4 Key outcomes by disadvantaged group

We present here findings about differences in incidence of disadvantage across groups classified by gender, age, ethnicity, disability, housing tenure and occupation.

Outcomes by gender

We now compare four of our key outcomes (educational qualifications, employment, and both hourly and weekly earnings) separately for men. Figure 6.2 above illustrated the earnings penalty attached to women in different groups. In this section we use the available data to look at the extent to which women in population groups of interest experience higher than group average incidence of disadvantage, and

lower than group median earnings and, where possible, income. Given the importance of gender in terms of understanding outcomes, Tables 6.5 to 6.8 each report the additional disadvantage faced by women across a variety of population sub-groups.

As previously suggested, there are very few instances in these tables where women experience less than the overall incidence of disadvantage. Women in disadvantaged ethnic, disability, housing and occupational groups in Wales may be said to carry a triple burden of disadvantage: outcomes are worse in Wales than in the UK as a whole, worse for disadvantaged groups in Wales than for the non-disadvantaged, and within each disadvantaged group women typically have higher than average levels of disadvantage. Here we concentrate on the third component and define the 'gender top-up' as the difference between the overall incidence of disadvantage and that for women alone, measured in percentage points. To give a few examples: Pakistani and Bangladeshi women are more likely to have low or no educational qualifications (they experience a gender top-up of 2.2 percentage points on top of the overall population percentage of 68%), and disabled women are more likely not to be employed (79% compared to 74% overall), this represents a gender top-up of 5 percentage points). The gender 'top-up' measures how much would we have to 'top up' the outcome (percentage in employment, percentage with beyond GCSE achievement, and percentage with earnings at or above the top two thirds of the aggregate distribution) for women in Wales so that they were equally represented at the aggregate level for Wales.

The UK NEP report drew attention to the fact that, although girls and young women increasingly out-perform boys and young men in education, there is little sign of superior female academic performance leading to better-paid jobs. Table 6.6 shows that for most groups in Wales the percentage of women with no or low educational qualifications is still higher than the overall percentage. In the youngest age-group, however, (16-19 year olds), females have a below-average incidence of low or no educational qualifications but an above-average probability of not being employed. Both men and women in this age group face high incidence of low pay: women experience an even higher probability of low weekly earnings (but not of low hourly earnings).

Women are clearly a disadvantaged group in employment terms: in almost all population groups women face an above-average incidence of non-employment. This is particularly the case for some minority ethnic groups in Wales, particularly Indian, Bangladeshi and Pakistani, Chinese and other (see Table 6.7). Section 6.2 identified Pakistani and Bangladeshi as the most employment disadvantaged group in Wales, with 46% of group members not in employment or full-time education. Bangladeshi and Pakistani women carry a gender top-up disadvantage of 26%, bringing their non-employment rate to no less than 72%. The extent of the gender top-up in non-employment rates is negatively related to educational level: women with no or 'other' qualifications experience respectively 5 and 7 percentage points top-up, while the possession of a first or higher degree virtually eliminates the adverse impact of gender on employment.

The median hourly earnings of men in Wales (2004-2008) (£9.88) were just above the UK median (£9.81), while median female earnings (£8.04) were only 82% of the UK median, giving a Wales gender gap of 19% in hourly earnings. Women face an

above-average incidence of low hourly pay as defined in Section 6.2 (less than 2/3 of median UK hourly earnings: 26% for all employees in Wales, 32% for women). Part-time workers face an additional risk of low pay. The probability of low hourly earnings is more than twice as high for women who work part-time (47%) as full-time (22%). Within age, gender, disability, housing and occupation groups, except (as already noted) 16-19 year-olds, other ethnic groups and those in professional occupations, women carry a positive gender top-up in low pay rates, which increases with age. Women with A levels or lower educational qualifications also experience a substantial gender top-up in the incidence of low pay. The top-up falls as qualification level increases. The protective effect of education on women's earnings may also account for the varied gender top-up facing women across occupational groups. Skilled Trades, Process Operatives and Elementary Occupations are those in which woman face the biggest additional disadvantage on account of their gender (see Table 6.8).

The incidence of low weekly pay for full-time employees, as defined in section 6.2 (less than two-thirds of median UK weekly earnings), is higher in Wales than that of hourly pay, and is higher again for women. The incidence of low weekly pay in the UK is 22%, in Wales is 28% and for women in Wales it is 38%: a gender top-up of 10%. Since women tend to work shorter hours than men, the gender gap in weekly earnings (22% in Wales) is higher than that in hourly earnings, and the size of the gender top-up in weekly earnings in many groups is correspondingly higher than the hourly penalty. While the overall incidence of low weekly pay falls as age increases up to about 40 as workers acquire more human capital, it then rises again after 55. Women experience a different age-related pattern of earnings (see Table 6.6). The lowest incidence of low pay for women is in the age group 30-34, after which incidence rises to a level of about 33% from age 35 to retirement. After the age of 35 the gender top-up never falls below 10%. Women with educational qualifications at A -level or below face a substantial gender top-up. More than 70% of women in Wales working in Skilled Trades, Personal Services, Sales and Customer Services and Elementary Occupations earn less than our low-pay cut-off of 2/3 of median UK earnings; all these rates are far higher than the overall incidence of low pay (see Table 6.8).

So, women in Wales face an excess disadvantage related to gender with respect to education, employment and earnings. We would expect this excess to be reflected in lower female incomes and wealth levels, but it is difficult to compare the income and wealth levels of men and women because data are primarily constructed for households and implicitly assume full sharing within households. It is possible using HBAI data to compare income between male-only and female-only households but this covers only the minority of the population consisting of single people (many of them pensioners) and single parents, so conflates the effect of household composition with that of gender. However, the Family Resources Survey (FRS), from which the HBAI data is derived, does collect information on the 'independent' income accruing to individual men and women. Independent income includes earnings but also income from benefits and unearned incomes, e.g. from savings. These figures are interesting in that they show income flows into 'wallet' and 'purse' respectively. For families containing men and women, relative independent incomes may illuminate the balance of economic power, but these income figures are of limited use in comparing standards of living except on the extreme assumption that there is no income-sharing within families. Table 6.5 shows the results for 2002-9. Individual

incomes for both men and women are lower in Wales than anywhere else in the UK, but the gender gap is also lower in Wales.

Outcomes by Age-Group

Table 6.6 shows the variation in incidence of disadvantage in educational qualifications, in employment, earnings and poverty across age-groups of the population of Wales and, like Table 6.2, also shows the UK overall values for comparison. As previously explained, women's employment and earnings typically follow a different lifecycle pattern from those of men, showing more disadvantage in the age groups associated with motherhood, especially of young children. The lifecycle dominates the columns of Table 6.6 which show incidence of disadvantage of the whole population of working age: the youngest age group does badly on all measures, particularly low pay, but disadvantage falls rapidly as age reaches 20 or 25. Non-employment rates begin to rise again at the age of 50, and so does the incidence of low pay and poverty, but it should be noted that those aged 65 or over experience the lowest poverty rate of any age-group in Wales.

Outcomes by Disability

Table 6.6 shows the variation in incidence of disadvantage in education, employment, earnings and income in Wales according to disability status. In principle, APS data make it possible to distinguish between different levels of disability from no disability through disabled according to the Disability Discrimination Act (DDA) to reporting as having a work-limiting disability and the most disabled group have disability which is both work-limiting and recognised under the DDA. However, Table 6.8 compares those who report a DDA-defined and work-limiting disability with those who do not, except for the final column where the disabled group includes all degrees of disability. While disabled people experience higher incidence of all disadvantages analysed here, the big impact of disability status is on employment rates: disabled people are four and a half times more likely than those without disability to be neither employed nor in full-time education. The considerably lower proportion of the disabled population of working age in employment are also more likely to be low paid than non-disabled people, but the difference is relatively small, as is that in poverty rates.

Outcomes by Ethnicity

Variations in incidence of disadvantage in educational qualifications, in employment, earnings and poverty across ethnic groups in Wales are shown in Table 6.7. The white majority have the highest employment rates but are more likely to be low paid than either Indian or Black African and Black Caribbean. It is the Pakistani and Bangladeshi ethnic group which experiences the greatest level of disadvantage in Wales, and this is true across all outcomes in Wales. The incidence of poverty among Asian people is estimated to be twice that observed among Whites.

Table 6.5 Individual Weekly Median Incomes by Gender (£)

	Wales	Outer GB	LESE	UK
Male	239	251	305	268
Female	168	173	193	179
Female as % male average	70	68	63	67

Source: FRS 2002-2009. Data are weighted

Table 6.6 Percentage of population in Wales disadvantaged by gender, age group and disability

	Educational Attainment		Non-Employment		Earnings				Income
	Highest at GCSE or lower % of working age pop (total)	Highest at GCSE or lower % of working age pop (women)	non-employed (not in FTED) % of working age pop (total)	non-employed (not in FTED) % of working age pop (women)	Hourly earnings Employees % less than 2/3rd UK median	Hourly earnings Employees % less than 2/3rd UK median (women)	Weekly earnings (f/t employees % less than 2/3rd UK median	Weekly earnings (f/t employees % less than 2/3rd UK median (women)	Below 60% UK median income (AHC) % of households
UK percentage	49.2	53.1	22.3	27.4	21.6	27.3	21.6	30.0	20.7
Wales percentage	51.7	55.6	29.0	29.2	26.1	32.3	27.6	37.6	21.2
Age Group									
16-19 yrs	71.8	69.6	37.2	38.0	82.0	81.3	92.5	93.4	27.0
20-24 yrs	41.6	41.9	26.5	31.9	47.3	49.1	57.9	63.4	
25-29 yrs	45.0	46.2	22.3	28.6	23.6	26.7	28.6	32.3	23.3
30-34 yrs	45.1	46.3	20.2	27.4	18.8	24.3	20.4	28.1	
35-39 yrs	50.9	52.1	18.9	26.0	18.5	26.0	19.5	30.8	19.7
40-44 yrs	53.0	57.5	18.0	23.2	19.2	27.2	20.3	33.9	
45-49 yrs	51.3	58.7	18.6	22.4	18.2	26.5	19.9	32.1	17.1
50-54 yrs	53.0	61.8	25.3	29.0	19.8	28.1	21.9	33.8	
55-59 yrs	55.2	65.8	36.9	42.9	23.0	30.6	23.4	33.3	18.6
60-64 yrs	51.2		53.5		21.8		25.6		
65 + yrs									15.9
Disability Status									
DDA & WLD	69.5	74.1	73.7	78.9	33.2	37.7	34.8	42.6	24.9
not DDA & WLD	48.6	52.6	16.7	26.0	25.7	32.0	27.3	37.4	19.5

Table 6.7 Percentage of population in Wales disadvantaged, by gender, ethnicity and tenure

	Educational Attainment		Non-Employment		Earnings				Income
	Highest at GCSE or lower % of working age pop (total)	Highest at GCSE or lower % of working age pop (women)	non-employed (not in FTED) % of working age pop (total)	non-employed (not in FTED) % of working age pop (women)	Hourly earnings Employees % less than 2/3rd UK median	Hourly earnings Employees % less than 2/3rd UK median (women)	Weekly earnings (f/t employees % less than 2/3rd UK median	Weekly earnings (f/t employees % less than 2/3rd UK median (women)	Below 60% UK median income (AHC) % of households
UK percentage	49.2	53.1	22.3	27.4	21.6	27.3	21.6	30.0	20.7
Wales percentage	51.7	55.6	29.0	29.2	26.1	32.3	27.6	37.6	21.2
Ethnicity									
White	51.4	55.4	25.2	28.6	26.0	32.3	27.5	37.7	22.8
Mixed	56.2	53.0	37.0	42.9	28.6	29.4	28.9	27.6	
Indian	44.9	52.7	27.6	41.3	22.4	22.8	22.0	25.6	44.3
Bangladeshi & Pakistani	68.3	70.5	45.8	72.2	51.4	52.5	65.4	55.7	
Other Asian	61.3	61.9	30.8	35.3	40.5	46.7	45.0	54.8	
Black A & C	59.0	63.5	35.3	40.8	21.7	26.4	23.8	28.6	40.8
Chinese	56.0	61.5	29.1	42.3	36.2	41.2	29.9	40.2	28.0
Other	62.0	65.4	34.5	48.6	30.5	22.6	32.8	34.5	
Housing Tenure									
Social housing	80.1	81.4	58.6	61.8	53.9	61.3	55.8	70.5	46.4
Private rented	52.3	52.9	31.5	37.7	40.2	43.7	43.7	52.1	
Owned outright	49.6	56.4	31.2	31.1	27.9	33.9	31.5	39.9	16.1
Owned with mortgage	45.1	48.2	13.1	17.0	20.2	26.1	21.8	32.0	11.1

Outcomes by Housing Tenure

Our dataset distinguishes four housing tenure groups: those in social housing, those renting in the private sector, owner-occupiers with a mortgage and owner-occupiers who own their house outright. Variations in incidence of disadvantage between these groups are shown in the lower panel of Table 6.7. This clearly shows that social housing tenants in Wales are severely disadvantaged across all outcomes: much less likely to have educational qualifications and be employed, if employed then much more likely to be low paid. Poverty rates (for social and private tenants combined) are about three times as high as for owner-occupiers. The main difference between the two groups of owner-occupiers is that those with mortgages are typically younger and this explains their lower non-employment and poverty rates.

Outcomes by Occupational Group

Our final classification is by occupational group. The data presented in Table 6.8 shows variations in low pay (hourly and weekly) for manual and non-manual employees overall, and across 9 occupational groups. Table 6.9 shows clearly the importance of occupation in determining earnings. Using a single low pay threshold of 2/3 UK median earnings, manual employees are two or three times more likely than non-manual workers to be low-paid, and although women in both groups are more likely than average to be low-paid, the reduction in low pay incidence from having a non-manual job is also greater for women. Utilising the more detailed occupational categories, the percentage of employees in Wales who are identified as low paid varies from almost none amongst Professional occupations to the majority of all employees in Retail and Customer Services and Elementary Occupations. Low pay incidence is higher for weekly earnings than hourly earnings and higher for women in both cases, so that over 70% of female employees have weekly earnings below the low pay cut-off in four of the nine occupational groups: Skilled Trades and Personal Services as well as the two groups already mentioned as low-paying.

Table 6.8 Percentage of employees in Wales who are low-paid, by occupation

	Hourly earnings Employees % less than 2/3rd UK median	Hourly earnings Employees % less than 2/3rd UK median (women)	Weekly earnings (f/t employees % less than 2/3rd UK median	Weekly earnings (f/t employees % less than 2/3rd UK median (women)
UK percentage	21.6	27.3	21.6	30.0
Wales percentage	26.1	32.3	27.6	37.6
Broad Occupation				
Manual	39.0	57.7	41.3	72.8
Non-manual	15.0	19.2	19.0	26.6
Detailed Occupation				
Managers	8.1	10.2	10.5	17.1
Professional	3.1	2.5	4.4	4.4
Associate Professional	6.7	7.2	10.8	12.7
Admin & Secretarial	19.7	20.7	39.4	43.2
Skilled Trades	24.0	55.9	27.1	70.6
Personal Services	42.5	44.9	63.5	70.3
Retail & Customer Services	62.1	64.7	65.8	73.2
Process Operatives	27.8	51.6	31.9	64.5
Elementary	59.6	73.1	55.1	80.9
Educational Attainment				
Higher Degree	3.6	3.8	4.7	5.2
Degree	8.9	10.2	12.5	15.2
HE – Other	9.9	11.3	12.7	16.0
A Levels	26.1	37.0	27.0	48.2
GCSE	35.5	40.3	40.4	52.6
Other	38.3	51.9	39.6	61.4
No qualifications	52.0	64.4	54.0	73.5

6.5 Key Findings and Conclusions for Policy Makers in Wales

This report has sought to replicate some of the work of National Equality Panel research and their report *An Anatomy of Inequality* (2010). The findings here provide a Wales specific analysis or evidence base. Devolved law and policy making in Wales can be applied to considering how more of Wales' citizens might be included in the opportunity to gain good economic resources. The data compares economic inequalities in Wales in combination with the social divisions of gender, age, ethnicity and disability. The large data sets analysed here still do not provide the resources to examine the experience of lesbian, gay, bisexual or transgender people in this way, and very little can be said with certainty about some small ethnic minority and religious groups. The report has set out outcomes in education, employment, earnings, income, wealth, and poverty distribution in Wales in comparison to the rest of the UK. Wales is compared not only to the UK as a whole but the `Outer UK' and the regions of `London, East and the South East' (LESE). Earnings, income and wealth in the latter are so much higher amongst the wealthy in these regions in

comparison to all other areas of the UK, that they distort simple Wales-UK comparisons.

This cross-cutting chapter has identified areas of greatest disadvantage in education, employment, earnings, income and wealth by equality grouping and where socio-economic inequalities intersect to create specific circumstances of inequality. The following summarizes the most salient findings and is followed by discussion of policy direction and recommendations for further research.

Key Findings

- The historical productivity gap relative to the UK as a whole is widening for Wales. The industrial and business structure produces weak demand for skills, with individuals' earnings in Wales being, on average, lower than the UK average.

- Employment within Wales is characterised by a significant number of low paid and low skilled jobs. Average earnings within Wales are relatively low compared to the rest of the UK.

- Then percent of the population in Wales have total household wealth of £8,393 or less. Total household wealth for the 90th percentile is £751,693 or 90 times that of people at the 10th percentile. In the UK as a whole the gap in total household wealth between the top 10th and bottom 10th is 100 times. Overall wealth inequalities in Wales are not as wide as in the rest of the UK as Wales has fewer of the very rich. Those at the top end have on average around £100,000 less total wealth than those in the UK 90th percentile.

- Disadvantage in education, and subsequently in employment and earnings attaches particularly to young people, those of Bangladeshi and Pakistani ethnicity, and people who are Work Limiting and DDA defined disabled. Within each of these groups, women are more disadvantaged.

- Using a low-pay threshold defined as two-thirds of UK median earnings, the proportion of employees who are low-paid is higher in Wales than in the UK as a whole. In terms of hourly earnings 26% of employees in Wales are low-paid, compared to 22% in the UK.

- The incidence of low weekly pay for full-time employees in the UK is 22%, in Wales 28% and for women full-time employees in Wales it is 38%: a 'gender penalty' of 10%.

- For women the 'gender penalty' is only ameliorated (to varying extents) by having a degree, higher degree or working full time in a professional occupation. The probability of low hourly earnings is more than twice as high for women who work part-time (47%) as full-time (22%).

- Overall inequality may be viewed as the combination of inequality between groups and inequality within groups. Inequality within groups is smaller than that of the whole population and indicates that inequality between groups, which we have already seen to be substantial, does indeed contribute to overall inequality.

However, there is a considerable level of inequality between rich and poor within each of these groups, unconnected with and unexplained by group membership.

Key Findings Related to Educational Attainment

- We considered how disadvantage accrues from poor qualifications at aged 16, to further education, employment and retirement. The high level of educational disadvantage experienced by 16-19 year olds is not necessarily a cause for concern because many in this age group have not completed their education and may acquire further qualifications. However, Chapter 3 analyses complete data on Key Stage 4 qualifications obtained by pupils in Wales and shows the extent of inequality by background. While overall in 2009 two-thirds of pupils in Wales attained key stage 4 qualifications at National Qualifications Framework level 2 (NVQ level 2 or equivalent) by the time they were 16, of whom 50% gained 5 A*-C GCSE passes in core subjects, the chance of gaining these qualifications was strongly related to family income.

- Pupils eligible for Free School Meals (FSM) are 2.5 times less likely to get A*-C grades in core subjects than their ineligible peers. In 2009, girls had 6.9% higher gains in Grade C or above in all core subjects. In 2009, only 12.2% of pupils on the Special Educational Needs Register achieved a grade C or above in all core subjects at GCSE.

- Disadvantage attaches particularly to those whose highest qualifications are at or below GCSE level or equivalent (52% of Wales' working age population), those eligible for Free School Meals, those living in social housing, those of Bangladeshi or Pakistani ethnicity (and by association Muslim religion), and those people who have a work limiting disability and are Disability Discrimination Act defined disabled. Of these groups, almost 70% have a highest qualification at GCSE level or below. Eighty per cent of all social tenants report this (or less) as their highest qualification.

- A much higher number of girls than boys cease their education at GCSE level. Those girls who do stay in education, tend to go on to attain degree level qualifications while boys disproportionately drop out of education post A' level foregoing higher qualifications.

- Bangladeshi men are 3 times as likely (at 47%) to have no qualifications as men of white ethnicity (16%), who are themselves more likely to have no qualifications than men of Indian origin (10%). A similar proportion of Pakistani men have no qualifications compared to the white group (15%), although 17% have a degree compared to 11% of white men.

- Patterns of achievement are broadly similar by gender for those of Bangladeshi ethnicity but a much higher proportion of Pakistani women have no qualifications (34%). Women of Indian, Mixed, and Chinese origin are more likely to have a degree than those of white ethnicities. Women of Muslim faith are twice as likely as those with Christian faith to have no qualifications. The percentage of ethnic minority groups in Wales that possess a degree is higher than that found in the Outer UK comparator group (particularly for men) but lower than in LESE.

- There are fewer women graduates than men graduates among older age cohorts, but this position is being changed over time.

- People defined as both DDA disabled and as having a work limiting condition have by far the lowest educational achievements of all the equality categories. Men in these groups are 3 times more likely to have no qualifications (35%) than non-disabled men (12%). For women, the relative disadvantage is similar (37% disabled with no qualifications compared to 13%). DDA, WLI, and DDA and WLI combined men and women have roughly the same proportion of graduates but a much lower incidence (about two and a half times less) of this qualification compared to non-disabled men and women.

- Those in social housing are approximately 10 times less likely to be a graduate compared to those in other types of accommodation.

- Welsh speakers are considerably more likely to be graduates than non-welsh speakers but still the highest qualification for the majority of welsh speaking men is A' level (or equivalent) and GCSE (or equivalent) for women (following the general gender trend).

- With regard to Welsh Identity the graduate position is reversed – they are less likely than non-Welsh identifiers to be graduates and more likely than non-Welsh identifiers to have no qualifications. The highest incidences of no qualifications amongst those declaring Welsh identity is in the South Wales Valley regions.

Key Findings Related to Employment

- Twenty two per cent of the samples of working age adults were not in full-time education or employment. This represents an under-utilised resource from an economic perspective and signals financial hardship and exclusion from a social perspective.

- People who are both DDA disabled and have a work limiting disability experience most disadvantage in relation to employment. Seventy four per cent are not employed (excludes those in education). This is more than 3 times the overall UK proportion of 22%. In Wales 79% of women with such conditions and 74% of men are not employed or in full-time education.

- Over fifty per cent of men over the age of 60, those with no qualifications, those with a work limiting disability, Bangladeshi women, and those living in social housing are non-employed.

- In the youngest age-group, (16-19 year olds), women have a below-average incidence of low or no educational qualifications but an above-average probability of not being employed. Both men and women employees in this age group face high incidence of low pay: women experience an even higher probability of low weekly earnings (but not of low hourly earnings).

- Women are disadvantaged in employment terms: in almost all population groups women face an above-average incidence of non-employment. This is particularly the case for some minority ethnic groups in Wales, particularly Indian,

Bangladeshi and Pakistani and Chinese or other. Of those of Pakistani and Bangladeshi ethnicity, 46% are not in employment or full-time education but for women in these groups 72% are not in employment or full time education.

Key Findings Related to Earnings

- The same groups identified in the previous sections as having low qualifications are those who have the highest incidence rate of low pay per hours and low weekly earnings.

- Groups whose median earnings fall below the two thirds of the UK median for full-time employees are those younger than 25 (weekly earnings) or 20 (hourly earnings); those of Bangladeshi or Pakistani ethnicity; workers with no educational qualifications, workers who live in social housing and employees in Elementary Occupations, Retail and Customer Services occupations and Personal Services (weekly earnings only).

- The incidence of low weekly pay is higher in Wales than that of hourly pay, and is higher again for women. Incidences of low weekly pay are higher than of low hourly pay due to the shorter hours worked in Wales; Wales being the 3rd highest heavy user of part-time work of all UK regions for women, and fourth highest for men.

- Twenty seven per cent of Wales' working age population earn less than two thirds of the Welsh median for full time employees. For social renters the proportion below this threshold is 56% for men and 70% for women.

- The median hourly earnings of men in Wales (£9.88) were just above the overall (for both men and women) UK median (£9.81), while median female earnings (£8.04) were only 82% of the UK median, giving a Wales gender gap of 19% in hourly earnings.

- Women face an above-average incidence of low hourly pay (26% for all employees in Wales, 32% for women). Part-time workers face an additional risk of low pay: the probability of low hourly earnings is more than twice as high for women who work part-time (47%) as full-time (22%).

- The incidence of low weekly pay for full-time employees in the UK is 22%, in Wales 28% and for women in Wales it is 38%: a gender top-up of 10%. Since women tend to work shorter hours than men, the gender gap in weekly earnings (22% in Wales) is higher than that in hourly earnings, and the size of the gender top-up in weekly earnings in many groups is correspondingly higher than the hourly penalty.

- While the overall incidence of low weekly pay falls with age up to about 40 as workers acquire more human capital, it then rises again after 55. Women experience a different age-related pattern of earnings. The lowest incidence of low pay for women is in the age group 30-34, after which incidence rises to a level of about 33% from age 35 to retirement. After the age of 35 the gender/age penalty never falls below 10%.

- Occupation contributes to determining earnings. Manual employees are 2 or 3 times more likely than non-manual workers to be low-paid, and although women in both groups are more likely than average to be low-paid, the reduction in low pay incidence from having a non-manual job is also greater for women.

- Women with educational qualifications at A-level or below face a substantial gender differential. More than 70% of women in Wales working in Skilled Trades, Personal Services, Sales and Customer Services and Elementary Occupations earn less than our low-pay cut-off of 2/3 of median UK earnings; all these rates are far higher than the overall incidence of low pay.

Key Findings Related to Income, Poverty and Wealth

- Approximately a fifth of the Welsh population live in poverty (measured after housing costs).

- There are only a few groups in Wales who have income above UK median values: the middle-aged (45-60), owner-occupiers and non-disabled.

- Those living on the lowest incomes are once again the youngest, disabled people, those of Pakistani and Bangladeshi origin and those living in rented accommodation. However, lone parents are the most susceptible group, with almost half living in poverty.

- Overall women have 70% of men's individual incomes.

- An overwhelming majority of single parent households are headed by women. Households in Wales comprising of single females are also more likely to be in poverty than other such households in the UK. Single women, both with and without children, appear to be vulnerable to living in poverty in Wales.

- Being in work does not necessarily provide a route out of poverty, with 13% of in-work households in Wales living in poverty. In-work poverty is again most prevalent among lone parent households, Asian households and those who are renting.

- Levels of wealth are lowest among young people, lone parents and single households, non-white households and those with a work-limiting illness or disability.

- The lower levels of educational attainment observed among protected groups will clearly effect the positions they achieve in society and the resources and opportunities that these positions confer.

6.6 Concluding Comments

Taken together the findings in this report, The NEP *Anatomy of Inequality* (2010) report, the Equality and Human Rights Commission's *Triennial Review*, Wilkinson and Pickett's *The Spirit Level* (2010), and the Bevan Foundation's *Poverty and Social Exclusion in Wales* (2010) represent a significant body of new evidence on socio-economic inequalities. In each case, the evidence connects the distribution of

economic outcomes to social characteristics both *between* and *within* equality groups. In this report we have been able to do this for gender, disability age and ethnicity and show when intersections of economic resources and dimensions of social difference combine to produce specific forms of advantage and disadvantage in economic outcome. Together these reviews represent a turn, or perhaps return, to investigating the material consequences of difference. The evidence and the economic crises of the times, create a particular historical moment for a national discussion about what kind of Wales we live in.

In *The Spirit Level*, Wilkinson and Pickett show that in societies where great disparities in earnings and wealth exist, such as the UK, feelings of well being, trust, being valued and respected are lower, but crime, unhappiness, envy and violence can be higher. The UK NEP report argues that the sheer degree of inequality in the UK means that societal cohesion is strained. The rungs of the ladder are so wide apart that aspiration is crushed and social mobility is stalled (NEP 2010: 386). In more equal societies good educational outcomes are more attainable for all strata of society and the 'qualifications' levers, that provide entry to better quality employment, are able to work effectively.

The UK NEP report demonstrated the impact of family resources (high and low), parental education levels, occupation and housing tenure for conferring advantage or disadvantage in combination with ethnicity, gender, disability, age, and religion in relation to educational attainment. We have not been able to compare parental occupational group with children's education in Wales as the Millennium cohort study is unable to support detailed Wales level analyses in terms of available sample sizes. However, it is clear from age 16 education examination results that disadvantage disproportionately attaches to children in low income families. The UK NEP report, and more recently the Frank Field-led *Review on Poverty and Life Chances* (2010), both stress how disadvantage begins and becomes embedded for children in low income groups between the ages of 0 to 3. These children do not catch up with their better off peers throughout the early years schooling or in secondary school. Policy intervention at all stages and in the transition phases is needed. Wales diverges from English education policy by having already introduced Flying Start, Early Years and Foundation Phase programmes. The Foundation Phase has been rolled out across Wales for 0-5 year olds, with 5 and 6 year olds beginning the new play and activity based curriculum from September 2011. A framework for measuring outcomes was commissioned in December 2010 so that it will be possible in the future to establish links between education, employment and earnings.

The UK NEP report notes the effectiveness of redistributive policies in the last decade which have held, but not reversed the huge growth in earnings and wealth disparities which began in the late 1970s and continued through the 1980s and 1990s. In its key findings the review notes that levels of inequality are slightly higher in England than the devolved nations:

> However, recent trends are similar, whichever outcome one examines, despite the constitutional commitments to equality in the legislation establishing the Scottish Government and the Welsh Assembly Government (NEP 2010: 395).

Redistributive policy is only working to the extent that inequality is no longer increasing at the rate it once was. The greater challenge is to reverse the upward trend. The major redistributive policies such as tax and welfare programmes are UK-wide, although as the Chief Secretary to the Treasury Danny Alexander stated in evidence to the NAW Finance Committee, there is a *'strong case for giving Wales some tax and borrowing powers if there is cross-party consensus in the assembly'* (The Record, NAW, Finance Committee 22/10/11). We have seen how poor job quality impacts on employment and pay to the disadvantage of the working age population in Wales and particular groups within Wales. Funds that might be used to increase the stock of quality jobs in Wales through economic investment are currently constrained within the Barnett calculations (Holtham Report 2009).

In chapter 1 we reported on the redistributive character of much of Welsh policy since devolution (for example the Child Poverty Measure), and those currently in consultation (for example the social housing LCO). Furthermore, the Wales budget following the *Comprehensive Spending Review* has sought to 'protect the vulnerable' by maintaining or increasing funding in education and social services (WAG, 2010a). We have also discussed how in recent years equality has been overly associated with recognition issues, that is remedy through anti-discrimination legislation, and less considered as describing the core 'customers' of anti-poverty, community and economic regeneration strategies. Their difference to the white, non-disabled, man on which most economic policy is unconsciously based, suggests new strategies accounting for cultural and gender difference are needed in policy design and delivery. Put simply - equality must be mainstreamed. Equality issues should be considered from the outset as an integral part of the policy making and service delivery process' (National Assembly for Wales, 2003).

A vision for a more equal society should influence all policy outcomes. Increased GVA, in and of itself, should not be the desired outcome of economic policy if rewards are not shared, and existing inequalities are increased. The new *Economic Renewal Strategy* (WAG 2010b) will aim to increase employment in the 'top 3' occupational strata in 'knowledge sector' work' in Wales. Few outside this already advantaged and dominant group will benefit directly from investment in the chosen sectors. What is the evidence of the 'trickle down' effect of work in these sectors for other people in Wales? The findings in this report show the urgent need to ensure that young people, women, disabled men and women, and members of some ethnic minority groups are specifically included in efforts to create quality and better paid jobs in Wales.

The UK National Equality Panel considered that there is little awareness of the enormity of economic disparity which '*runs through society, from rich to poor,"* and that this *'acts as a constraint on any policies designed to contribute to reducing inequality*' (NEP 2010:398). The evidence presented in this Welsh report will be considered by politicians, policy makers, equality stakeholder groups, academics, policy think-tanks, commentators, and the media. Particular efforts will be needed to ensure those most disadvantaged are included in the debate. However, policy makers cannot achieve change alone. The impact of legislation is weak without a supporting cultural, social and intellectual understanding and societal agreement on a more equal Wales. A widespread recognition of inequality, its causes and effects, would support the use of policy to intervene to interrupt its reproduction. This report

provides an opportunity to revisit and reinvigorate the redistributive principles of the unique Welsh mainstreaming equality duty - equality of opportunity for all.

Finally, the present report provides a detailed statistical overview of the extent and nature of economic inequality in Wales. The resources and timescale for this report meant that the data gathering could not be as extensive or supplemented by additional research as was the UK NEP Report. Furthermore, some of the longitudinal data sets used in the UK NEP report to study issues such as the intergenerational transmission of disadvantage do not have large enough samples to support an analysis based on data from Welsh respondents only. Given the costs of conducting such studies and the large samples that are need to capture information on what are often relatively small population groups, it is unrealistic to expect such analyses to be able to be conducted separately for Wales. However, in terms of the data that are available for Wales, a couple of issues arose in conducting this research that we feel could be addressed.

Firstly, the most valuable source of data utilised in this report was the Labour Force Survey. The analysis relied heavily on the boost to the Labour Force Survey funded by WAG that is 'housed' within the files of the Annual Population Survey. The main use of the APS is to enable robust estimates of key labour market indicators to be produced for relatively small geographical areas. Due to the detailed geographical information contained in these data files, other characteristics about respondents is suppressed to maintain anonymity, including detailed information on educational attainment and employment. In order to utilise the 'boost' to the Welsh sample, the research team had to apply to gain access to a *Special License* version of the APS that contained the full detail of all variables, even though potentially detailed geographical information was not required for the purposes of our research. To gain access to *Special License Data,* all researchers using the APS had to submit an application to the Office for National Statistics. Users of Special License Data must also conform to higher levels of physical and IT security than that which is required of standard versions of the APS data (referred to as End User License). The application process and security requirements mean that it is more difficult to undertake research on inequalities in Wales than it would be for England or the UK as a whole.

Secondly, within England, the Centre for Market and Public Organisation at Bristol University has been funded by the Economic and Social Research Council to extend and support the use of the National Pupil Database (NPD). The NPD matches information collected through the Pupil Level Annual Schools Census (PLASC) to other data sources such as Key Stage attainment. PLASC is the key source of data for pupil characteristics, including ethnicity, a low-income marker, information on Special Education Needs (SEN), and a history of schools attended. The data allows the progress of children to be tracked throughout their school careers, a key issue raised in the analysis of disadvantage in the UK NEP report. The PLASC/NPD Users Group (PLUG) supports applications to use the data, provides documentation about the data and runs workshops. However, these arrangements only cover access to the English NPD. Whilst applications can be made to WAG to access equivalent Welsh data, arrangements for research access to the National Pupil Database in Wales are clearly less developed than arrangements that exist within England. We would encourage WAG to reflect on access arrangements to the Welsh boost to the

LFS and the NPD in order to enable and encourage more researchers to conduct analysis on the economic and social conditions of people living in Wales.

Chapter 7: Invited Contributions

This chapter provides a selection of short papers from experts in the field of inequality research. Contributors were invited to reflect on their own research and the current state of knowledge in these chosen areas and to identify issues where further research is required.

7.1 Immigration and Inequality

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Immigration has become an extremely important issue from a policy perspective in recent years across all parts of the UK, including in Wales. This is because immigration has the potential to impact on a whole range of social and economic outcomes, many of which are related to inequality. Immigration is also of direct relevance to sections of the analysis contained within this report, particularly because of the close connection that exists with some of the key characteristics that have been examined, especially ethnicity and religion. Moreover, Wales has a long and diverse migration history and as a result it is not possible to generalise on how immigrants and UK-born individuals compare in terms of different aspects of inequality because of the very different labour market and educational outcomes experienced by migrant groups in Wales. It is therefore important to consider the migration experiences of different groups as well as obtaining a fuller appreciation of how immigration patterns and processes have impacted on inequality in Wales.

Much of the literature on the social and economic outcomes of immigrants in the UK has focused on arrivals from the new commonwealth in the period between 1950 and 1980. There is very little at all specifically on Wales, partly because of the lack of suitable data, a situation that has improved but is still somewhat problematic. An important aspect of post-war immigration to the UK was that the majority of the immigrants who arrived from the Caribbean and the Indian sub-continent were from different ethnic groups in comparison to the White-British. As a result, the early literature tended to concentrate on ethnicity rather than migration as the main feature of the analysis, and often emphasized the role that discrimination played in influencing social and economic outcomes. This was particularly important before the 1970s, given the introduction of equality legislation in that decade. These studies included the influential series of National Studies of Ethnic Minorities, the most recent of which was published by Modood *et al.* (1997). The more recent literature has tended to consider issues connected with migration to a far greater extent, especially in relation to labour market outcomes. Such studies include that of Dustmann and Fabbri (2005), who examine the experiences of immigrants from 14 areas of origin across a wide range of labour market outcomes. They highlight the very different outcomes experienced by migrant groups, especially in terms of employment and earnings, with some groups performing far better than others. In particular, white migrants are generally found to perform better than UK born whites, whereas the migrant groups who have seen the greatest disadvantage have been those born in Pakistan and Bangladesh. In terms of these latter two groups, it is difficult to disentangle the impact that culture and religion have on social and economic outcomes from other potential influences, especially for females born in these countries, although it is generally thought that cultural and religious differences are very important explanatory factors (Dustmann and Fabbri, 2005).

Some studies also directly compare the performance of immigrant and native born minorities in the labour market, including Blackaby *et al.* (2005). These highlight the importance of certain differences between natives and immigrants such as the influence of relatively poor English language skills and the position of the labour market at the time that the immigrant arrives in the UK. In particular, poor language skills have been found to significantly reduce the labour market performance of ethnic minority immigrants to the UK, with Dustmann and Fabbri (2003) estimating that those who are proficient in English experience an earnings premium of around 20 per cent and an employment rate advantage of around 20 percentage points. Clark and Lindley (2006) report that immigrants who arrive in times of higher unemployment experience an earnings penalty compared to those who entered when the labour market was in a healthier state. This could be because of the scarring effect on their later outcomes if the migrant has a negative initial experience within the host country's labour market. This has implications in the context of the contemporary Welsh labour market, because of the higher levels of unemployment that have recently been observed and that are likely to persist. Limited opportunities in the paid-labour market can also encourage immigrants to become entrepreneurs. For example, Clark and Drinkwater (2010) report that certain ethnic minority groups, especially Pakistanis and Bangladeshis, and to a declining extent the Chinese, have a high propensity to be self-employed. This has implications for inequality since the type of jobs that self-employed workers have often involve long hours and relatively low incomes. With respect to Wales, Cam (2007) compares the relative position of migrants across a range of labour market outcomes and generally reports that a similar situation exists to that found in the rest of Britain.

There are also several issues relating to inequality following the wave of migration that took place to the UK from Central and Eastern Europe in the aftermath of EU enlargement in May 2004. Not only did very large numbers of migrants enter the UK from the new member states (which have commonly been referred to as A8 countries), with over a million migrants estimated to have arrived in the first four years after enlargement (Pollard *et al.*, 2008), but A8 migrants have also moved to virtually all parts of the UK. It follows that this wave of migration was quite different to previous migration episodes seen in the UK, in which migrants mainly tended to locate in large cities, especially London. Many areas, including some in Wales such as Llanelli and Wrexham, had not experienced large scale immigration in the past and such an inflow imposed pressure on local services. For example, in education an increase in the number of pupils not only affected school resources from the perspective that extra assistance has been required for migrant children, especially as many of them did not speak much English (or Welsh), but also in terms of the knock-on effects on pupils who had already been attending these schools. There has also been an impact on housing with relatively high rates of homelessness and overcrowding reported by Polish migrants (Ryan *et al.*, 2007).

Although a high proportion of the migrants from Poland and the other new member states arriving in the UK have found work, the majority of these jobs have been in low paying sectors (Drinkwater *et al.*, 2009). A similar picture has generally been seen across the different parts of the UK including Wales, where employment rates of A8 workers have been higher than for other migrants or for natives. Dustmann *et al.* (2008) report statistics that suggest that the employment rates of A8 migrants in Wales were particularly high in the immediate post-enlargement period. Many A8

migrants have however only stayed for short periods and often send or take much of their earnings back to the home countries. As a result, the short term nature of migration stays has not been conducive to the acquisition of well-paid jobs and many A8 migrants have also been constrained in the labour market by language difficulties as they are in general well qualified but unable to translate their high levels of human capital into commensurate jobs. It will therefore be interesting to observe how those A8 migrants who have stayed in Wales progress through the labour market.

Immigration will continue to be an important policy issue for the UK, as demonstrated by recent government proposals to introduce a quota on migrants from outside of the EU. This has led to much debate including from the business sector, who are keen to ensure that they are able to employ immigrants should they need to do so. There have been other recent changes to migration policy in the UK, particularly in relation to the introduction of a points based system, which could have an impact on issues connected to inequality. Given that some tiers of the points based system are geared towards encouraging highly qualified migrants to move to the UK, this may imply that a lower proportion of migrants will be seen with poorer social and economic outcomes. However, given that much of the recent immigration to the UK has emanated from Central and Eastern Europe and these workers have typically found low paid work, this implies that future inflows from A8 countries may outweigh the consequences of the recent reforms that have been introduced for non-EU nationals. It should also be noted that although workers will continue to arrive from A8 countries, they are likely to do so in far reduced numbers since inflows have slowed considerably since the start of the recession.

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7.2 Disability and Disadvantage In Wales

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Statistics clearly illustrate the magnitude of the labour market disadvantage associated with disability. Indeed, the evidence presented previously in this report confirms that this remains a current issue, despite the introduction of a range of legislative and policy reforms designed to aid this group. The most fundamental difference in labour market outcomes between the disability groups is in terms of employment. As chapter 3 shows the employment rate of 26% for males with a disability (according to both a DDA and work-limiting definition) is less than one third of the non-disabled group. Further investigation also shows that there is variation within the disability group and it is those with mental health conditions that fare particularly badly (see Jones *et al*., 2006). It is more difficult to identify why the differences in employment by disability status are so dramatic. Several studies in the UK have focused on separating the role of other personal characteristics, such as the differences in age and education between the groups, from employer discrimination and from differences in productivity and preferences for work between the groups. These studies have consistently identified an important role for personal characteristics or, more specifically, that less than half of the disadvantage associated with disability is a result of other adverse characteristics that they hold, including that disabled people are typically older and less well qualified than the non-disabled group (see Blackaby *et al*., 1999 and Jones, 2006). Separating the influence of the remaining components of the employment gap is especially difficult since they are typically unobserved in large scale publically available data. However, recent evidence suggests that ignoring the potentially important influence disability can have on productivity and preferences will result in a severely overestimated role of employer discrimination (Jones, 2006).

Further, these studies have also shown that possessing higher level qualifications have a much larger (positive) influence on the employment outcomes for disabled than non-disabled people indicating the particular importance of education among the group (see Jones *et al*., 2006). Yet, the analysis of human capital in chapter 2 demonstrates the extent of the gap in qualifications. About one third as many disabled people possess a degree or higher degree in Wales compared to the non-disabled group and they are nearly three times as likely to possess no formal qualifications. As Jones (2010) shows, the gap in educational attainment is evident even among disabled individuals who are just entering the labour market (those aged 16-24). However, for the majority of individuals, disability onset occurs in later life and it is therefore unlikely that the disability itself affects formal educational attainment. Indeed, for those in work, there is little evidence of differential access to job-related training (Jones, 2010). There is, instead, what is known as a selection effect, that is, those with lower levels of education are more likely to become disabled.

Despite apparent improvements in the employment rate amongst disabled people over the last 10 years the evidence has not been able to attribute these directly to changes in legislation such as the influence of the Disability Discrimination Act (1995) (see, for example, Bell and Heitmueller, 2009). In attempting to design effective policy to improve employment outcomes it is important to understand how the experience of work differs for disabled people. While much of the literature has focused on explaining the gap in wages between disabled and non-disabled workers

(which is typically found to be in the region of 10-15%) studies have also found important differences in relation to other features of employment. Disabled workers are concentrated in forms of employment which may more readily accommodate their disability such as part-time (Jones, 2007) and self employment (Jones and Latreille, 2006) and this may be one mechanism through which they are able to engage more easily with the labour market. However, the emerging evidence suggests that disabled workers are more likely to perceive themselves as over skilled (that is having more skills than are required in their current employment) and to report being less satisfied in work, even after controlling for personal and employment related characteristics (Jones and Sloane, 2009). The latter is particularly concerning since job satisfaction has been shown to affect future quit behaviour. In the US, corporate culture has been found to be an important moderating effect on the experience of disabled workers (see Schur *et al*., 2009) although, as yet, this has received relatively limited formal investigation in the UK.

It is also important to understand the experience of disabled people who are without work and there has been relatively limited investigation into important issues such as differences in the desire to work, the capacity for work, the possession of realistic wage aspirations and other potential barriers to employment such as issues surrounding travel to work. One issue on which attention has focused is the rise in disability benefit claimants in the UK and many other countries over the past 30 years. In his review of the literature McVicar (2008) argues that it is the combination of falling labour demand and relative generosity of disability benefits (when compared to other out of work support) that have been key in driving the rise in incapacity benefits claimants in the UK. The Employment and Support Allowance (which replaced Incapacity Benefits in 2008 for new claimants) aims to address the disincentive to work generated by the previous scheme.

As noted above, the incidence of disability is not random in the sense that an individual's experience and circumstances affect the probability of reporting themselves as disabled. This makes establishing cause and effect particularly difficult in this context. Further, additional questions have been raised about how the thresholds for reporting disability may differ among groups of individuals. For example, it is argued that those in non-employment have a greater incentive to report themselves as disabled in order to justify their economic status and/or receive benefit income (Bound, 1991). This needs to be considered when noting that Wales has both a higher concentration of disability than most other UK regions (and the UK itself has a higher incidence of disability than most EU countries) and a larger employment gap between disabled and non-disabled people. Further, within Wales the variation between local areas is well established and even more dramatic. While 14 per cent of working age people in Wales classify themselves as disabled (according to DDA and work-limiting measures) the corresponding figure is higher in Blaenau Gwent (22%), Neath and Port Talbot (21%), Rhondda, Cynon, Taff (18%) and Bridgend (17%).[xxxvii]

Current analysis often considers the influence of disability on the individual without reflecting on their wider circumstances. Both the incidence of disability and the consequences should be considered within a household context. In this respect, the issue of informal care is particularly important. Disability can have an additional indirect economic effect since disabled individuals may require care from friends or family, who themselves then often need to give up paid work or work less hours. This may contribute to the higher incidence of poverty in households where a disabled

person is present, identified in chapter 5. The high incidence of disability within Wales is also reflected by the high provision of informal care, especially in the South Wales Valleys, where both the incidence of informal caring and the amount of care provided are well above the UK average.

Finally it is also worth highlighting a couple of areas where we are aware that gaps exist within our knowledge. Little is known about the community, household or intergenerational dynamics of disability. For example, how does having disabled parents influence the probability of disability onset amongst their offspring? It is also important to consider the perspective and concerns of employers, as well as disabled individuals. While important information is available on disability related workplace policies and practices it is much harder to assess the influence of employer and co-worker attitudes on the experience of disabled employees in the labour market. The dynamic nature of disability also remains underexplored. There may be important differences relating to the timing of disability onset, for example, the disadvantage associated with disability may be different for individuals who have been disabled from birth relative to those who experience onset whilst already in work. It is also important to note that disability is not necessarily a permanent state. As such, future research should also consider the persistence of disability and, in particular, the causes and consequences of exiting disability.

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7.3 Spatial Inequalities within Marginalised Groups

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Since the 1980s there has been a proliferation of studies that have been concerned with small area mapping of social and economic data to analyse spatial patterns of population characteristics. Typically at ward level, these studies have increasingly focused on methods of associating these patterns of demographic characteristics with spatial variations in health, educational achievement and participation in labour markets. For instance, it is now common for policy makers to make associations between the poor educational achievement of students and the deprivation measures of the neighbourhoods in which they live, often without clear theoretical justification. The mapping and analysis of the spatial variations in social and economic data for small area has been aided by the increasing amount of data available (including the Population census), their increased accessibility (via, for example, web-based sources) and the availability of low-cost mapping packages as well as more sophisticated Geographical Information Systems (GIS).

Despite the increased popularity of such studies, researchers have begun to challenge the outputs of such spatial analyses both because of the quality of the underlying data and the analytical procedures used to investigate spatial patterns and trends. In terms of marginal groups, there is widespread recognition of the limitations of some of these data sources to derive trends for “hard to reach” people. Often the experiences of such groups are *hidden* within official statistics or are difficult to interpret from the use of ‘traditional’ measures of deprivation or inequalities. This has led to initiatives which link data sets at the level of the individual across different thematic areas, such as health and social service data by the NHS Wales Informatics Service. Although this has lead to more detailed and precise analysis of health outcomes at the individual level for marginal groups, it also poses specific issues relating to how to present and communicate the findings of the research for the community areas that policy makers use and understand. Confidentiality and ethical problems mean that it is not always possible to present the findings at the lower super output area or ward level, for instance, and depending upon the numbers of people included in the analysis (and this could be quite small for marginal groups), findings may also be disclosive at the Unitary Authority level.

Following on from this, there are at least two strands of interest to social scientists and policy makers exploring the use of social and economic data to understand spatial variations in inequalities. The first relates to the continued use of administrative and statistical units to map and analyse social and economic processes, such as census units, postcode areas and local authority areas. The use of such units continues to be a focus for policy makers and politicians alike – the use of ‘official’ administrative boundaries are often used to monitor the implications of area-based policies and interventions and this is likely to remain the case. But there are an increasing number of research initiatives that are concerned with exploring the use of new techniques of neighbourhood definition which go beyond the use of administrative and census units to consider what Kwan and Schuurman (2004) refer to as “*actual geographies*”. Here, the neighbourhoods and communities where people live are seen as being more than a pre-defined area for which statistical data are available. Rather they also include elements based on people’s perceptions and experiences, cultural ties and identity. The second relates to the acknowledgement

that using fixed neighbourhood boundaries ignores the influencing factors present in adjacent neighbourhoods and that people rarely confine themselves to one particular area in their daily lives. Both strands suggest that research on spatial inequalities should be based on a combination of traditional statistical approaches for analysing spatial patterns coupled with qualitative research concerned with individual and community experiences. Furthermore, a move away from pre-defined neighbourhoods with fixed boundaries implies that new methods are needed to track and map people in order to present a fuller picture of their daily lives and experiences. Since marginal groups may be expected to live more restricted lives in terms of their daily movements and activities, being able to map and analyse these will become crucial in understanding and addressing their spatial inequalities compared to other groups in society. Research is currently being undertaken in the United States that attempts to address the issues of fixed neighbourhood boundaries versus perceived and personal neighbourhoods, together with the daily movement of people. Some of this has focused on the lives of under-researched, marginalised and excluded groups such as children, disabled people, homeless people and people from ethnic minorities and has highlighted not only the type and extent of the spatial inequalities that they face, but that these are not always evident from more conventional, statistical analysis of spatial patterns and processes (Kwan and Ding, 2008; Matthews et al., 2005)

In the UK, recent attempts to model day-time and work-place population, to more accurately represent population in different areas and to trace movements through mobile technologies hold out promise to more accurately measure such spatial inequalities. There is a real need to understand how objective indicators of accessibility being developed (such as in local authority transport plans) map onto the day-to-day mobility patterns, experiences and perceptions of those groups most dependent on public transport. Mobile methods using GPS, for instance, permit an individual level analysis of access to services. However, little research is being done looking at how such measures relate to the utilisation of services and access to employment opportunities outside of the immediate residential neighbourhood. Current trends in the UK, such as the increase in the number of older people, have focused attention on the travel patterns of such groups; however, there is a relatively poor empirical base with which to examine the localised implications of demographic changes or to monitor the impacts of Government transport policies such as concessionary bus fares for older people. Whilst a number of local and central government surveys include themes that examine factors that influence travel patterns, to date less research has been carried out to integrate behavioural factors with objective (often GIS-derived) accessibility measures. Research is needed to guide policy in the area of transport planning to help address inequalities in public transport provision which may help in identifying national policy priorities as well as promoting their delivery at the regional and local levels. This could also benefit public service providers in the impacts of changes in integrated provision between transport and key services such as healthcare, retailing, education and leisure facilities in order to investigate the impacts of changing spatial configurations and infrastructural support in terms of the mobility and travel behaviour of potentially excluded groups.

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7.4 Creating the context for 'choice': Can the Welsh Equality Duties promote women's economic independence?

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Introduction

In 'preference theory' it is argued that women choose part time work (Hakim 1995, 1996, 2011). Over two decades, Catherine Hakim has contended that there are 3 distinct types of women; career orientated, family orientated and those who move between the two. This argument has been cogently critiqued. Since 'those who move between the two' are the overwhelming majority, the theory does not prove choice but rather that the organisation of labour markets does not take account of women's life experiences (Parken, Rees and Baumgardt 2009, Proctor and Padfield 1999).

In everyday discourse, the conception that women choose part time work is based on the assumption that choice is unfettered by employment conditions such as available work in the locality, the hours on offer or the personal constraints of limited travel time so that the school run, visits to supermarkets, doctors, dentists, after school clubs etc. can be accommodated. Such rhetoric does not consider how part time work creates flexibility for employers, naturalises the relationship between part time work and low pay, and promotes inertia with regard to improving the organisation of work through employment contracts. It is assumed that all women who work in low paid part time jobs (part time work is much less available in higher grade occupations) or low-hours basis do have the time constraints associated with childcare or elder care, and that working additional hours would not be welcomed. However, recent research for the EHRC suggests this is not the case (Parken and Baumgart 2009).

This paper considers the position of part time workers in the Wales, and the role that Welsh Specific equal pay and procurement duties might take in reducing women's poverty and promoting economic independence in the public sector. These employers will need to consider whether their employees are 'choosing' part time work or whether fairer ways of organising work might allow future generations of Welsh women to attain financial independence.

Part time work and financial independence

Women hold over three quarters of all part time jobs in Wales (79 per cent) whereas men hold 60 per cent or almost two thirds of all the available full time jobs (LFS 2009). Part time work in the UK is commonly structured around 16 or 18 hours per week and is characterised by low pay (see Chapter 4 of this report). In other parts of Europe, notably Scandinavia, part time work can commonly mean up to 30 hours per week and is more available in managerial, professional, and associate professional and technical grades. This accounts for some of the lower gender pay gap in Scandinavian countries when compared to the UK. The UK's gendered structure of working patterns produces an overall 34 per cent gap between men's gross hourly pay (median) in full time jobs, and women's gross hourly (median) pay in part time jobs in Wales (LFS 2009). Retail and personal service occupations identified in the cross-cutting summary chapter as particularly associated with low hourly pay, mainly employ women. Such contracts in low skilled occupations and offer few progression opportunities (Callender and Metcalf 1997).

> [People]… in part time employment are more than twice as likely as people in full time work to be paid less than the minimum wage' … Jobs held by women were more likely to pay less than the minimum wage than jobs held by men (1.4 per cent versus 0.8 per cent). This was due to the greater number of women in part-time jobs (ONS 2008b:1).

The NEP UK report finds that the introduction and subsequent raising of the Minimum Wage has been disproportionately beneficial for women, as most part time wages 'are grouped at, and just above, the National Minimum Wage' (NEP, 2010: 23). The National Minimum Wage is found to have 'created a floor, protecting the lowest 10th of earners' (NEP 2010: 417), and impacted upon closing the overall gender pay gap. Minimum Wage rates change each October, if governments are minded to make an increase. Since October 2010, the minimum wage for adults over 21 is £5.93 per hour. For 2008/09, the period covered by most of the data in this report, it ranged from £5.73 to £5.80. Figure 4.3, in this report shows real hourly wages in the bottom quartile of earnings in Wales to be £5.24 for all, £5.51 for men and £5.06 for women for the period 2004-2009 (LFS Real Hourly Wages 2004-2009).

But the Minimum Wage is insufficient to sustain the basics of family life. Where 'Living Wage' ordinances are in place in cities in the United States, they apply to private companies contracting to provide public services, whereas as applied in London 'Living Wage' agreements also includes a number of public sector employers[xxxviii]. A report exploring the possibility of a 'Living Wage' for the Welsh Assembly Government describes how the Greater London Authority arrived at its recommend figure of £7.60 for 2009 wages:

> *In arriving at their recommended Living Wage for London, GLA Economics takes a simple average of the (hourly) wage found by the Basic Living Cost and Income Distribution approaches, to which is added a 15 per cent margin against poverty. (Marsh et.al.2009: 35).*

But in order to make an hourly 'Living Wage' rate meaningful in terms of financial independence, full time working is required. Table 3.2 in the employment chapter, shows that in 2010, Wales ranked lowest for the percentage of working age women in full time work, and third highest for women in part time work amongst all the UK government regions. Increasing the percentage of women in full time, or higher than 16 hours per week, at least Minimum Wage but better still 'Living Wage' rates clearly should be an economic goal.

Economic Independence

The wider availability of income figures on a household basis and, in turn, the measurement of poverty on a household basis, shows how the UK inculcates a couple dependency culture through the tax and welfare system (figures are only available at the level of household which assumes equal sharing of resources). In the Scandinavian countries people are treated as individuals and assessed for tax and welfare in their own right, not on the basis of their partner's earnings. Economic independence for women is a central goal of the European Commission's current gender equality strategy [EC, COM(2010) 491 final]. Economic independence enables control and 'real' choice over life decisions and trajectories. The EC strategy focuses upon increased participation in paid work, particularly for disabled, single

parent and migrant women, the greater sharing of family and adult care responsibilities, and increased childcare. The EC strategy notably identifies the inclusion of women in the sectors selected for investment in the Europe 2020 jobs and growth strategy, as being vital to their attainment of economic independence. Simply increasing participation in basic employment and part time work is insufficient.

However, basic labour market inclusion for women has been the dominant strategy of regional development programmes throughout Europe (see Parken in Halkier et.al 2010). By not considering childcare, occupational segregation, and pay when introducing policies designed to expand 'knowledge economies' advantage accrues around men's full time working patterns. Women's over concentration in part time employment contracts in the UK has changed little since the 1975s, suggesting that such supply side policies are not yet efficient (Manning 2010).[xxxix] The gender pay gap for full time women widens after the age of 30 when the lack of such policies inhibits career progression (NEP 2010:417).

The Welsh Assembly Government, in its Economic Renewal Strategy (WAG 2010), focuses on investment in ICT, energy and environment, advanced materials and manufacturing, creative industries, life sciences and financial and professional services (WAG 2010:37). These sectors are overwhelming dominated by men in the lead actor positions within government, universities and business (Parken and Rees 2011, forthcoming). Very few women will have influence over the strategy or receive direct employment, research or investment funding as a result of it. Gender disparity will be maintained or even transposed from the 'old' economy to the 'new' (Perrons 2005). Attaining higher earnings through a greater share of quality jobs and breaking the link between part time work and low pay is required (see chapter 3 of this report). How can Welsh Public Sector employers begin to influence this picture?

Equal Pay and Procurement – Welsh Specific Equality Duties.

The Welsh Ministers will shortly enact Welsh Specific Equality Duties. These are the building blocks to attaining the overall aims of the new Public Sector Equality Duty (PSED) contained in the Equality Act 2010. Two, proposed duties in Wales stand out: an equal pay duty and a procurement duty. We have already seen how the latter might influence compliance with minimum wage rates and encourage a 'Living Wage' amongst contractors to the public sector. Although Marsh (et.al.2009) argues that its introduction at this time of economic contraction is risky, the idea could be re-examined within the remit of the Ministerial Efficiency and Innovation Board. This group is considering the sharing of public services across local authority boundaries, in part to avoid wholesale resort to outsourcing.

The Equal Pay duty, beginning with gender and then gradually covering all protected grounds under the PSD, will require public sector employers to examine their employment data to discover who works full or part time by occupation, grade and pay, and establish whether there are fairer ways of organising work. The need for this was demonstrated in recent research for the EHRC (Parken and Baumgardt 2009). A by-product of this small scale qualitative research on local government experience of settling back pay claims, was the finding that most of the women interviewed were employed on 10, 14, 18, or 21 hour per week contracts (Parken and Baumgardt 2009). Without exception, they stated that they often were asked to work longer hours than contracted for (often up to 30 hours), and several, that they would like to work full time. Their work in social care, domiciliary services, cleaning and

catering, described as ‘women’s occupations’ so extreme is the gender segregation, was paid between £6.19 and £6.50 per hour (on average better pay per hour than the private sector in these occupations).

Financial insecurity was a feature of their work. Their earnings were essential to keeping their families out of poverty but they could never be sure how much they would earn each month. Without the increase in hours over and above their core contract hours, many could not have afforded to ‘make work pay’. For some, an increase in basic hourly rates, following job evaluation, forced a reduction in hours as their ‘top-up’ in tax credits would have been so reduced as to make paid work untenable. There are fine margins between making, and failing to make ends meet at these wage rates (Parken and Baumgardt 2009). These women employees were paid for additional hours at basic rate. It is not until 35 hours per week are exceeded that overtime payments accrue. The male ‘norm’ of full time work sets the bar. Flexibility in ‘men’s occupations’ is most often gained through shift working around full time hours contracts. These additional hours for part timers do not translate into additional sick pay, pension or holiday entitlements. Several knew of women who held two or more jobs for the same public sector employer but having separate contracts for each low hours job meant that the entitlements of full time working were not realised.

Public sector employers will be asked under the proposed Equal Pay Duty to consider whether such working arrangements benefit their employees as well as creating flexibility in service delivery. The EU employment strategies call for a balance between flexibility and worker’s security, often termed ‘flexi-curity’. At present, the evidence suggests the flexibility rests with the employers, with the employees bearing the burden of insecurity. Table 1 shows the distribution of full and part time employees throughout the whole public sector in Wales[xl]. This includes the devolved government employees, local government and health - each sector will have its own particular patterns to investigate. Full time employees (permanent and casual) account for 72 per cent of all public sector workers in Wales. Although men are only 35 per cent of the total public sector workforce, they hold 44 per cent of these contracts. Full time work, permanent and casual, accounts for 90 per cent of all men’s employment in the Welsh public sector. Whereas the almost twice as many women as men overall, only hold 56 per cent of full time jobs, accounting for 63 per cent of women’s employment in the Welsh public sector. Part time work accounts for just 10 per cent of men’s total employment in the public sector but 36 per cent of all women’s. Of the total part time workforce, men comprise around 14 per cent, compared to women at 86 per cent. The organisation of work not only to reflects but reinforces gendered norms. It cannot be assumed that all women ‘choose’ these hours and the associated low pay. Lower pay for women results from the combination of occupation segregation, the reliance on low hours contracts in ‘women’s’ occupations and men’s domination of the hierarchy in the public sector.

Table 7.1 Public Sector Employment and Earnings by Hours Worked, Contractual Status and Gender

	Men		Women	
	Employees	Hourly Earnings	Employees	Hourly Earnings
Full Time Permanent	93,528	12.82	117,946	11.07
Part Time Permanent	8,732	8.06	65,313	8.28
Full Time Casual	5,049	7.87	9,137	9.52
Part Time Casual	2,197	7.30	8,288	7.05
	109,236		200,684	

Table 1 also demonstrates a gender pay gap for full time permanent staff in the Welsh public sector of 14 per cent or £1.75 per hour. The median pay gap excluding overtime between women on permanent part time contracts and women on permanent full time contracts is £2.79 per hour, or 25 per cent. The gap between these part time women and full time men is £4.54 per hour or a staggering 64 per cent. This figure means that we should treat the statement that the gaps within equality groupings are as big, or bigger, than the inequality gaps between them with caution (NEP 2010). This appears not to hold for the gender pay gap in the public sector in Wales. The Welsh specific equal pay duty will require that employers consider why women are contracted to work in such disadvantageous ways. The evidence of low core hours contracts but with frequent additional hours working not resulting in additional employee benefits, suggests finding fairer methods of work organisation is necessary.

Conclusion

Economic independence brings real choices. 'Choosing' to work part time in low paid jobs is no choice at all when these are the only jobs on offer. It's not a choice when free childcare for the under 3s only amounts to 15 hours a week. The over reliance on part time work and the underdevelopment of women's skills and progression is negatively effecting Wales' overall wealth. In EU documentation on job creation, part time work is beginning to be referred to as underemployment. At the higher end of the skills and qualification scale, low availability of part time working at nearer full hours inhibits women's career progression. It can result in women 'choosing' lower grade jobs, where part time work is an option, in order to manage family responsibilities. None of these observations is new and yet another suggestion with common currency is that gender equality has been achieved. That gender for women, still constitutes disadvantage in relation to earnings, employment, income and wealth (see cross - cutting chapter findings), indicates the need for evidence when the rhetoric of individual 'choice' is used to explain away practices that turn out to be detrimental to individuals and the economy. The Welsh Equal Pay Duty will require the collection of evidence, and action on outdated and disadvantaging working practices.

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[xxxviii] Marsh (et.al.) list 'Transport for London, London Fire and Emergency Planning Authority, London Development Agency, Metropolitan Police Authority, Metropolitan Police Service, St Barts and London Hospital, London Borough of Ealing, London Borough Tower Hamlets, several large private sector firms, and a number of London higher education institutes and policy think tanks' (2009:35).

[xxxix] Alan Manning, London School of Economics, presentation to the conference 'Forty Years After the Equal Pay Act, What Prospects for Gender Equality'?, Royal Statistical Society, London, 16th November 2010

[xl] My thanks to Victoria Wass for collating the public sector employment and pay data.

7.5 Inequality in a Market Economy

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In the absence of a common system of values to rank social states, a description of income distribution in itself does not provide the tools for evaluating the normative significance of inequalities that are observed. Whilst there is consensus about the need to examine the impact on equality of government policies, there is less agreement about what to make of the observations. The dramatic widening of wage differentials between the lowest and the highest paid in the now-corporatized public sector institutions and social enterprises is viewed with anxiety, and the failure to observe a demonstrably inverse correlation between government subsidy and top wages in the financial sector are increasingly being commented upon. However, concern cannot be translated into policy unless there is an agreement about the normative view of income distribution. In the system of values that has emerged in Britain over the past three decades in the approach to the question of income distribution, the starting point has gradually shifted away from those ideals of the "virtue of institutions" (Rawls 1957:653) that gave rise to the welfare state to the ideas that embrace the market. Therefore, it is the definition of the market to which we need to appeal first to make sense of data. We then have to focus on assumptions that underlie policies to obtain market-commensurate income distribution to rank the normative significance of policy.

Despite the pursuit of market friendly policies over three decades, the fact that inequalities that are observed may not even be market-commensurate is a good reason for examining the pattern of income distribution. Legitimacy for income distribution in a market economy depends on appeal to the model of a perfectly competitive economy where no agent is powerful enough to determine rewards which emerge magically to facilitate free choice (Nozick 1973). The presence of imperfect competition characterising economies in the real world opens up rent seeking opportunities. Then attention is needed on the resulting distribution. Even within the structure of the perfectly competitive model of the economy, measurement noises call for scepticism about exclusive reliance on observed wages and prices to confer legitimacy or otherwise on the observed distribution of income in society (Varian 1975). Once it is accepted that observed wages and prices do not contain all the information needed to understand the nature of inequality, multi-dimensional measures need to be articulated. Income measures popular with economists, while they allow for a compact analysis of the observations, are not sufficient. At least another dimension of well being, self-perceived state of health, needs to be added in Wales because of the high incidence of health problems amongst those that also suffer from low income.

The definition of a perfectly competitive market is one of atomistic competition where the individual economic agent has no power to determine relative prices that obtain in voluntary exchange amongst agents acting as producers and consumers. Individuals make consumption choices within the constraint of an entitlement circumscribed by income which, in turn, is set by the market valuation of the contribution to the economy made by the individual. Prices emerge magically through the operation of an invisible hand. Market decisions about production and consumption based on these prices would result in a particular view of efficiency, called pareto efficiency,

whereby there is no ‘waste’. There is no ‘waste’ in the sense that all resources are used up and no individual could be made better off through any re-arrangement of entitlements. Keeping in abeyance the scrutiny of the problematic concept of voluntary choice (Chakravarty and Mackay 1999), legitimacy is conferred on rewards obtaining in the market on the ground that the rewards are the outcome of voluntary choice.

From the viewpoint of an economist wedded to the idea of choice embedded in the training of economists, the ranking of social states requires two questions to be asked, whether the state of affairs that is observed has come about through the voluntary exercise of choice and whether a different state of affairs could also have come about through this same process. The answer to the second question is yes because the exercise of choice can lead to multiple outcomes depending on the initial distribution of abilities and privileges. To proceed further with the analysis, one has to take an arbitrary decision about the cut-off point from which all subsequent transactions are to be evaluated (Williams 1982). As Charles Fried, Solicitor General in the first Reagan administration, lamented (Fried 1981:103): "There seems to be a kind of original sin which stains all subsequent attempts at virtue"

Insofar as children do not choose their parents, there is across the board agreement that economic outcomes do not command legitimacy in a society characterised by the prevalence of child poverty and the presence of inequalities that hamper access to children of facilities for developing human capital commanding the market price that a child upon becoming an adult would otherwise be able to command. Thus, for example, inequalities in educational achievement, to the extent that they derive form inequalities in the access to education, deserve to be frowned upon.

Insofar as the market economics in the real world deviate from the model of the perfectly competitive economy as described above, income inequalities amongst households may account for inequalities in access to the tools needed for the exercise of free choice. Thus divergence in income distribution can be a proxy, albeit noisy, of constraints on opportunities in the exercise of choice. The claim of sequential voluntary choice provides the moral justification of inequalities that may arise in the market. For example, parental income may be a fuzzy proxy of the type of schooling available to children. However, when the quality of schooling that is available is constrained by the place of residence, then the type of housing finance that creates segregation between communities through politically expedient interference in the housing market by government in favour of electorally important groups of parents becomes a legitimate focus of concern for social action. There would be agreement on that principle even from those who oppose collective action and espouse market solutions with a fundamentalist zeal. The only problem then is to agree on the extent of the deviation of the real economy from the idealised world of the competitive market. As psychologists Snyder and Swan (1978) demonstrate, people look for evidence that favour their belief and economists are no exceptions.

Even if there is agreement that the real economy is far removed from the competitive model, and outcomes in achievement are constrained by lack of income, it has to be accepted that relative position in the income ladder between individuals and groups can also differ due to differences in personal abilities. Ability is difficult to define and measurements in economics often focus on what Phelps Brown (1979: 15) calls the “limitation of personal qualities”. The limitation of personal qualities is not the same

as the limitation of personal abilities except in the uninteresting case when markets are perfectly competitive. If the “personal qualities” are also qualities that enhance the ability at identifying and exploiting rent seeking opportunities in an imperfectly competitive market by capturing the remuneration process, then we need to develop new measurement techniques to distinguish between an income distribution that is market legitimate and one that calls for social intervention to alter. Economists would need help from accountants and sociologist who better understand social relations that mediate transactions between organisation and between individuals and organisations.

Once it is accepted that prices do not contain all the information that is required to examine the consequence of inequalities, multi-dimensional measures are needed to outline inequalities that are observed. Progress has been made in the literature, at least on poverty, in extending some of the most general single dimensional income based indices (Foster-Greer-Thorbecke 1984), and multi-dimensional indices are now possible to calculate providing a richer picture of what it is to be poor (Alkire and Foster 2009). These new techniques need to be taken on board in future research.

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Annex 1: Overview of Data Sources

A1.1 Annual Population Survey

The Annual Population Survey (APS) is the main single source of data utilised in this report in the analyses of education (Chapter 2), employment (Chapter 3) and earnings (Chapter 4). The APS data consists of information collected the quarterly UK Labour Force Survey (LFS). The LFS is the largest regular household survey conducted in the UK. Face to face interviews being conducted in approximately 60 thousand households, with information being collected from over 100 thousand individuals. The LFS collects information on personal characteristics, household structure, economic activity, health, education and training and earnings. Among those in employment, detailed information is collected on jobs held including occupation, hours worked, earnings and contractual status. Households remain in the LFS for five successive quarters (referred to as Waves). In these households, approximately a third of responses to the LFS interview are provided by proxy, such as a spouse answering on behalf of a partner. Whilst this can cause problems associated with response bias, particularly for those questions that require respondents to recall events over a longer period (e.g. instances of sickness absence) or where proxy respondents may not accurately know details regarding the circumstances of the target respondent (e.g. earnings), the LFS is generally regarded as a high quality source of data regarding the characteristics and labour market circumstances of individuals.

The LFS is designed to provide information on the labour market characteristics of a nationally representative sample of the UK population. Despite its relatively large size, the LFS is not designed to provide robust information on detailed population sub-groups living within particular areas of the UK. To overcome this problem, the Office for National Statistics derives the Annual Population Survey by combining data collected from four successive quarters of the LFS to produce a much larger annual data set. In additional, a boost to the LFS funded by the Welsh Assembly Government is also included within the APS data file. The April 2009 version of the APS data file includes information on some 36 thousand individuals living in Wales, and 333 thousand people living in the UK. However, it remains the case that a single file of APS data is not sufficiently large to provide robust information on the circumstances of people from small population sub-groups, such as those from particular ethnic or religious groups. In this report we therefore present information on the characteristics of the Welsh population derived from APS data covering the period 2004 to 2009. In providing information on the relative characteristics of the Welsh population, the data presents an ‘average’ picture of the Welsh population covering the period 2004 to 2009. Where multivariate analysis is undertaken, additional restrictions are placed on the sample to ensure that the sample does not contain repeated observations for the same person.

A1.2 Households Below Average Income and the Family Resources Survey

Households Below Average Income (HBAI) data are derived from the Family Resources Survey (FRS) and are regarded as the key dataset for analyses of poverty within the UK. During 2008/09, the FRS completed full interviews with 23,163 households in Great Britain and 1,929 households in Northern Ireland. The coverage of the survey expanded to include Northern Ireland from 2002/3 onwards. The HBAI uses household disposable incomes, after adjusting for the household size

and composition, as a proxy for material living standards. In addition to including variables on household composition and economic activity, it contains unadjusted income variables, but more importantly, it also contains variables which are based on 'equivalised' income, i.e. the household income is adjusted according to the composition of the household, making it easier to compare household incomes in relation to household needs.

The basic unit of analysis within the HBAI data set is the benefit unit. A family, or benefit unit, is a single adult or a couple, together with any dependent children. An adult living in the same household as his or her parents, for example, is a separate benefit unit from the parents. However, a key assumption made in HBAI is that all individuals in the household benefit equally from the combined income of the household. Within the HBAI, all benefit units within a household are therefore allocated the same equivalised household income. This enables the total equivalised net weekly income of the household to be used as a proxy for the standard of living of each household member.

The size of the FRS sample is relatively small which is problematic in terms of undertaking an analysis of income within a sub-set of the population such as those in protected groups that also focuses upon Wales. Where the population sub-groups of interest are relatively large, such as with comparisons made by gender, then 5 years worth of HBAI data is combined covering the period 2004 to 2008. Due to the particularly small sample sizes associated with ethnic minorities in the FRS data, HBAI data is pooled over a period of 15 years (1994/2008). In accordance with HBAI publication standards for the presentation of regional data, estimates of median income are based on a 3 year moving average. All income values have been uprated to 2008/9 levels using the HBAI deflator series[xli]. It should also be noted that estimates are derived from a version of the HBAI data that is made available for research use. For these reasons, the results may therefore not exactly match official estimates presented in HBAI publications[xlii].

A1.3 Wealth and Assets Survey

The Wealth and Assets Survey, a new longitudinal survey conducted by the Office for National Statistics that collects information from people living in private households across Great Britain. At the time of writing data was only available from the first Wave of WAS data covering the period June 2006 to June 2008. The survey population is all adults aged over 16 years (excluding those aged 16-18 currently in full-time education) and the target wave one sample size was 32,000 individuals. The WAS questionnaire is divided into two parts. The first part of the questionnaire is the household schedule, asking the number, demographics and relationship of individuals to each other, as well as information about equity release, the ownership, value and mortgages on the residence and other household assets. The second part of the questionnaire is the individual schedule which is administered to each adult in the household and asks questions about economic status, education and employment, numerical ability, business assets, benefits and tax credits, saving attitudes and behaviour, attitudes to debt, major items of expenditure, plans for retirement, attitudes to saving for retirement, pensions, financial assets, non-mortgage debt, investments and other income.

xli See document ‘HBAI datasets – Guidance for the production and checking of analysis’ that accompanies UK Data Archive Study Number 5828: Households Below Average Income, 1994/5-2008/9

[xlii] The research version of the HBAI data suppresses the responses provided by some respondents in order to maintain anonymity.

Annex 2 Modelling the Probability of Being a Graduate and Having No Qualifications for the Working Age (Non-Full Time Student) Population

Table A2.1: Wales

	Probability (Graduate)				Probability (No qualifications)			
	Male		Female		Male		Female	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Age 16-24	Ref		ref		Ref		ref	
Age 25-34	3.06	0.00	2.06	0.00	0.71	0.00	0.86	0.04
Age 35-44	2.43	0.00	1.23	0.00	0.91	0.16	1.49	0.00
Age 45-54	2.30	0.00	1.02	0.80	1.23	0.00	2.67	0.00
Age 55-64	2.35	0.00	0.69	0.00	1.75	0.00	4.21	0.00
White	Ref		ref		ref		ref	
Mixed	1.05	0.89	2.18	0.00	0.73	0.37	1.17	0.60
Indian	4.76	0.00	0.96	0.91	0.74	0.54	0.71	0.37
Pakistani	0.82	0.64	1.20	0.70	1.14	0.78	1.77	0.17
Bangladeshi	0.17	0.01	0.15	0.02	5.24	0.00	5.01	0.00
Other Asian	1.50	0.26	0.69	0.32	2.78	0.00	2.75	0.00
Black Caribbean	0.78	0.70	0.65	0.58	0.80	0.73	0.84	0.79
Black African	2.78	0.04	0.37	0.11	0.53	0.27	1.06	0.88
Chinese	0.80	0.67	1.77	0.12	5.05	0.00	2.18	0.02
Other	2.18	0.00	1.25	0.35	0.97	0.93	1.12	0.68
Christian	ref		ref		ref		ref	
Buddhist	2.93	0.00	1.21	0.57	0.40	0.06	1.09	0.78
Sikh/Hindu	2.27	0.03	3.05	0.00	0.74	0.56	1.19	0.65
Muslim	2.16	0.01	1.15	0.67	1.08	0.79	1.95	0.02
Other	1.92	0.00	1.50	0.01	0.69	0.06	0.79	0.24
No religion	1.13	0.00	1.06	0.21	1.16	0.00	1.48	0.00
DDA/Work lim.	0.34	0.00	0.43	0.00	2.46	0.00	2.19	0.00
DDA only	0.94	0.45	0.90	0.20	0.92	0.36	0.80	0.01
Work lim. only	0.61	0.00	0.83	0.11	1.72	0.00	1.28	0.01
Not disabled	Ref		ref		ref		ref	
Private rent	0.86	0.04	0.74	0.00	1.48	0.00	1.67	0.00
Social rent	0.13	0.00	0.09	0.00	3.14	0.00	3.88	0.00
Buying	1.01	0.74	0.97	0.55	0.74	0.00	0.76	0.00
Bought	ref		ref		ref		ref	
Number of obs	26165		25897		26165		25897	

Table A2.2 Outer UK

	Probability (Graduate)				Probability (No qualifications)			
	Male		Female		Male		Female	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Age 16-24	ref		ref		ref		ref	
Age 25-34	2.73	0.00	2.29	0.00	0.73	0.00	0.89	0.00
Age 35-44	2.17	0.00	1.35	0.00	0.96	0.14	1.40	0.00
Age 45-54	2.16	0.00	1.11	0.00	1.23	0.00	2.70	0.00
Age 55-64	1.82	0.00	0.75	0.00	1.71	0.00	4.79	0.00
White	ref		ref		ref		ref	
Mixed	1.79	0.00	1.52	0.00	0.97	0.77	0.68	0.00
Indian	1.58	0.00	0.85	0.14	1.28	0.01	1.60	0.00
Pakistani	1.06	0.59	0.60	0.00	1.84	0.00	2.69	0.00
Bangladeshi	0.98	0.93	0.50	0.00	2.28	0.00	2.67	0.00
Other Asian	1.55	0.00	0.94	0.62	1.30	0.04	1.40	0.01
Black Caribbean	0.74	0.02	1.36	0.00	1.29	0.02	0.61	0.00
Black African	3.44	0.00	1.77	0.00	0.70	0.01	1.05	0.68
Chinese	2.31	0.00	1.57	0.00	2.20	0.00	2.36	0.00
Other	2.05	0.00	1.34	0.00	1.03	0.76	1.17	0.08
Christian	ref		ref		ref		ref	
Buddhist	3.24	0.00	2.17	0.00	0.50	0.00	1.34	0.03
Sikh/Hindu	1.42	0.00	1.61	0.00	1.71	0.00	1.68	0.00
Muslim	0.95	0.54	0.92	0.40	2.31	0.00	2.66	0.00
Other	2.02	0.00	1.80	0.00	0.83	0.02	0.57	0.00
No religion	1.47	0.00	1.47	0.00	1.00	0.91	1.11	0.00
DDA/Work lim.	0.39	0.00	0.51	0.00	2.39	0.00	2.06	0.00
DDA only	0.85	0.00	0.80	0.00	1.01	0.72	0.98	0.65
Work lim. Only	0.66	0.00	0.72	0.00	1.41	0.00	1.33	0.00
Not disabled	ref		ref		ref		ref	
Private rent	0.80	0.00	0.67	0.00	1.41	0.00	1.65	0.00
Social rent	0.13	0.00	0.09	0.00	3.29	0.00	3.99	0.00
Buying	0.89	0.00	0.92	0.00	0.81	0.00	0.78	0.00
Bought	ref		ref		ref		ref	
Number of obs.	159716		156778		159716		156778	

Table A2.3 LESE

	Probability (Graduate)				Probability (No qualifications)			
	Male		Female		Male		Female	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Age 16-24	ref		ref		ref		ref	
Age 25-34	3.18	0.00	2.37	0.00	0.73	0.00	0.82	0.00
Age 35-44	2.34	0.00	1.48	0.00	0.95	0.22	1.13	0.01
Age 45-54	2.03	0.00	1.10	0.01	1.34	0.00	2.46	0.00
Age 55-64	1.62	0.00	0.70	0.00	2.02	0.00	4.44	0.00
White	ref		ref		ref		ref	
Mixed	1.30	0.01	1.58	0.00	0.91	0.44	0.76	0.02
Indian	1.62	0.00	1.46	0.00	0.65	0.00	0.80	0.04
Pakistani	0.97	0.80	0.95	0.66	1.25	0.05	1.55	0.00
Bangladeshi	1.11	0.44	0.65	0.01	1.55	0.00	1.69	0.00
Other Asian	1.38	0.00	1.04	0.64	0.97	0.77	1.38	0.00
Black Caribbean	0.59	0.00	1.25	0.00	1.22	0.02	0.51	0.00
Black African	2.38	0.00	1.64	0.00	0.50	0.00	0.76	0.00
Chinese	2.22	0.00	1.76	0.00	1.89	0.00	2.02	0.00
Other	1.23	0.00	1.13	0.05	0.95	0.52	0.91	0.23
Christian	ref		ref		ref		ref	
Buddhist	1.46	0.00	1.26	0.05	0.76	0.10	1.54	0.00
Sikh/Hindu	1.08	0.36	0.93	0.42	1.54	0.00	1.70	0.00
Muslim	1.05	0.51	0.78	0.00	1.76	0.00	2.63	0.00
Other	1.90	0.00	1.66	0.00	0.88	0.16	0.70	0.00
No religion	1.50	0.00	1.51	0.00	0.91	0.00	0.98	0.57
DDA/Work lim.	0.43	0.00	0.52	0.00	2.32	0.00	1.97	0.00
DDA only	0.82	0.00	0.74	0.00	0.95	0.45	1.01	0.84
Work lim. Only	0.62	0.00	0.74	0.00	1.36	0.00	1.27	0.00
Not disabled	ref		ref		ref		ref	
Private rent	0.75	0.00	0.72	0.00	1.34	0.00	1.51	0.00
Social rent	0.15	0.00	0.14	0.00	3.66	0.00	4.34	0.00
Buying	0.82	0.00	0.84	0.00	0.82	0.00	0.76	0.00
Bought	ref		ref		ref		ref	
Number of obs.	71227		70595		71227		70595	

Annex 3 Modelling the Probability of Being in Full-Time Education

Table A3.1 Logistic Estimates of the Probability of Being in Full-Time Education Amongst the 16-24 Age Group: Wales, Rest of the UK and LESE

	Wales		Rest of UK		LESE	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Male	0.87	0.00	0.87	0.00	0.97	0.30
White	ref		ref		ref	
Mixed	1.88	0.01	1.71	0.00	1.72	0.00
Indian	1.30	0.63	1.94	0.00	1.26	0.06
Pakistani	1.32	0.56	1.55	0.00	1.18	0.13
Bangladeshi	0.82	0.69	1.72	0.00	1.14	0.29
Other Asian	3.07	0.03	2.39	0.00	2.03	0.00
Black Caribbean	1.34	0.67	1.58	0.00	1.79	0.00
Black African	5.62	0.00	2.75	0.00	3.49	0.00
Chinese	10.63	0.00	6.82	0.00	4.39	0.00
Other	2.28	0.01	1.79	0.00	1.68	0.00
Christian	ref		ref		ref	
Buddhist	1.56	0.67	0.98	0.92	1.43	0.06
Sikh/Hindu	1.74	0.30	1.07	0.63	1.37	0.01
Muslim	0.69	0.28	0.91	0.36	1.57	0.00
Other	1.20	0.45	1.18	0.07	1.04	0.67
No religion	0.70	0.00	0.77	0.00	0.82	0.00
DDA/Work lim.	0.67	0.00	0.67	0.00	0.63	0.00
DDA only	0.79	0.15	0.92	0.23	0.99	0.95
Work lim. only	0.75	0.05	0.91	0.07	0.92	0.32
Not disabled	ref		ref		ref	
Private rent	0.78	0.00	0.84	0.00	0.62	0.00
Social rent	0.47	0.00	0.51	0.00	0.49	0.00
Buying	1.00	0.97	1.03	0.28	0.95	0.16
Bought	ref		ref		ref	
Number of obs.	9889		59348		25895	

Annex 4 Modelling the Probability of Being in Employment

Table A4.1 Probability of Employment amongst the Working Age Population, Wales, the Outer UK and LESE - Males

	Wales		ICR		Rest of the UK	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Age 16-19	ref		ref		ref	
Age 20-24	2.36	0.00	2.81	0.00	2.34	0.00
Age 25-29	3.55	0.00	6.15	0.00	4.60	0.00
Age 30-34	5.58	0.00	7.92	0.00	5.40	0.00
Age 35-39	7.21	0.00	8.29	0.00	6.21	0.00
Age 40-44	6.83	0.00	7.60	0.00	6.58	0.00
Age 45-49	6.00	0.00	7.74	0.00	6.14	0.00
Age 50-54	4.75	0.00	6.25	0.00	4.87	0.00
Age 55-59	2.80	0.00	3.65	0.00	2.81	0.00
Age 60-64	0.98	0.82	1.41	0.00	1.10	0.01
White	ref		ref		ref	
Mixed	0.64	0.19	0.49	0.00	0.60	0.00
Indian	1.29	0.63	0.82	0.08	1.35	0.01
Pakistani	2.01	0.20	1.00	0.99	1.47	0.00
Bangladeshi	4.32	0.01	0.88	0.29	1.20	0.27
Other Asian	0.78	0.54	0.86	0.18	0.64	0.00
Black Caribbean	0.32	0.02	0.34	0.00	0.40	0.00
Black African	0.28	0.01	0.42	0.00	0.44	0.00
Chinese	2.12	0.29	0.64	0.01	0.71	0.03
Other	0.79	0.44	0.53	0.00	0.51	0.00
Christian	ref		ref		ref	
Buddhist	0.52	0.10	0.48	0.00	0.73	0.06
Hindu/Sikh	0.82	0.68	1.09	0.49	0.68	0.00
Muslim	0.42	0.01	0.42	0.00	0.44	0.00
Other	0.53	0.00	0.75	0.00	0.78	0.00
None	0.78	0.00	0.78	0.00	0.79	0.00
Non-disabled						
DDA&work-limiting	0.05	0.00	0.08	0.00	0.06	0.00
DDA only	0.84	0.05	0.79	0.00	0.89	0.00
Work-limiting only	0.29	0.00	0.38	0.00	0.34	0.00
Observations	25965		71231		159064	

Table A4.2 Probability of Employment amongst the Working Age Population, Wales, Outer UK and LESE - Females

	Wales		ICR		Rest of the UK	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Age 16-19	ref		ref		ref	
Age 20-24	1.13	0.18	1.41	0.00	1.34	0.00
Age 25-29	1.32	0.00	1.56	0.00	1.55	0.00
Age 30-34	1.44	0.00	1.37	0.00	1.57	0.00
Age 35-39	1.74	0.00	1.35	0.00	1.95	0.00
Age 40-44	2.52	0.00	1.91	0.00	2.62	0.00
Age 45-49	2.92	0.00	2.67	0.00	3.23	0.00
Age 50-54	2.44	0.00	2.51	0.00	2.96	0.00
Age 55-59	1.40	0.00	1.60	0.00	1.75	0.00
White	ref		ref		ref	
Mixed	0.82	0.46	0.88	0.14	0.78	0.01
Indian	0.99	0.97	1.08	0.34	1.01	0.87
Pakistani	0.52	0.15	0.69	0.00	0.56	0.00
Bangladeshi	0.58	0.20	0.56	0.00	0.60	0.00
Other Asian	0.88	0.70	0.72	0.00	0.88	0.24
Black Caribbean	0.68	0.53	0.74	0.00	0.76	0.00
Black African	0.66	0.28	0.63	0.00	0.55	0.00
Chinese	0.73	0.42	0.57	0.00	0.76	0.01
Other	0.81	0.35	0.63	0.00	0.51	0.00
Christian	ref		ref		ref	
Buddhist	0.67	0.26	0.67	0.00	0.65	0.00
Hindu/Sikh	0.36	0.01	0.70	0.00	0.68	0.00
Muslim	0.24	0.00	0.23	0.00	0.23	0.00
Other	0.59	0.00	0.79	0.00	0.61	0.00
None	0.80	0.00	0.83	0.00	0.76	0.00
Non disabled	ref		ref		ref	
DDA&work-limiting	0.09	0.00	0.19	0.00	0.11	0.00
DDA only	0.88	0.10	1.00	0.98	0.90	0.00
Work-limiting only	0.38	0.00	0.59	0.00	0.43	0.00
Observations	25558		70470		155565	

Source: APS, 2004-2009. Data are unweighted.

Notes: Controls are also included for highest qualification and the year of observation. In each case the odds ratio is presented along with the p-value. A p-value below 0.05 indicates statistical significance at the 5% level.

Table A4.3 Probability of Part-time Employment amongst the Working Population, Wales, Outer UK and LESE - Males

	Wales		ICR		Rest of the UK	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Age 16-19	ref		ref		ref	
Age 20-24	0.34	0.00	0.23	0.00	0.36	0.00
Age 25-29	0.17	0.00	0.10	0.00	0.16	0.00
Age 30-34	0.12	0.00	0.09	0.00	0.12	0.00
Age 35-39	0.12	0.00	0.09	0.00	0.14	0.00
Age 40-44	0.18	0.00	0.10	0.00	0.13	0.00
Age 45-49	0.16	0.00	0.10	0.00	0.13	0.00
Age 50-54	0.21	0.00	0.14	0.00	0.20	0.00
Age 55-59	0.39	0.00	0.29	0.00	0.42	0.00
Age 60-64	0.82	0.12	0.63	0.00	0.93	0.15
White	ref		ref		ref	
Mixed	2.27	0.05	1.81	0.00	1.62	0.00
Indian	0.63	0.64	0.94	0.71	2.01	0.00
Pakistani	2.64	0.13	1.02	0.90	2.48	0.00
Bangladeshi	4.63	0.02	2.60	0.00	3.76	0.00
Other Asian	0.40	0.39	1.89	0.00	1.55	0.03
Black Caribbean	2.62	0.22	1.38	0.03	2.01	0.00
Black African	1.16	0.89	2.35	0.00	3.17	0.00
Chinese	2.10	0.24	1.61	0.02	2.10	0.00
Other	2.03	0.07	1.91	0.00	2.10	0.00
Christian	ref		ref		ref	
Buddhist	2.46	0.15	1.10	0.71	1.47	0.10
Hindu/Sikh	1.00	1.00	1.12	0.51	0.64	0.02
Muslim	0.67	0.44	2.76	0.00	1.75	0.00
Other	1.45	0.23	1.58	0.00	1.37	0.00
None	1.08	0.24	1.32	0.00	1.20	0.00
Non-disabled	ref		ref		ref	
DDA&work-limiting	2.94	0.00	3.16	0.00	3.20	0.00
DDA only	1.03	0.84	0.98	0.85	1.15	0.01
Work-limiting only	1.86	0.00	1.80	0.00	1.96	0.00
Observations	20536		61574		131414	

Table A4.4 Probability of Part-time Employment amongst the Working Population, Wales, Outer UK and LESE - Females

	Wales		ICR		Rest of the UK	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Age 16-19	Ref		ref		ref	
Age 20-24	0.71	0.00	0.39	0.00	0.64	0.00
Age 25-29	0.94	0.57	0.53	0.00	0.87	0.00
Age 30-34	1.49	0.00	1.06	0.35	1.62	0.00
Age 35-39	1.66	0.00	1.63	0.00	1.99	0.00
Age 40-44	1.50	0.00	1.60	0.00	1.70	0.00
Age 45-49	1.11	0.28	1.28	0.00	1.37	0.00
Age 50-54	1.11	0.28	1.15	0.03	1.34	0.00
Age 55-59	1.48	0.00	1.45	0.00	1.78	0.00
White	Ref		ref		ref	
Mixed	1.30	0.30	0.64	0.00	1.03	0.78
Indian	0.49	0.10	0.62	0.00	0.60	0.00
Pakistani	0.61	0.42	0.99	0.96	0.68	0.01
Bangladeshi	1.51	0.55	1.12	0.53	0.76	0.23
Other Asian	0.43	0.04	0.62	0.00	0.57	0.00
Black Caribbean	0.23	0.07	0.48	0.00	0.64	0.00
Black African	0.45	0.08	0.54	0.00	0.55	0.00
Chinese	0.68	0.37	0.61	0.00	0.88	0.28
Other	0.41	0.00	0.67	0.00	0.54	0.00
Christian	Ref		ref		ref	
Buddhist	1.26	0.52	1.12	0.41	1.41	0.02
Hindu/Sikh	0.70	0.54	1.12	0.27	1.25	0.07
Muslim	1.81	0.11	1.42	0.00	1.99	0.00
Other	0.86	0.38	1.13	0.07	1.19	0.01
None	1.02	0.60	0.90	0.00	0.98	0.18
Non-disabled	Ref		ref		ref	
DDA&work-limiting	1.46	0.00	1.61	0.00	1.47	0.00
DDA only	0.89	0.09	0.93	0.11	0.87	0.00
Work-limiting only	1.04	0.73	1.25	0.00	1.20	0.00
Observations	18555		51989		115924	

Source: APS, 2004-2009. Data are unweighted.

Notes: Controls are also included for highest qualification and the year of observation. In each case the odds ratio is presented along with the p-value. A p-value below 0.05 indicates statistical significance at the 5% level.

Table A4.5 Probability of Low Paying Employment amongst the Working Population, Wales, Outer UK and LESE – Males

	Wales		ICR		Rest of the UK	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Age 16-19	ref		ref		ref	
Age 20-24	0.83	0.09	0.56	0.00	0.83	0.00
Age 25-29	0.53	0.00	0.27	0.00	0.45	0.00
Age 30-34	0.33	0.00	0.19	0.00	0.29	0.00
Age 35-39	0.29	0.00	0.17	0.00	0.24	0.00
Age 40-44	0.25	0.00	0.16	0.00	0.22	0.00
Age 45-49	0.25	0.00	0.15	0.00	0.23	0.00
Age 50-54	0.26	0.00	0.16	0.00	0.22	0.00
Age 55-59	0.27	0.00	0.18	0.00	0.25	0.00
Age 60-64	0.32	0.00	0.20	0.00	0.29	0.00
White	ref		ref		ref	
Mixed	1.52	0.29	1.89	0.00	1.76	0.00
Indian	2.15	0.20	1.75	0.00	2.12	0.00
Pakistani	1.88	0.21	1.34	0.03	1.87	0.00
Bangladeshi	7.15	0.00	5.69	0.00	5.36	0.00
Other Asian	1.91	0.16	4.00	0.00	3.02	0.00
Black Caribbean	1.84	0.33	1.35	0.01	1.81	0.00
Black African	3.04	0.04	4.81	0.00	4.11	0.00
Chinese	2.92	0.03	3.81	0.00	4.76	0.00
Other	4.01	0.00	2.72	0.00	2.77	0.00
Christian	ref		ref		ref	
Buddhist	2.92	0.02	1.52	0.02	1.63	0.01
Hindu/Sikh	2.70	0.10	1.08	0.50	0.94	0.62
Muslim	1.23	0.56	1.44	0.00	1.34	0.01
Other	2.04	0.00	1.47	0.00	1.30	0.01
None	1.02	0.65	0.94	0.08	1.08	0.00
Non-disabled	ref		ref		ref	
DDA&work-limiting	1.63	0.00	1.59	0.00	1.60	0.00
DDA only	1.01	0.92	1.07	0.36	1.15	0.00
Work-limiting only	1.26	0.06	1.33	0.00	1.42	0.00
Observations	19869		59762		127479	

Table A4.6 Probability of Low Paying Employment amongst the Working Population, Wales, Outer UK and LESE – Females

	Wales		ICR		Rest of the UK	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Age 16-19	Ref		ref		ref	
Age 20-24	0.55	0.00	0.37	0.00	0.56	0.00
Age 25-29	0.36	0.00	0.20	0.00	0.33	0.00
Age 30-34	0.27	0.00	0.17	0.00	0.28	0.00
Age 35-39	0.26	0.00	0.16	0.00	0.24	0.00
Age 40-44	0.26	0.00	0.15	0.00	0.24	0.00
Age 45-49	0.25	0.00	0.15	0.00	0.23	0.00
Age 50-54	0.24	0.00	0.15	0.00	0.22	0.00
Age 55-59	0.24	0.00	0.15	0.00	0.23	0.00
White	Ref		ref		ref	
Mixed	1.53	0.17	1.02	0.88	1.05	0.68
Indian	1.93	0.17	1.00	0.98	0.58	0.00
Pakistani	1.27	0.74	1.23	0.22	0.79	0.15
Bangladeshi	0.61	0.53	0.92	0.69	0.52	0.02
Other Asian	0.59	0.22	1.58	0.00	0.97	0.82
Black Caribbean	1.39	0.66	1.11	0.18	1.14	0.20
Black African	0.35	0.03	2.35	0.00	1.63	0.00
Chinese	1.58	0.37	1.55	0.00	2.07	0.00
Other	0.91	0.73	1.37	0.00	0.84	0.15
Christian	ref		ref		ref	
Buddhist	1.11	0.78	0.95	0.76	1.51	0.02
Hindu/Sikh	0.81	0.75	0.96	0.75	1.65	0.00
Muslim	1.73	0.20	1.21	0.08	1.49	0.00
Other	0.98	0.93	0.83	0.03	0.84	0.03
None	1.07	0.11	0.95	0.12	1.08	0.00
Non-disabled	ref		ref		ref	
DDA&work-limiting	1.28	0.00	1.49	0.00	1.44	0.00
DDA only	1.09	0.29	1.05	0.33	1.08	0.02
Work-limiting only	1.18	0.15	1.40	0.00	1.27	0.00
Observations	17919		50530		112444	

Source: APS, 2004-2009. Data are unweighted.
Notes: Controls are also included for highest qualification and the year of observation. In each case the odds ratio is presented along with the p-value. A p-value below 0.05 indicates statistical significance at the 5% level.

Annex 5 Modelling Differentials in Hourly Earnings

Table A5.1 Determinants of Hourly Earnings, Wales, Rest of the UK and LESE

	Wales		Rest of UK		LESE	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Female	ref		ref		ref	
Male	0.13	0.00	0.14	0.00	0.14	0.00
Age	0.05	0.00	0.05	0.00	0.06	0.00
Age squared	0.00	0.00	0.00	0.00	0.00	0.00
Graduate	0.22	0.00	0.27	0.00	0.30	0.00
Further education/A-levels	0.08	0.00	0.10	0.00	0.10	0.00
Other qualifications	-0.07	0.00	-0.05	0.00	-0.02	0.04
GCSEs	ref		ref		ref	
No qualifications	-0.13	0.00	-0.09	0.00	-0.11	0.00
Part time	ref		ref		ref	
Full time	0.07	0.00	0.07	0.00	0.11	0.00
Private	ref		ref		ref	
Public	0.09	0.00	0.07	0.00	-0.03	0.00
Temporary	ref		ref		ref	
Permanent	0.10	0.00	0.08	0.00	0.09	0.00
SOC1 Manager	0.50	0.00	0.53	0.00	0.60	0.00
SOC2 Professional Occ	0.56	0.00	0.54	0.00	0.57	0.00
SOC3 Associate Prof	0.36	0.00	0.37	0.00	0.43	0.00
SOC4 Admin & secr	0.14	0.00	0.16	0.00	0.24	0.00
SOC5 Skilled Trades	0.14	0.00	0.14	0.00	0.11	0.00
SOC6 Personal Service	ref		ref		ref	
SOC7 Sales & customer	0.03	0.15	0.02	0.01	0.00	0.95
SOC8 Operatives	0.09	0.00	0.09	0.00	0.06	0.00
SOC9 Elementary Occ	-0.03	0.10	-0.05	0.00	-0.06	0.00
White	ref		ref		ref	
Non-white	-0.02	0.49	-0.06	0.00	-0.06	0.00
Non-disabled	ref		ref		ref	
Disabled	-0.07	0.00	-0.09	0.00	-0.09	0.00
_cons	0.67	0.00	0.67	0.00	0.57	0.00
Observations	11070		87682		38115	

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