

ARTICLE

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Characteristics of the underemployed and the overemployed in the UK

SUMMARY

Underemployment and overemployment represent two scenarios whereby there is a mismatch between an individual's preferred and actual number of work hours. This article examines the levels of underemployment and overemployment in the UK between 2001 and 2010, and describes changes at the time of the 2008-09 recession. Characteristics of the underemployed and the overemployed, in terms of work status, age, sex, qualification, occupation and industry, regions, and earnings, are also presented. These findings are reported while considering the impact of underemployment and overemployment on societal well-being.

Introduction

In the labour market, the theoretical assumption is that labour suppliers (workers) will naturally match themselves to jobs offering the number of working hours that they want (Golden and Gebreselassie 2007). In practice, constraints from employers and trade unions, standard hours typical for their industry and lack of labour mobility make this equilibrium difficult to achieve. Consequently, there are mismatches between a worker's actual and preferred number of hours worked, thus creating time-related underemployment and overemployment. Time-related underemployment reflects a desire for more working hours for more pay, whereas time-related overemployment reflects a desire for fewer working hours for less pay. While a mismatch of actual and preferred work hours may arise due to an individual's preferences and circumstances, it may also follow from the cyclical pattern of economic growth. For instance, overemployment may increase when the economy is above trend and decrease when the economy is below trend. For underemployment the opposite cyclical pattern would be expected.

Underemployment and overemployment may take other forms, for example, when there is a mismatch of skills required for the job and the skills possessed by the job-holder (such as under- and over-qualification). For the purposes of this article, however, only the time-related forms of underemployment and overemployment

are considered. These are situations where the worker's preferred and actual working hours differ.

Economic consequences of underemployment and overemployment

Although unemployment is the conventional indicator of the state of the labour market, it may not fully capture the degree of spare capacity. For example, people working even just one hour during the reference week would be defined by the International Labour Organisation (ILO) as employed. For this reason, the full capacity of the labour market would be more accurately determined if underemployment is also taken into the account. In economic terms, underemployment implies extra labour supply that would add to the output of the economy. On the other hand, it may be tempting to assume that extra hours worked would automatically equate to a corresponding increase in production levels. However, there are likely to be hidden costs arising from overemployment, such as worker absences and fatigue, which could result in a decrease in productivity. In short, there are economic incentives to reduce the prevalence of both underemployment and overemployment.

Consequences of underemployment on well-being

From an individual's perspective, a lowering of underemployment and overemployment may benefit physical and psychological

well-being. Although unemployment is most strongly associated with poor economic and social consequences (see McLean 2005), time-related underemployment has nonetheless been found to have a significant and negative impact on aspects such as income level, welfare dependency and life satisfaction (see Wilkins 2007). Additionally, part-time workers who were underemployed (those who were involuntary part-time workers) reported particularly low levels of job satisfaction, although it may be the case that low job satisfaction itself was driving the desire to seek alternative employment (with longer hours), rather than the fact that lack of hours was the cause of low job satisfaction.

In relation to other aspects of mental health, Prause and Dooley (1997) assessed a group of recent school-leavers and found that after controlling for previous measures of self-esteem, compared to those who were adequately employed, self-esteem levels of involuntary part-time workers were significantly lower (and not significantly different from those of the unemployed).

In another longitudinal study, Dooley, Prause and Ham-Rowbottom (2000) found that a change in employment status, from adequately employed to underemployed (in terms of either working part-time involuntarily or receiving a lower wage) led to an increase in depression, even after controlling for previous depression levels and other potential mediating factors such as marital status, income levels and job satisfaction. There is, however, other evidence suggesting that compared to time-based underemployment, other forms of underemployment arising from a shortage of income, demotion in status and underutilisation of skills may create more severe health and mental problems in the individual (Friedland and Price, 2003).

Consequences of overemployment on well-being

In contrast to the well-documented negative effects of unemployment on health and well-being, it has been argued that there is a positive association between employment and well-being (for example, Shah and Marks, 2004). However, this relationship is not as simplistic as it seems, because there is a substantial proportion of the workforce whose well-being may be adversely affected by overemployment (for a review, see Sparks et al, 1997). Clearly, working beyond physical and mental limits causes fatigue. This may lead to a downward cycle where more time spent at work leaves less time

to recover from fatigue. The potential link between overwork and other physiological problems, most notably cardiovascular disease, has received considerable scientific attention (for example, Sokejima and Kagamimori, 1998). Other potential health effects from overwork include musculoskeletal problems, higher risks of accidents and injury due to increased exposure to workplace hazards, and increased alcohol consumption and smoking (Spurgeon, 2003). More time spent at work also means that less time is spent at home and with family. Disruption of work-life balance is a common consequence of overemployment, and has been shown to be associated with increased work-family conflict, and indirectly with psychological distress (Major et al, 2002). Similarly, Artazcoz et al (2009) found that among men, compared to those working normal hours (30-40 per week), those working more than 50 hours per week reported poorer mental health, lower job satisfaction, less leisure-time activity and poorer sleep. The negative association between hours worked and wellbeing has also been shown to be exacerbated if overemployment was mandatory (Golden and Wiens-Tuers, 2008).

Aims of this article

It is notable that some of the research cited in the previous section specifically examined the relationship between wellbeing and number of hours worked, rather than underemployment or overemployment *per se*. While underemployment and overemployment are probably highly correlated with the number of hours worked, these states can be experienced regardless of the actual number of hours worked, so long as there is a preference to work more or fewer hours at the prevailing rate of pay. It is therefore reasonable to suggest that individuals who have self-classified themselves as underemployed or overemployed are more likely to have experienced the negative effects arising from these two conditions.

As will be explained in detail in the next section, the Labour Force Survey (LFS) uses personal preference for hours worked as the basis for classifying people as underemployed or overemployed. Given the negative effects of underemployment and overemployment on physical and mental well-being, this article investigates the prevalence of these two states of mismatch of preferred and actual work hours in the labour market. Recently, the extent of underemployment, and how it has

increased as a consequence of the 2008-09 recession in the UK, have been discussed in the February 2010 issue of the *Economic and Labour Market Review* (Walling and Clancy, 2010). The present article will extend that work by examining the levels of underemployment and overemployment between 2001 and 2010, in order to ascertain whether there were related changes in these two measures, particularly during the 2008-09 recession. This article will also detail the characteristics of the underemployed and the overemployed, and assess how these two subgroups of the workforce are different from each other in terms of these characteristics.

Measuring underemployment and overemployment on the LFS

Questions are included in the Labour Force Survey (LFS) which can be used to measure both overemployment and underemployment in the UK. Responses on these questions, along with International Labour Organisation (ILO) definitions are used to produce an estimate for underemployment and overemployment (see **Box 1** and **Box 2**). Specifically, the LFS asks respondents if they were looking for a different (or additional) job during the reference week (LFS variable DIFJOB), and whether the reason for doing so was due to a desire for fewer or more working hours (LOOKM or LOOK8M, PREFHR). Respondents were also asked (if they were not looking for a different or additional job) whether they would like to work more hours at their current job at their basic rate of pay (UNDEMP), or whether they would like to work fewer hours at their current job (LESPAY2), even if this meant less pay (LESPAY3).

Those wanting to work more hours were only classified as underemployed if they were available to start working extra hours within two weeks, and if their 'constructed' working hours for the reference week fell within a certain threshold (more than 40 hours for people under 18 years of age, and more than 48 hours for people over 18 years of age). Constructed hours were taken to be actual hours worked for the reference week, unless this figure was less than the respondent's usual weekly hours due to non-economic reasons (such as holiday or sick leave), in which case, usual weekly hours was taken to be the constructed hours measure (Walling and Clancy, 2010).

Those wanting to work fewer hours were only classified as overemployed if they were also prepared to be paid less at

Box 1

Measuring underemployment and overemployment

Defining underemployment

The International labour organisation (ILO) defines time-related underemployment as where the number of hours of work for an employed person is insufficient, and that the person is willing to engage in more work and is not already working more than a specified number of hours.

Based on the ILO definition and data from the LFS, employed people (aged 16 or over) are classified as underemployed if:

- they are willing to work more hours because they want a job additional to their current job, want another job with longer hours, or want more hours in their current job
- they are available to start working longer hours within 2 weeks, and
- their 'constructed hours' during the reference week did not exceed 40 hours (if they are under 18 years of age) or 48 hours (if they are over 18 years of age)

Definition of constructed hours

The ILO recommends that actual hours worked for the reference week is used to capture individuals who worked fewer hours than usual due to economic reasons (for example, variable work hours, loss of hours due to industrial disputes or a downturn in business). However, a large proportion of the workers who were working shorter hours than usual in the reference week did so because of non-economic reasons (for example, sickness absence, annual leave). In order to produce an appropriate measure of hours worked in the reference week, the concept of constructed hours was created. This is defined as the actual

number of hours worked in the reference week, unless this was fewer than the number of usual weekly hours due to non-economic reasons, in which case constructed hours equal usual weekly hours.

The **underemployment rate** is the number of underemployed people as a percentage of the total in employment, and excludes people who did not answer the necessary questions to classify them as either underemployed or not underemployed.

Defining overemployment

There is no international definition for overemployment, but in this article, employed people (aged 16 or over) are classified as overemployed if:

- they want to work fewer hours, either in a different job or in their current job, and
- they would accept less pay for shorter hours, either in a different job or in their current job

In this overemployment classification, no threshold for a minimum number of hours worked is applied because it is feasible for a person to want fewer hours even if they are working shorter than average hours.

The **overemployment rate** is the number of overemployed people as a percentage of the total in employment, and excludes people who did not answer the necessary questions to classify them as either overemployed or not overemployed.

Box 2

LFS weighting

Data from the LFS are weighted to reflect the changing population of the UK accordingly. Throughout this article, data up to Q2 (April to June) 2006 were weighted using 2007

population weights, whereas data since Q3 (July to September) 2006 were weighted using 2009 population weights.

the prevailing rate. Rules applied to derive underemployment and overemployment, and the number of people within these categories in Q1 (January to March) 2010 in the UK, are shown in **Figure 1**. In Q1 2010, close to 28.7 million people were in employment. Of these, nearly 3.5 million wanted to work more hours. However, after imposing the criterion relating to availability to start working extra hours within two weeks, and the threshold on constructed hours, just over 2.8 million people were classified as underemployed. Similarly, out of the total workforce, just over 9.8 million people wanted to work fewer hours, but only around 2.8 million of these could be classified as overemployed as they were prepared to be paid less for fewer hours. For the purposes of this article, those who did not express a wish for fewer

or more hours, or failed to be classified as underemployed or overemployed, would be referred to as 'adequately employed'. According to **Figure 1**, the number of people who were adequately employed in Q1 2010 was approximately 23.2 million.

Trends in underemployment and overemployment: 2000-2010

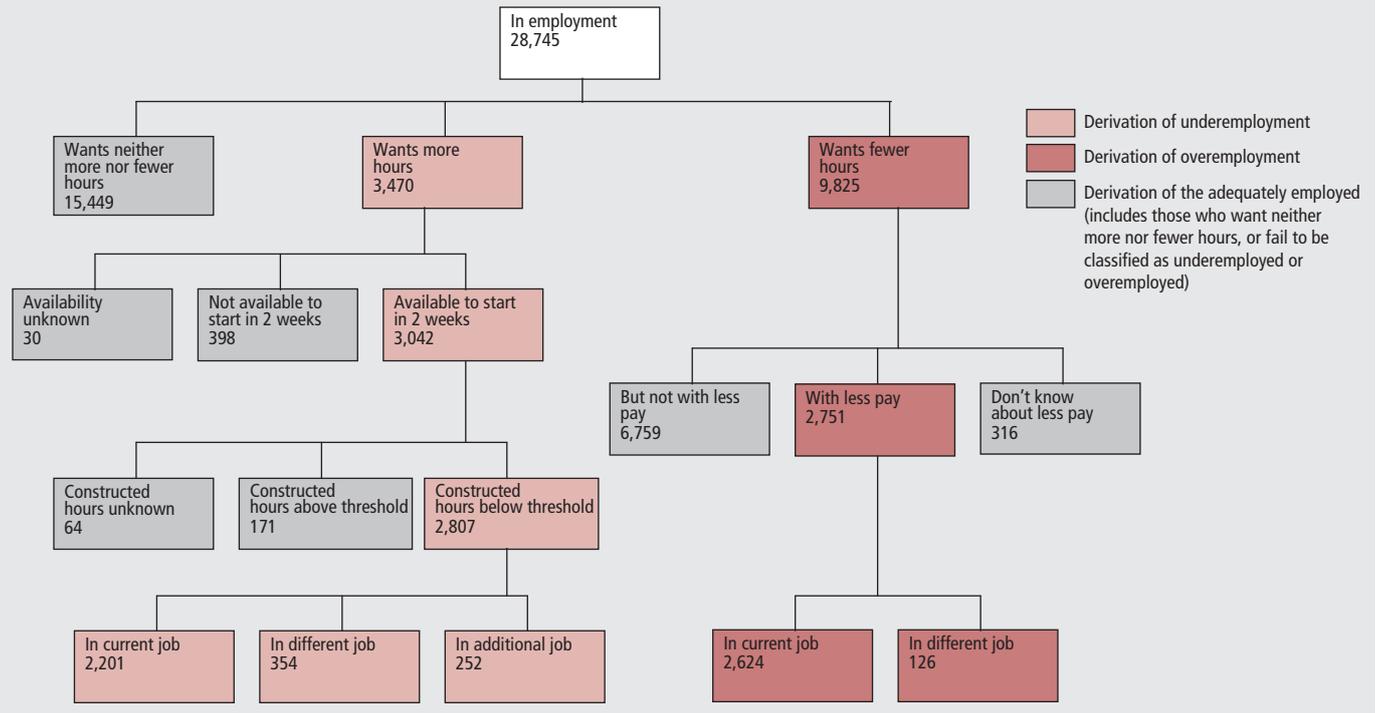
Figure 2 and **Figure 3** show the trends in levels and rates of underemployment and overemployment between Q1 2001 and Q1 2010 (not seasonally adjusted). Underemployment levels declined gradually from the beginning of the decade until 2005, when they began to increase. Overemployment levels, on the other hand, increased gradually from 2000 until 2003, when they began to drop slightly

until 2005. There was a small peak in overemployment in Q4 2007, but this was followed by a sharper decline up to Q2 2009. Interestingly, after nearly a decade in which there were more overemployed than underemployed workers, the pattern was reversed in Q1 2009. Since that quarter, there have been slightly more people who were underemployed than overemployed in the UK. These recent developments in both underemployment and overemployment levels are consistent with expectations of labour market changes during a recession.

As the economy contracted, labour demand (hours of work required by employers) decreased. More people would be underemployed as they were working fewer hours than they preferred. Conversely, those who were previously overemployed might see a decrease in

Figure 1
Underemployment and overemployment, Q1 2010¹

United Kingdom
Thousands, not seasonally adjusted



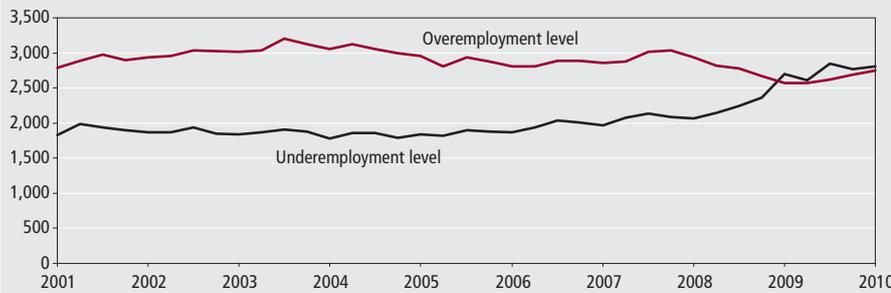
Notes:

1 Numbers do not necessarily add up due to rounding.

Source: Labour Force Survey

Figure 2
Underemployment and overemployment levels, 2001–10¹

United Kingdom
Thousands, not seasonally adjusted



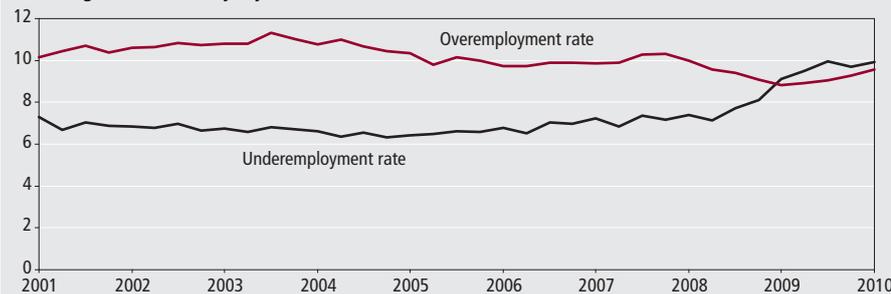
Notes:

1 For each quarter from 2001–10.

Source: Labour Force Survey

Figure 3
Underemployment rates and overemployment rates, 2001–10¹

United Kingdom
Percentages, not seasonally adjusted



Notes:

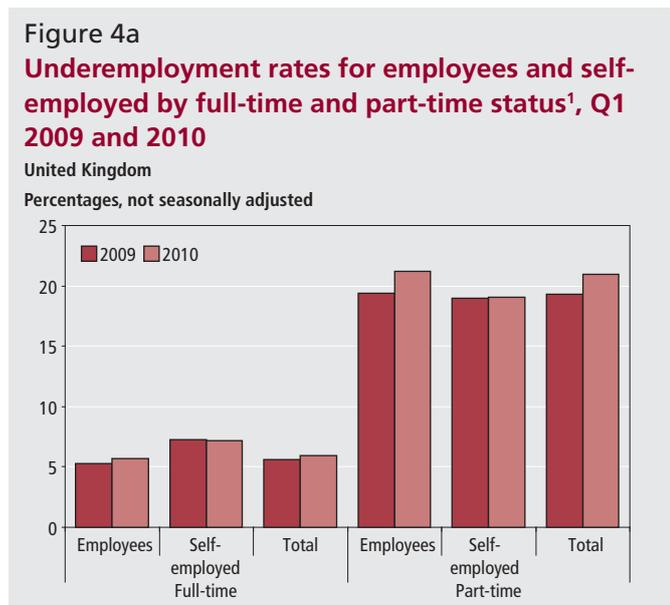
1 For each quarter from 2001–10.

Source: Labour Force Survey

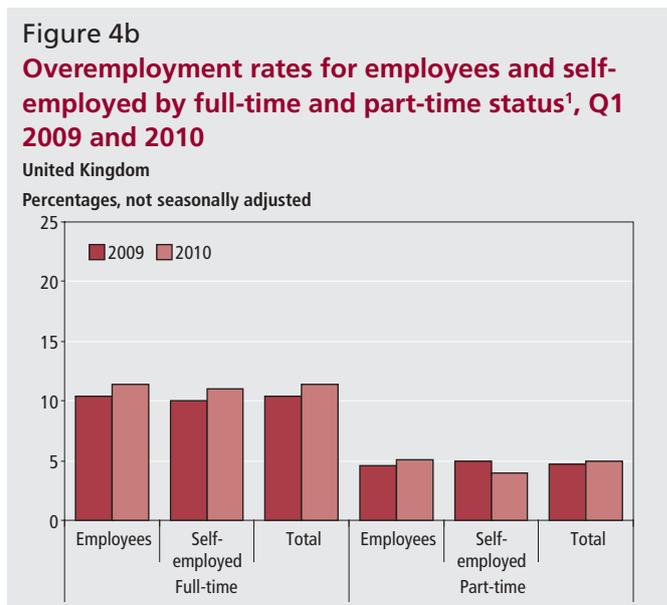
their work hours, and thereby would no longer be overemployed. In terms of societal well-being, during and after the recession, an increasing number of people might be experiencing underemployment and its associated adverse outcomes. However, there might be fewer people overemployed, and those who were no longer overemployed might experience an improvement in their work-life balance, and overall physical and mental well-being.

Characteristics of the underemployed and the overemployed

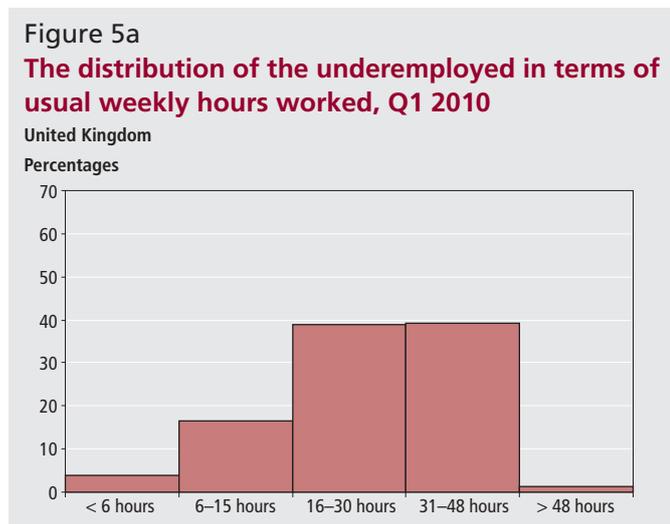
Figure 4a shows the underemployment rates and Figure 4b the overemployment rates in Q1 2009 and Q1 2010, by full-time/part-time and employee/self-employed status. In Q1 2010, about a quarter of all employees and self-employed people worked part-time (26.7 per cent and 25.7 per cent respectively). The underemployment rate in Q1 2010 was lower for people who classified their job as full-time (5.9 per cent) than for people who classified their job as part-time (20.9 per cent). The pattern was reversed for overemployment, where a greater proportion of full-time workers (11.4 per cent) than part-time workers (4.9 per cent) were overemployed. The greater likelihood for part-time workers to be underemployed,



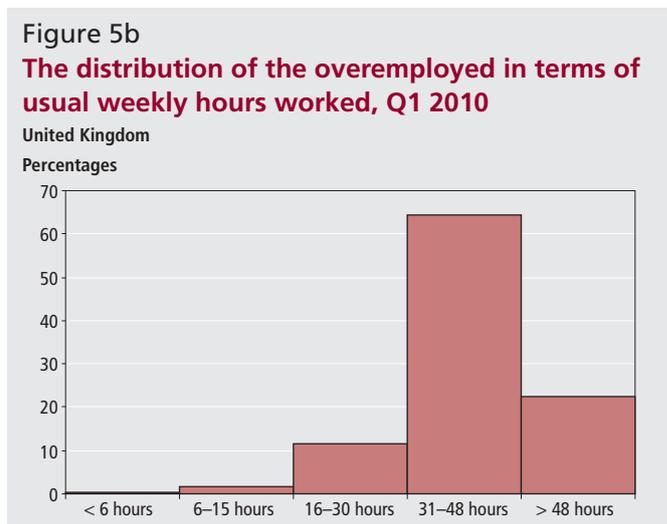
Notes: *Source: Labour Force Survey*
 1 Full-time/ part-time and employee/ self-employed status are self-classified on the LFS.



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 1 Full-time/ part-time and employee/ self-employed status are self-classified on the LFS.



Source: Labour Force Survey



Source: Labour Force Survey

and full-time workers to be overemployed, was observed for both employees and self-employed people. However, within the self-employed, underemployment might arise if there was a desire to expand business. Conversely, the self-employed who reported overemployment could avoid overemployment by turning down business. Hence, the factors underlying both underemployment and overemployment for the self-employed workforce can be further investigated.

Over the year from Q1 2009 to Q1 2010, the underemployment rate increased by 1.6 percentage points for part-time workers, and this increase was larger than that for full-time workers (0.3 percentage points). These changes in the underemployment rates might suggest that a number of workers have become underemployed because they had moved from full-time to part-time

employment as labour demand contracted. According to ONS's Labour Market statistical bulletin in Q1 2010, 14 per cent of the part-time workforce were working part-time because they could not find a full-time job. The analysis here shows that the underemployment rate among part-time workers was 20.9 per cent. The difference between these two figures suggests that some part-time workers might want to work more hours, but not to the extent of what they would consider as full-time hours.

During the same period, however, the overemployment rate also increased, by 1.0 percentage point for full-time workers, and by 0.3 percentage points for part-time workers.

Usual weekly hours

Underemployment and overemployment are examined in greater detail by breaking

down these two groups of people in terms of usual weekly hours of work. As shown in **Figure 5a**, of the underemployed in Q1 2010, the majority worked between 16 to 30 hours (39.0 per cent) or 31 to 48 hours (39.1 per cent). Within the overemployed group, shown in **Figure 5b**, the majority (64.3 per cent) worked between 31 to 48 hours or more than 48 hours (22.4 per cent).

The mean usual weekly hours for people who were neither classified as underemployed nor overemployed (the 'adequately employed') was 36.9 hours. In comparison, the underemployed worked fewer hours (26.7 hours), and the overemployed worked more hours (41.6 hours) on an average week.

The percentage of underemployed and overemployed people grouped by the number of hours they usually worked in a week are shown in **Figures 6a** and **6b**

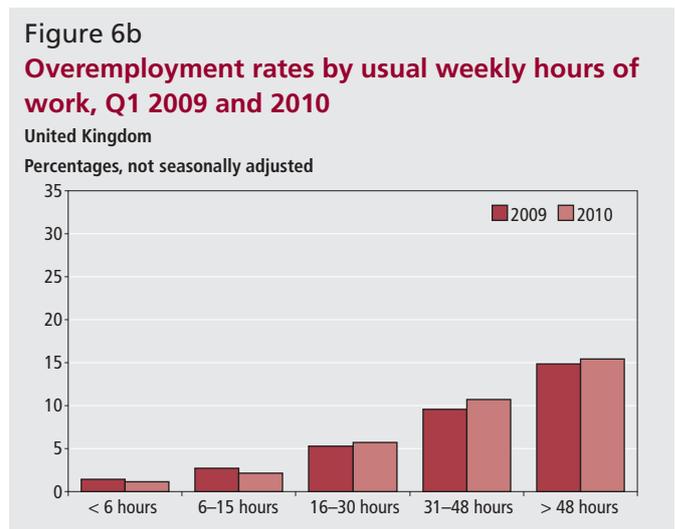
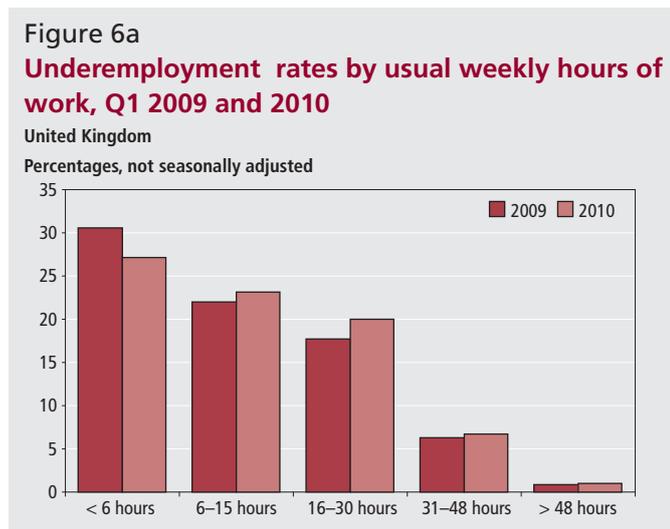


Table 1
Underemployment rates by age, sex and full-time/part-time status, Q1 2010

| United Kingdom | | Percentages, not seasonally adjusted | | | | | |
|--------------------------|----------------------|--------------------------------------|-------|-------|-------|----------|--------|
| | All aged 16 and over | 16-17 | 18-24 | 25-34 | 35-49 | 50-59/64 | 60/65+ |
| All in employment | | | | | | | |
| Total | 9.9 | 22.4 | 17.6 | 9.8 | 9.6 | 7.3 | 4.5 |
| Men | 9.3 | 28.6 | 18.3 | 10.6 | 7.9 | 6.5 | 4.1 |
| Women | 10.6 | 18.3 | 16.9 | 8.8 | 11.5 | 8.5 | 4.7 |
| Part-time | | | | | | | |
| Total | 21.0 | 25.1 | 33.4 | 23.2 | 21.9 | 17.3 | 5.8 |
| Men | 30.2 | 34.7 | 39.0 | 43.5 | 39.5 | 22.4 | 6.2 |
| Women | 18.1 | 19.6 | 29.7 | 18.0 | 19.5 | 15.2 | 5.7 |
| Full-time | | | | | | | |
| Total | 5.9 | 9.3 | 9.4 | 6.9 | 5.7 | 4.1 | 2.0 |
| Men | 6.5 | 9.2 | 10.7 | 8.3 | 6.1 | 4.3 | 1.1 |
| Women | 4.9 | 9.4 | 7.7 | 4.7 | 5.1 | 3.6 | 2.5 |

Source: Labour Force Survey

respectively. People who worked fewer than 30 hours a week were more likely to be underemployed and less likely to be overemployed, than those who worked more than 30 hours a week. Generally, as the number of hours worked increases, the likelihood of underemployment decreases, whereas the likelihood of overemployment increases. In Q1 2010, the underemployment rates were 20 per cent or higher for people who were working 30 hours or fewer a week. The underemployment rate was substantially lower for people working 31 to 48 hours or more a week, and was lowest for those who worked more than 48 hours a week.

The situation was reversed for overemployment. In Q1 2010, overemployment rates were lowest for people who worked 15 hours or fewer per

week. The overemployment rate increased gradually in line with increasing numbers of hours worked per week. People working the most hours (more than 48 hours per week) reported the highest overemployment rate at 15.4 per cent.

From Q1 2009 to Q1 2010, the underemployment rate decreased by 3.4 percentage points for people who worked fewer than 6 hours a week. However, the majority of the workforce (those who worked between 6 to 48 hours a week) experienced an increase in underemployment in the same period. The largest increase was for those who worked 16 to 30 hours per week (2.4 percentage points). This finding may reflect the tendency for firms to reduce the number of hours available to their employees during this period. That is, workers who

used to work a sufficient number of hours might have been asked to work fewer hours, and consequently they had become underemployed. Over the same period, with the exception of those who worked 31 to 48 hours per week (where overemployment rates increased by 1.2 percentage points), there were only minor changes in the overemployment rates for the other usual weekly hours worked categories (all less than 1 percentage point).

Age and sex

In Q1 2010, there were approximately an equal number of men and women who were classified as underemployed (both 1.4 million). **Table 1** shows that the overall underemployment rate for women (10.6 per cent) was higher than for men (9.3 per cent). However, within both full-time and part-time employment categories, men were actually more likely to be underemployed than women (30.2 per cent versus 18.1 per cent for part-time workers, and 6.5 per cent versus 4.9 per cent for full-time workers). This pattern of findings could be at least partly explained by the higher proportion of part-time workers in the female workforce (43.3 per cent) than in the male workforce (12.4 per cent), and the higher proportion of full-time workers in the male workforce (87.6 per cent) than the female workforce (56.7 per cent).

The underemployment rates were higher for people aged under 25 than for other age groups. In Q1 2010, 22.4 per cent of 16- to 17-year-olds and 17.6 per cent of 18- to 24-year-olds were underemployed, whereas all other age groups reported underemployment rates at less than 10 per cent. Given their weaker attachment to the labour market, workers above state pension age (65 for men and 60 for women

Table 2
Overemployment rates by age, sex and full-time/part-time status,
Q1 2010

| United Kingdom | | Percentages, not seasonally adjusted | | | | | |
|--------------------------|----------------------|--------------------------------------|-------|-------|-------|----------|--------|
| | All aged 16 and over | 16-17 | 18-24 | 25-34 | 35-49 | 50-59/64 | 60/65+ |
| All in employment | | | | | | | |
| Total | 9.6 | 2.6 | 3.1 | 7.4 | 10.0 | 14.2 | 11.7 |
| Men | 8.8 | 1.7 | 2.5 | 5.1 | 9.2 | 14.3 | 12.1 |
| Women | 10.4 | 3.3 | 3.6 | 10.1 | 10.9 | 14.0 | 11.6 |
| Part-time | | | | | | | |
| Total | 4.8 | 2.4 | 1.7 | 4.2 | 4.7 | 6.9 | 7.1 |
| Men | 3.4 | 1.0 | 1.3 | 0.9 | 2.8 | 6.1 | 6.1 |
| Women | 5.3 | 3.3 | 1.9 | 5.0 | 4.9 | 7.2 | 7.5 |
| Full-time | | | | | | | |
| Total | 11.3 | 4.2 | 3.8 | 8.1 | 11.7 | 16.5 | 20.7 |
| Men | 9.6 | 4.4 | 3.0 | 5.4 | 9.6 | 15.4 | 21.1 |
| Women | 14.3 | 3.7 | 4.9 | 12.4 | 15.7 | 18.9 | 20.4 |

Source: Labour Force Survey

in Q1 2010) showed the lowest rate of underemployment, at 4.5 per cent.

The higher rates of underemployment in the young were partly due to the higher proportion of part-time workers in those age groups. Specifically, in Q1 2010, 83.4 per cent of 16- to 17-year-olds, and 34.7 per cent of 18- to 24-year-olds worked part-time, compared with 22.6 per cent of all other workers below the state pension age. It is the case, however, that young people working part-time are likely to be working or studying towards a qualification. Underemployment in this group may therefore result due to the lack of hours available which would be compatible with these young people's study or training schedules. In support of this argument, of the underemployed 16- to 17-year-olds in Q1 2010, nearly 80 per cent were working or studying towards a qualification. The corresponding figure for underemployed 18- to 24-year-olds was lower at 32.2 per cent, and lower still at 12.1 per cent for those between 25 years and state pension age who were underemployed.

For young people who were not working or studying towards a qualification, their experience with underemployment might be consistent with the observation that unemployment has been increasing and remained high for this age group in the past decade, with factors such as a lack of qualifications, skills and experience as the main obstacles that prevent this group from obtaining adequate work (Barham et al, 2009). Youth unemployment is of great concern to policy makers due to its long-

lasting negative impact over the lifetime (see, for example, Bell and Blanchflower, 2009), and it remains to be seen whether underemployment too would have similarly permanent adverse effects on the future wellbeing of underemployed youths.

A breakdown of underemployment rates by full-time/part-time status shows that of the part-time workers, young people were more likely to be underemployed than those in the other age groups. For full-time workers, the underemployment rate was highest for people below the age of 25, and decreases gradually with increasing age (see Table 1). Although a high proportion of workers above state pension age work part-time (65.8 per cent), the underemployment rate for this group is low (5.8 per cent). The weaker desire of this age group to seek more work hours may be due to their more secure financial circumstances, and as such there would be less motivation for these people to work more hours for financial gains.

Over the year to Q1 2010, the underemployment rate increased slightly across all age groups. The largest increase, by 1.5 percentage points, was seen in the 18 to 24 age group.

Of those who were overemployed in Q1 2010, 1.35 million were men and 1.4 million were women. As with underemployment, **Table 2** shows that the overall overemployment rate was higher for women (10.4 per cent) than for men (8.8 per cent). Unlike the underemployed group, however, the greater likelihood for women than for men to be overemployed was apparent within both the full-time and

part-time workforce. Apart from the 16- to 17-year-old group working full-time, the gender difference in overemployment was apparent in all age groups below 50 years of age regardless of full-time/ part-time work status. The gender difference was most evident in the age range 25-34, with women around twice as likely as men to be overemployed. Similar findings have been obtained in the United States (Golden and Gebreselassie, 2007), and reflect that childrearing remains a predominantly female role in society. That is, compared to men in the same age range, women of childbearing age reported higher levels of overemployment, perhaps because they experience a greater desire to work fewer hours in order to spend more time with their children and family. Notably, the gender difference diminished in the years before retirement age. For this age group, childrearing responsibilities are likely to be low, and hence the overemployment rates were similar between men and women.

While underemployment was more prevalent among younger than older people, the reverse was true for overemployment. Compared with people below 25 years of age, people over 25 were more likely to be overemployed, with the overemployment rate being highest among people nearing their retirement age (see Table 2). Overemployment remains high for workers above the state pension age. A similar age-related pattern was found within both the part-time and full-time workforce, but when examined in this manner, it was clear that full-time workers above state pension age showed the highest overemployment rate (just over a fifth of the people in this subcategory were classified as overemployed).

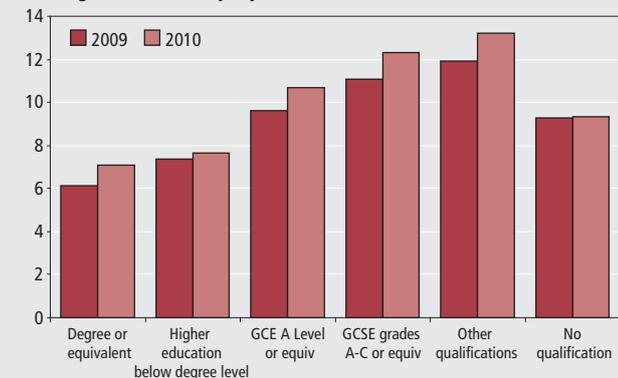
Like underemployment, the age-related pattern seen in the overemployment rate was partly affected by the proportion of workers in full-time (and part-time) employment in each age group. As overemployment was less likely for part-time workers, the younger population, with their greater proportion of part-time workers, were also less likely to report overemployment as a group. Conversely, because full-time work was more prevalent among workers between 25 and state pension age, the overemployment rate was also higher within this age range. Although workers above state pension age were also characterised by their higher probability of working part-time, this group reported high overemployment, again reflecting their weaker attachment to the labour market.

Over the year from Q1 2009 to Q1 2010,

Figure 7a
Underemployment rates by qualification level, Q1 2009 and 2010

United Kingdom

Percentages, not seasonally adjusted

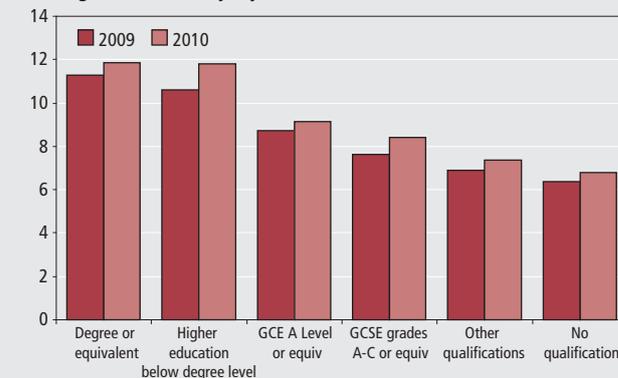


Source: Labour Force Survey

Figure 7b
Overemployment rates by qualification level, Q1 2009 and 2010

United Kingdom

Percentages, not seasonally adjusted



Source: Labour Force Survey

there has been a small increase in the overall overemployment rate, which appears to be in the process of recovering to its pre-recession level. While there has been little change in the overemployment rate among younger workers (16- to 24-year-olds), the remaining three age groups below state pension age (25- to 34-year-olds, 35- to 49-year-olds, and 50 to state pension age) all experienced an increase of 0.7 to 1.0 percentage points in their overemployment rates between Q1 2009 and Q1 2010.

Highest qualification level

People with a degree or equivalent qualification were less likely to be underemployed, and more likely to be overemployed, than other workers. On the other hand, people holding lower levels of qualifications were more likely to be underemployed than other workers with higher or no qualifications, while workers with lower or no qualifications were less likely to be overemployed than other workers (see **Figures 7a** and **7b**).

In Q1 2010, the underemployment rate for people with a degree or equivalent qualification was 7.1 per cent, compared with 11.0 per cent for other workers. This finding may be related to the way that the proportion of people with a degree or equivalent working part-time (19.9 per cent) was lower than that for other workers (29.5 per cent). Those with 'other qualifications' showed the highest level of underemployment (13.2 per cent). It has been shown that a large proportion of people born outside of the UK are categorised in this group of workers holding other qualifications, possibly because of the difficulties in matching foreign qualifications to their

UK equivalents (Clancy 2008, Khan 2008). Thus, it might be the case that foreign-born workers are particularly susceptible to underemployment. Finally, workers with no qualifications showed a moderate rate of underemployment (9.3 per cent). For all categories, underemployment increased from Q1 2009 to Q1 2010 (see **Figure 7a**), with the largest increase observed for people with other qualifications (1.3 percentage points).

As seen in **Figure 7b**, the overemployment rate was over 10 per cent for people with a degree or equivalent and people who have received higher education below the degree level (both at 11.8 per cent). As with underemployment, there appears to be a linear relationship between qualification level and overemployment (though in the opposite direction here). The lowest rate of overemployment was reported by people holding no qualifications (6.8 per cent). This group also reported a moderate level of underemployment. Thus, it seems that overall, the category of people holding no qualifications might appear to be most satisfied with their number of working hours.

Over the year from Q1 2009 to Q1 2010, all groups regardless of their levels of qualifications reported an increase in overemployment. These increases in overemployment rates, however, were minor; the largest increase (1.2 percentage points) was observed in the group with higher education below the degree level.

Occupation and industry

Results from the previous section fit well with the breakdown of underemployment and overemployment rates by occupation.

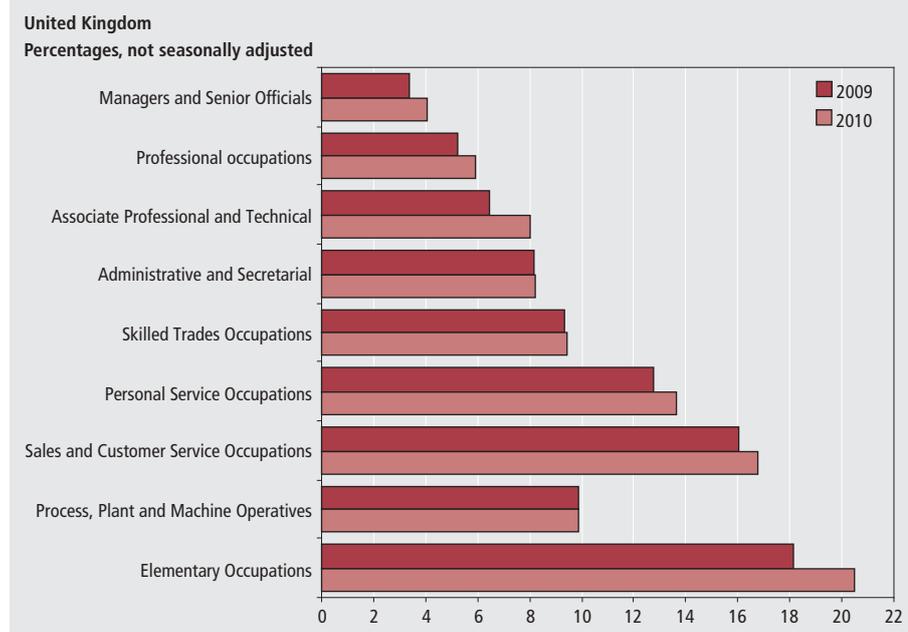
Specifically, occupation categories that generally do not require high levels of qualifications showed high levels of underemployment (see **Figure 8a**) and those traditionally associated with high levels of qualifications showed high levels of overemployment (see **Figure 8b**).

In Q1 2010, the underemployment rate was highest in 'elementary occupations' (20.5 per cent), 'sales and customer service occupations' (16.8 per cent) and 'personal service occupations' (13.6 per cent). These three occupation categories also had the three highest proportions of part-time workers (46.7 per cent, 57.7 per cent and 43.5 per cent respectively). The lowest underemployment rates were found among 'managers and senior officials' (4.1 per cent), and people in 'professional occupations' (5.9 per cent). The association between low-skilled occupations and underemployment has implications on the health and wellbeing of the individuals working in these jobs, as they might more likely experience the negative consequences of underemployment.

A breakdown of overemployment by occupation category shows that occupations requiring higher levels of qualifications were also those where overemployment was most prevalent. In Q1 2010, 'managers and senior officials', and those in 'professional occupations' were more likely to classify themselves as overemployed (at 13.6 per cent and 13.3 per cent respectively). The lowest overemployment rates were found in groups which also showed the highest rates of underemployment, namely 'sales and customer service' (5.7 per cent) and 'elementary occupations' (4.4 per cent).

All occupation groups experienced an

Figure 8a
Underemployment rates by occupation¹

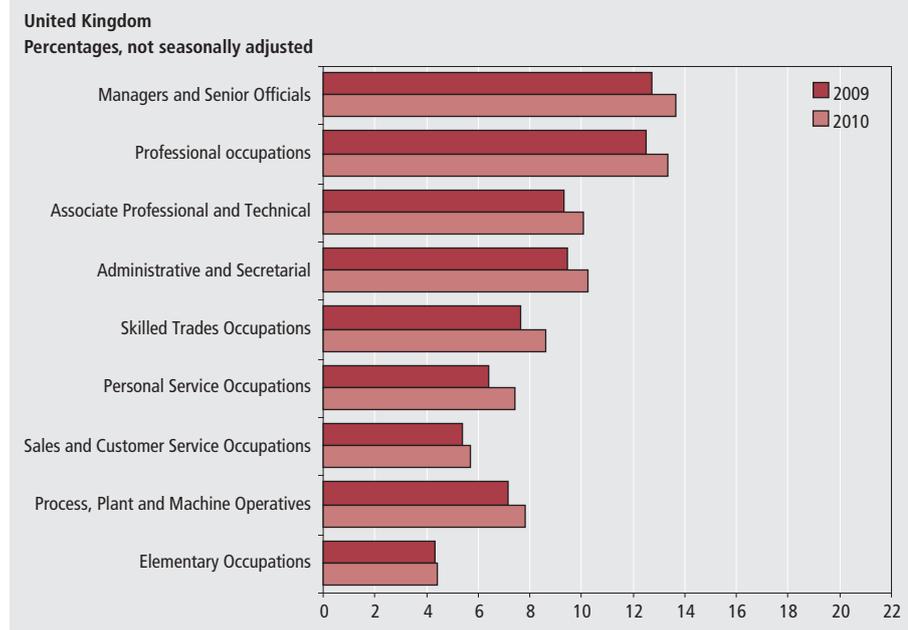


Notes:

1 Occupation of the respondent's main job.

Source: Labour Force Survey

Figure 8b
Overemployment rates by occupation¹



Notes:

1 Occupation of the respondent's main job.

Source: Labour Force Survey

increase in underemployment over the year to Q1 2010 (see Figure 8a). The largest increase occurred in 'elementary occupations' (2.3 percentage points), followed by the 'associate professional and technical' category (1.5 percentage points). All other occupation groups experienced an increase of less than 1.0 percentage point in the underemployment rate. Similarly, all occupation groups showed a minor increase (all no larger than 1.0 percentage points) in the overemployment

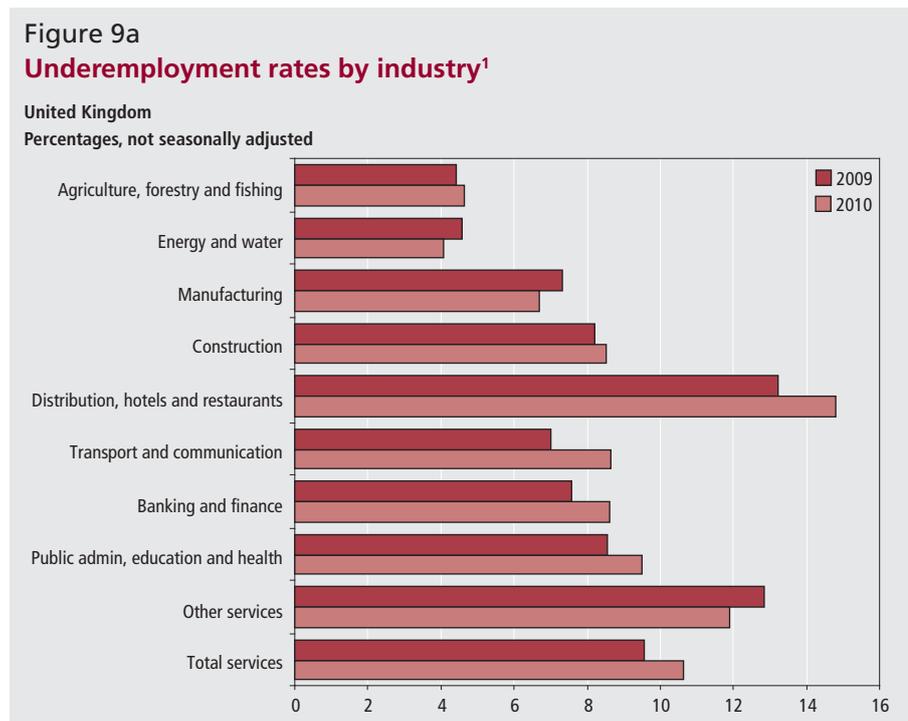
rate from Q1 2009 to Q1 2010 (see Figure 8b). These changes in underemployment and overemployment rates across occupations were consistent with the trends in underemployment and overemployment, as shown in Figure 3. There has been a clear increase in the underemployment rate since 2008, although this increase has become smaller in magnitude over the past year (Q1 2009 to Q1 2010). As for the overemployment rate, following an initial drop (starting from

Q4 2007), it has been steadily increasing since Q1 2009.

Figure 9a shows that the industry sectors with the two highest rates of underemployment were 'distribution, hotels and restaurants' (14.8 per cent) and 'other services' (11.9 per cent). These industry sectors also had the highest proportions of part-time workers (41.4 per cent and 37.8 per cent respectively). The lowest underemployment rates were in the 'energy and water' (4.1 per cent) and 'agriculture, forestry and fishing' (4.6 per cent) sectors. These two sectors also had relatively low proportions of part-time workers (7.7 per cent and 15.6 per cent respectively). 'Energy and water', 'manufacturing' and 'other services' all showed small decreases (1.0 percentage point or less) in underemployment in the year to Q1 2010. However, all other industry sectors experienced an increase in the same period, with the largest increase observed in the 'distribution, hotels and restaurants' and 'transport and communication' sectors (both 1.6 percentage points).

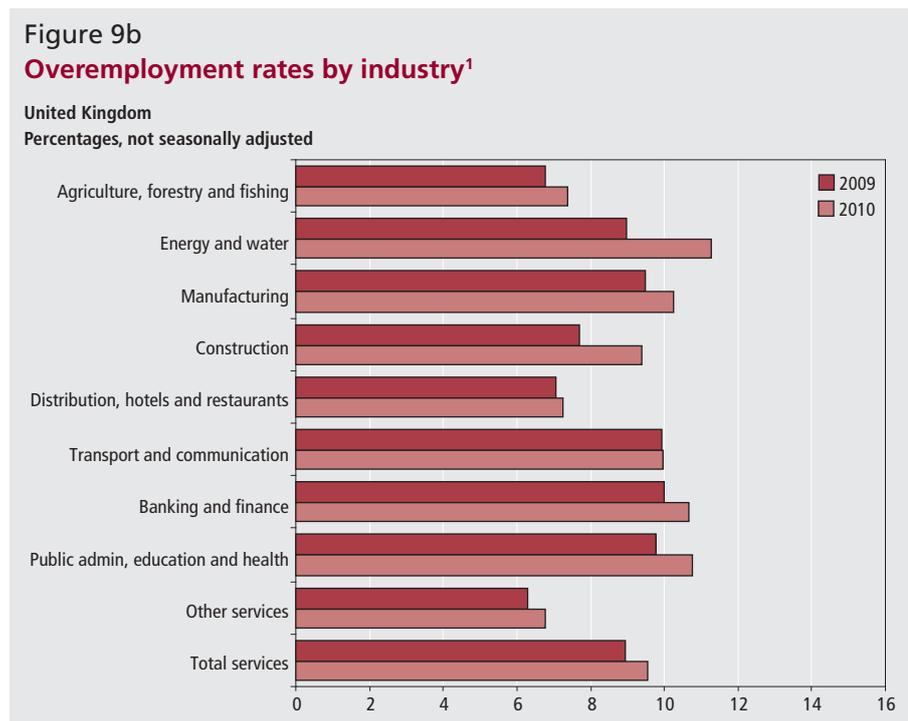
Figure 9b shows the overemployment rates across industry sectors. In Q1 2010, the sectors experiencing the highest rates of overemployment were 'energy and water' (11.3 per cent). Unlike underemployment, there was a more complex relationship between the proportion of part-time (or full-time) workers in the industry sector and overemployment. Although the sector with the highest proportion of full-time workers ('energy and water', at 92.3 per cent) also has the highest rate of overemployment, the sector with the next highest proportion of full-time workers ('construction' at 91.3 per cent) only showed a moderate level of overemployment (9.4 per cent). Furthermore, 'banking and finance' showed a high rate of overemployment (10.7 per cent), despite the fact that for this sector, only 77.8 per cent of its workforce were full-time. That said, the sectors with the lowest proportion of full-time workers ('distribution, hotels and restaurants' at 58.6 per cent, and 'other services' at 62.2 per cent) also reported the lowest rates of overemployment (at 7.2 per cent and 6.8 per cent respectively). This finding complemented the association of high underemployment and high proportions of part-time workers found across industry sectors.

As with the analysis on overemployment in terms of occupation categories, all industry sectors showed an increase in overemployment in the year from Q1 2009 to Q1 2010. 'Energy and water' and 'construction' showed the largest increases



Notes: Source: Labour Force Survey

¹ Industry of the respondent's main job; Total services = 'distribution, hotels and restaurants' + 'transport and communication' + 'banking and finance' + 'public administration, education and health' + 'other services'.



Notes: Source: Labour Force Survey

¹ Industry of the respondent's main job; Total services = 'distribution, hotels and restaurants' + 'transport and communication' + 'banking and finance' + 'public administration, education and health' + 'other services'.

(2.3 and 1.7 percentage points respectively), while the increase in overemployment was smaller in the remaining sectors (all 1.0 percentage point or below).

Region of residence

Figure 10a shows the underemployment rate for regions across the UK. The

overall underemployment rate for the UK in Q1 2010 was 9.9 per cent. The underemployment rate for Northern Ireland was below the UK average, at 5.6 per cent. Wales and Scotland were also slightly below the UK average with underemployment rates of 9.0 per cent and 8.9 per cent respectively. The region in England with

the highest underemployment rate was Yorkshire and the Humber (11.1 per cent). The Eastern region had the lowest underemployment rate (9.2 per cent) of all English regions. Overall, there was little variation in the underemployment rates across regions of Great Britain.

As seen in Figure 10b, the overall overemployment rate for the UK in Q1 2010 was 9.6 per cent. Like underemployment, the overemployment rate for Northern Ireland, at 4.5 per cent, was below the UK average. The overemployment rate in Wales (10.2 per cent) was above the UK average, while it was around the UK average in England (9.7 per cent) and Scotland (9.5 per cent). Similar to underemployment, there was little regional variation in overemployment rates across Great Britain. Of the regions in England, Yorkshire and the Humber reported the highest overemployment rate (10.5 per cent), while the North East reported the lowest overemployment rate (8.6 per cent).

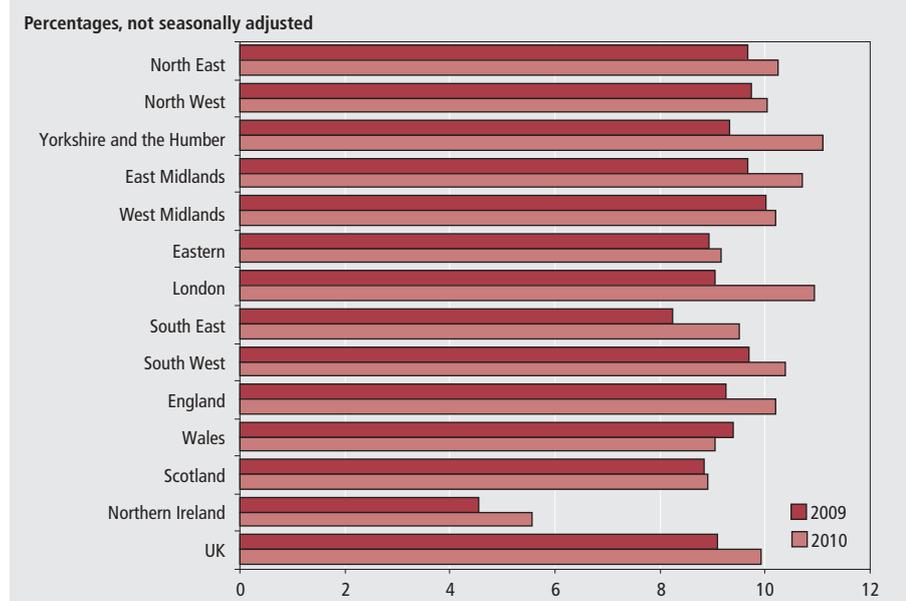
The UK as a whole experienced a small increase (0.8 percentage points) in the underemployment rate in the year to Q1 2010 (see Figure 10). Apart from Wales, where the underemployment rate fell slightly by 0.3 percentage points, every region in the UK showed an increase in underemployment in this period, with the largest increases reported in London (1.9 percentage points) and Yorkshire and the Humber (1.8 percentage points).

There was also a small rise (0.7 percentage points) in the overemployment rate for the UK between Q1 2009 and Q1 2010. Northern Ireland reported a 1.9 percentage points decrease in the overemployment rate, but Wales, Scotland and England all showed an increase (by 1.4, 1.0 and 0.8 percentage points respectively). Of the regions in England, the largest increase in the overemployment rate was in the Eastern region (by 1.3 percentage points), followed by Yorkshire and the Humber and East Midlands (both by 1.1 percentage points).

Earnings

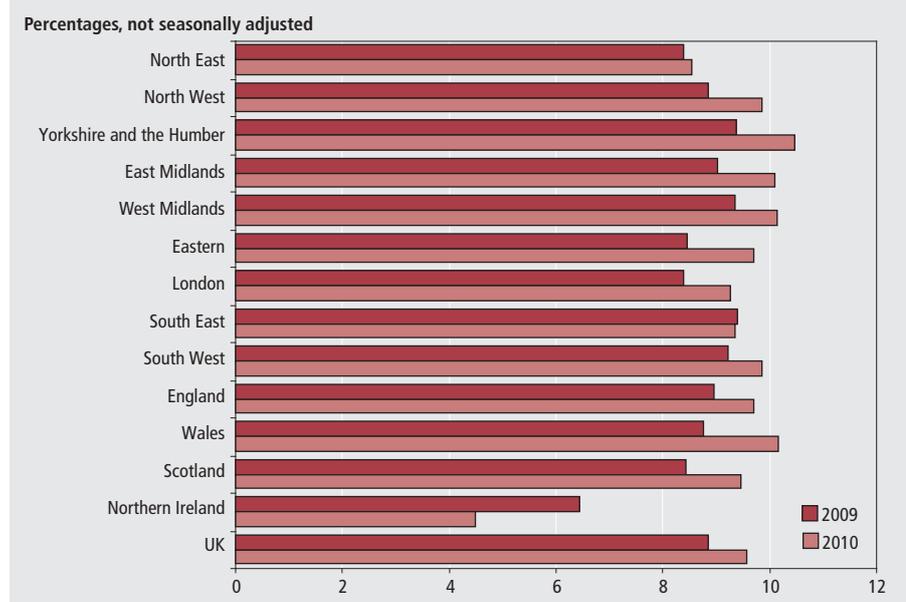
The LFS does not ask respondents why they preferred to work fewer or more hours. However, wanting more hours is likely to be (at least partly) motivated by a desire for an increase in earnings. On the other hand, those who wanted to work fewer hours for less pay might be, compared with their peers in their occupational group, receiving higher earnings. It is therefore useful to compare the earnings of the underemployed, the overemployed,

Figure 10a
Underemployment rates by region



Source: Labour Force Survey

Figure 10b
Overemployment rates by region



Source: Labour Force Survey

and the adequately employed (those who wanted neither more nor fewer hours, or did not meet the classification criteria for underemployment or overemployment, see Box 1). It should be noted here that the Annual Survey of Hours and Earnings (ASHE) is generally preferred to the LFS for earnings information as it is based on company payroll information rather than respondents' answers.

Table 3 shows the average gross weekly and hourly earnings of the underemployed, overemployed and adequately employed in Q1 2010, by occupation group and full-time/part-time status. This analysis

covers employees only, as the LFS does not collect information about earnings from people in other types of employment. On average, for all employees regardless of occupation and full-time/part-time status, the underemployed were earning £200 less than the adequately employed per week, whereas the overemployed were earning £140 more than the adequately employed per week. Within the part-time workforce, the underemployed earned £48 less, and the overemployed earned £86 more than the adequately employed per week. For full-time workers, the underemployed were earning £140 less and the overemployed

£101 more than the adequately employed per week.

This pattern in the data, with the underemployed earning less and the overemployed earning more than the adequately employed, is evident across most of the occupation categories. However, in some cases, the under-earning of the underemployed was not as apparent (for example, those working part-time in 'sales and customer service occupations', and part-time in 'process, plant and machine operatives'). For those working part-time in 'elementary occupations', the underemployed actually earned slightly more than the adequately employed.

Similarly, in some cases, the overemployed did not earn substantially more than those who were adequately employed (for example, full-time workers in 'sales and customer service occupations' and 'process, plant and machine operatives', and part-time workers in 'administrative and secretarial occupations'). For those working full-time in 'administrative and secretarial occupations' and part-time in 'skilled trades occupations', the overemployed actually earned less than the adequately employed.

When considered in terms of average gross hourly earnings, it is also apparent that generally, the underemployed were earning less, and the overemployed more, than the adequately employed. However, as with the gross weekly earnings, the differences between these three groups were more evident in occupational categories that traditionally require more qualified workers (for example, 'managers and senior officials', 'professional occupations' and 'associate professional and technical' occupations) than those that do not (for example, 'personal service occupations', 'sales and customer service occupations' and 'process, plant and machine operatives').

Conclusion

This article examined trends in underemployment and overemployment between 2001 and 2010. For a large part of this period, overemployment levels were greater than underemployment levels. During the 2008-2009 recession, underemployment began to rise sharply. This was accompanied by a decrease in overemployment. However, since 2009, there appears to be a slowing in the increase in underemployment, and a rebound in overemployment towards pre-recession levels. Despite this, in Q1 2010, there were still more people in the workforce identified as underemployed than overemployed, a pattern that has been observed since Q1 2009.

Table 3

Average gross weekly earnings (in £) and hourly earnings¹ (in £) of the underemployed, overemployed and adequately employed,² Q1 2010

| United Kingdom | | | | | | | | | | £, not seasonally adjusted |
|--|-------------------------------|-----|--------------------------|--------------------------------------|--------------------------------|----------------------------|------------------------------|------------------------------|---|----------------------------|
| | Managers and Senior Officials | | Professional Occupations | Associate Professional and Technical | Administrative and Secretarial | Skilled Trades Occupations | Personal Service Occupations | Customer Service Occupations | Sales and Process, Plant and Machine Operatives | Elementary Occupations |
| Average gross weekly earnings | | | | | | | | | | |
| All employees | | | | | | | | | | |
| Underemployed | 245 | 403 | 428 | 374 | 225 | 326 | 175 | 150 | 292 | 152 |
| Overemployed | 584 | 796 | 812 | 602 | 336 | 514 | 257 | 269 | 391 | 316 |
| Adequately employed | 444 | 722 | 677 | 516 | 320 | 425 | 232 | 191 | 378 | 230 |
| Part-time employees | | | | | | | | | | |
| Underemployed | 139 | 270 | 216 | 195 | 156 | 115 | 135 | 110 | 152 | 111 |
| Overemployed | 273 | 407 | 448 | 391 | 195 | 145 | 181 | 132 | 237 | 170 |
| Adequately employed | 187 | 360 | 350 | 299 | 191 | 157 | 151 | 112 | 156 | 106 |
| Full-time employees | | | | | | | | | | |
| Underemployed | 388 | 490 | 568 | 467 | 347 | 388 | 260 | 268 | 369 | 283 |
| Overemployed | 629 | 808 | 844 | 647 | 374 | 539 | 297 | 303 | 399 | 348 |
| Adequately employed | 528 | 752 | 740 | 563 | 388 | 441 | 287 | 299 | 398 | 317 |
| Average gross hourly earnings (all employees) | | | | | | | | | | |
| Underemployed | 9 | 14 | 15 | 12 | 9 | 9 | 8 | 7 | 9 | 8 |
| Overemployed | 15 | 20 | 21 | 16 | 10 | 12 | 8 | 7 | 9 | 8 |
| Adequately employed | 12 | 19 | 19 | 14 | 10 | 10 | 8 | 7 | 9 | 7 |

Notes:

Source: Labour Force Survey

- 1 Average gross weekly and hourly earnings for employees only. Those with gross weekly and hourly earnings of £0, and with hourly earnings of £100 or above were excluded from the analysis.
- 2 The adequately employed were those who did not meet the criteria given in Box 1 to be classified as underemployed or overemployed.

There were many clear differences in the characteristics of the underemployed and overemployed. Specifically, if underemployment was prevalent in a particular subgroup, overemployment tended to be less common in that subgroup and vice versa. To summarise the findings, underemployment was more prevalent in the part-time than full-time workforce and in those whose usual weekly hours were fewer than 30 hours a week. Compared to their older counterparts, younger people, particularly 16 to 17 year-old males, were more likely to be underemployed. In both the part-time and full-time workforce, men were more likely than women to be underemployed. Underemployment was also more common in people with lower levels of qualifications, people working in the 'distribution, hotels and restaurants' industry, and employed in 'elementary' occupations. Due to their insufficient hours, the underemployed also earned less income than those who were adequately employed or overemployed. The disparity in earnings between the underemployed and adequately employed was more evident in roles requiring higher qualifications (for example, 'managers

and senior officials' and 'professional occupations').

In contrast, overemployment was more prevalent in the full-time, rather the part-time workforce. Overemployed people were also more likely to work more than 30 hours in their usual working week. Older people, in comparison to younger people, were more likely to be overemployed. Regardless of part-time/full-time work status, women were more likely than men to be overemployed. Those holding higher, rather than lower (or no) qualifications were more likely to be overemployed. It follows that overemployment was also more common in occupations which are traditionally associated with a highly qualified workforce (for example, 'managers and senior officials', 'professional occupations'). Generally, earnings of the overemployed were clearly greater than those of the adequately employed, although this was not necessarily the case in some occupations (for example, 'full-time employees in administrative and secretarial occupations').

Compared to the pre-recession period between 2001 and 2007, there was a decrease in overemployment and an increase in underemployment during the

2008-09 recession. Although the LFS does not collect data regarding individuals' job satisfaction and other indices of general well-being, on the basis of past research, it is possible to envisage how changes in underemployment and overemployment rates impacted the general well-being of the workers. Specifically, increasing underemployment implies that more people would be subjected to the detrimental effects of underemployment. Conversely, decreasing overemployment suggests that fewer people would be adversely affected by the stress of working more hours than desired.

It is notable that the findings produced here on the characteristics of the underemployed and the overemployed mirrored those for the UK (Simic, 2002) and the US (Golden and Gebreselassie, 2007) for 2001. This implies that the characteristics associated with both of these groups may be relatively stable over time. The changes in the prevalence of underemployment and overemployment around 2008-2009 therefore suggest that more of the younger, the less qualified, and the part-time workers in lower-paid occupations were now experiencing

underemployment and its associated negative effects on well-being. On the other hand, fewer of the older, the more qualified, and the full-time workers in better-paid occupations were experiencing overemployment. The well-being of these individuals as a whole, would likely to have improved.

It has been observed that although the 2008-09 recession originated in the financial sector, job cuts eventually occurred most extensively among the young and in low-skilled, low-paid occupations (Muriel and Sibieta, 2009). This article has shown that underemployment is also more prevalent within these groups. Both of these findings imply that as the economy contracted, the income levels of the young and of people in low-skilled, low-paid occupations decreased at a more rapid rate than others in the working population, thus creating a larger income inequality within the society. Additionally, from a well-being perspective, the economic downturn would also have had different effects for groups on either ends of the socio-economic spectrum. Compared to the pre-recession period, more workers, particularly those who are less qualified and in lower-paid occupations, are now experiencing underemployment and its associated negative consequences on well-being. Concurrently, there has been a decrease in overemployment, which is traditionally linked with more qualified workers in better-paid jobs. Thus, it is likely that fewer individuals in this group are now experiencing overemployment and its possible adverse effects on physical and mental health. Taken together, the 2008-09 recession might have widened inequality within the population, not only in economic terms, but also in terms of societal well-being.

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REFERENCES

- Artazcoz L, Cortès I, Escribà-Agüir V, Cascant L and Villegas R (2009) 'Understanding the relationship of long working hours with health status and health-related behaviours', *Journal of Epidemiology and Community Health* 63, pp 521-527
- Clancy G (2008) 'Employment of foreign workers in the United Kingdom: 1997 to 2008', *Economic and Labour Market Review*, Office for National Statistics, Vol 2, No7, July 2008
- Dooley D, Prause J and Ham-Rowbottom K A (2000) 'Underemployment and depression: Longitudinal relationships', *Journal of Health and Social Behavior* 41, pp 421-436
- Friedland D S and Price R H (2003) 'Underemployment: Consequences for the health and well-being of workers', *American Journal of Community Psychology* 32, pp 33-45
- Golden L and Gebreselassie T (2007) 'Overemployment mismatches: The preference for fewer work hours', *Monthly Labor Review* April, pp 18-37
- Golden L and Wiens-Tuers B (2008) 'Overtime work and wellbeing at home', *Review of Social Economy* 66, pp 25-29
- Khan. K (2008) 'Employment of Foreign Workers: Focus on Earnings', Office for National Statistics, at: www.statistics.gov.uk/cci/article.asp?ID=2072
- Major V S, Klein K J and Ehrhart M G (2002) 'Work time, work interference with family, and psychological distress', *Journal of Applied Psychology* 87, pp 427-436
- McLean C, Carmona C, Francis S, Wohlgemuth C and Mulvihill C (2005) 'Worklessness and health - What do we know about the casual relationship? Evidence review', 1st ed. *Health Development Agency*, London
- Muriel A and Sibieta L (2009) 'Living standards during previous recessions', *Institute of Fiscal Studies (IFS) Briefing Note* BN 85
- Prause J and Dooley D (1997) 'Effect of underemployment on school-leavers' self esteem', *Journal of Adolescence* 20, pp 243-60
- Shah H and Marks N (2004) 'A well-being manifesto for a flourishing society', *New Economic Foundation*, London
- Simic M (2002) 'Overemployment and underemployment in the UK', *Labour Market Trends* August, pp 399-414.
- Sokejima S and Kagamimori S (1998) 'Working hours as a risk factor for acute myocardial infarction in Japan: Casecontrol study', *British Medical Journal* 317, pp 775-780.
- Sparks K, Cooper C, Fried Y and Shirom A (1997) 'The effects of hours of work on health: A meta-analytic review', *Journal of Occupational and Organizational Psychology* 70, pp 391-408
- Spurgeon A (2003) 'Working time: Its impact on safety and health', *International Labour Organization (ILO)*, Geneva
- Walling A and Clancy G (2010) 'Underemployment in the UK labour market', *Economic & Labour Market Review* 4, pp 16-24
- Wilkins R (2007) 'The consequences of underemployment for the underemployed', *Journal of Industrial Relations* 49, pp 247-275.