UK UNEMPLOYMENT IN THE GREAT RECESSION

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This paper considers some of the implications of the increase in UK unemployment since the beginning of the Great Recession. The major finding is that the sharp increase in unemployment and decrease in employment is largely concentrated on the young. This has occurred at a time when the size of the youth cohort is large. As a response to a lack of jobs there has been a substantial increase in applications to university, although there has only been a small rise in the number of places available. Further we find evidence that the unemployed have particularly low levels of well-being, are depressed, have low levels of life satisfaction, have difficulties paying their bills and are especially likely to be in financial difficulties.

Keywords: Unemployment; youth unemployment and unhappiness

JEL Classifications: D1; I31; E300; E320; J110; J210

1. Introduction

The UK economy went into recession during the second quarter of 2008 based both on declines in output and increases in unemployment. In this recession the labour market was not a lagging indicator. From peak to trough, real output fell by 6.4 per cent. By the second quarter of 2010 GDP had grown 1.9 per cent from the trough.

This was the most substantial shock to UK output since the Great Depression. Most developed countries also experienced significant reductions in output. It is therefore not surprising that this collapse has been termed the 'Great Recession'. It came about as a result of government inaction to correct long-standing economic imbalances and from a systematic misperception of risk by almost all actors in the financial sector.

It was inevitable that these events would have labour market consequences. In previous recessions, particularly that of the early 1980s, the UK labour market took a long time to recover from demand shocks. Yet the UK is now widely viewed as having a highly flexible labour market, at least in relation to other Western European economies. Hence one might expect that the impact of the Great Recession on employment, unemployment and other real labour market variables might be limited in both size and duration.

UK government policy over the course of the recession suggested, at least implicitly, an acceptance that labour market flexibility would play a major role in returning the labour market to equilibrium. Thus, unlike some other developed countries affected by the recession, such as the USA, the UK did not introduce a major counter-cyclical package of discretionary fiscal measures. And unlike countries such as Germany, it did not bring forward labour market policies specifically designed to moderate the effects of the recession on the labour market.

However, the increase in unemployment has been less than some commentators, including the authors of this paper, initially expected. In part this has been because firms have hoarded labour, cut hours and lowered pay. Nevertheless for some groups, particularly the young, its effects have been very negative. In this paper, we review some of the evidence on the increase in unemployment during the Great Recession and examine its effects.

This paper builds on a number of our earlier papers (Bell and Blanchflower, 2009a,b,c, 2010) which demonstrate that unemployment increases have been particularly concentrated on young people. We provide new micro-econometric evidence from a number of surveys including the Labour Force Surveys and the

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Eurobarometers. We document the characteristics of the unemployed and how hard the young have been hit.

We consider the characteristics of the youth labour market. We first document the changes that have occurred in the UK over recent years, and in particular the growth in the unemployment rate of the young and the substantial rise in the size of the cohort. We then place these changes in international context, and show in particular how the ratio of youth to adult rates is very high in the UK compared to most other countries, developed and developing, in the world. Third, we show that youth labour markets are highly cyclically volatile. Fourth, we find that youths do not appear to have priced themselves out of jobs. Finally, we outline evidence that unemployment while young creates permanent scars.

Furthermore, we find evidence that the unemployed have particularly low levels of happiness, have a tendency to be depressed, have difficulties paying their bills and are especially likely to be in financial difficulties.

A particular worry going forward is that the recovery may be jobless as firms increase hours but do not raise their headcount. Fears about rising unemployment are likely to be exacerbated by the austerity package of public spending cuts and tax increases being implemented by the new coalition government. This is likely to increase unemployment significantly despite claims by the Office of Budget Responsibility (OBR) that unemployment will fall. We fundamentally disagree with the OBR's view that private sector job creation will be able to create 2.5 million jobs net, absorbing the public sector job loss and bringing down unemployment sharply. In contrast, NIESR is currently forecasting that unemployment will peak at 2.7 million in 2011. World growth appears to be slowing, the Baltic Dry Index has fallen 50 per cent since the middle of May 2010 as consumer confidence in the US, the UK and the Euro Area starts to slide. There are tough times ahead, and as a result the NIESR projection may be too low.

Section 2 reports the main labour market changes that occurred between 2008 and 2010. Section 3 provides details from the Labour Force Surveys on the characteristics of the new unemployed. Section 4 looks at the causes of unemployment while section 5 outlines the consequences. Section 6 examines the youth labour market. Section 7 presents new evidence on unemployment. Section 8 provides evidence on the impact of unemployment on health and wellbeing. Section 9 concludes.

2. Rising unemployment

We set the context by looking at the main changes that take place in the UK labour market between 2008 and early 2010. These are set out in table 1. A number of key developments are apparent:

- Employment fell by 580,000 between the beginning of 2008 and early 2010. Nevertheless, this was not as large a decline in employment as in the 1980s recession, when it fell by 1.6 million between November 1980 and May 1983. And in the recession of the early 1990s, employment fell by 1.7 million between May 1990 and February 1993.

- The decline in employment is more concentrated among men. Male employment has fallen by 3 per cent while that of women has only fallen by 0.7 per cent. The decline in male employment accounts for 84 per cent of the overall fall in employment. However, this is not uncharacteristic of UK recessions. Falling male employment accounted for 78 per cent of employment losses in the recession of the early 1980s, and 81 per cent of job reductions in the early 1990s recession.

- The young have also suffered disproportionately. Although they comprise only 19.5 per cent of the UK working age population, 74 per cent of the decline in employment has been among those aged 16 to 24. Consistent with the overall gender bias in job losses, males account for 44 per cent of the decline and females for 30 per cent. By contrast, employment *increased* by 173,000 among men and women over pension age.

- Data on redundancies show that at their peak, in 2009 Q1, the redundancy rate for those aged 16–24 was 17.7 per thousand workers, compared with 11.8 for the population as a whole.[1] Throughout the recession, redundancy rates among the young have exceeded those of other age groups.

- While full-time employment has declined, there have been offsetting increases in other forms of employment. Self-employment has increased by 91,000, while the number of temporary workers, who say they could not find permanent jobs, increased by 200,000. The number of part-time workers who say they cannot find full-time jobs increased by 400,000.

- Over the course of the Great Recession in the UK, the

Table 1. Changes in the UK labour market since the start of the recession, thousands

	2008	2009	2010	Δ2008–10
Working age population	37,699	37,885	38,065	+366
Activity rate =(U+E)/P	63.6%	63.5%	63.2%	
Employed	29,564	28,989	28,984	–580
Emp. rate (E/P)	74.9%	72.9%	72.3%	
16–17	546	452	392	–154
16–17 emp. rate	34.4%	29.0%	25.8%	
18–24	3,701	3,476	3,425	–276
18–24 emp. rate	64.8%	60.0%	58.7%	
Men	15,972	15,550	15,483	–489
Women	13,592	13,439	13,501	–91
Full–time	22,075	21,449	21,166	–909
Part–time	6,408	6,426	6,634	226
Employees	25,490	24,954	24,838	–652
FT	19,083	18,527	18,205	–878
PT	6,408	6,426	6,634	+226
Self–employed	3,841	3,838	3,932	+91
FT	2,924	2,873	2,910	–14
PT	917	965	1,023	+106
Temporary workers	1,424	1,412	1,539	+115
Could not find permanent job	357	418	552	+195
PT because no FT available	666	934	1,067	+401
Total hours worked (millions)	944.1	918.4	911.4	
Unemployed	1,611	2,376	2,468	+857
Unemployment rate (U/U+E)	5.2%	7.6%	7.8%	
16–17	184	202	216	32
18–24	494	723	707	+213
25–49	702	1,089	1,156	+454
50+	230	362	389	+159
16–17 unemp. rate	25.2%	30.8%	35.6%	
18–24 unemp. rate	11.8%	17.2%	17.1%	
25–49 unemp. rate	3.9%	6.0%	6.3%	
50+ unemp. rate	2.8%	4.4%	4.6%	
% unemployed >12 months	25.0%	22.5%	31.9%	
Inactive (OLF)	7,864	7,917	8,097	+233
Inactivity Rate (I/P)	20.9%	20.9%	21.3%	
Student	1,942	2,110	2,254	+312
LT sick	2,020	1,996	2,075	+55
Does not want a job	5,709	5,796	5,815	+106
Wants a job	2,155	2,120	2,282	+127

Source: ONS and 'Labour market statistics', July 2010. Notes: EPOP is the employment to population ratio. Data are March–May averages.

unemployment rate rose from 5.2 per cent to 7.8 per cent. The number of unemployed increased by 857,000, exceeding the fall in employment by more than 200,000. This is due to people, particularly the young, moving from inactivity directly to unemployment.

- The unemployment rate of young people is extremely high, at 35.6 per cent for 16–17 year olds, and 17.1 per cent for 18–24 year olds. There has also been a marked drop in the employment to population rates (EPOP) of the young.

- The inactivity rate has risen, which implies a discouraged worker effect. In part this also reflects an increase in the number of students, but also an increase in the number of people who are inactive but 'want a job'.

Table 2 puts the UK unemployment rates into international context.

- The UK unemployment rate of 7.8 per cent puts it in the middle of the pack. It is well below countries such

Table 2. International comparisons of unemployment rates, May 2010

	All	Male	Female	Under 25s	Ratio <25/all
EA16	10.0	9.9	10.2	19.9	1.99
EU27	9.6	9.7	9.5	20.5	2.14
Austria	4.0	3.9	4.2	9.5	2.38
Belgium	8.6	8.2	9.0	23.8	2.77
Bulgaria	9.7	10.4	9.0	22.5	2.32
Cyprus	7.2	7.2	7.1	18.4	2.56
Czech Republic	7.5	6.5	8.7	19.4	2.59
Denmark	6.8	7.9	5.5	12.4	1.82
Estonia	19.0	23.8	14.4	39.8	2.09
Finland	8.6	9.6	7.6	22.2	2.58
France	9.9	9.6	10.2	22.6	2.28
Germany	7.0	7.6	6.4	9.4	1.34
Greece	11.0	8.3	14.8	29.5	2.68
Hungary	10.4	10.6	10.2	24.5	2.36
Ireland	13.3	16.8	8.9	26.5	1.99
Italy	8.7	7.7	10.1	29.2	3.36
Japan	5.2	5.5	4.8	n/a	n/a
Latvia	20.0	24.6	15.5	39.7	1.99
Lithuania	17.4	22.2	12.6	34.4	1.98
Luxembourg	5.2	4.3	6.4	15.8	3.04
Malta	6.7	6.7	6.7	14.9	2.22
Netherlands	4.3	4.4	4.2	8.1	1.88
Norway	3.7	4.0	3.1	9.8	2.65
Poland	9.8	9.4	10.3	23.5	2.40
Portugal	10.9	9.9	12.0	22.1	2.03
Romania	7.4	8.0	6.5	20.9	2.82
Slovakia	14.8	14.4	15.2	35.1	2.37
Slovenia	7.1	7.1	7.0	12.8	1.80
Spain	19.9	19.7	20.2	40.5	2.04
Sweden	8.8	8.9	8.6	25.9	2.94
UK	7.8	8.9	6.6	19.7	2.53
USA	9.7	10.5	8.8	18.1	1.87

Source: Eurostat.
http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-02072010-AP/EN/3-02072010-AP-EN.PDF

as Latvia and Spain with rates around 20 per cent but well above Austria (4.0 per cent), the Netherlands (4.3 per cent), Norway (3.7 per cent) and Japan (5.2 per cent).

- Even though male rates are higher than female rates in the UK, this pattern is not repeated everywhere. In eleven countries female rates are higher than male rates (e.g. Austria, Belgium, France, Italy, Greece, Portugal and Spain).

- Youth unemployment rates in the UK are especially high, particularly in relation to overall rates, with a ratio of youth to adult rates of 2.53. This is higher than the vast majority of countries, with the major exceptions being Belgium (2.77), Greece (2.68), Italy (3.36) and Sweden (2.94).

The concern is that unemployment will start to rise rapidly if this coalition government goes ahead with its misguided plans to cut public spending and raise taxes. More on that below.

3. What are the characteristics of the new unemployed?

Another key comparison with past recessions is how the incidence of unemployment is distributed across the population. Historically, the unemployed have been concentrated in particular regions or industries; it has fallen most heavily on particular groups in society such as the young, the old, those with a non-white ethnic background and those whose partner was not working. Are these patterns being repeated in this recession? Some trends are emerging in the claimant count unemployment data that are already worthy of comment.

Because recessions influence the components of demand differently, their effects are rarely uniform across industrial sectors. Thus, if investment falls more rapidly than other components of demand, the construction and investment goods industries are likely to be more affected than other sectors. Since industries are not uniformly distributed across the country, particular regions and localities will experience a more rapid rise in unemployment than elsewhere. In this section, we examine the incidence of unemployment categorised by age, region, ethnicity and household composition.

Micro-data at the level of the individual are used, drawn from separate Labour Force Surveys for 1984, 1993 and 2006–10 up to March. Initially we focus on the most current unemployment rates. Below are the weighted rates (per cent) by sub-group for the period January 2009 – March 2010. Youth rates (18–24) are generally more than double the overall rates.

It is apparent that unemployment rates decline with age, are higher among men, minorities and the least

Table 3. Characteristics of the new unemployed

	All ages	16-24 yrs		All ages	18-24 yrs
Overall	7.7	19.2	Rest of North	7.6	19.8
Male	8.7	22.1	South Yorkshire	9.6	21.7
Female	6.5	16.0	West Yorkshire	9.0	19.7
White	7.1	18.1	Rest Yorks/Humber	8.1	20.0
Black	17.3	38.6	East Midlands	7.3	17.7
Asian	11.5	28.9	East Anglia	6.1	17.7
No qualifications	14.9	40.6	Inner London	9.5	25.4
Apprenticeship	11.6	15.0	Outer London	8.6	21.0
O-level	9.7	21.7	Rest of South East	6.2	16.4
ONC/OND	8.7	15.8	South West	6.2	16.1
A-level	7.1	13.4	West Midlands	12.7	29.5
HNC/HND	5.1	12.3	Rest West Midlands	7.0	18.4
Degree	3.9	13.2	Greater Manchester	9.5	21.0
First	4.1	12.8	Merseyside	9.4	25.0
IIi	3.8	11.6	Rest of North West	7.2	18.4
IIii	4.4	14.5	Wales	8.4	21.5
III	5.2	18.6	Strathclyde	8.4	17.0
Pass	2.9	6.2	Rest of Scotland	6.4	16.6
Higher degree	3.2	10.4	Northern Ireland	6.6	16.6
Tyne & Wear	11.0	25.7			

Source: Labour Force Survey.

Table 4. Distribution of highest education qualifications, 2008, per cent

	Employed	Unemployed
Degree or equivalent	15	9
Higher education	5	3
A level	36	24
O-level	31	37
Other qualifications	8	14
No qualifications	5	13

Source: Labour Force Survey.

Table 5. Distributions of the current occupations of the employed and the last occupation of the unemployed, 2008, per cent

	Current workers	Unemployed	Unemployed age <25
Managers and senior officials	16	8	2
Professional occupations	14	5	1
Associate professional and technical	15	9	6
Administrative and secretarial	11	14	8
Skilled trades occupations	11	6	12
Personal service occupations	9	11	7
Sales and customer service occupation	7	11	20
Process, plant and machine operatives	7	11	7
Elementary occupations	11	25	36

Source: Labour Force Survey.

educated. Unemployment rates for 18–24 year olds are lower the higher the class of degree obtained and especially so for those with a first. Unemployment is especially prevalent among those aged 16–24 who do not have any qualifications. Youth unemployment rates are highest in the regions that have the highest overall rates of unemployment (West Midlands, Merseyside, South Yorkshire, Wales and Inner London) and *vice versa*. The distribution of highest education qualifications (per cent) in 2008 is reported in table 4.

The employed are more highly educated but what stands out is that just over a third of the unemployed have A-levels or higher. This contrasts sharply with 1984 when, based on our examination of the LFS, at that time more than half of the unemployed had no qualifications while only 2 per cent of the unemployed had a degree or higher degree.

The current downturn is not just a blue-collar recession. This is confirmed when one looks at the occupation distributions. In table 5 we report the distributions (per cent) of the current occupations of the employed and the last occupation of the unemployed in 2008. Note that one fifth of the unemployed (21 per cent) had not had an occupation in the preceding eight years, and these are excluded from the distribution. We are struck by the differences in the distributions; the unemployed are more likely to be from the least skilled occupations.

If we examine the most recent data on the reduction in workforce jobs, it is apparent that there has been a decline in the numbers employed in Finance, Business and Services and Distribution, Hotels and Restaurants. A puzzle in the data is the fact that there has been no contraction in the numbers working in construction. This may in part be explained by the fact that approximately 40 per cent of the most recent increase in unemployment is from the self-employed who disproportionately work in construction. In the LFS the unemployed report their last industry and the distributions are in table 6, for those who have ever worked (per cent) alongside the employed for 2008. The puzzle is also there in the unemployment data because the construction industry proportion seems low. The important role played by migrants in this sector and the extent to which they are adequately sampled in the LFS may also contribute to an explanation.

A comparison of how unemployment rates have changed over time are reported in table 7 in the first row using

Table 6. Distribution of last industry worked by unemployed and employed, 2008, per cent

	Employed	Unemployed
Agriculture, hunting & forestry	0.7	1.3
Mining, quarrying	0.4	0.3
Manufacturing	10.7	14.7
Electricity gas & water supply	0.7	0.7
Construction	7.7	13.4
Wholesale, retail & motor trade	14.0	18.1
Hotels & restaurants	4.6	9.3
Transport, storage & communication	6.3	6.8
Financial intermediation	4.0	3.3
Real estate, renting etc	12.5	13.3
Public administration & defence	7.1	2.9
Education	10.3	4.3
Health & social work	13.7	6.2
Other community, social & personal	5.7	5.3
Private households with employed persons	0.2	0.2
Extra-territorial organisations	0.1	0.1

Source: Labour Force Survey.

Table 7. Unemployment rates 1984–2010

	1984	1993	2007	2008	2009/10
Overall	11.8	10.4	5.3	5.8	7.7
Degree	4.2	4.5	2.5	2.9	3.9
O-level	9.4	9.8	6.3	6.5	9.8
No qualifications	13.9	14.6	10.2	10.6	14.9
16-17	21.3	24.0	26.4	25.5	32.0
18-24	18.0	17.6	12.1	12.9	17.4
Black	20.8	27.2	12.2	12.5	17.3
Asian	19.3	20.2	9.6	9.8	11.5
Black<25 yrs of age	31.5	44.9	33.7	33.4	38.6

Source: Labour Force Survey.

ONS data. The remaining rows report on the changing characteristics based on the (unweighted) means from our LFS data files. The earlier two years of 1984 and 1993 were chosen, as these were the high points of unemployment in earlier cycles and thus the depth of the two prior recessions and hence provide a useful basis for comparison.[2]

The main points that stand out are that unemployment is higher among the less educated, the young and blacks and especially young blacks. That pattern is consistent in each of the years. Unemployment starts to rise for all groups in 2008. Unemployment for blacks was considerably worse in 1984 and 1993. Somewhat surprisingly the unemployment rate of young blacks in 2009/10 is higher already than in 1998. This is worrying.

4. Causes of unemployment

The orthodox explanation of unemployment that argues that institutions matter (Layard *et al.*, 2005; Nickell, 2006) has been subject to fairly extensive econometric testing and, in recent years, the validity of the empirical results supporting this view has been called into question. It has proved difficult to estimate a set of cross-country panel unemployment regressions that contain a lagged unemployment rate and a full set of year and country dummies and show that any of the labour market rigidity variables work. This is the first main similarity between European labour markets; labour market institutions do not tend to cause unemployment.

The major exception is changes in the replacement rate, which, in some specifications, do appear to be negatively correlated with changes in the unemployment rate. Blanchard and Wolfers (2000) have argued that "the interaction of shocks and institutions does a good statistical job of fitting the evolution of unemployment both over time and across countries". This result is questionable because it is obtained in an over-fitted model – few data points and lots of variables – and the results appear to be driven by the cross-section variation rather than by any time series changes. There are only eight time series data points as they use five-year averages from 1960–95.

The increase in unemployment we have observed in the UK over the past year or so is not due to decreases in labour market flexibility. It is not that frictions in the market have increased; rather, there has been a collapse in the demand for labour as product demand has fallen, which in turn reflects severe credit rationing, falling consumer confidence, responses to transitory shocks in raw materials prices and delayed response by monetary authorities to these developments. None of these issues directly impinge on the labour market or on the extent to which institutional arrangements affect its efficiency.

5. The consequences of unemployment?

The major reasons cited in the literature for why we care about unemployment are as follows:

1) Because of the lost output involved. During a long period of unemployment, workers can lose their skills, causing a loss of human capital.

2) Unemployment is a stressful life event that makes people unhappy (Winkelmann and Winkelmann, 1998; Clark and Oswald, 1994; Frey and Stutzer, 2002; Ahn *et al.*, 2004).

3) Unemployment increases susceptibility to malnutrition, illness, mental stress, and loss of self-esteem, leading to depression (Linn *et al.*, 1985; Frese and Mohr, 1987; Jackson and Warr, 1987; Banks and Jackson, 1982; Darity and Goldsmith, 1996; Goldsmith *et al.*, 1996; Brenner and Mooney, 1983). Goldsmith *et al.* (1996, 1997) found, for example, using data from the NLSY, that being jobless injures self-esteem and fosters feelings of externality and helplessness among youths. Moreover, they also found evidence that the psychological imprint of joblessness persists.

4) Increases in the unemployment rate tend to be associated with increases in the suicide rate (Platt, 1984; Pritchard, 1992; Blakeley *et al.*, 2003; Hamermesh and Soss, 1974; Daly *et al.* 2008). The unemployed appear to have a higher propensity to commit suicide.

5) Being unemployed can also reduce the life expectancy of workers (Brenner and Mooney, 1983; Moser *et al*., 1987, 1990).

6) Unemployment increases the probability of poor physical health outcomes such as heart attacks in later life (Beale and Nethercott, 1987; Iverson and Sabroe 1988; Mattiasson *et al*., 1990).

7) The long-term unemployed are at a particular disadvantage trying to find work (Machin and Manning, 1999). The effects of unemployment appear to depend a lot on how long the person has been unemployed for. People's morale sinks as the duration of unemployment rises. Long-term unemployment is especially harmful. "The long-term unemployed have largely given up hope" (Layard, 1986, p.96).

8) Unemployment while young, especially of long duration, causes permanent scars rather than temporary blemishes (Ellwood, 1982).

9) As unemployment rates increase, crime rates tend to rise, especially property crime. Thornberry and Christensen (1984), for example, find evidence that a cycle develops whereby involvement in crime reduces subsequent employment prospects which then raises the likelihood of participating in crime. Fougere *et al*. (2006) find that increases in youth unemployment cause increases in burglaries, thefts and drug offences. Hansen and Machin (2002) find a statistically significant negative relationship between the number of offences reported by the police over a two-year period for property and vehicle crime and the proportion of workers paid beneath the minimum before its introduction. Hence, there are more crime reductions in areas that, initially, had more low wage workers.

Falk and Zweimuller (2005) find a significant positive relation between unemployment and right-wing criminal activities. Carmichael and Ward (2001) found in Great Britain that youth unemployment and adult unemployment are both significantly and positively related to burglary, theft, fraud and forgery and total crime rates. For each of these offence categories the relationship between youth unemployment and the specific crime was found to be somewhat stronger. Carmichael and Ward (2000) found that there is a systematic positive relationship between burglary rates and male unemployment regardless of age.

Unemployed people, it turns out, are more likely than other people to be the *victims* of crime. Unemployed people are more than twice as likely to be the victims of violent crime as employed people; they are also more at risk of burglary, theft from the person and at greater risk of vandalism and vehicle theft.

10) Increases in the unemployment rate lower the happiness of everyone, not just the unemployed. The fear of becoming unemployed in the future lowers a person's subjective wellbeing (Di Tella *et a*l., 2001, 2003; Blanchflower, 2007; Knabe and Rätzel, 2008).

We deal in more detail with a number of these issues below. In particular we look at the health and well-being of the unemployed and how increases in the aggregate unemployment rate lower national well-being. First, we re-examine the youth labour market.

6. More on the youth labour market

The majority of measured youth unemployment in the UK primarily relates to 18–24 year olds (the young) rather than to 16–17 year olds (the very young). For example, in March–May 2010 there were 216,000 unemployed 16 and 17 year olds compared with 707,000 18–24 year olds. There were 416,000 claimants in June 2010 who were 18–24 but none who were 16–17 as they are not eligible to claim unemployment benefits. The representation of youngsters under the age of twenty five among the unemployed is much greater than their representation in the overall population.[3]

The unemployed ages 18–24 have occupied a rising share of overall unemployment since the turn of the millennium. As can be seen from table 8, between 1993 and 2004 we saw declining rates of unemployment overall, and for the young, but since then their unemployment rate has been rising. Moreover, their share of unemployment has risen steadily from 21.7 per cent in 1999 to 30.8 per cent in 2009 but then fell back slightly in 2010.

A particular concern is also that youth unemployment rates are high for racial minorities. As we noted above, black unemployment rates ages 18–24 were 26.3 per cent and for Asians were 21.3 per cent. The rate for those without qualifications in the 2008 LFS was also high at 28.9 per cent and 47.4 per cent for young blacks, 30.0 per cent for young whites and 38.3 per cent for Asians respectively, without qualifications. We have special concerns regarding the employment prospects of these young people without qualifications – the disadvantaged young – going forward.

Table 8. Youth unemployment and its share of overall unemployment 1993–2010

	Unemployment rate	18–24 unemployment rate	18–24 as % overall
1993	10.4	17.5	25.0
1994	9.5	16.3	23.9
1995	8.6	15.0	23.1
1996	8.1	14.3	22.7
1997	6.9	12.9	22.3
1998	6.3	12.0	22.8
1999	6.0	11.2	21.7
2000	5.4	10.6	22.4
2001	5.1	10.4	23.9
2002	5.2	10.5	23.8
2003	5.1	10.6	24.8
2004	4.8	10.4	26.2
2005	4.9	11.0	27.8
2006	5.4	12.2	27.7
2007	5.3	12.3	28.3
2008 March–May	5.2	11.8	30.7
2009 March–May	7.6	17.2	30.8
2010 March–May	7.8	17.1	28.7

Source: Office of National Statistics, *Economic and Labour Market Review*, July 2010.

Table 9. Rise in size of youth cohort

	Total UK population ('000s)	No. of 16–24 year olds ('000s)	16–24 as % of total
1981	56,357	8,079	14.3
1986	56,684	8,332	14.7
1991	57,439	7,491	13.0
1996	58,164	6,495	11.2
2000	58,886	6,383	10.8
2001	59,113	6,504	11.0
2002	59,323	6,632	11.2
2003	59,557	6,785	11.4
2004	59,846	6,960	11.6
2005	60,238	7,099	11.8
2006	60,587	7,221	11.9
2007	60,975	7,368	12.1

Source: *Population Trends*, 134, Winter 2008, Table 1.4.

Part of the explanation for the rise in youth unemployment in the UK has been the recent rise in the size of the youth cohort. This is illustrated in table 9.

From 1980 to 2000 the absolute and relative size of the youth cohort shrank. However, since 2000 the size of the youth cohort – the children of the baby boomers – has grown steadily, from 6.4 million (10.8 per cent of the population) in 2000 to 7.4 million (12.1 per cent) in 2007. The growth of the 16–24 cohort has only recently been faster than the overall growth in the population. The number of 16–24 year olds in 2007 is still around seven hundred thousand less than the number in 1981 (8.1 million). However, the growth of the age 16–24 cohort is a temporary phenomenon. It will start to decline in absolute and relative size from 2009 onwards as the larger older cohorts drop out and the younger smaller ones are added. For example, in 2009 there are approximately 825,000 24 year olds (age 21 in 2006) who will drop out and will be replaced by 749,000 15 year olds (aged 12 in 2006) so the cohort will shrink by around 75,000. Analogously, it will drop by a similar number the next year.

Of particular concern is the high proportion of young people in the UK who are either not in education employment or training (NEET) or not in education and training (NET). In 2009 Q4 there were 895,000 of those aged 16–24 years classified as NEET (http://www.dcsf.gov.uk/rsgateway/DB/STR/d000913/NEETQBQ42009final.pdf). Low-skilled youths who become NEET find it more difficult to re-engage in employment and learning than 16–24 year olds on average and there is evidence that they may become trapped in NEET. Godfrey *et al.* (2002) estimated the costs of being NEET for the Department for Education and Skills. They considered social costs as well as public finance costs over the current, medium and long term. These included estimates of the costs of educational underachievement, unemployment, inactivity, crime and health. The authors were not able to make estimates of the costs of the lowering of the skills base and hence their findings may underestimate the full costs. Their major finding was that the 157,000 NEETs aged 16–18 present in the UK population in 1999 would accrue additional lifetime costs of around £7bn (2001 prices) in resource terms and £8.1bn in additional public spending. The *per capita* equivalents are £45,000 in resource costs and £52,000 in public finance costs.

It is also notable that the proportion of the young who are in full-time education has increased over time. This has increased from 26 per cent in 1993 to 38 per cent in 2007. It is apparent though that the proportion is still well below that of many other countries. It is also clear that working while in school is becoming a more important part of school-to-work transition than the traditional model of school, then work. Data available from the OECD suggest that the proportion of the young who are in school is considerably higher in, for example, Belgium (60 per cent); Finland (56 per cent); France (61 per cent), Italy (57 per cent); Luxembourg (69 per cent) and Sweden (57 per cent).

One response to rising unemployment on the part of youth has been to return to full-time education (Blanchflower and Freeman, 2000; Rice, 1999). Indeed, there has been a dramatic increase in the number of applications to university in the UK since the onset of recession. UCAS data suggest the number of applications have increased by 70,000 (11.6 per cent) in 2010 on the previous year, with an increase of 16 per cent from those aged 21–24.

The OECD (2008b) recently also noted that, even before the slowing of the UK labour market in the spring of 2008, a variety of indicators of youth performance between 2005 and 2007 do paint a more mixed picture. On the one hand, they noted that the youth employment rate is 12 percentage points higher than in the OECD on average and long-term unemployment has decreased by over 7 percentage points over the past decade. The young in the UK are less likely to be in temporary work but more likely to be part time than in the OECD as a whole. Dropout rates continue to be below the OECD average. Low-paid employment is still common among youth but its persistence has halved since the early 1990s. On the other hand, the OECD report a number of problems related to youth labour market performance.

There is a considerable body of evidence suggesting that the young, the least educated and especially minorities are hardest hit in a recession (Blanchflower and Freeman, 2000; Freeman and Wise, 1982). Youth unemployment rates continue to be more sensitive to business-cycle conditions than the adult unemployment rate, as many studies have shown (OECD, 2008a). Young unskilled men from minority groups are thus particularly hard hit. This is true around the world.

Clark and Summers (1982), in their classic study of the dynamics of youth joblessness, argue that the problem of teenage unemployment arises from a shortage of jobs. "Aggregate demand has a potent impact on the job prospects and market experience of teenagers" (1982, p. 230). Freeman and Wise (1982) found in their study of youth joblessness in the 1970s that it was concentrated, by and large, among a small group who lacked work for extended periods of time. Over half of the male teenage unemployment they examined was among those who were out of work for over six months, a group constituting less than 10 per cent of the youth labor force and only 7 per cent of the youth population. The youths who make up the relatively small group that was chronically without work, Freeman and Wise reported had distinct characteristics. They were disproportionately black; disproportionately high school dropouts, and disproportionately residents of poor areas.

Blanchflower and Freeman (2000) identified one basic pattern in the job market for young workers: the disproportionately large response of youth employment or unemployment to changes in overall unemployment. They argued that the sensitivity of youth employment and unemployment to the overall rate of unemployment dominate sizable demographic and structural changes favourable to youth in determining how youths fare in the job market. This was also confirmed in Blanchflower and Freeman (1996) and Makeham (1980). Recently OECD (2008a) confirmed this conclusion; "Youth unemployment rates are more sensitive to business-cycle conditions than the adult unemployment rate and this high-sensitivity tends to decline progressively with age".

There is also evidence that young people do especially well in booms. Freeman and Rodgers (1999) analysed the 1990s boom in the United States and found that it substantially improved the position of non-college educated young men, especially young African Americans who are the most disadvantaged and troubled group in the US. Young men in tight labour markets experienced a substantial boost in both employment and earnings. Adult men had no gains and their earnings barely changed even in areas where unemployment rates were below 4 per cent. Youths did particularly well in areas that started the boom at lower jobless rates suggesting they would "benefit especially from consistent full employment" (Freeman and Rodgers, 1999, p.2).

As unemployment amongst the young goes down and the attractiveness of work increases, because there are more jobs and better paying jobs out there, it becomes a virtuous cycle. Freeman and Rodgers found evidence that once that occurred in the US the crime rate dropped. Increase aggregate demand and youths, especially disadvantaged youths, seem to do best.

There has been considerable interest in the possibility that youths have priced themselves out of jobs. Wells (1983) examined the relative pay and employment of young people for the period 1952–79. During the earlier period the pay of boys as a percentage of that of men increased from 42.0 in 1952 to 46.9 in 1969 and for girls to men it fell from 34.0 to 32.4. However, during the period 1969–81 the boys to men ratio rose from 46.9 to 56.2 while the girls to men ratio increased from 32.5 to 40.4. Econometric analysis confirmed the finding and found that the pay and employment of young people

under the age of 18 for the period 1969–81 "appears to have been reduced by increases in their relative earnings relative to the average earnings of adults....No such effect could be found for the period 1952–1969" (p.1).

Subsequently the relative earnings of youths have declined steadily. OECD (1986) found that from the 1970s through the early 1980s the earnings of youths fell relative to the earnings of adults in several countries. The finding that youths were overpriced relative to adults has not been replicated in subsequent periods, as youth relative wages have fallen steadily. Blanchflower and Freeman (2000) examined the relative earnings of youths aged 16–19 and 20–24 to those of adults in eleven OECD countries (Australia, Canada, Denmark, France, Germany, Italy, Japan, Norway, Sweden, the United Kingdom and the United States) and found that there were declines in the relative earnings of the young throughout the 1990s in each of these countries except Sweden, despite the fact that the size of the youth cohort was shrinking. O'Higgins (1997) also concluded that there was no close relationship between the relative wages of youths and their unemployment rates. "Indeed, the impression is that, more often than not, unemployment and relative wage rates appear to be moving in opposite directions to each other".

The finding that the relative pay of the young has continued to decline over the past decade or so is confirmed in table 10 using data from Annual Survey of Hours and Earnings (ASHE) – previously the New Earnings Survey (NES). Gross hourly earnings of 18–21 year olds are compared to overall earnings and adults age 40–49 for the period 1997–2008. It is clear that the relative earnings of the young have fallen steadily since 1997 when the youth share of total unemployment started to rise.

Table 10. Gross hourly earnings of 18–21 years olds compared with overall earnings and adults age 40–49, 1997–2008

	18–21/total (per cent)	18–21/40–49 years (per cent)
2009	51.3	45.5
2008	51.8	45.8
2007	52.5	46.6
2006	51.3	45.3
2005	51.1	45.0
2004	52.0	46.2
2003	52.6	46.2
2002	52.8	47.6
2001	53.7	48.4
2000	53.7	47.8
1999	55.6	49.6
1998	54.6	48.5
1997	54.9	48.6

Source: ASHE.
http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=13101&Pos=1&ColRank=1&Rank=208

Table 11. Youth (20–24) earnings relative to adult earnings in the OECD

	2006	1996
Australia	0.73	0.74
Canada	0.64	0.62
Denmark	0.65	0.72
Finland	0.68	0.70
Germany	0.61	0.62
Ireland	0.67	0.61
Japan	0.60	0.62
New Zealand	0.75	0.75
Sweden	0.68	0.73
UK	0.60	0.68
USA	0.57	0.58
OECD	0.64	0.67

Source: OECD.

OECD (2008a) presented evidence on youth (20–24) earnings relative to adult earnings across countries. The evidence is presented below and suggests that a) this ratio in the UK has fallen over time and b) now is below the OECD average but was above it in 1996.

Such evidence there is that the high relative wages of the young are responsible for pricing them out of jobs comes only from the 1970s. Interestingly, that is the period of most rapid increase in union activity. Union membership peaked in the 1970s with union density – the proportion of workers who are members of trade unions – at a little over 50 per cent (Lindsay, 2003). Since that time union membership numbers and density rates have fallen. In 2007 union density in Great Britain had fallen to 25 per cent. In the same year the union density rate for private sector employees fell to 15.9 per cent. Unions generally operate rates for the job, which would have the effect of raising the relative wages of the young, and hence making them relatively less attractive, and then lowering their employment. Union membership rates among the young in the UK are especially low. Blanchflower (2007) shows, using data from the Labour Force Survey, the union density rate for 16–19 year olds in 2004 was 4.3 per cent. In 2007 the union density rates for 16–24 year olds was 9.8 per cent (Mercer and Notley, 2008, Table 25). It does not appear that youths are pricing themselves out of work currently, unless their

relative productivity is falling especially sharply, but we have no evidence to suggest that this is the case.

A further possibility is that the introduction of the National Minimum Wage, which was introduced in 1997, might have reduced employment of the young. There is little or no evidence to sustain that claim either (Metcalf, 2008; Dickens and Draca, 2005; Dickens and Manning, 2003; Stewart, 2002a, b, 2004). There is a little evidence to suggest that the influx of workers, who were generally working in less skilled jobs, from the ten Accession countries did have some negative impact in the period since 2004 on the employment of the least skilled young people (Blanchflower and Shadforth, 2009; Nickell and Saleheen, 2008). But these effects are usually insignificant or, when significant, quite small.

In an important early contribution Ellwood (1982) examined the persistence and long-term impacts of early labour force experiences. The paper reports a rise in employment rates for a cohort of young men as they age, but points out that those persons with poor employment records early have comparatively poor records later. The paper found that the effects of a period without work do not end with that spell. A teenager who spends time out of work in one year will probably spend less time working in the next than he would have had he worked the entire year. Furthermore, the lost work experience Ellwood concluded was reflected in considerably lower wages. The reduced employment effects Ellwood examined appeared to die off very quickly. What appeared to persist were effects of lost work experience on wages.

More recently Mroz and Savage (2006) reached a similar conclusion using data from the NLSY for the US and also found evidence of long-lived blemishes from unemployment. A six month spell of unemployment at age 22 would result in an 8 per cent lower wage at 23 and even at ages 30 and 31 wages were 2–3 per cent lower than they otherwise would have been. Fairlie and Kletzer (1999), also using data for the US, estimate that for young unemployed workers the costs of job loss in terms of annual earnings are 8.4 per cent and 13.0 per cent, for boys and girls, respectively.

Gregg and Tominey (2005) found, using data from the NCDS for the UK, that there was a significant wage penalty of youth unemployment even after controlling for education, region and a wealth of family and personal characteristics. Their results suggested a scar from youth unemployment of 13–21 per cent age 41 although this penalty was lower at 9–11 per cent if individuals avoid repeat exposure. Gregg (2001) also used NCDS data to show that unemployment experience up to the age of 23 drives unemployment in subsequent years.

Arulampalam (2001) found that joblessness leaves permanent scars on people and reduces both the probability of future employment and the level of future earnings and increases the risk of future unemployment. She found that a spell of unemployment carries a wage penalty of 6 per cent upon re-entry in Britain, with the penalty rising to 14 per cent after three years. Arulampalam *et al*. (2000) also found evidence of unemployment persistence, especially for young men.

Narendranathan and Elias (1993) also find evidence of state dependence and report that "the odds of becoming unemployed are 2.3 times higher for youths who were unemployed last year than for youths who were not unemployed" (p.183). Arulampalam *et al*. (2001) report that the best predictor of an individual's future risk of unemployment is his past history of unemployment. They find that unemployment has a scarring effect for both future unemployment and future earnings. In addition Burgess *et al*. (2003) find that unemployment while young raises the probability of subsequent unemployment, but the size of any effect varies by skill level.

Bell and Blanchflower (2010) show, using data from the National Child Development Study to examine four outcomes in 2004/5 when the respondents were aged 46–47 years, a) life satisfaction b) self-reported health status and two for workers only c) job satisfaction and d) (log of) gross weekly wages in 2004/5 in NCDS7. The issue is whether a period of unemployment when young has lasting effects; it turns out that it does. Spells of unemployment before the respondent was 23 lowered life satisfaction, heath status, job satisfaction and wages over twenty years later.

There is new evidence that even youngsters who choose to go to college or university are hurt if they enter the labour market during a recession. Lisa Kahn (2010) has recently shown that the labour market consequences of graduating from college in a bad economy have large, negative and *persistent* effects on wages. Lifetime earnings are substantially lower than they would have been if the graduate had entered the labour market in good times. Furthermore, cohorts who graduate in worse national economies tend to end up in lower-level occupations.

Work by Giuliano and Spilimbergo (2009) suggests that the period of early adulthood (between 18 and 25) seems to be the age range during which people are more sensitive to macroeconomic conditions. They found that being exposed to a recession before age 17 or after age 25 has no impact on beliefs about life chances. However, youngsters growing up during recessions tend to believe that success in life depends more on luck than on effort; they support more government redistribution, but have less confidence in public institutions. Recessions seem to affect adversely youngsters' beliefs.

There is also recent evidence on the consequences of rising unemployment on young people from the UK. The Prince's Trust, which was established by the Prince of Wales, conducted a survey of two thousand young people in December 2009. In comparison with other young people, the young unemployed were found to be significantly more likely to feel ashamed, rejected, lost, anxious, insecure, down and depressed, isolated and unloved. They were also significantly less happy with their health, friendships and family life than those in work or studying, much less confident of the future and more likely to say that they had turned to drugs, that they had nothing to look forward to and that their life had no direction. And many reported having suicidal thoughts (Blanchflower, 2010).

7. Empirical estimates of the probability of being unemployed

We now turn to examine recent econometric evidence on unemployment in the UK. For purposes of comparison it makes sense to start out with the characteristics of the unemployed in previous recessions. Column 1 of table 12 is for 1984 and column 2 for 1993. In both cases the marginal rather than average effects from an estimated probit model are reported. The marginal effect is the change in the probability for an infinitesimal change in each independent, continuous variable and, by default, reports the discrete change in the probability for dummy variables. We are modelling the probability that a member of the labour force (unemployed or working) will be unemployed conditional on their characteristics. The probability of being unemployed was especially high, in both 1984 and 1993 among the young, men, blacks and Asians, the foreign born, the least educated and those living in Tyne and Wear and Merseyside.

Table 13 repeats the exercise presented in table 12, but now with the most recent data available. As in the two previous recessions in the 1980s and 1990s, there are broad similarities. Unemployment is high among the young, men,

Table 12. Probability of being unemployed, marginal effects, 1984 and 1993 (ages 16–64)

	1984	1993
Age 16–17	0.1552 (16.71)	0.1788 (35.60)
Age 18–24	0.1331 (23.49)	0.1196 (43.51)
Age 25–29	0.0766 (13.44)	0.0505 (20.01)
Age 30–34	0.0425 (7.90)	0.0308 (12.65)
Age 35–39	0.0086 (1.76)	0.0183 (7.60)
Age 45–49	–0.0164 (3.36)	–0.0075 (3.32)
Age 50–54	–0.0204 (4.12)	0.0034 (1.36)
Age 55–59	–0.0063 (1.21)	0.0143 (5.21)
Age 60–64	–0.0027 (0.39)	0.0029 (0.91)
Male	0.0115 (5.05)	0.0437 (38.59)
Black	0.0789 (6.50)	0.1329 (24.64)
Asian	0.0612 (6.12)	0.0556 (13.13)
Chinese	–0.0348 (1.55)	–0.0158 (1.53)
Other race	0.0919 (5.97)	0.0753 (11.19)
UK born	–0.0248 (4.37)	–0.0127 (5.12)
Higher degree	–0.0761 (9.30)	–0.0735 (25.80)
Degree	–0.0701 (16.34)	–0.0686 (39.83)
Other degree	–0.0664 (9.04)	–0.0666 (22.65)
HND/HNC	–0.0733 (12.29)	–0.0695 (31.66)
Teacher secondary	–0.0535 (5.16)	–0.0603 (8.24)
Teacher primary	–0.0539 (5.18)	–0.0596 (9.62)
Nursing	–0.0612 (9.62)	–0.0743 (24.18)
OND/ONC	–0.0656 (11.56)	–0.0641 (25.41)
City & Guilds	–0.0599 (17.91)	–0.0540 (19.56)
A–level	–0.0590 (14.80)	–0.0564 (29.12)
O–level	–0.0540 (19.59)	–0.0519 (35.61)
CSE	–0.0319 (8.06)	–0.0256 (11.56)
Other qualifications	–0.0173 (3.52)	–0.0326 (16.63)
Rest of North	–0.0164 (2.11)	–0.0208 (5.11)
South Yorkshire	–0.0153 (1.82)	–0.0061 (1.32)
West Yorkshire	–0.0404 (5.77)	–0.0341 (8.99)
Rest Yorks & Humber	–0.0396 (5.45)	–0.0338 (8.33)
East Midlands	–0.0471 (7.60)	–0.0400 (11.79)
East Anglia	–0.0570 (8.75)	–0.0375 (10.03)
London	–0.0502 (8.34)	–0.0113 (3.05)
Rest South East	–0.0629 (10.83)	–0.0377 (11.26)
South West	–0.0491 (7.98)	–0.0357 (10.41)
West Midlands	–0.0203 (2.78)	–0.0098 (2.43)
Rest West Midlands	–0.0322 (4.61)	–0.0369 (10.25)
Greater Manchester	–0.0225 (3.08)	–0.0228 (5.85)
Merseyside	0.0185 (2.02)	0.0079 (1.62)
Rest North West	–0.0344 (4.88)	–0.0371 (10.07)
Wales	–0.0198 (2.72)	–0.0278 (7.37)
Scotland	–0.0135 (1.97)	–0.0232 (6.41)
N	66,778	284,047
Pseudo R^2	0.0790	0.0704

Source: Labour Force Surveys 1984 & 1993.
Notes: Excluded categories Northern region/Tyne & Wear; white; 40–44 & no qualifications. In 1993 equations include a total of 31 qualifications dummies. T–statistics in parentheses. Estimation using Dprobits.

Table 13. Probability of being unemployed, marginal effects, 2006–2010 (March)

	2006	2007	2008	2009/2010
Age 16–17	0.1994 (45.78)	0.2215 (49.32)	0.2087 (45.41)	0.2561 (51.32)
Age 18–24	0.0839 (37.83)	0.0902 (39.36)	0.0948 (39.93)	0.1243 (48.83)
Age 25–29	0.0205 (10.80)	0.0213 (11.00)	0.0255 (12.52)	0.0422 (18.58)
Age 30–34	0.0090 (5.21)	0.0134 (7.39)	0.0120 (6.29)	0.0229 (10.76)
Age 35–39	0.0012 (0.80)	0.0041 (2.55)	0.0042 (2.47)	0.0063 (3.26)
Age 45–49	–0.0057 (3.64)	–0.0044 (2.78)	–0.0060 (3.65)	–0.0049 (2.68)
Age 50–54	–0.0087 (5.43)	–0.0077 (4.74)	–0.0067 (3.94)	–0.0096 (5.13)
Age 55–59	–0.0109 (6.71)	–0.0034 (2.05)	–0.0061 (3.42)	–0.0095 (4.85)
Age 60–64	–0.0222 (11.81)	–0.0194 (10.56)	–0.0185 (9.83)	–0.0200 (9.43)
Male	0.0067 (8.58)	0.0042 (5.56)	0.0074 (9.12)	0.0187 (20.46)
Mixed	0.0352 (7.24)	0.0274 (5.80)	0.0341 (6.82)	0.0397 (7.45)
Asian	0.0327 (13.55)	0.0305 (13.00)	0.0311 (12.82)	0.0322 (12.61)
Black	0.0609 (17.76)	0.0578 (17.40)	0.0668 (18.29)	0.0922 (23.52)
Chinese	0.0277 (3.92)	0.0269 (4.07)	0.0201 (3.03)	0.0000 (0.00)
Other races	0.0463 (11.33)	0.0427 (10.94)	0.0458 (11.00)	0.0390 (8.67)
UK born	–0.0013 (0.90)	–0.0011 (0.79)	0.0043 (2.92)	0.0058 (3.60)
DDA disabled & work	0.0726 (35.62)	0.0748 (36.57)	0.0753 (35.32)	0.0705 (32.10)
DDA disabled	0.0002 (0.12)	0.0046 (2.38)	0.0033 (1.68)	0.0013 (0.64)
Work limiting disabled	0.0472 (18.05)	0.0536 (19.72)	0.0495 (17.73)	0.0532 (18.17)
Higher degree	–0.0326 (24.75)	–0.0311 (24.56)	–0.0354 (26.89)	–0.0540 (37.23)
NVQ level 5	–0.0271 (4.20)	–0.0318 (5.24)	–0.0326 (5.52)	–0.0489 (7.50)
First degree	–0.0331 (29.95)	–0.0349 (32.94)	–0.0375 (33.25)	–0.0573 (44.64)
Other degree	–0.0329 (12.56)	–0.0301 (11.77)	–0.0347 (11.72)	–0.0457 (14.42)
NVQ level 4	–0.0294 (8.90)	–0.0312 (10.12)	–0.0310 (9.90)	–0.0466 (13.92)
Diploma in HE	–0.0271 (11.54)	–0.0274 (12.64)	–0.0292 (12.59)	–0.0433 (17.55)
HNC, HND, BTEC	–0.0302 (19.78)	–0.0289 (19.34)	–0.0341 (21.64)	–0.0437 (24.48)
Teaching, FE	–0.0340 (5.26)	–0.0241 (4.23)	–0.0310 (5.33)	–0.0390 (5.74)
Teaching, secondary	–0.0243 (3.38)	–0.0265 (3.56)	–0.0330 (4.24)	–0.0517 (4.96)
Teaching, primary	–0.0329 (5.05)	–0.0300 (4.78)	–0.0246 (3.82)	–0.0417 (5.10)
Teaching foundation stage	–0.0302 (2.14)	–0.0113 (0.75)	–0.0164 (1.00)	–0.0446 (2.66)
Teaching, level not stated	–0.0325 (3.37)	–0.0279 (2.86)	–0.0264 (2.63)	–0.0487 (4.45)
Nursing	–0.0338 (14.86)	–0.0321 (14.50)	–0.0355 (14.89)	–0.0524 (18.73)
Other HE <degree	–0.0219 (5.39)	–0.0245 (6.99)	–0.0256 (6.80)	–0.0341 (8.54)
NVQ level 3	–0.0287 (18.74)	–0.0282 (19.66)	–0.0324 (22.23)	–0.0460 (28.30)
GNVQ/GSVQ advanced	–0.0289 (9.26)	–0.0298 (10.16)	–0.0304 (9.21)	–0.0408 (9.55)
A level or equivalent	–0.0264 (21.17)	–0.0273 (23.06)	–0.0307 (24.47)	–0.0442 (30.20)
OND, ONC, BTEC national	–0.0260 (12.80)	–0.0244 (12.24)	–0.0267 (13.07)	–0.0348 (14.72)
City & Guilds advanced craft	–0.0267 (14.00)	–0.0259 (13.83)	–0.0322 (11.73)	–0.0392 (17.88)
SCE higher	–0.0310 (12.60)	–0.0278 (11.18)	–0.0146 (1.44)	–0.0437 (14.12)
A, S level or equivalent	–0.0312 (15.18)	–0.0298 (14.88)	–0.0308 (13.94)	–0.0431 (15.93)
Trade apprenticeship	–0.0264 (18.76)	–0.0257 (17.92)	–0.0282 (18.41)	–0.0357 (20.04)
NVQ level 2 or equivalent	–0.0169 (10.38)	–0.0193 (12.71)	–0.0215 (13.58)	–0.0301 (16.94)
GNVQ/GSVQ intermediate	–0.0223 (6.68)	–0.0148 (4.17)	–0.0219 (5.27)	–0.0355 (7.01)
City & guilds craft/part 2	–0.0134 (4.02)	–0.0172 (5.29)	0.0184 (5.43)	–0.0283 (7.69)
BTEC, SCOTVEC first	–0.0103 (1.88)	–0.0114 (2.19)	–0.0236 (5.10)	–0.0249 (4.61)
O level, GCSE grade A–C	–0.0253 (23.24)	–0.0236 (22.16)	–0.0264 (23.02)	–0.0373 (27.63)
NVQ level 1 or equivalent	0.0125 (2.83)	0.0078 (1.85)	0.0046 (1.04)	0.0068 (1.37)
GNVQ/GSVQ foundation	–0.0101 (0.93)	0.0039 (0.32)	0.0054 (0.38)	–0.0241 (1.47)
CSE below grade 1	–0.0117 (6.39)	–0.0110 (6.09)	–0.0120 (6.25)	–0.0196 (8.87)
RSA other	–0.0133 (2.87)	–0.0255 (5.41)	–0.0091 (1.71)	–0.0230 (3.55)
City & Guilds foundation	0.0016 (0.23)	0.0064 (0.88)	–0.0011 (0.15)	0.0067 (0.81)
Key skills qualification	0.0096 (0.91)	0.0076 (0.71)	0.0455 (2.86)	0.0325 (4.39)
Basic skills qualification	0.0197 (2.41)	0.0325 (4.62)	0.0383 (5.37)	–0.0321 (19.94)
Other qualification	–0.0189 (13.92)	–0.0198 (15.26)	–0.0218 (15.71)	–0.0370 (11.16)
Rest of North	–0.0075 (2.60)	–0.0042 (1.37)	–0.0083 (2.77)	–0.0185 (5.69)
South Yorkshire	–0.0030 (0.92)	–0.0030 (0.89)	–0.0001 (0.04)	–0.0097 (2.61)
West Yorkshire	–0.0121 (4.52)	–0.0072 (2.46)	–0.0116 (4.13)	–0.0132 (4.10)
Rest Yorks & Humber	–0.0122 (4.22)	–0.0072 (2.29)	–0.0204 (7.18)	–0.0157 (4.62)
East Midlands	–0.0124 (5.08)	–0.0084 (3.13)	–0.0139 (5.44)	–0.0224 (8.07)

Table 13. (Continued)

East Anglia	–0.0128 (4.79)	–0.0105 (3.67)	–0.0177 (6.60)	–0.0278 (9.45)
Inner London	0.0045 (1.43)	0.0099 (2.85)	–0.0017 (0.56)	–0.0052 (1.51)
Outer London	–0.0047 (1.76)	–0.0060 (2.17)	–0.0096 (3.52)	–0.0147 (4.86)
Rest South East	–0.0143 (6.14)	–0.0095 (3.71)	–0.0187 (7.75)	–0.0270 (10.16)
South West	–0.0182 (7.86)	–0.0135 (5.33)	–0.0198 (8.23)	–0.0240 (8.71)
West Midlands	–0.0031 (1.09)	0.0044 (1.36)	0.0003 (0.12)	0.0022 (0.66)
Rest West Midlands	–0.0166 (6.60)	–0.0084 (2.92)	–0.0177 (6.72)	–0.0213 (7.17)
Greater Manchester	–0.0113 (4.16)	–0.0026 (0.87)	–0.0047 (1.60)	–0.0101 (3.14)
Merseyside	–0.0030 (0.90)	0.0109 (2.76)	0.0126 (3.20)	–0.0056 (1.45)
Rest North West	–0.0163 (6.24)	–0.0081 (2.77)	–0.0134 (4.78)	–0.0209 (6.82)
Wales	–0.0107 (4.06)	–0.0057 (1.96)	–0.0098 (3.45)	–0.0121 (3.77)
Strathclyde	–0.0020 (0.66)	–0.0029 (0.92)	–0.0097 (3.17)	–0.0107 (3.17)
Rest Scotland	–0.0110 (4.09)	–0.0080 (2.78)	–0.0161 (5.78)	–0.0214 (7.09)
Northern Ireland	–0.0157 (6.01)	–0.0127 (4.47)	–0.0194 (7.30)	–0.0267 (8.87)
2010				0.0107 (7.31)
N	229,143	227,586	221,653	265,761
Pseudo R^2	0.1191	0.1279	0.1240	0.1119

Source: Labour Force Surveys.

Notes: excluded categories January; no qualifications; white: Tyne & Wear. T–statistics in parentheses. Ages 16–64. Dummies also included for International baccalaureate; RSA Diploma & RSA Advanced Diploma, YT and YTP certificate, Scottish CSYS; SCOTVEC modules, BTEC, SCOTVEC First; Access qualifications, Don't know and entry level qualifications but results not reported but mostly insignificant. Excluded categories, Tyne & Wear; ages 40–44; no qualifications; white and January. Month dummies also included. T–statistics in parentheses. Estimation using Dprobits.

Table 14. Ranking of regional patterns

	1984	1993	2009
East Anglia	16	15	17
East Midlands	13	17	14
Greater Manchester	8	7	5
London	15	5	8
Merseyside	1	1	2
North/Tyne & Wear	2	2	3
Rest North West	10	14	11
Rest of North	5	6	10
Rest South East	17	16	16
Rest West Midlands	9	13	13
Rest Yorks & Humber	11	10	9
South West	14	12	15
South Yorkshire	4	3	4
Scotland	3	8	12
Wales	6	9	6
West Midlands	7	4	1
West Yorkshire	12	11	7

Asians and blacks, the least educated. It is also high for the disabled, and there is a specific effect raising unemployment in 2010. On this occasion the unemployment rate is highest in the West Midlands.

It is notable that the regional pattern of coefficients in 2009/2010 is similar to the prior recessions. The ranking, where the highest rate ranks first and the one with the lowest ranks 17th, is shown in table 14 using data from table 12. Here we re-estimated the data for 2009/2010 from table 13 by merging Inner and Outer London to form 'London' and Strathclyde and the Rest of Scotland to form 'Scotland'.

Regions with the lowest rates in all three years are the Rest of the South East, East Anglia and the South West. Those with the highest are Merseyside and the Northern region. The most notable difference is that the 2008 recession is increasing unemployment in London, with its dependence on the financial sector, as it did in 1993. The biggest difference is that unemployment in Scotland appears to be much less cyclically sensitive than in the past.

8. The impact of unemployment on health and wellbeing

In this section we review the evidence of the impact of unemployment on individual health and well-being. We also present econometric evidence of our own on the consequences of unemployment on health and well-being in the UK.

It is notable that the unemployed are especially likely to report having a *mental illness*, although it should be said that the direction of causation is unclear. For example,

in the Labour Force Surveys in 2010 Q1, 2.7 per cent of the unemployed reported their most important health problem, if they had one, was depression or bad nerves compared with 1 per cent of the employed.

There is a growing body of literature that suggests that the unemployed are especially *unhappy* (Clark and Oswald, 1994; Winkelmann and Winkelmann, 1998; Blanchflower and Oswald, 2004). The evidence from around the world is that unemployment has not increased because the unemployed are lazy and have chosen not to work because benefits are too high. The reserve army of the unemployed is a conscript army rather than a volunteer army.

When unemployment rises, happiness of both workers and non-workers falls. Unemployment affects not only the mental well-being of those concerned, but also that of their families, colleagues, neighbours and others who are in direct or indirect contact with them. Jones and Fletcher (1993), for example, provide evidence that the occupational stress and distress from unemployment can be transmitted between partners.

There is a body of literature that suggests individual well-being is related also to aggregate macroeconomic variables such as the unemployment rate, inflation, and the interest rate (Di Tella *et al*. 2001; Blanchflower 2007a). This literature suggests that a 1 percentage point increase in unemployment reduces overall happiness twice as much as an equivalent 1 percentage point increase in inflation – the so-called misery index. Moreover, increases in aggregate unemployment seem indirectly to reduce the well-being of not just the unemployed but also that of the employed and those out of the labour force such as students, the retired and those looking after the home.

Di Tella *et al*. (2001) find that increases in the national unemployment rate have much larger effects on the happiness of the unemployed than they do for the employed, using the Eurobarometer life satisfaction data for twelve EU countries from 1975–92. This result, however, contrasts with the findings of Clark (2003), using BHPS panel data for the UK, and Clark *et al*. (2008) using data from the German Socio-Economic Panel. They argue that the well-being of the unemployed is less affected by unemployment if they live in a region with a high unemployment rate, thus narrowing the well-being gap between the employed and unemployed in such regions.

Blanchflower (2007) estimated a misery index of 1.62, which is the marginal rate of substitution between inflation and unemployment. Hence a 1 percentage point increase in unemployment lowers well-being by 1.62 times the impact of a 1 percentage point increase in inflation. Empirically it seems that people care more about unemployment than they do about inflation.

Interestingly Luechinger *et al*. (2008) also used the GSS data to show that the sensitivity of subjective well-being to fluctuations in unemployment rates is much lower among employees in the public sector than in the private sector. They found a similar result using individual panel data for Germany from the GSOEP 1984–2004 and repeated cross-sectional data for thirteen European countries from the Eurobarometers 1989–94. The fear of unemployment is, as expected, greater for workers in the private sector than in the public sector. This, the authors argue, suggests that "increased economic insecurity constitutes an important welfare loss associated with high general unemployment" (p.1).

In the Labour Force Surveys, individuals are asked about their health and which if any conditions impacted on them the most. One of these options was 'depression, bad nerves, or anxiety' which covers approximately 1 per cent of respondents. In table 15 we examine the probability an individual falls in this category, that is, we estimate *unhappiness* equations. In the first column we restrict ourselves only to the employed and examine measures of underemployment among workers which, as table 1 made clear, have risen sharply during this recession. We find that the underemployed, and especially those who say they are part-time because they could not find full-time work or that they would prefer more hours, have significantly higher probabilities of being depressed, and the effects are large.

There is a U-shaped pattern in age confirming results found by Blanchflower and Oswald (2008) for 2004Q2–2007Q1 also using the LFS data. Citizens from the Strathclyde area of Scotland also have very high probabilities of being depressed, confirming earlier evidence in Bell and Blanchflower (2007).

Column 2 now adds the unemployed to the sample and shows that individuals who are unemployed or on a government scheme are also likely to be depressed. Column 3 then separates the unemployed into two groups according to whether they have been unemployed for less than twelve months or for longer. It is apparent that both the short-term and long-term unemployed are especially likely to report being depressed, but with

Table 15. Probability of having 'depression or bad nerves' as main health problem, marginal effects

	Employed	Workforce	Workforce
Part–time no full–time	0.0074 (6.29)		
Prefers more hours	0.0042 (5.81)		
Temporary – no permanent	0.0015 (0.96)		
Employee	0.0010 (0.26)	0.0010 (0.24)	0.0010 (0.24)
Self–employed	0.0017 (0.40)	0.0019 (0.40)	0.0019 (0.41)
Govt. program	0.0272 (2.97)	0.0287 (2.93)	0.0286 (2.92)
Unemployed		0.0249 (3.20)	
Short term unemployed			0.0215 (2.86)
Long–term unemployed			0.0372 (3.87)
Male	–0.0050 (11.70)	–0.0056 (12.97)	–0.0056 (13.04)
Age 16–17	–0.0063 (4.61)	–0.0077 (7.26)	–0.0076 (7.00)
Age 18–24	–0.0051 (7.37)	–0.0059 (9.01)	–0.0058 (8.84)
Age 25–29	–0.0019 (2.56)	–0.0025 (3.43)	–0.0025 (3.36)
Age 30–34	–0.0013 (1.85)	–0.0017 (2.31)	–0.0017 (2.27)
Age 35–39	–0.0005 (0.77)	–0.0003 (0.53)	–0.0003 (0.51)
Age 45–49	–0.0015 (2.31)	–0.0017 (2.51)	–0.0017 (2.53)
Age 50–54	–0.0006 (0.86)	–0.0010 (1.42)	–0.0010 (1.45)
Age 55–59	–0.0028 (3.93)	–0.0038 (5.24)	–0.0038 (5.23)
Age 60–64	–0.0040 (4.81)	–0.0048 (5.83)	–0.0048 (5.79)
Mixed race	0.0000 (0.04)	–0.0015 (0.70)	–0.0016 (0.71)
Asian	–0.0046 (4.28)	–0.0055 (5.19)	–0.0055 (5.22)
Black	–0.0050 (3.42)	–0.0041 (3.03)	–0.0042 (3.08)
Chinese	–0.0056 (1.79)	–0.0016 (0.49)	–0.0015 (0.46)
Other race	–0.0056 (2.93)	–0.0028 (1.48)	–0.0029 (1.51)
UK born	0.0015 (1.97)	0.0024 (3.06)	0.0023 (3.02)
Rest of North	–0.0002 (0.13)	–0.0000 (0.02)	0.0000 (0.00)
South Yorkshire	0.0017 (0.90)	0.0009 (0.48)	0.0009 (0.51)
West Yorkshire	0.0040 (2.18)	0.0038 (2.09)	0.0038 (2.12)
Rest Yorks. & Humber	–0.0018 (1.15)	–0.0015 (0.93)	–0.0014 (0.89)
East Midlands	–0.0024 (1.77)	–0.0022 (1.58)	–0.0021 (1.55)
East Anglia	–0.0006 (0.41)	–0.0002 (0.16)	–0.0002 (0.14)
Inner London	–0.0008 (0.48)	–0.0008 (0.50)	–0.0008 (0.52)
Outer London	–0.0029 (2.04)	–0.0018 (1.21)	–0.0017 (1.18)
Rest South East	–0.0022 (1.65)	–0.0021 (1.56)	–0.0020 (1.51)
South West	–0.0013 (0.95)	–0.0003 (0.24)	–0.0002 (0.18)
West Midlands	–0.0000 (0.03)	0.0013 (0.78)	0.0013 (0.77)
Rest West Midlands	–0.0013 (0.87)	–0.0003 (0.23)	–0.0002 (0.17)
Greater Manchester	–0.0020 (1.35)	–0.0017 (1.12)	–0.0017 (1.11)
Merseyside	–0.0014 (0.78)	–0.0001 (0.09)	–0.0001 (0.09)
Rest North West	–0.0027 (1.82)	–0.0027 (1.83)	–0.0026 (1.79)
Wales	–0.0002 (0.17)	0.0007 (0.45)	0.0007 (0.48)
Strathclyde	0.0036 (1.94)	0.0037 (1.99)	0.0037 (2.01)
Rest Scotland	0.0001 (0.06)	0.0000 (0.05)	0.0001 (0.08)
Northern Ireland	–0.0050 (3.63)	–0.0046 (3.22)	–0.0048 (3.35)
Higher degree	–0.0012 (1.35)	–0.0029 (3.29)	–0.0027 (3.07)
NVQ level 5	–0.0008 (0.22)	–0.0016 (0.40)	–0.0014 (0.37)
First/foundation degree	–0.0019 (2.38)	–0.0031 (4.13)	–0.0030 (3.89)
Other degree	–0.0038 (2.05)	–0.0044 (2.43)	–0.0042 (2.33)
NVQ level 4	–0.0033 (1.78)	–0.0043 (2.37)	–0.0042 (2.29)
Diploma in higher educ.	0.0000 (0.04)	–0.0007 (0.48)	–0.0005 (0.39)
HNC, HND, BTEC higher	–0.0025 (2.28)	–0.0035 (3.34)	–0.0033 (3.16)
Teaching, further	0.0035 (1.01)	0.0013 (0.39)	0.0015 (0.44)
Teaching, secondary	–0.0037 (0.75)	–0.0047 (0.92)	–0.0045 (0.88)
Teaching, primary	0.0075 (1.84)	0.0084 (2.00)	0.0086 (2.04)
Teaching, level not stated	–0.0061 (1.16)	–0.0073 (1.36)	–0.0072 (1.35)
Nursing etc	0.0007 (0.48)	–0.0006 (0.41)	–0.0004 (0.28)
Other higher educ. <degree	0.0028 (1.17)	0.0002 (0.11)	0.0004 (0.21)
NVQ level 3	–0.0020 (1.99)	–0.0032 (3.34)	–0.0031 (3.16)
International bac'te	0.0029 (0.28)	–0.0013 (0.15)	–0.0010 (0.11)

Table 15. (Continued)

GNVQ/GSVQ advanced	0.0018 (0.57)	0.0016 (0.53)	0.0017 (0.57)
A level or equivalent	0.0021 (1.93)	0.0003 (0.33)	0.0006 (0.58
RSA advanced diploma	–0.0058 (1.05)	0.0005 (0.09)	0.0008 (0.14)
OND, ONC, BTEC	0.0024 (1.50)	0.0013 (0.88)	0.0015 (1.02)
City & guilds advanced #1	–0.0032 (2.46)	–0.0050 (4.05)	–0.0049 (3.91)
Scottish CSYS	0.0016 (0.16)	–0.0000 (0.01)	0.0001 (0.02)
SCE higher or equivalent	0.0005 (0.29)	–0.0000 (0.04)	0.0001 (0.09)
Access qualifications	–0.0002 (0.04)	–0.0040 (0.70)	–0.0039 (0.67)
A, S level or equivalent	–0.0007 (0.26)	–0.0018 (0.77)	–0.0017 (0.69)
Trade apprenticeship	–0.0031 (2.86)	–0.0045 (4.44)	–0.0044 (4.27)
NVQ level 2 or equivalent	0.0011 (1.03)	0.0005 (0.54)	0.0007 (0.70)
GNVQ/GSVQ intermediate	0.0048 (1.19)	0.0031 (0.82)	0.0031 (0.82)
RSA diploma	0.0046 (0.91)	0.0069 (1.37)	0.0073 (1.43)
City & guilds craft/part 2	0.0020 (0.90)	0.0004 (0.21)	0.0005 (0.27)
BTEC, SCOTVEC first	–0.0060 (1.63)	–0.0071 (2.18)	–0.0070 (2.13)
O level, GCSE grade A–C	–0.0019 (2.43)	–0.0033 (4.54)	–0.0032 (4.31)
NVQ level 1 or equivalent	–0.0006 (0.25)	0.0028 (1.15)	0.0029 (1.17)
CSE <1, GCSE<C	0.0014 (1.08)	0.0002 (0.17)	0.0003 (0.25)
BTEC, SCOTVEC first	0.0744 (3.64)	0.0980 (4.83)	0.0969 (4.78)
SCOTVEC modules	0.0403 (2.37)	0.0442 (2.65)	0.0441 (2.64)
RSA other	–0.0050 (1.77)	–0.0047 (1.72)	–0.0046 (1.68)
City & guilds foundation	0.0003 (0.07)	–0.0008 (0.21)	–0.0008 (0.21)
YT, YTP certificate	0.0307 (2.62)	0.0344 (3.23)	0.0347 (3.26)
Basic skills qualification	0.0001 (0.04)	–0.0033 (1.01)	–0.0034 (1.02)
Entry level qualification	0.0281 (2.25)	0.0113 (1.23)	0.0113 (1.23)
Other qualification	–0.0035 (3.69)	–0.0046 (5.22)	–0.0045 (5.09)
Don't know	–0.0034 (1.59)	–0.0048 (2.42)	–0.0048 (2.38)
Pseudo R^2	0.0301	0.0408	0.0413
N	210,120	226,993	226,962

Source: Labour Force Surveys, 2009–2010Q1 – ages 16–64. Notes: excluded categories – 40–44; unpaid family worker; white; Tyne & Wear; no qualifications. T-statistics in parentheses. Estimation using Dprobits.

an effect for the long-term unemployed nearly twice the size as for the short-term. Unemployment is bad for an individual's mental health especially if that spell of unemployment is long. The worry then is that long spells of unemployment in particular will wound the individual's job and earnings prospects in the future.

Table 16 moves on to examine individual level data from 2009 and 2010 from two Eurobarometer surveys, which report on various aspects of an individual's well-being. These surveys are taken in all EU countries. In each case we examine how the well-being of the unemployed compares with workers, the retired, those in school, plus home workers. We also include an interaction term between the UK and unemployment to determine if the jobless in the UK are different, in terms of well-being, than in other countries. Controls include country dummies, gender, schooling and marital status dummies.

Column 1 uses data from Eurobarometer #73.1, from January–February 2010, to estimate an ordered logit to model responses to the question Q1 *'During the last twelve months, would you say you had difficulties to pay your bills at the end of the month...? 'almost never\never', 'from time to time' or 'most of the time?'*. A positive coefficient then implies difficulty paying their bills. It is apparent that the unemployed are struggling, along with the least educated. Problems rise with age, reaching a maximum in the early thirties and declining thereafter. The country ranked highest in terms of having difficulty making ends meet, is Bulgaria followed by Greece, that has already been hit by a variety of austerity measures. Despite austerity measures having been undertaken in Ireland, to this point they do not seem to have impacted on well-being. Denmark ranks best with the UK ranked sixth. The UK interaction term is insignificant.

Columns 2–5 of table 16 make use of data from Eurobarometer #72.1 from August–September 2009. Column 2 estimates an OLS regression where the dependent variable is a measure of happiness – Q2 *'All*

Table 16. Attitudes of the unemployed in Europe, 2009 and 2010

	Trouble paying bills	Life satisfaction	Family life	Health	Living standards
Unemployed	0.9639 (18.45)	−1.3136 (26.86)	−0.4693 (9.38)	−0.3960 (7.89)	−1.4398 (29.82)
UK*unemployed	−0.0908 (0.43)	−0.0110 (0.06)	−0.2974 (1.45)	−0.8089 (3.92)	0.3031 (1.53)
Retired	0.2181 (4.53)	−0.3785 (8.93)	−0.0959 (2.21)	−1.0997 (25.23)	−0.5587 (13.33)
Home worker	0.3621 (6.83)	−0.3159 (6.25)	−0.1158 (2.25)	−0.3705 (7.14)	−0.3703 (7.43)
Still studying	−0.8290 (11.01)	0.8332 (12.09)	0.5647 (8.01)	0.4507 (6.37)	0.9294 (13.65)
ALS 16–19	−0.4102 10.40)	0.2737 (7.54)	0.1935 (5.21)	0.3897 (10.45)	0.3817 (10.64)
ALS 20+	−0.9638 (21.09)	0.7783 (19.35)	0.3676 (8.94)	0.6628 (16.03)	0.8688 (21.85)
No FT education	0.3295 (1.84)	−0.1562 (1.06)	−0.1528 (0.98)	0.1856 (1.19)	−0.2313 (1.53)
Married	−0.1852 (4.34)	0.4952 (12.97)	1.2086 (30.90)	0.3792 (9.68)	0.5390 (14.30)
Living together	0.1536 (2.87)	0.2245 (4.50)	0.7438 (14.59)	0.2490 (4.87)	0.2113 (4.29)
Divorced/separated	0.5742 (9.50)	−0.2651 (4.67)	−0.5094 (8.77)	−0.1866 (3.21)	−0.2829 (5.06)
Widowed	0.3200 (5.01)	−0.1186 (2.10)	−0.2732 (4.70)	−0.2583 (4.44)	0.0134 (0.24)
Age	0.0332 (6.31)	−0.0814 (17.84)	−0.0675 (14.44)	−0.0981 (20.92)	−0.0780 (17.30)
Age^2	−0.0005 (10.99)	0.0008 (17.67)	0.0006 (13.05)	0.0007 (15.66)	0.0007 (17.56)
Male	−0.1259 (4.47)	−0.0709 (2.79)	−0.0735 (2.83)	0.1495 (5.72)	0.0060 (0.24)
Austria	−0.1686 (1.68)	−0.2037 (2.30)	−0.4702 (5.21)	−0.4100 (4.51)	−0.2470 (2.83)
Bulgaria	2.1304 (22.32)	−2.8696 (32.44)	−1.5173 (16.53)	−1.4900 (16.31)	−2.9264 (33.21)
Cyprus	0.7580 (6.58)	−0.4919 (4.57)	0.3203 (2.92)	0.1084 (0.98)	−0.6094 (5.74)
Czech Republic	0.0797 (0.82)	−0.6836 (7.70)	−0.3325 (3.68)	−0.3837 (4.22)	−0.8211 (9.40)
Denmark	−1.4824 (10.93)	0.6663 (7.49)	0.7754 (8.47)	0.2348 (2.55)	0.5793 (6.51)
East Germany	−0.0693 (0.58)	−0.5790 (5.40)	−0.1618 (1.47)	−0.5332 (4.85)	−0.7700 (7.29)
Estonia	0.1347 (1.36)	−1.1091 (12.51)	−0.2118 (2.34)	−0.7454 (8.21)	−0.9636 (11.03)
Finland	−0.4767 (4.41)	0.4969 (5.62)	0.3154 (3.50)	0.2154 (2.38)	0.1619 (1.86)
France	0.2252 (2.29)	−0.5028 (5.73)	0.1993 (2.23)	0.1452 (1.62)	−0.6125 (7.09)
Greece	1.2823 (13.63)	−0.8470 (9.52)	−0.1861 (2.06)	0.1980 (2.17)	−0.7078 (8.09)
Hungary	0.6338 (6.64)	−2.0424 (22.99)	−0.6845 (7.57)	−0.8116 (8.92)	−1.9807 (22.66)
Ireland	0.4676 (4.79)	0.1427 (1.61)	0.5128 (5.68)	0.4319 (4.75)	−0.0090 (0.10)
Italy	0.6508 (6.85)	−0.7893 (8.98)	−0.6960 (7.78)	−0.2745 (3.05)	−0.5996 (6.93)
Latvia	1.0000 (10.58)	−1.9511 (22.23)	−0.6331 (7.08)	−0.8377 (9.32)	−2.0016 (23.18)
Lithuania	0.9277 (9.81)	−1.2355 (13.99)	−0.4051 (4.48)	−0.7829 (8.66)	−1.3087 (15.06)
Luxembourg	−0.7204 (5.28)	0.2974 (2.76)	0.4723 (4.30)	0.3720 (3.36)	0.7516 (7.07)
Malta	0.9757 (8.48)	−0.3226 (2.96)	0.2497 (2.25)	0.3336 (2.98)	−0.3986 (3.71)
Netherlands	−0.4833 (4.46)	0.3325 (3.77)	−0.0113 (0.13)	0.0731 (0.81)	0.2904 (3.35)
Poland	−0.0839 (0.83)	−0.7096 (8.00)	−0.1198 (1.33)	−0.7553 (8.31)	−1.2006 (13.74)
Portugal	1.0089 (10.39)	−1.4480 (16.17)	−0.8815 (9.67)	−1.1453 (12.48)	−1.5017 (17.03)
Romania	0.5377 (5.55)	−1.5898 (18.04)	−0.5020 (5.56)	−0.6781 (7.47)	−1.4723 (16.89)
Slovakia	−0.1402 (1.42)	−0.8783 (9.99)	−0.4298 (4.81)	−0.4895 (5.44)	−0.8220 (9.50)
Slovenia	0.4493 (4.67)	−0.3817 (4.36)	−0.1647 (1.85)	−0.0251 (0.28)	−0.5732 (6.65)
Spain	0.0600 (0.61)	−0.2113 (2.38)	−0.0999 (1.11)	−0.1821 (2.01)	−0.3994 (4.58)
Sweden	−1.5337 (10.97)	0.4002 (4.52)	0.4202 (4.66)	0.1535 (1.69)	0.4840 (5.55)
UK	−0.3650 (3.66)	0.2011 (2.37)	0.5253 (6.07)	0.3520 (4.05)	0.3075 (3.68)
West Germany	−0.5921 (5.56)	−0.0324 (0.37)	−0.0772 (0.87)	−0.1963 (2.19)	−0.2707 (3.14)
cut1	0.2993	8.6851	8.6800	9.9253	8.4071
cut2	20.3278				
N	26,056	26,653	26,392	26,549	26,492
Pseudo/Adjusted R^2	0.1217	0.2407	0.1550	0.2482	0.2525

Source: column 1 – Eurobarometer #73.1, January–February 2010 and columns 2–5 Eurobarometer #72.1, August – September 2009.
Notes: excluded categories: Belgium; workers; single; Age left school<age 15. T–statistics in parentheses.
Questions:
Column 1. During the last twelve months, would you say you had difficulties to pay your bills at the end of the month...? 'almost never\never', 'from time to time' or 'most of the time'? (estimated using a logit model).
Column 2. All things considered, how satisfied would you say you are with your life these days? Please use a scale from 1 to 10 where [1] means 'very dissatisfied' and [10] means 'very satisfied' (estimated using OLS).
Columns 3–5. Could you please tell me on a scale of 1 to 10 how satisfied you are with each of the following items, where '1' means you are "very dissatisfied" and '10' means you are "very satisfied"? a) Your family life? b) Your health? c) Your present standard of living? (estimated using OLS).

Table 17. Ordered logit life and financial satisfaction equations in Europe, 2007 & 2009

	Life satisfaction		Financial situation	
	2009	2007	2009	2007
Unemployed	−1.0499 (24.80)	−0.9046 (16.90)	−1.5290 (35.63)	−1.3123 (24.47)
UK*unemployed	−0.0673 (0.34)	−0.2642 (1.14)	−0.5983 (3.11)	0.1728 (0.73)
Retired	−0.2329 (5.83)	−0.2367 (5.64)	−0.4957 (12.10)	−0.4274 (9.92)
Home worker	−0.1253 (2.61)	0.0238 (0.50)	−0.5106 (10.41)	−0.3179 (6.49)
Still studying	0.7771 (12.06)	0.6736 (10.28)	0.5639 (8.41)	0.3877 (5.70)
ALS 16–19	0.3603 (10.87)	0.2278 (6.65)	0.4337 (12.88)	0.4424 (12.67)
ALS 20+	0.7966 (21.21)	0.6203 (16.09)	0.9452 (24.42)	0.9459 (23.60)
No FT education	−0.1529 (1.26)	−0.0211 (0.07)	−0.1871 (1.37)	0.6727 (2.21)
Married	0.3819 (10.55)	0.3972 (10.49)	0.3392 (9.09)	0.3933 (10.06)
Living together	0.1265 (2.63)	0.1720 (3.29)	0.0980 (1.97)	0.1293 (2.37)
Divorced/separated	−0.1907 (3.53)	−0.4032 (7.42)	−0.3099 (5.62)	0.2743 (4.94)
Widowed	−0.0877 (1.61)	−0.3016 (5.37)	−0.0852 (1.53)	0.0877 (1.53)
Age	−0.0734 (16.76)	−0.0742 (15.61)	−0.0551 (12.26)	−0.0552 (11.29)
Age^2	0.0007 (16.36)	0.0007 (15.11)	0.0006 (13.74)	0.0006 (12.20)
Male	−0.0713 (2.98)	−0.0279 (1.10)	0.0323 (1.32)	0.1026 (3.92)
Austria	0.5329 (7.66)	0.0622 (0.83)	0.8907 (11.96)	0.6121 (7.60)
Bulgaria	−1.4729 (22.05)	−2.3163 (32.43)	−1.0455 (15.50)	−1.7976 (24.78)
Cyprus	0.9500 (9.98)	0.3479 (3.52)	0.2654 (2.79)	0.6542 (6.30)
Czech republic	0.2302 (3.40)	−0.2742 (3.76)	0.1980 (2.87)	0.5333 (7.38)
Denmark	2.6522 (32.64)	1.8789 (23.20)	2.3226 (29.95)	1.9115 (22.79)
East Germany	0.0848 (0.92)	−0.4469 (4.66)	0.2648 (2.83)	0.4091 (4.31)
Estonia	−0.2650 (3.87)	−0.5360 (7.28)	0.3702 (5.20)	0.2893 (3.72)
Finland	1.2262 (17.53)	0.6425 (8.80)	1.4468 (19.21)	0.8208 (10.38)
France	0.4438 (6.37)	−0.2227 (3.01)	0.4399 (6.16)	0.2053 (2.77)
Greece	−1.3184 (19.97)	−1.0176 (13.91)	−0.5121 (7.27)	−0.7258 (10.03)
Hungary	−1.1699 (17.12)	−1.5032 (20.68)	−1.1137 (16.39)	−1.4195 (19.81)
Ireland	1.3476 (18.79)	0.7085 (9.50)	0.2668 (3.65)	0.5204 (6.55)
Italy	−0.2277 (3.36)	−0.6617 (8.91)	0.1530 (2.21)	−0.3668 (4.84)
Latvia	−0.9525 (13.89)	−1.1133 (15.43)	−0.5471 (7.91)	−0.6140 (8.48)
Lithuania	−0.6295 (9.11)	−1.0001 (13.59)	−0.1992 (2.91)	−0.5788 (7.99)
Luxembourg	1.3696 (15.06)	1.1795 (12.02)	1.8408 (18.63)	1.5039 (14.19)
Malta	0.7953 (8.00)	0.2090 (2.09)	0.1878 (1.95)	0.1237 (1.25)
Netherlands	1.8488 (25.46)	1.2983 (17.56)	1.8533 (24.11)	1.2207 (15.13)
Poland	0.0997 (1.42)	−0.5101 (6.87)	−0.0738 (1.04)	0.3973 (5.31)
Portugal	−0.8955 (13.28)	−1.1060 (14.95)	−0.4419 (6.41)	−0.7908 (10.68)
Romania	−1.2527 (18.67)	−1.6674 (23.56)	−0.6840 (9.91)	−1.0189 (14.20)
Slovakia	−0.3163 (4.65)	−0.7776 (10.89)	−0.2558 (3.73)	−0.8197 (11.61)
Slovenia	0.5569 (8.00)	0.3018 (4.13)	0.3691 (5.16)	0.2009 (2.66)
Spain	0.2365 (3.40)	0.0703 (0.93)	0.3468 (4.91)	0.3417 (4.31)
Sweden	1.6985 (24.08)	1.2678 (16.92)	1.9875 (26.28)	1.1293 (13.70)
UK	1.4538 (21.99)	0.7842 (11.33)	1.2157 (17.15)	0.6637 (8.94)
West Germany	0.8032 (11.34)	0.2960 (4.04)	0.8277 (11.29)	0.1009 (1.34)
cut1	−4.0641	−4.9487	−3.0713 (10.78)	3.5672
cut2	−2.2749	−3.0127	−1.0282	1.2288
cut3	0.6851	0.0935	2.4915	2.6101
N	30133	28,253	29,341	27,600
Pseudo R^2	0.1334	0.1236	0.1231	0.1126

Source: Eurobarometers; #710.3 June-July 2009 and #670.2, April-May 2007.

Notes: T-statistics in parentheses.

Columns 1 & 2 – On the whole are you not at all satisfied, not very satisfied, fairly satisfied or very satisfied with the life you lead?

Columns 3 & 40. How would you judge the financial situation of your household – very bad; rather bad; rather good or very good?

things considered, how satisfied would you say you are with your life these days? Please use a scale from 1 to 10 where [1] means 'very dissatisfied' and [10] means 'very satisfied'. The results are standard – the unemployed are especially unhappy, there is a U-shape in age minimising around 50, women are happier than men, married are especially happy and happiness rises with educational attainment. Interestingly, the pattern of country dummies is similar to that in column 1 – Bulgarians are the least happy and Danes the most, with the UK again ranked sixth. Greeks, even though they are having trouble paying their bills, remain reasonably happy. The UK interaction term is again insignificant.

Columns 3–5 estimate OLS equations modelling answers to the question in relation to three aspects of well-being; '*Could you please tell me on a scale of 1 to 10 how satisfied you are with each of the following items, where '1' means you are "very dissatisfied" and '10' means you are "very satisfied"? a) Your family life? b) Your health? c) Your present standard of living?*'

The patterns in the data are broadly similar – well-being is U-shaped in age, Bulgarians rank worst, Danes highest; married people are contented. Men are healthier. The unemployed report low levels of well-being whatever aspect is being modelled , whether it is family life, health or living standards. The UK ranks towards the top of EU countries. The significant and very large coefficient on the UK interaction in the health equation implies that the unemployed in the UK report being especially unhealthy.

Table 17 also uses data from Eurobarometers to compare how well-being has changed with the onset of recession. It uses data from Eurobarometer #71.1, January–February 2009 and #67.2, April–May 2007. These two sweeps of the survey have the benefit that they asked two identical questions which allow us to examine changes. Firstly, they asked a slightly different and more standard life satisfaction question – Q3. *On the whole, are you very satisfied, fairly satisfied, not very satisfied or not at all satisfied with the life you lead? Not at all satisfied, not very satisfied, fairly satisfied, or very satisfied?*

Secondly, respondents were asked Q4 *'how would you judge the current situation in each of the following? The financial situation of your household – very bad, rather bad, good or very good?*' Each is modelled as an ordered logit. The results on life satisfaction are essentially the same as in table 17. It is noticeable how happiness in Greece has deteriorated between 2007 and 2009. Particularly noticeable in the financial situation equations is the fact that the unemployed in the UK appear to be having an especially difficult time financially.

Unemployment appears to lower well-being, not only of the individuals who are unemployed, but also makes everyone else unhappy, although to a lesser degree. Unemployment hurts.

9. Conclusions

This paper has considered some of the implications of the increase in UK unemployment since the beginning of the Great Recession. The major finding is that the sharp increase in unemployment and decrease in employment is largely concentrated on the young. This has occurred at a time when the size of the youth cohort is large. The fact that the youth labour market tends to be highly cyclically volatile is a phenomenon that was well documented in earlier recessions (Freeman and Wise, 1982, and Blanchflower and Freeman, 2000). As a response to a lack of jobs there has been a substantial increase in applications to university, although there has only been a small rise in the number of places available. Going forwards, a big concern is that the recovery will deliver few jobs. In part this may arise because of labour hoarding, which has prevented unemployment rising as much as most forecasters expected. Rather than firing people, firms responded by freezing or even cutting pay, reducing hours and instigating hiring moratoria.

Table 18. Labour market projections

	2009	2010	2011	2012	2013	2014	2015
Employment (millions)	29.0	28.8	28.9	29.2	29.5	29.8	30.1
ILO unemployment (% rate)	7.6	8.1	8.0	7.6	7.0	6.5	6.1
Claimant count (Q4, millions)	1.6	1.5	1.5	1.4	1.3	1.2	1.1

Source: Office of Budget Responsibility, Budget forecast, June 2010, Table C2.

Unemployment has also been kept down by fiscal stimulus by the Labour government and measures to boost employment, especially among the young.

The new coalition government has reduced the number of university places, removed schemes to help the young find work and announced a series of public spending cuts and tax increases that are likely to result in a loss of at least 600,000 jobs in the public sector and perhaps as many as three quarters of a million lost in the private sector, because of its reliance on work from the public sector. Despite this the recently created Office of Budget Responsibility has astonishingly forecast that unemployment will fall every year through 2015 and total employment will rise by 1.3 million as shown in table 18.

This would imply that the private sector would have to create over 2.5 million jobs, which it has to do if it is to make up for the 1.3 million the new government plans to destroy. Job creation on this scale seems wildly unlikely given that between 2000 and 2008 the private sector only created 1.6 million jobs, mostly in the financial sector and construction.[4]

It remains uncertain where all of these new jobs might come from. Firstly, with almost all G20 members tightening fiscal policy at the same time, it will be "hard to deliver on improving growth for all, or possibly any", as the chief economist at Goldman Sachs, Jim O'Neill, has warned. Adding to that worry, O'Neill notes, is the growing evidence that both the US and Chinese economies are slowing. Second, it seems unlikely that people fired from the public sector, such as care assistants, police officers and local authority workers, can simply jump to jobs in the private sector. Occupational differences between any new jobs and job seekers will be a problem – a skills mismatch. Third, the chances are that most people who lose their jobs in the public sector will live in regions that are heavily dependent on the public sector, such as the north, while any new private sector jobs are likely to be in different regions, especially the south, where access to housing will be a problem – a regional mismatch. Fourth, any increase in jobs will lure back workers from Eastern Europe, who left Britain when job opportunities began to disappear. In such circumstances, measured employment will not rise as the OBR expects. Fifth, bank lending is still compromised especially among SMEs, which will restrict job opportunities still further.

The rise in unemployment that has happened during this Great Recession is unlikely to go away quickly. The worry is that it will get much worse before it gets better. Our fear is that the nearly one million jobless youngsters that currently exist will simply become a lost generation, which hurts everyone. Unemployment has devastating and long-lasting social and economic effects, especially on the young, and lowers national well-being and output. Reducing unemployment should be the new government's number one priority. Unfortunately it is not. That needs to change and quickly if the coalition is to survive.

NOTES

1 Source: *Employment and Labour Market Review*, August 2010.

2 ILO unemployment rates (%) from the ONS were as follows

1971	4.1	1977	5.6	*1983*	11.5	*1989*	7.2	*1995*	8.6	*2001*	5.1	*2007* 5.3
1972	4.3	1978	5.5	*1984*	11.8	*1990*	7.1	*1996*	8.1	*2002*	5.2	*2008* 5.8
1973	3.7	1979	5.4	*1985*	11.4	*1991*	8.9	*1997*	6.9	*2003*	5.1	2009 6.1
1974	3.7	1980	6.8	*1986*	11.3	*1992*	9.9	*1998*	6.3	*2004*	4.8	2010 April 7.8
1975	4.5	1981	9.6	*1987*	10.4	*1993*	10.4	*1999*	6.0	*2005*	4.9	
1976	5.4	1982	10.7	*1988*	8.6	*1994*	9.5	*2000*	5.4	*2006*	5.4	

3 In 2007 15–24 year olds constituted 13.37 per cent of the overall population and 20.15 per cent of the working age population (15–64M/59F). See Table 1.4, *Population Trends*, 134, Winter 2008. http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=6303

4 Considerable concerns have been expressed regarding the independence of the OBR and hence on the credibility of its forecasts, not least by Lars Calmfors, ex member of the Nobel Prize Committee for Economics and head of the Swedish equivalent of the OBR, in an article in the *Guardian* on 28 July 2010. "Generating credibility for a fiscal watchdog means taking great care, from the outset, over its reputation. To rush things – by setting up an interim office before thinking about its role and the composition of its directing committee (the budget responsibility committee) had been completed – is the exact opposite of this. Instead, it seems to reflect the political convenience of quickly providing ammunition for swift fiscal consolidation". The OBR's forecasts are unreliable.

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