

Skilled Shortage Sensible

**First review of the recommended
shortage occupation lists for the
UK and Scotland: Spring 2009**

Migration Advisory Committee

April 2009

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Chairman's foreword



After a decade and a half of steady growth, employment is on the decline in the UK. All indicators point to the economic downturn impacting on the labour market. Vacancies have fallen significantly in the last year while unemployment and redundancies are sharply up. In such circumstances it is entirely appropriate that the Points Based System (PBS) in general, and the shortage occupation lists in particular, are reviewed to assess what modifications are required to ensure they operate to the benefit of UK citizens and workers.

This report deals with the shortage occupation lists (one for the whole of the UK and one specifically for Scotland), a key feature of Tier 2 of the PBS. Tier 2 is for skilled workers with a job offer. The Migration Advisory Committee (MAC) published its first such lists in September 2008. This report is an interim six-monthly review. It includes an analysis of occupations and specific job titles, including: (i) those the Government asked us to review, including social workers and social care; (ii) those identified by us in the September 2008 report as being in possible shortage but where no evidence of shortage was received from stakeholders, such as welders and musicians; (iii) health-related occupations, a key area where the evidence base has started to improve; and (iv) some occupations in construction, a sector badly hit by the economic downturn.

We have used a method of investigation similar to that used in our September 2008 report. For an occupation to be included on the list it must pass three hurdles. First, it must be skilled. Second, it must be in shortage. Third, it must be sensible to fill that shortage using immigration from outside the European Economic Area. The report is evidence-based: we analysed national data sets (top-down evidence) and consulted widely with stakeholders (bottom-up evidence).

Labour shortages come in a variety of forms. It is a mistake to think all such shortages will be eliminated by the upheaval in the labour market. Where a sector is badly hit by the recession – construction for example – it is likely that the severity of labour shortage will be reduced, or that it will be eliminated altogether. But if a shortage is structural – caused for example by insufficient investment in skills or poor forward planning – it is likely to persist even during a recession. And some shortages reflect Britain's position at the peak of a global labour market for talent: examples include the culture, media and arts industries. Finally, some shortages reflect constraints on public expenditure; these need very careful monitoring because immigration in such occupations may provide a short-term fix, but also has the potential to inhibit necessary up-skilling and to dampen pay.

We are conscious that the present turmoil in the labour market will not last for ever. Some forward thinking is required concerning the future balance of labour supply and demand; in particular with occupations such as nuclear engineering. Some such occupations will be examined in our next report due in autumn 2009. By this time the MAC will have reviewed all occupations on the September 2008 lists; examined the calibration of points under PBS Tier 1 (workers able to come to or remain in the UK without a job offer); analysed the various entry routes under Tier 2; and set out our analysis of the economic contribution of dependants.

The MAC is once again indebted to its secretariat for its professionalism, hard work, initiative and excellent organisation.

A handwritten signature in black ink, reading "David Metcalf". The signature is written in a cursive, slightly slanted style.

Professor David Metcalf CBE

The Migration Advisory Committee and secretariat

Chair



Professor David Metcalf CBE

Members



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Summary

In September 2008 the Migration Advisory Committee (MAC) published its first recommended shortage occupation lists (one for the whole of the UK and one specifically for Scotland). This report provides the first partial review of our recommended lists.

The Government announced in November 2008 that it accepted our recommended shortage occupation lists in full, with the temporary addition of social workers. The shortage occupations lists became operational with the introduction of Tier 2 of the Points Based System (PBS) in November 2008.

In this report we review ten occupations that exhibited signs of potential shortage in our last review, plus all healthcare occupations. In addition to social workers, the Government also asked that we review care assistants and home carers in this report, and we consider those too. Finally, we review some occupations included on our September 2008 lists, notably construction-related ones, in the light of newly emerging evidence.

The UK labour market context and immigration context

Rapid changes have occurred in the economy and labour market since our report in September 2008: the UK is now in recession; vacancy levels have fallen; and unemployment rates and redundancy levels have risen steeply.

Not all occupations are affected by the recession in the same way. For example, vacancies in lower-skilled occupations have fallen substantially

in the last year. During the same period, some managerial and associate professional occupations have experienced an increase in vacancies. Demand in some sectors, such as health and social care, may not be affected to such a great extent by the economic cycle.

Approach and methodology

We have applied the general conceptual approach used in our previous report to drawing up the shortage occupation lists for the UK and Scotland. Inclusion of an occupation or job title on our shortage occupation lists requires that it is skilled, it is suffering from labour shortage and that it is sensible to fill the shortage using labour from outside the European Economic Area (EEA).

When addressing these questions, we used a hybrid method that combined the consistency and comprehensiveness of a top-down approach (using national-level data) with the fine-grained detail and contextualisation of a bottom-up method (using evidence relating to particular categories of jobs and sectors). We again worked with the Standard Occupational Classification system 2000 (SOC 2000), which breaks the labour market down into 353 occupations.

For the top-down approach we analysed the best and most relevant national labour market data. Bottom-up evidence came from examination of individual occupations and job titles. Crucially, this was informed by engagement with, and evidence from, a variety of stakeholders, including in face-to-face meetings, workshops and written submissions of evidence.

Results

Our new recommended shortage occupation list for the UK is set out in Chapter 8. The Government will announce in due course whether it is going to accept our recommendations.

Although it is not possible to calculate precise numbers, we estimate that the occupations on our new UK list account for approximately 530,000 employees, amounting to approximately 2 per cent of total employment in the UK. This estimate relates to the number of people (immigrants and non-immigrants) currently working in these occupations and job titles. It does not indicate potential flows of immigrants into job titles and occupations on the list, nor the number of vacancies currently available.

We recommend a revised list of healthcare occupations, with some additions and removals, and the continued inclusion of social workers who work with children and families. We adjust our skills threshold for social care occupations. Demand for labour in these occupations is not heavily influenced by the economic cycle. They are also heavily dependent on public sector funding, so the scope to raise wages in order to reduce labour shortages may be limited in the short term.

In response to the labour market impact of the recession, we recommend the suspension of two occupations/job titles within the construction sector from the shortage occupation list. This sector has been particularly affected by the deteriorating economic circumstances since our last report. We will carry out a full review of these two occupations/job titles in our next update in autumn 2009.

The Scotland list

Scotland's economy is currently experiencing a downturn which is impacting on the labour market to a similar extent as in the UK as a whole: the employment rate and vacancy numbers are falling, while unemployment is increasing.

Less than one per cent of the 69,800 vacancies reported in the most recent Scottish Employer Skills Survey were related to skills shortage vacancies. Associate professional and technical occupations had the highest proportion of such vacancies as a share of employment.

Our revised recommended shortage occupation list for Scotland is discussed in Chapter 9. Again, the Government will announce in due course whether it is going to accept our recommendations.

Next steps

Given the rapidly changing economic circumstances, we have decided to review all of the occupations and job titles on the lists we recommended in September last year, in either this report or our next one in autumn 2009. We still plan to fully review the whole labour market every two years and to carry out a partial review every six months.

A full list of the occupations we plan to review in the next six months is set out in Chapter 10. However, we may recommend inclusion, or removal, of any occupation from the list at any time if we believe there is a robust case for doing this.

Stakeholder input is essential to inform our advice to the Government. We will continue to hold periodic meetings of our Stakeholder Panel and Forum, to visit employers and other stakeholders, and hold other events. We continue to welcome evidence from stakeholders. Chapter 10 details how to submit evidence to the MAC.

We are currently commissioning various research projects in order to inform potential refinements to our methodology. We will draw on the findings and results of these projects as they progress, although a comprehensive review of our top-down methodology to identify shortages in skilled occupations is not planned until our complete review in autumn 2010.

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Chapter 1: Introduction

1.1 The work of the Migration Advisory Committee

- 1.1 The Migration Advisory Committee (MAC) was set up by the Government in 2007 as an independent non-departmental public body to provide evidence-based advice to the Government on where shortages of skilled labour can sensibly be filled by immigration from outside the European Economic Area (EEA). The Government also asks the MAC to provide advice on other immigration issues from time to time.
- 1.2 The members of the MAC were appointed in October 2007 and we had our first meeting in December 2007. We produced our first report in January 2008 setting out our preliminary comments on data and methodology. A fuller report on our methodology was produced one month later, followed by our first recommended shortage occupation lists in September 2008 (*Skilled, Shortage, Sensible: The recommended shortage occupation lists for the UK and Scotland*, Migration Advisory Committee, 2008b).
- 1.3 In November 2008 we produced a report to the Government on the labour market impact of relaxing the current restrictions on the employment in the UK of Bulgarian and Romanian nationals. In March 2009 we reported to the Government on the likely impact on the labour market of relaxing transitional measures on nationals from the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia (the so-called A8 member states).
- 1.4 In our September 2008 report we said that we would partially review the shortage occupation lists every six months and fully review all skilled occupations at least every two years. This present report is our first review of the current shortage occupation lists.
- 1.5 The advantage of partial reviews of the lists every six months is that we are able to look at some occupations in much greater detail and to work closely with expert bodies and employers to improve the evidence provided to us. In this report we have been able to do this in relation to jobs and occupations in key areas including healthcare, social care and social work.
- 1.6 We are mindful of the rapid changes that have occurred in the economy and labour market since our report in September 2008: the UK is now in recession. In Chapter 2 of this report we examine recent labour market and economic data. Deteriorating labour market conditions will reduce some shortages quickly and, where necessary, we recommend immediate action to take these occupations off the shortage lists.

Shortages in other occupations are much less responsive to changes in the economic cycle. For example, even if an increased supply of staff is available, it will often take time to train skilled workers. Through this report and our next one in September 2009, we plan to review all of the occupations on our original September 2008 shortage occupation lists to take account of the changing economic circumstances.

1.2 How did we choose which occupations to review?

- 1.7 In our September 2008 report we said that we would work with all relevant organisations across the health sector to establish more comprehensive data and hence provide better evidence on shortage occupations within this profession. We report on healthcare occupations in this report.
- 1.8 In its response to our September 2008 recommended shortage occupation lists, the Government asked that we review some specific occupations, namely social workers, care assistants and home carers, town planners, teachers and chefs. In this report we review two of these occupations: social workers, and care assistants and home carers. As agreed with the Government, the remainder will be reviewed in our next report in autumn 2009.
- 1.9 We also identified in our September report a number of occupations which passed on at least 50 per cent of our indicators of labour shortage, a relatively high number, but for which we did not receive any other substantive evidence. This suggested four possibilities to us: either there was a shortage within those occupations but stakeholders within the relevant sectors were not aware of it; or they were aware of the shortage but were not aware of the

MAC as a means to try and address this; or the shortage occupation route was not seen as the appropriate route for addressing the shortages; or the top-down analysis wrongly indicated a shortage. We felt it important that we explored these issues further and identified whether ameliorative action was needed. Therefore, we review the following occupations: computer engineers, installation and maintenance; dispensing opticians; hairdressing and beauty salon managers and proprietors; metal machining setters and setter-operators; midwives (included within health occupations); moulders, core makers and die casters; musicians; photographers and audio-visual equipment operators; steel erectors; and welding trades.

- 1.10 Finally, we conducted at least a partial review of some other occupations on our previous recommended lists, either to take account of new evidence not previously available, or to take account of rapid changes in the labour market following the onset of the economic downturn, most particularly in the construction sector. We report here on the results of these exercises.

1.3 Recent developments in the Points Based System

- 1.11 Further elements of the new Points Based System (PBS) for managing immigration have been rolled out by the Government since our September report. The PBS is comprised of five tiers of entry to the UK. Tier 1 is for the highly skilled and has several routes of entry, namely for individuals possessing a specified minimum educational qualification and salary level; applying to work after completing a course of study of sufficient length and qualification standard; and coming as an investor or as an entrepreneur.

- 1.12 Tier 2 is for skilled migrants with a job offer to fill gaps in the UK labour force and, again, has several routes of entry to the UK: into jobs that have been advertised in the UK without attracting successful applicants (the Resident Labour Market Test); filling jobs on the Government's shortage occupation list; transfers within companies; and as a sportsperson or minister of religion.
- 1.13 Tier 3 is for low-skilled workers to fill temporary labour shortages and is presently suspended, although there are specific quota schemes for nationals of Bulgaria and Romania. Tier 4 is for those wishing to study in the UK and Tier 5 is for temporary workers and has several routes of entry, namely: creative and sporting people coming for up to 12 months; charity workers; religious workers; those under contract to do work covered under international law; those coming under a Government-authorized exchange scheme; and those coming under a youth mobility scheme.
- 1.14 Prospective immigrants under the PBS need to score sufficient points depending on which tier they are applying under. Points are earned for qualifications, previous earnings, funds, standard of English, and for holding a valid certificate of sponsorship from a licensed sponsor.
- 1.15 Tier 1 of the PBS was rolled out on 30 June 2008 and Tiers 2 and 5 were introduced on 27 November 2008. Tier 4 was implemented at the end of March 2009.
- 1.16 The Government asked that the MAC produce two separate recommended shortage occupation lists for use in Tier 2 of the PBS, one for the whole of the UK and one just for Scotland. We produced our first recommended shortage occupation lists in September 2008. The Government announced in November 2008 that it accepted our shortage occupation recommendations without exception and that it had also decided to retain social workers from the previous work permit list while we considered evidence in relation to this occupation that was not previously available to us.
- 1.17 The shortage occupation lists have been introduced alongside Tier 2 and are being used by both employers and the UK Border Agency (UKBA). We had hoped to be in a position to offer comment on emerging data from the implementation of Tier 2 and the shortage occupation lists but we have concerns about the availability of data being captured through the PBS. It is important for our work, and for those outside the PBS who wish to analyse its operation, that the management information available is comprehensive and classified according to standard systems such as the Standard Occupational Classification (SOC). We understand that, presently, this is not the case and we urge the UKBA to address this as a matter of urgency.
- 1.18 The Home Secretary recently announced changes to the PBS, namely, from 31 March:
- requiring that employers advertise jobs to resident workers through Jobcentre Plus before being able to bring in a worker from outside Europe through the resident labour market test route in Tier 2;
 - using each shortage occupation list to trigger skills reviews focusing on up-skilling resident workers; and
 - introducing new criteria against which highly-skilled migrants seeking entry to the UK are judged, by raising the qualifications and salary required for Tier 1 (General) of the PBS to a Master's degree and a minimum salary of £20,000.

1.19 The Home Secretary also asked us to carry out further work in relation to the PBS, and that is discussed further in Chapter 10 of this report.

1.4 Report structure

1.20 The structure we have used here largely mirrors that of our September 2008 report. Chapter 2 provides the context for the report. It sets out information about the labour market in the UK, immigration stocks and flows, and new developments in relevant literature. Chapter 3 rehearses our methodology as set out in more detail in earlier reports, explains how this was applied to the evidence for this review and describes some minor amendments that we have made to our methodological approach.

1.21 Chapters 4 to 7 discuss individual occupations. Chapter 4 looks in detail at occupations in the health sector (including midwives). It also trails our next major sectoral review of occupations within the engineering Standard Occupational Classification system (SOC) codes, to be completed by autumn 2009. Chapter 5 discusses in detail the occupations the Government asked that we look at. Chapter 6 looks at those occupations that previously demonstrated top-down shortages but for which no other substantive evidence was provided, as identified in our September report. Chapter 7 addresses evidence and data we have gathered relating to occupations on the current shortage occupation lists.

1.22 Chapters 8 to 10 provide results and conclusions. Chapter 8 gives our revised recommended shortage occupation list for the UK and sets out the implied changes to the current shortage occupation list. Chapter 9 provides our revised recommended shortage occupation list for Scotland. It discusses the evidence we have received pertaining to Scotland and includes updated information about its labour market. Chapter 10 discusses our conclusions and next steps.

1.5 Thank you

1.23 We are extremely grateful to the organisations and individuals who contributed to this report by giving us their views in person or by submitting evidence to us.

1.24 We include throughout this report quotes (in boxes) from people and organisations who provided inputs to us. We are already working for our next partial review of the shortage occupation lists and we will publish our findings in autumn 2009. We continue to welcome evidence from stakeholders to inform that process.

Chapter 2: **Context**

2.1 Introduction

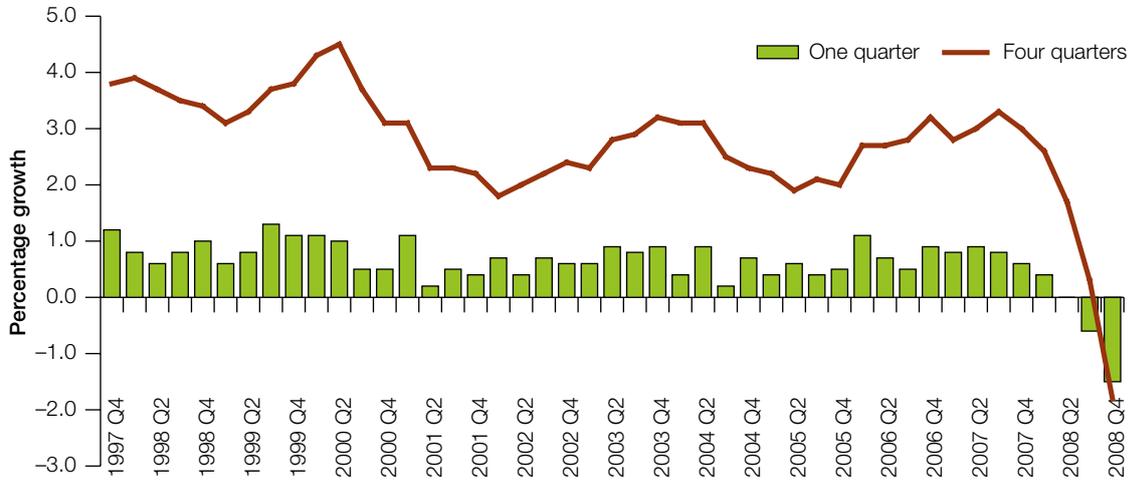
2.1 This chapter examines the wider background to our recommendations. First, we present a macro-economic overview. Next, we look at UK labour market data. Third, we examine the latest data on immigration stocks and flows. Finally, we examine recent contributions to the empirical literature on the economics of immigration. The chapter concludes with a brief overview of the potential implications for our work arising from the current economic climate and recent empirical findings on the economic impact of immigration.

2.2 The UK economy

2.2 The UK is currently in recession, linked to the global economic downturn, and most experts agree that the short-term prospects for the UK economy are gloomy.

2.3 From 1992 to 2007 the UK experienced a continuous period of sustained economic growth, averaging real growth of 2.8 per cent per annum, with an annual growth rate of 3.1 per cent in 2007. However, in 2008 this fell to 0.7 per cent growth (Office for National Statistics, 2009a) and the growth rate will go negative this year if the UK remains in recession. Figure 2.1 shows that in the second half of 2007 the growth rate started to decline and that by the third quarter of 2008, it was negative. Negative growth in the last quarter of 2008 implies an official recession by accepted definitions.

Figure 2.1: One-quarter and four-quarter growth of real gross domestic product, 1997 Q4 to 2008 Q4



Note: Seasonally adjusted, market prices, chained volume measure, reference year 2003.
 Source: Office for National Statistics, 2009a

2.4 Short- and medium-term forecasts are subject to exceptional uncertainty and continue to be revised. The IMF (2009) predicts that the UK economy will contract by 2.8 per cent for 2009, but begin recovery in 2010 with growth of 0.2 per cent. In its winter forecast, the ITEM Club (2009) says it expects UK gross domestic product (GDP) to fall by 2.7 per cent over 2009, business investment to fall by 17 per cent, and half a million people to lose their jobs.

2.5 Latest figures (based on models of the UK economy which closely track official estimates) from the National Institute for Economic and Social Research (NIESR, 2009) estimate that output fell by 1.7 per cent in the three months ending in January 2009, after a fall of 1.6 per cent in the last quarter of 2008. The current level of economic activity has declined to the level

observed in January 2007, and is 3.3 per cent below that observed in April 2008. NIESR argues that the rate of contraction shows little sign, so far, of easing.

2.6 According to the CBI (2009), the rapidly deteriorating global economy and the continued difficulties UK businesses are facing in accessing credit will push the economy deeper into recession in 2009. It predicts that the economy will contract by 3.3 per cent by the end of the year. After six quarters of negative growth, the economy is expected to stabilise early in 2010 with the recovery building throughout the year. The CBI service sector survey reported that jobs are being lost in the service sector at the fastest rate in over ten years as the recession deepens.

2.7 The rate of inflation, as measured by the rate of change of the Consumer Prices Index, has fallen following a peak in the

growth of commodity prices in September 2008; in January 2009 it fell to below June 2008 levels (Office for National Statistics, 2009a). The ITEM Club (2009) predicts that the headline Retail Price Index (RPI) will turn sharply negative this year.

2.3 The UK labour market

2.8 Since our report to the Government in September 2008, there have been significant developments in the UK labour market in response to the UK and global economic downturn. Before we review these, it is worth briefly summarising some of the relevant longer-term trends.

2.9 Although the UK and the global economy are currently experiencing a downturn, the total employment rate has remained broadly stable over the long term, some cyclical fluctuations notwithstanding. This is because employment has grown in line with the working-age population. The number of employed people of working age has grown by 4 million since 1978 and the working-age population has grown by 5 million over the same period. The employment rate has remained stable at around three-quarters of the population of working age (Office for National Statistics, 2009a). Economic inactivity rates among men are much higher than 30 years ago, while female inactivity has declined over the same period.

Table 2.1: Employment, unemployment and inactivity: 1978, 1988, 1998 and 2008

	All (aged 16 to 59/64) (000s)	Total in employment (000s)	Economic activity rate (%)	Employment rate (%)	Unemployment rate (%)	Economic inactivity rate (%)
Total working age						
1978	32,678	24,161	78.3	73.9	5.6	21.7
1988	34,623	25,333	80.1	73.8	8.7	19.9
1998	35,441	26,019	78.4	73.4	6.8	21.6
2008	37,742	28,127	79.1	74.5	5.8	20.7
Male working age						
1978	16,997	14,858	92.1	87.4	5.1	7.9
1988	17,995	14,544	88.6	80.8	8.8	11.4
1998	18,274	14,328	84.3	78.4	7.0	15.7
2008	19,688	15,452	83.7	78.5	6.3	16.3
Female working age						
1978	15,681	9,303	63.4	59.3	6.4	36.7
1988	16,628	10,789	70.9	64.9	8.5	29.1
1998	17,166	11,692	72.1	68.1	5.6	27.9
2008	18,054	12,675	74.2	70.2	5.4	25.8

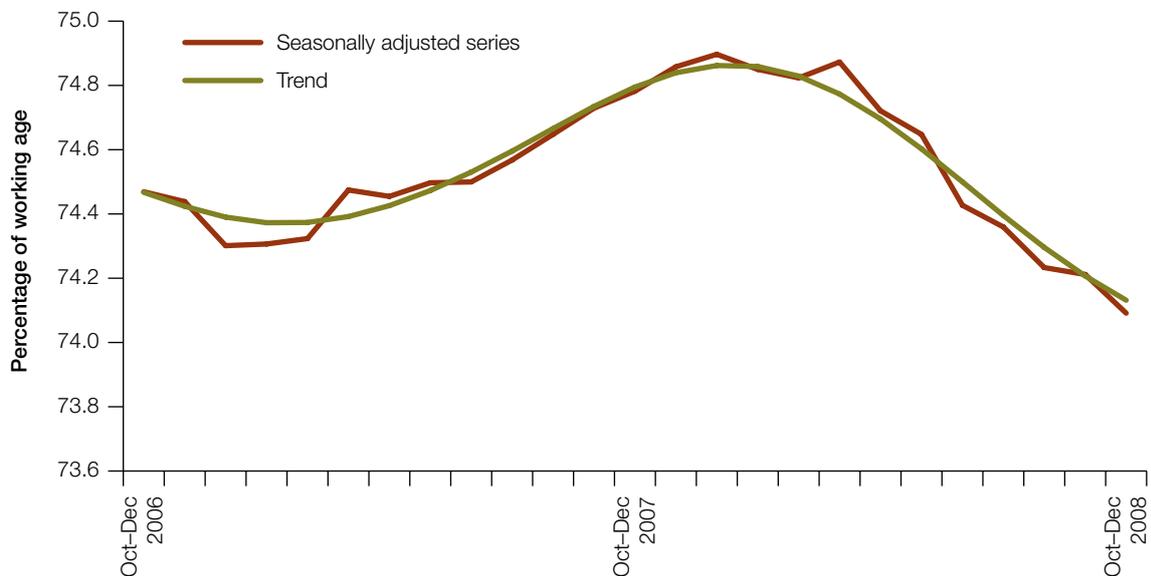
Note: all of the above is for the working-age population.

Source: Labour Force Survey, Table 2.01, Office for National Statistics, 2009a

2.10 In comparison with two decades ago, the UK still has moderately low unemployment and high employment rates. However, as a result of the current recession and the consequent reduction in demand for labour, unemployment rates are rapidly rising and employment rates are falling. In view of the macro-economic environment, these trends are likely to continue into the immediate future. The latest labour market data are discussed below.

2.11 Figure 2.2 shows how the employment rate has fallen since the beginning of 2008. The employment rate for people of working age was 74.1 per cent in the three months to December 2008, which is down 0.7 percentage points on the year (Office for National Statistics, 2009b).

Figure 2.2: UK working-age employment rate, 2006 Q4 to 2008 Q4

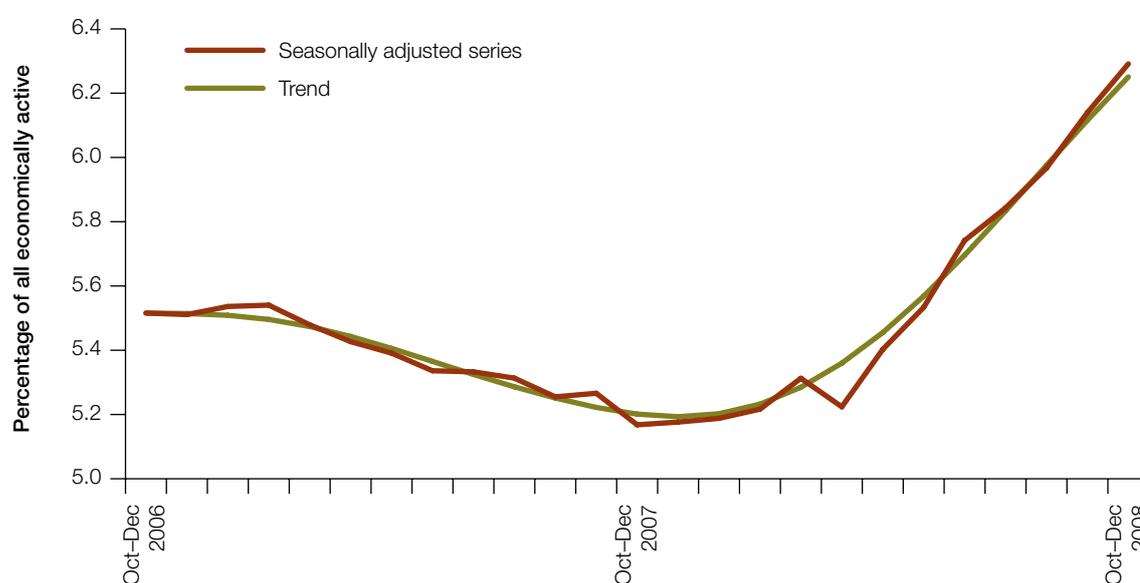


Source: Office for National Statistics, 2009b

2.12 In the three months to December 2008, the level of International Labour Organisation (ILO) unemployment stood at just under 2 million. The ILO unemployment rate, shown in Figure 2.3, has risen since early 2008. The unemployment rate was 6.3 per cent in the three months to December 2008, up 1.1 percentage points on the year (Office for National Statistics, 2009b).

The UK Commission for Employment and Skills (2009) notes that unemployment in the UK in 2008 grew at a faster rate than at a similar stage during the previous two recessions, suggesting that ILO unemployment in this recession could reach over 3 million. CBI (2009) predicts that unemployment could reach close to 2.9 million by the end of this year.

Figure 2.3: UK unemployment rate, 2006 Q4 to 2008 Q4

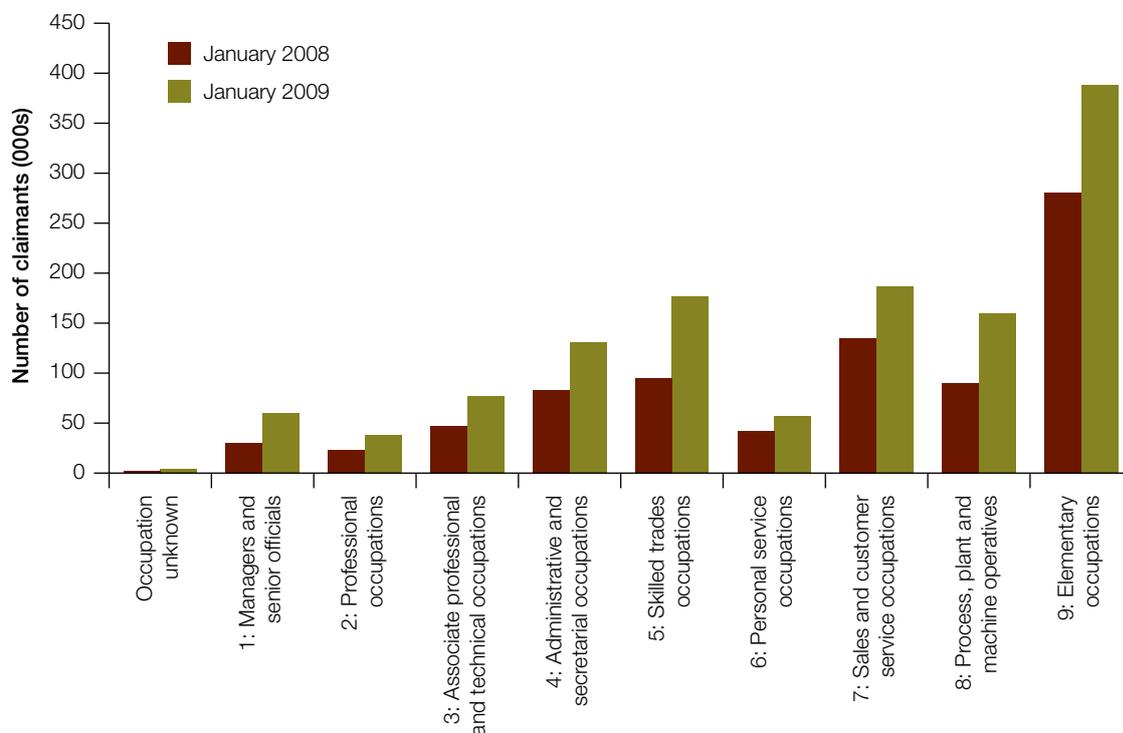


Note: The ILO definition of unemployment is used here.
Source: Office for National Statistics, 2009b

2.13 The Jobseeker's Allowance claimant count in January was 1.23 million, which was up 438,100 over the year. The claimant count rate for January 2009 was 3.8 per cent of the workforce, up 1.4 percentage points on the year (Office for National Statistics, 2009b). The claimant count in January 2009 was higher than in January 2008 for all occupation groups (see Figure 2.4). The lower-skilled occupation groups generally

have higher numbers of Jobseeker's Allowance claimants, and also the largest absolute increases in claimant count. In general it is the higher-skilled occupations that have experienced the greatest percentage increases in claimant count over the year. For example, the claimant count for managers and senior officials had increased by 98 per cent over the year to January 2009.

Figure 2.4: Claimant count by occupation, January 2008 and January 2009



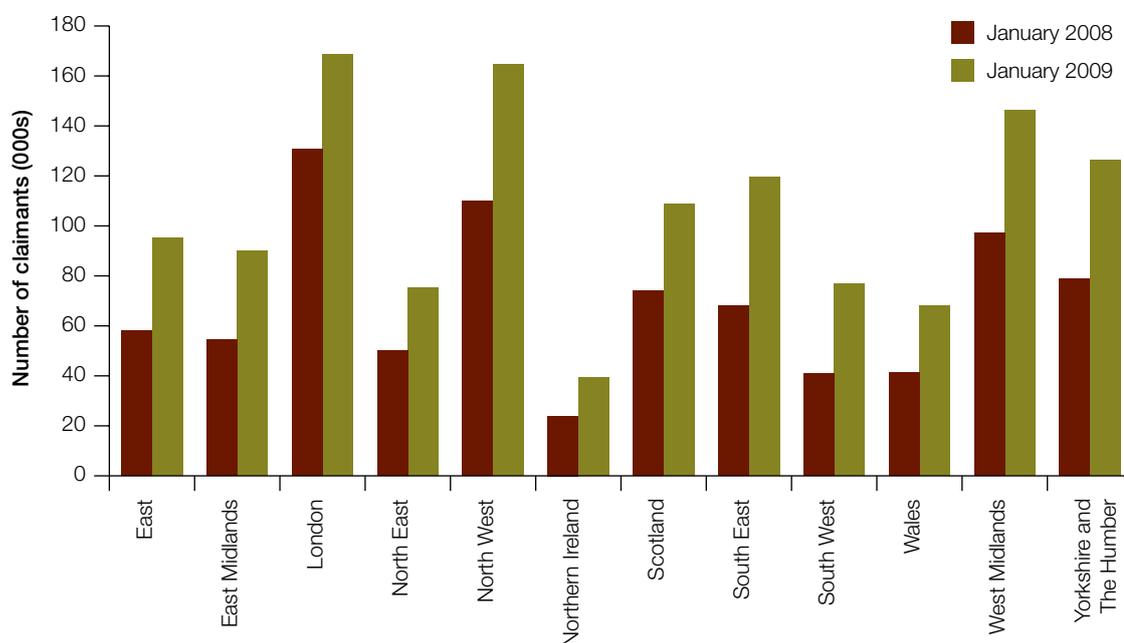
Note: Occupations are those in which claimants are seeking jobs and are classified to the Standard Occupational Classification at the 1-digit level.

Source: Nomis, 2009

2.14 Regionally, the largest absolute increases in claimant count have been in the North West and the South East, where the number of claimants has increased by more than 50,000 over the year (Figure 2.5). Percentage increases in the claimant

count have been fairly evenly spread, with the claimant count in most regions increasing by between 50 and 60 per cent. London has the lowest percentage increase (29 per cent) and the South West has the highest (87 per cent).

Figure 2.5: Claimant count by region, January 2008 and January 2009

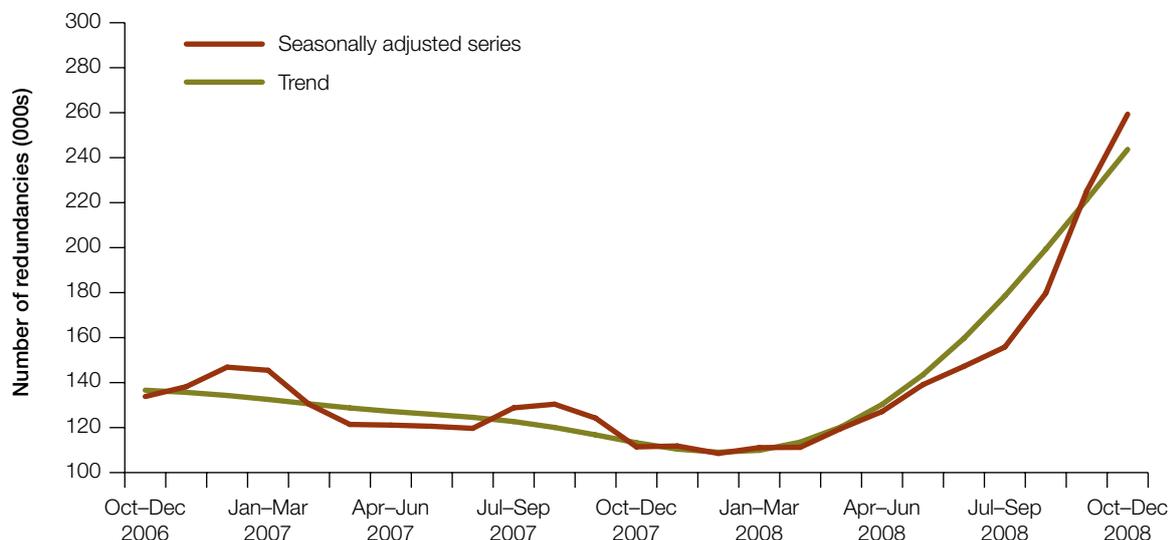


Source: Nomis, 2009

2.15 The reduction in labour demand has led to a sharp increase in the number of redundancies throughout 2008 (Figure 2.6). During the fourth quarter of 2008

approximately 260,000 people were made redundant across the UK. This is over twice as many as in the fourth quarter of 2007, and the current trend is increasing.

Figure 2.6: Total redundancies in UK, October–December 2006 to October–December 2008

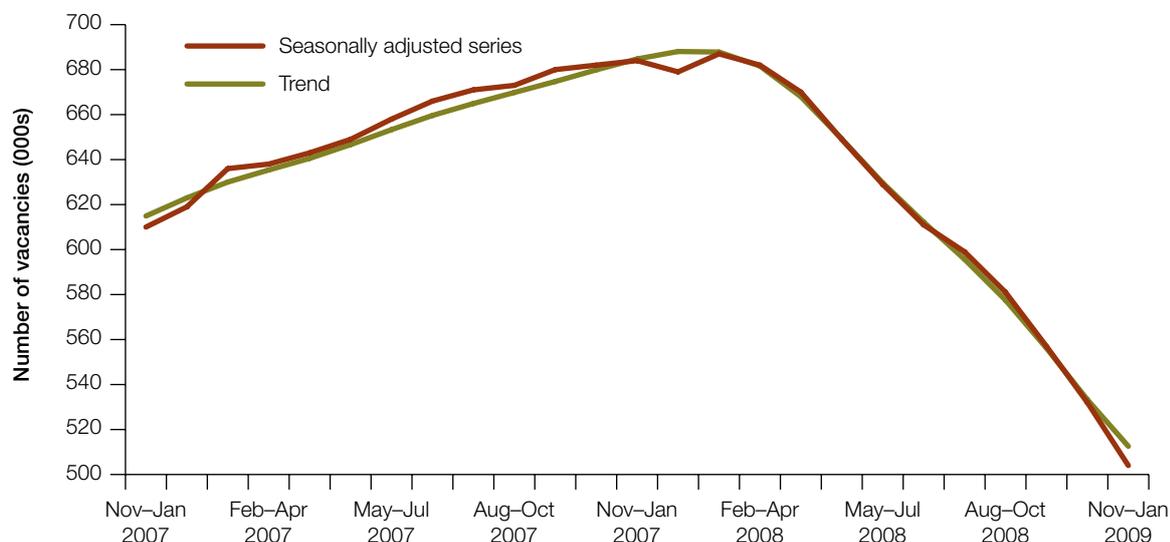


Note: 'Redundancies' describes the number of people, whether working or not, who had been made redundant or had taken voluntary redundancy in the month of the Labour Force Survey (LFS), or in the two calendar months prior to this. Source: Labour Force Survey, 2008, Office for National Statistics, 2009b

2.16 Figure 2.7 shows that, in the three months to January 2009, the number of vacancies was down 179,000 to 504,000 compared to a year earlier; the number of vacancies

per 100 employee jobs fell by 0.7 in a year to 1.9 in January 2009 (Office for National Statistics, 2009b).

Figure 2.7: Total vacancies in UK, November–January 2007 to November–January 2009

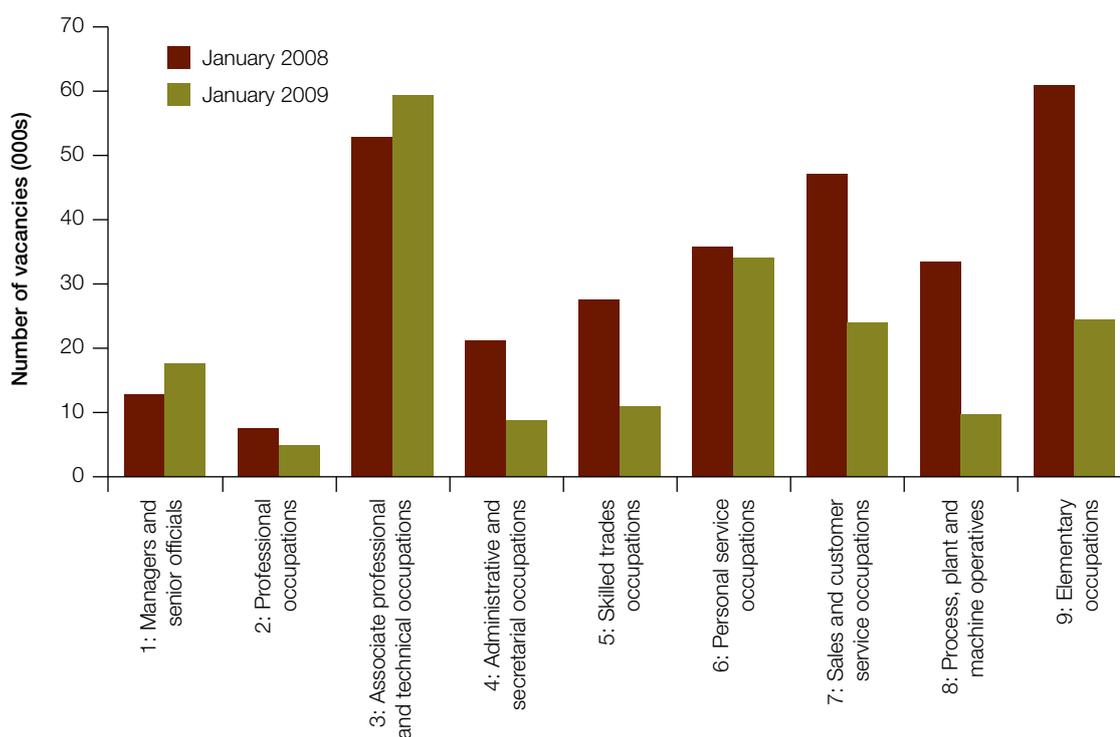


Source: Vacancy Survey data, Office for National Statistics, 2009b

2.17 Vacancies in lower-skilled occupations, as well as the skilled trades and administrative occupations, have fallen substantially (Figure 2.8). However, vacancies in the higher-skilled occupations have not been affected in the same way. Managerial

and associate professional occupations both show increases in vacancies, and although they have fallen for professional occupations, this has been at a slower rate than for the lower-skilled occupations.

Figure 2.8: Jobcentre vacancies by occupation, January 2008 and January 2009

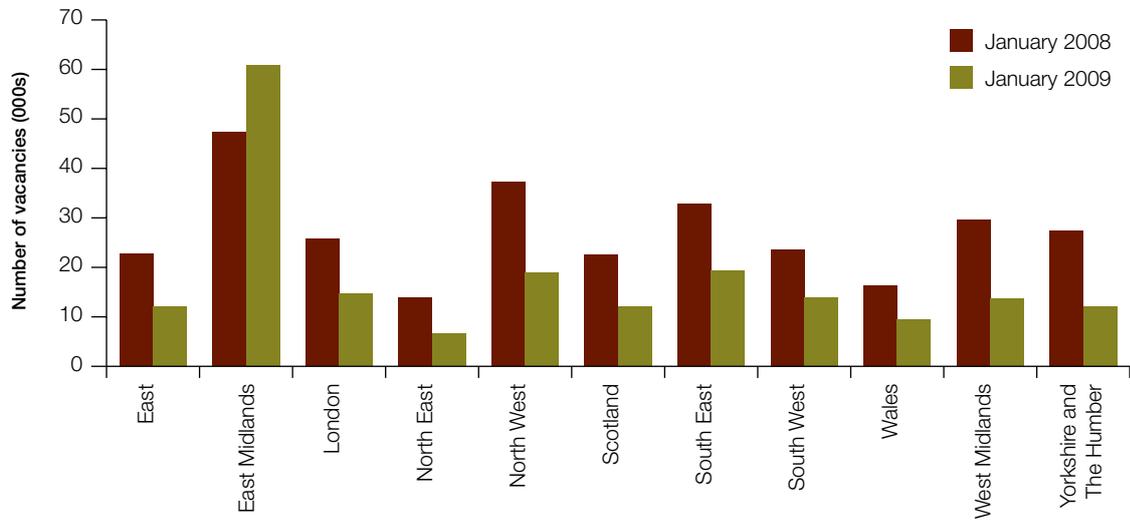


Note: Figure 2.8 describes live unfilled vacancies to Jobcentre Plus. Occupation classifications are 1-digit SOC. Source: Nomis, 2009

2.18 The decline in vacancies appears to be relatively evenly distributed across the UK, with most regions seeing falls of between 40 and 50 per cent over the year to January 2009, as shown in Figure 2.9. The East Midlands recorded an increase

of 29 per cent in vacancies over the year to January 2009. However, the vacancy data for East Midlands need to be treated with caution as they include armed forces vacancies for all of the UK, which are likely to be increasing.

Figure 2.9: Vacancies by region, January 2008 and January 2009

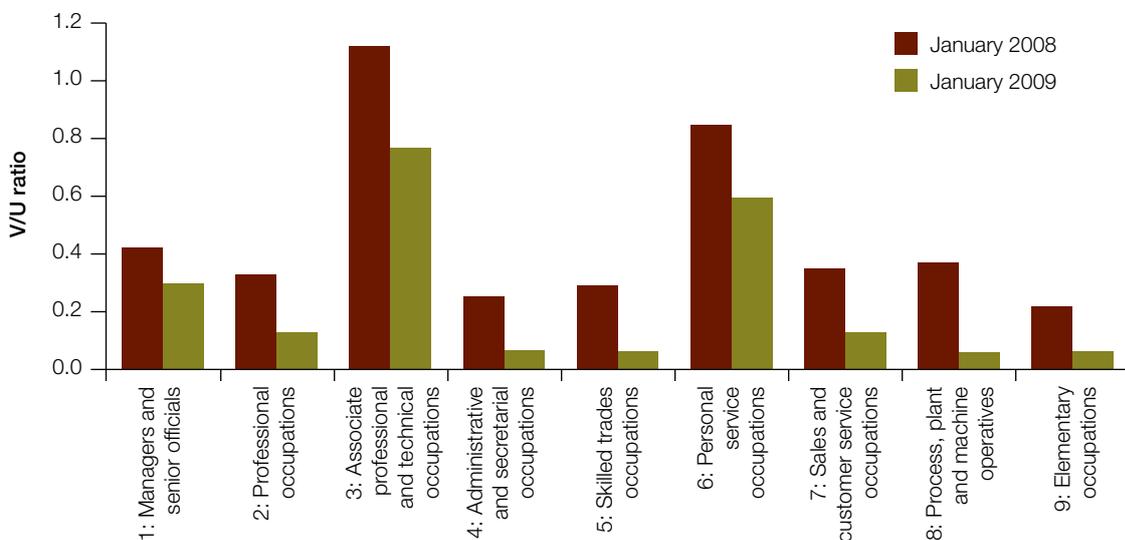


Note: Vacancies are live and unfilled. The vacancy data for East Midlands should be treated with caution as from March 2007 Lincoln figures (with associated effects on East Midlands) are distorted by UK armed forces vacancies. These are all allocated to Lincoln Orchard Street Jobcentre although distributed nationally.
Source: Nomis, 2009

2.19 The average vacancy/unemployment (V/U) ratio across all occupations has more than halved from 0.36 vacancies per claimant in January 2008 to 0.15 in January 2009. V/U ratios have fallen in all occupational groups.

The ratio for associate professional and technical occupations declined the most, while it fell the least for managers and senior officials (Figure 2.10).

Figure 2.10: Notified Jobcentre vacancies per claimant by occupation, January 2008 and January 2009



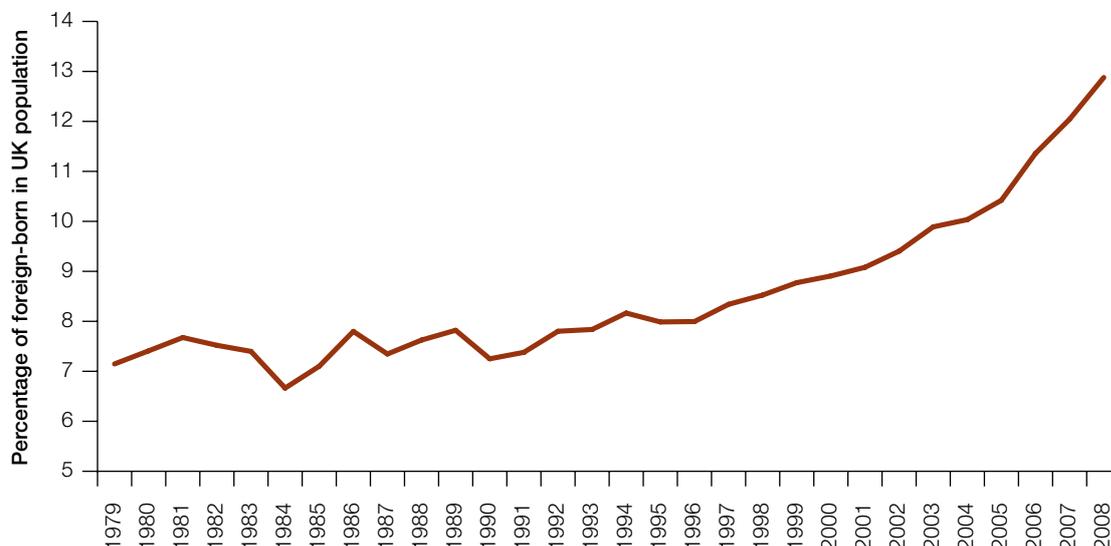
Note: Vacancies are live and unfilled.
Source: Nomis, 2009

- 2.20 Annual growth in average earnings (excluding bonuses) for the whole of the Great Britain economy was 3.6 per cent in the three months to December 2008. This was unchanged from the same period in 2007. The corresponding rate including bonuses was 3.2 per cent, which was also unchanged from the previous period (Office for National Statistics, 2009b).
- 2.21 In conclusion, it is clear that we need to take account of the recent downturn of the economy and uncertainties about the scale of the slowdown when considering our recommended shortage occupation lists.
- 2.22 Nevertheless, the analysis presented so far in this chapter has been highly aggregated and there will be large differences in how the recession has affected the individual occupations and job titles that this report is examining. Against a national background of increasing unemployment, it follows that, in general, it is easier to fill the decreasing number of vacancies that do exist, than it is to fill them at a time of low unemployment. However, there will be some occupations that are still experiencing shortages despite the recession.

2.4 Immigrant stocks, flows and the Points Based System

- 2.23 This section briefly describes trends in relation to immigrants – defined as foreign-born individuals – currently in the UK labour market. We then look in more detail at flows of migrants to and from the UK. Finally we examine inflows of non-EEA migrant workers, who were previously subject to work permit arrangements.
- 2.24 Migration trends were covered in greater detail in Chapters 1 and 2 of our September 2008 report (Migration Advisory Committee, 2008b). Therefore, the discussion here focuses particularly on recent developments.
- 2.25 Figure 2.11 shows that immigrants accounted for approximately 13 per cent of the working-age population in 2008, continuing the rising trend since the end of the last recession in 1993. Immigrants are defined here as foreign-born; this will include some British citizens born abroad and others not subject to immigration control, including EEA citizens.

Figure 2.11: Share of immigrants (foreign-born) in the UK working-age population, 1979 to 2008



Note: Rate describes working-age population. Immigrants are defined as foreign-born individuals. The percentage is calculated by dividing the foreign-born working-age population by the total UK working-age population. The data are the average of the four quarters for each year. The data are weighted using the 2007 LFS population weights.
Source: MAC analysis of Labour Force Survey (1979–2008)

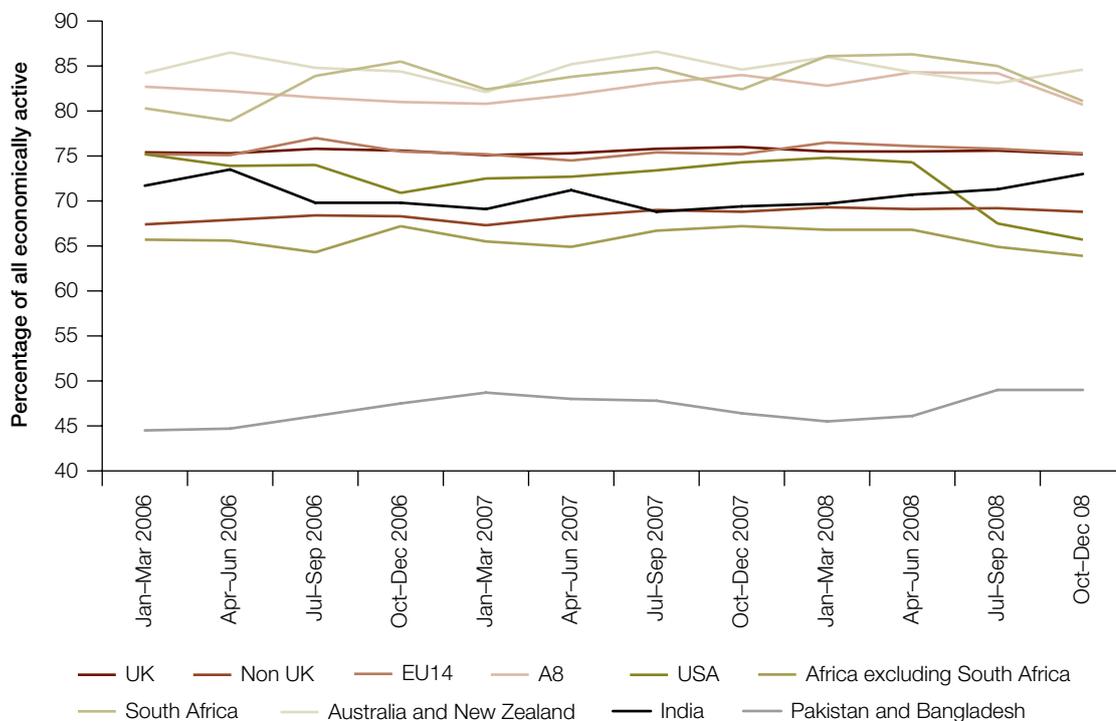
2.26 In the second quarter of 2008, some extra questions for immigrants were included in the Labour Force Survey (LFS). Of the current stock of non-UK born, around one-third have been in the UK for five years or less, while around half have been in the UK for more than ten years. The main reasons for coming to the UK are to study, family reunion and employment. Over half of non-EEA migrants reported having a job offer before coming to the UK, and for around half of these, the job was with their current employer: an intra-corporate transfer. Khan (2009) provides a more detailed analysis of these questions by country of birth.

2.27 As Figure 2.12 shows, the average employment rate for non-UK born is below that for UK-born; however, the gap is narrowing. The employment rate for EU14-born¹ individuals is similar to UK-born, and the rate for A8-born² is considerably higher than UK-born. The lower employment rate for all immigrants is therefore explained by the low rate for non-EEA immigrants. However, as Figure 2.7 shows, within this group there are very different employment rates. For example, immigrants from Bangladesh and Pakistan have much lower employment rates than those from Australia and New Zealand.

¹ Those born in countries that belonged to the European Union prior to April 2004, excluding UK-born individuals.

² Those born in the eight central and Eastern European countries that accessed to the European Union in April 2004: the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

Figure 2.12: Employment rates of foreign-born and UK-born working-age population, 2006 to 2008



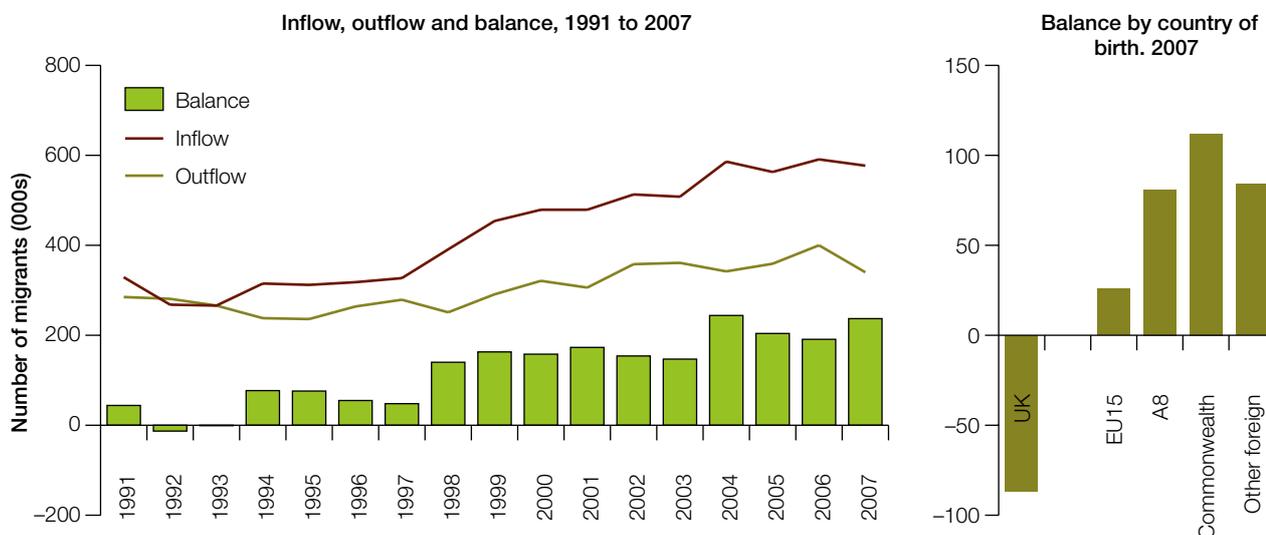
Source: Labour Force Survey, migrant worker tables (1997–2008), Office for National Statistics, 2009c

2.28 The employment rate for UK-born population has fallen by 0.8 percentage points (from 76.0 to 75.2) over the year to October–December 2008, whereas the employment rate for the non-UK-born population has stayed the same at a lower rate of 68.8. The change differs largely for different country groups. The employment rate of immigrants from India has risen by 3.6 percentage points to 73.0 and the rate for immigrants born in Bangladesh or Pakistan increased by 2.6 percentage points to 49.0 over the year to October–December 2008. In contrast, the employment rates for immigrants born in the USA have fallen by 8.6 percentage points to 65.7 over the year to October–

December 2008. We discuss empirical evidence on the response of immigrant employment to the business cycle in section 2.5.

2.29 Total international migration of long-term migrants (those changing place of normal residence for a period of one year or more) to and from the UK is set out in Figure 2.13. A slight fall in inflow and a more pronounced drop in outflow are recorded for 2007. The fall in outflow is largely explained by fewer UK-born leaving the UK, while inflows have fallen for both UK and foreign-born. Net long-term migration to and from the UK in 2007 was a positive inflow of approximately 237,000.

Figure 2.13: Total international migration to and from the UK



Source: International Passenger Survey 2007, published in Office for National Statistics, 2009d

2.30 The 2007 International Passenger Survey (Office for National Statistics, 2009d) shows that, of the reasons for migration, having a definite job is the most cited (with approximately 30 per cent of inflow reporting this), followed by formal study (26 per cent), accompanying or joining a relative (15 per cent) and looking for work (12 per cent). The ranking of reasons is the same as in the previous year.

2.31 *Control of Immigration Statistics for 2007* (Home Office, 2008), the latest available figures, shows a fall in the number of work permit holders given leave to enter the UK (Table 2.2). Entry clearance confers leave to enter and is required for those work permit holders applying outside the UK. The number of dependants issued entry clearance also fell. Although total settlement of all migrants for 2007 was lower than in 2006, settlement for work permit holders and their dependants increased to 33,000.

Table 2.2: Entry clearance for work permit holders, dependants and settlement, 1997 to 2007

	Total permit holders issued entry clearance (000s) (1)	Total dependants of permit holders issued entry clearance (000s) (2)	Settlement granted to permit holders and their dependants (000s)	Total settlement granted (to all migrants e.g. spouses and dependants of UK citizens, asylum etc.) (000s)
1997	43.7	19.3	6.4	58.7
1998	48.2	20.2	6.9	69.8
1999	53.6	22.6	6.9	97.1
2000	67.0	25.0	9.6	125.9
2001	81.1	27.8	9.4	108.4
2002	85.6	34.5	12.7	116.0
2003	81.4	37.8	19.8	139.3
2004	82.7	41.5	33.3	139.2
2005	91.5	45.5	52.8	179.1
2006	96.6	48.5	23.6	134.4
2007	86.3	37.7	33.2	124.9

Notes: (1) Total entry clearance for permit holders includes all routes requiring a permit. It therefore includes out-of-country applicants to routes such as the Sectors Based Scheme and the Seasonal Agricultural Workers Scheme. (2) There may be a time-lag between permit holders first entering the UK and their dependants, which is not accounted for in this estimate. Source: Entry clearance and settlement granted statistics, Home Office Control of Immigration Statistics, 2008, 2001

2.32 Under the previous work permit arrangements, employers could apply for a permit to recruit a migrant either in the UK or abroad, or renew a previous permit. The number issued therefore provides an indication of employer demand for migrants. Looking at work permits in more detail is made complicated by a last-minute rush to submit applications before the launch of Tier 2 of the PBS on 26 November 2008. The replacement of the work permit system with Tier 2 of the PBS prompted a large number of applications for work permits to be submitted immediately prior to the switchover.

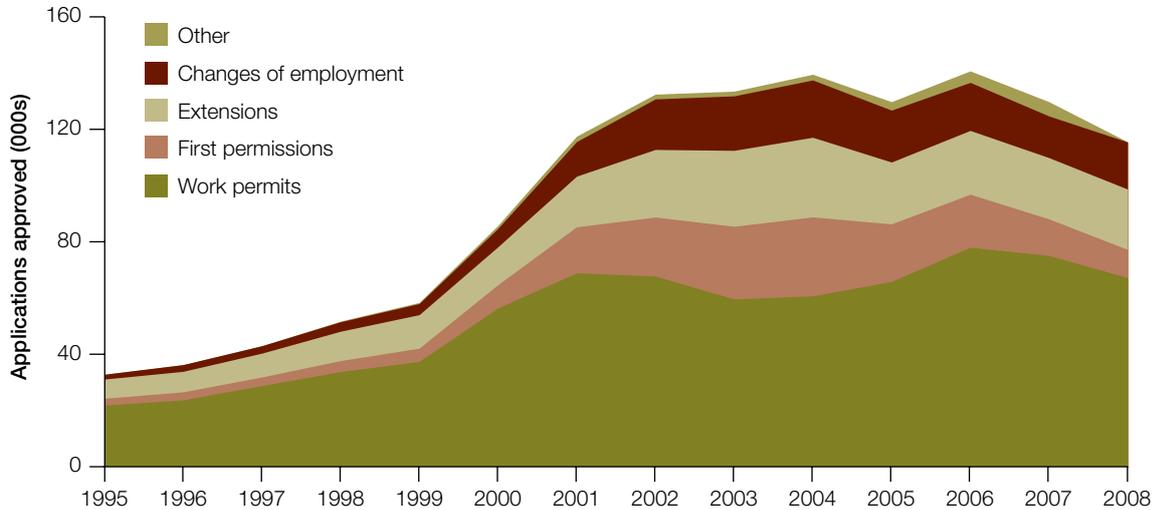
2.33 Trends over the last quarter of 2008 are therefore difficult to interpret. In addition, because of the time-lag in processing these work permit applications, approvals continued to be recorded in December

2008 and January 2009. Figure 2.14 shows overall trends in work permit applications up to December 2008. For 2008, a fall in the number of permits issued is observed overall. This is mainly driven by a reduced number of new applicants who apply for work permits (out-of-country) and first permissions (in-country).

2.34 These data cannot be compared with the entry-clearance statistics in Table 2.2 for a number of reasons:

- work permits are issued to in-country immigrants and also include renewals;
- work permit data do not include highly skilled migrant programme/Tier 1 applicants or those applying to a variety of special schemes; and
- not all work permit holders applying out of country will necessarily be granted entry clearance.

Figure 2.14: Approved applications under the work permit system, 1995 to 2008



Notes: Total permits approved refers to permits issued under the work permit system. It excludes dependants and lower-skilled schemes such as the Sectors Based Scheme and Seasonal Agricultural Workers Scheme applications. 'Other' includes self-certification and in-country technical change. With the launch of Tier 2 of the PBS on 26 November 2008, applicants (except for Bulgarian and Romanian nationals) could no longer apply for work permits; nevertheless, lags in approval meant that work permits were approved in December 2008 in similar numbers as in previous months.

Source: Salt, 2007; management information collected by UKBA

2.35 We had hoped to obtain the equivalent management information data for Tiers 1 and 2 of the PBS. However, reliable data on the number of applications approved under Tiers 1 and 2 of the PBS are not yet available from the UKBA's management information systems. Because Tier 2 has only been operational for a few months and there are likely to be a variety of transitional effects, the availability of these data has not directly affected our ability to conduct this review. However, it is important that data, including detailed data on those applying under the shortage occupation route, are available for our next reports, when any transitional effects can be expected to have diminished. We are liaising with the UKBA in order to obtain satisfactory data in appropriate time-frames for our future reports.

2.5 Economics of immigration: recent developments

2.36 In this section we provide a brief update on new contributions to the empirical literature on the economics of immigration in the UK and consider how the current economic climate could potentially affect some of the previous conclusions drawn from the empirical literature.

2.37 In our September 2008 report, we described some of the key themes in the economics of immigration. In countries such as the UK where immigration substantially exceeds emigration, the debate is mainly around the impact of immigration on the existing resident population and labour market, particularly on unemployment and wages. Since our September 2008 report some new

empirical studies have supplemented the previous existing literature for the effect of immigration on wages.

2.38 Given the current economic climate, it is also necessary to consider the relationship between immigration and the macro-economy. There are two dimensions to this: how immigration flows could respond to changes in the macro-economic environment, and whether the observed impact of immigration from recent and previous studies still holds under recessionary conditions. We discuss these issues later in this chapter.

Recent evidence on the impact of immigration on wages and employment of existing workers

2.39 The empirical literature (Manacorda *et al.*, 2006; Gilpin *et al.*, 2006; Dustman *et al.*, 2007; Lemos and Portes, 2008) reviewed in our September report is now supplemented by three further studies, summaries of which are contained in Box 2.1:

- Dustmann, Frattini and Preston (2008a) ‘The effect of immigration along the distribution of wages’;
- Nickell and Saleheen (2008) ‘The impact of immigration on occupational wages: British evidence’; and
- Reed and Latorre (2008) ‘The Economic Impacts of Migration on the UK Labour Market’.

Box 2.1: Three recent studies on the effect of immigration on the wages of the native population

Dustmann *et al.* (2008a) examine the effect of immigration on the wages of native workers. The overall effect is estimated to be small and positive. Along the wage distribution, however, the paper estimates that immigration depresses wages at the 20th percentile (the lowest-paid 20 per cent of the workforce) but increases wages at the upper end of the wage distribution.

Nickell and Saleheen (2008) estimate the effect of immigration on the wages of native workers across different occupations, assuming that immigrants and natives are perfect substitutes. The paper finds a small negative effect on average wages overall. In terms of the effect across occupations, the notable effect is that an increase in the immigration share depresses

wages in semi/unskilled services. This group, defined by the authors, covers SOC major groups 6 and 7: caring personal service occupations; leisure and other personal service occupations; sales occupations; and customer service occupations.

Reed and Latorre (2008) make a number of estimates and review the first two papers in light of the wider literature. Their regression model finds a negative, but small, effect of immigration on wages. The paper also repeats Dustmann *et al.*'s (2008a) analysis using a later set of data, from 2000 to 2007. This also finds a negative, but small, overall impact on wages, in contrast to the same method using a set of data from 1997 to 2005, which yield a small positive impact.

- 2.40 There are a number of issues raised by these studies in the context of the existing empirical literature. The broad view that the effect of immigration on average wages for existing workers is small still holds; though, in the context of a recession, what a 'small' effect means in practice needs to be scrutinised.
- 2.41 Reed and Lattore (2008) calculate that a one percentage point increase in the share of immigrants in the population would result in a £0.70 per week decrease in wages (for someone working a 40-hour week at £6 per hour), concluding that impact is small.
- 2.42 While there is reasonable consistency in the size of effects, the evidence is less clear that the overall effect is positive, and there is further evidence of negative effects at the lower end of the skill and wage distributions. In our September 2008 report we noted Wadsworth's (2007) observation that evidence finding small average effects is likely to disguise some negative effects in lower wage markets. As Dustmann *et al.* (2008b) point out, economic theory suggests:
- wage responses to immigration, if they occur, will not be distributed evenly across the distribution of resident wages, but will be more pronounced in those parts of the distribution in which immigrants compete with native workers.*
- 2.43 Both the Dustmann *et al.* (2008a) and Nickell and Saleheen (2008) studies support this hypothesis, finding negative impacts on wages for low-wage segments of the labour market. The observed negative effect in semi/unskilled services, despite the below average immigrant share in the occupation, is particularly interesting.
- 2.44 The shift towards negative findings in the more recent studies (incorporating more recent data) is also interesting. There are reasons to expect that the impact of immigration on wages could change, for example as a result of the changes in the composition of immigrants and/or labour market conditions, or other factors. Reed and Latorre (2008) tested this hypothesis, finding that the same method using earlier data yielded a small positive estimate for the effect of immigration on average natives' wages, while data from a later period, incorporating the large inflows from A8 countries, resulted in a small negative estimate.
- 2.45 Nevertheless, even this latter evidence largely predates the current recession. The changing economic circumstances raise two related questions about whether they will affect flows and employment of immigrants, and the impact that immigrants have in the UK labour market.
- Will the downturn affect flows and employment of immigrants?**
- 2.46 The pace of change in the macro-economy and labour market means it is important to consider the possible impact on flows and employment of immigrants in the UK labour market.

- 2.47 The number of vacancies has fallen dramatically since the second quarter of 2008, and unemployment has increased. Under these conditions, we might expect the number of new posts filled by immigrants to fall, because employers require less labour, and because there is a greater supply of UK and EEA workers who are available to fill the posts. The responses we might expect are:
- a reduction of flows from non-EEA countries;
 - reduced employment and increased unemployment rates for existing immigrants; and
 - possible increases in numbers of migrants returning to their home countries.
- 2.48 Declines in immigration have corresponded with previous recessions. Figure 2.8 shows that in 1992 and 1993 inflows fell and the balance was net emigration. There is some evidence of reduced inflows in recent figures, such as work permit and entry clearance statistics. But some of this predates the economic downturn so caution is needed in interpreting the data.
- 2.49 In theory, economic migration would be affected by demand and employment opportunities available in the UK relative to elsewhere. There some evidence that relative growth in UK GDP per capita affect levels of immigration to the UK (Mitchell and Pain, 2003; Hatton, 2005). But these and other studies also find that non-cyclical factors such as the differential in incomes between source countries and the UK, and non-economic factors such as learning English and living in a cosmopolitan city like London also play important roles in driving immigration to the UK. Nevertheless, a muted reduction in inflows might be considered likely.
- 2.50 Dustman *et al.* (2006) found evidence of differences between employment of immigrants (especially males from non-OECD countries) and non-immigrants through the economic cycle, with immigrant employment rates falling faster than that of natives during a recession. Conversely, during recovery, employment rates were observed to rise more rapidly for immigrants than non-immigrants. These differences persisted even when compositional effects (such as immigrants being concentrated in certain sectors) were taken into account.
- 2.51 While there is some evidence that immigrant employment rates respond to the economic cycle at the aggregate level, it does not necessarily follow that employers will always lay off immigrant workers first, particularly when looking at specific sectors. Employers may have a preference for migrants because of 'work ethic', lower reservation wages or even immigration status (Anderson and Ruhs, 2008).
- 2.52 CBI (2008) argues that 'during poorer economic times, migrants help keep the labour market more flexible as they are more pre-disposed to mobility'. The evidence on aggregate flows and employment patterns of immigration through the economic cycle supports, to some degree, the argument that immigration contributes to the flexibility of the labour market.

Will the downturn affect the impact that immigrants have in the UK labour market?

- 2.53 In theory, the impact of immigration to the UK labour market might be expected to change during a recession. In our September 2008 report, we argued that the impact of immigration depends on the skills of immigrants relative to those of residents and on the characteristics of the host economy, because immigrants bring skills that may complement the skills-set of the existing workforce. There is little basis for expecting the skills of existing immigrants or the existing workforce to change during a recession, but the skills of the inflow and the demand for those skills might change.
- 2.54 In theory, we might expect the benefits from immigrants' complementarity with existing labour and capital to fall during a downturn, while the likelihood of substitution of existing labour may increase. In practice, however, there is little empirical evidence to support this. This is because the extent of complementarity and substitution is difficult to measure, and the few studies that do assess labour market impacts, such as those reviewed earlier in this section, are not able to account for the effects of changing economic circumstances.
- 2.55 Other factors may also alter the impact that immigrants have in the labour market. Employer behaviour in terms of recruitment and redundancies may change in a downturn, and differences between the employment circumstances of immigrants and existing workers may mean that these changes impact on immigrants and existing workers differently.

2.6 Potential implications for the MAC

- 2.56 The UK economy is in recession and the effects are being felt in terms of rapid change in the labour market. Consideration needs to be given to the appropriate immigration policy response, including the shortage occupation lists.
- 2.57 A number of new contributions have been made to the evidence base on the impact of immigration. In particular, the hypothesis that immigration is likely to have a small negative impact on the earnings of existing workers in lower-skilled occupations is strengthened by new evidence. Tier 2 of the PBS relates to skilled occupations, but these findings emphasise the need to continue to critically examine whether an occupation is skilled and the question of whether it is sensible that a shortage be filled with migrants.
- 2.58 In terms of the shortage occupation lists, the right policy response to the economic downturn is not necessarily clear. Intuitively, it may be desirable to 'tighten up' the system, but this does not account for the market response to the downturn. Different factors might affect any possible policy response:
- the pace of change, and the length and depth of the recession before recovery;
 - the extent to which immigration flows self-regulate in response to the economy; and
 - the extent to which shortages will remain in a recession.

- 2.59 The pace of change in the economy and labour market has been rapid. In light of this, the appropriate policy responses need to be given careful consideration, including a view on planning for recovery. Our decision to review all occupations on the shortage lists we recommended last year by September 2009 reflects our concern to be responsive, but recognises that a review of all skilled occupations may not be sensible in the context of rapidly changing market conditions. Close monitoring of labour market trends is also crucial so that policy can also be responsive to the recovery.
- 2.60 We might expect moderate reductions in inflows in response to the economic downturn – an in-built stabiliser. This is particularly the case for Tier 2 of the PBS, in comparison with other immigration routes, because of the requirement to have a job offer.
- 2.61 Some shortages will be cyclical, and may be alleviated because of reduced demand in the economy. In light of this, in addition to the occupations we previously decided to review, we have reviewed some construction-related occupations in this report because of the rapidly shifting labour market situation in those occupations. However, not all shortages will be cyclical. Some shortages may persist in sectors such as healthcare, where demand does not correspond with the economic cycle. Other shortages may be structural, for example where there has been insufficient investment in skills. Shortages in some occupations may also reflect the UK's position at the peak of a global labour market for talent in those occupations. We expect those occupations that are no longer in shortage to be picked up by the indicators used in the top-down methodology.
- 2.62 Those coming through the shortage occupation route of Tier 2 make up a small proportion of all managed immigration to the UK. The recession has wider impacts for immigration policies: as discussed in Chapter 10, the Government has asked the MAC to examine the other routes under Tier 2 by July 2009. Flows of immigrants through different routes may change as a result of the downturn, as may the impact of those immigrants in the UK labour market.
- 2.63 Finally, to consider how policy can be responsive to such changes, it is essential to have good data about the characteristics of immigrants who are subject to immigration policies, particularly their skills, and the sectors and occupations of the labour market they are in.

Chapter 3: **Approach and methodology**

3.1 Introduction

3.1 We used a three-stage approach to drawing up the shortage occupation lists for the UK and Scotland:

- first, we considered whether individual occupations or jobs were sufficiently skilled to be included on the shortage occupation lists;
- second, we considered whether there is a shortage of labour within each skilled occupation or job; and
- finally, we considered whether it is sensible for immigrant labour from outside the EEA to be used to fill these shortages.

3.2 In this chapter, we summarise how we compiled the recommended shortage occupation lists. Before we discuss individual occupations in Chapters 4 to 7, we first set out the types of evidence we received and analysed, and how we considered the different occupations and individual job titles. Next, we summarise our methodological approach in terms of our skilled, shortage and sensible criteria. We follow with a discussion of the process by which we identified those occupations under review in this report, together with an outline of how we went about gathering evidence on those occupations. Then we discuss issues relating to the EEA, the Scotland shortage occupation list and the UK countries and regions.

3.3 We have followed the general conceptual approach set out in our September 2008 report (Migration Advisory Committee, 2008b) and more detailed discussion of many of the issues discussed here can be found in that report.

3.4 We commissioned various research projects to inform our shortage occupation work, discussed in this chapter. We will consider the implications of each for our approach to the recommended shortage occupation lists, and discuss this in future reports. In addition, we remain willing to take views on any aspect of our approach at any time. Information on how to submit evidence and views to us is provided in Chapter 10.

Top-down and bottom-up evidence

3.5 To produce the shortage occupation lists, we used a hybrid method that combined the consistency and comprehensiveness of a 'top-down' approach, using national data, with the context and fine-grained detail and contextualisation of a 'bottom-up' method using other evidence submitted to us.

3.6 For the top-down approach we analysed the best, most timely and most relevant national (i.e. mostly UK-wide) labour market data available. We carried out data analysis in-house and commissioned external research.

- 3.7 Key data sources used for our top-down analysis include the Labour Force Survey (LFS), the Annual Survey of Hours and Earnings (ASHE), the National Employers Skills Survey (NESS) and Jobcentre Plus (JCP) claimant count unemployment and vacancy data. In Migration Advisory Committee (2008a) we set out in more detail the potential data sources available to us, and their relevance to what we wanted to achieve.
- 3.8 Bottom-up evidence came from an examination of the individual occupations and job titles. Crucially, this was informed by engagement with, and evidence from, a wide variety of stakeholders, including in face-to-face meetings, workshops set up to inform our work and written submissions of evidence.
- 3.9 In the initial phase of work leading up to our first recommended shortage occupation lists in 2008, we made some allowance for the unfamiliarity that stakeholders had with the new process and the limited time available to assemble evidence. We have made less allowance for that this time. In future reports, comprehensive adherence to the methodological approach we have set out will be required to justify inclusion of job titles or occupations on our recommended shortage occupation lists.
- 3.10 Further detail on our approach to collecting and analysing top-down and bottom-up evidence is provided in the rest of this chapter.
- 3.11 Clearly, it is most helpful when the top-down and bottom-up data on any particular occupation point to the same conclusion. However, there are reasons why this will not always be the case.
- 3.12 On some occasions, the top-down and bottom-up data will point to conflicting conclusions because evidence relates to different levels of disaggregation. There may be a shortage of workers with specific skills within an occupation (for example, a shortage of teachers who can teach science or mathematics) but not in the broader occupational group as a whole (for instance, no shortage of teachers in general). If the bottom-up evidence relates to more specific skills than the top-down evidence then, even if the two sets of evidence point in different directions, they are not necessarily inconsistent with each other.
- 3.13 In addition, the usefulness of different indicators will sometimes vary between top-down and bottom-up. For instance, it may be difficult to obtain robust information on earnings growth within an occupation from sectoral or occupational bodies, while the national level data do provide this. In contrast, it is difficult to measure the level of on-the-job training in some occupations using national-level data. The above factors limit the extent to which we can corroborate top-down and bottom-up data against each other.
- 3.14 Broadly speaking, we look for indicators of skilled, shortage and sensible in both the top-down and bottom-up evidence before placing occupations on the shortage list. However, our approach distinguishes between cases where top-down data are highly relevant and where they are less so. Crudely, it can be categorised as follows:

Dovetailing

- In cases where the top-down data are highly relevant, generally because the asserted shortage relates to the whole of the broad 4-digit occupation (see paragraph 3.17) or a large part of it, we include occupations or relevant job titles on our recommended shortage occupation lists if, overall, there is a combination of good top-down and good bottom-up evidence.

- If the top-down data are not highly relevant, generally because the assertion of shortage relates to a narrow category within the relevant SOC, we include the occupation or relevant jobs on the lists if there is very good bottom-up evidence.
- 3.15 We did not include occupations on the shortage occupation lists where bottom-up evidence:
- did not satisfy our criteria, in that the evidence indicated either that the occupation is not skilled, or was not in shortage, or that it was not sensible to fill a shortage through migration or any combination of these; or
 - was partial or not relevant, making it impossible to form a conclusion.
- 3.16 We had to use a degree of judgment when weighing 'strong' top-down evidence against 'weak' bottom-up evidence, or vice versa. Where we have made such judgments, we set it out explicitly in this report.

Occupations, job titles and jobs

- 3.17 Either occupations or job titles may be placed on the shortage occupation list. We have applied the same approach to categorisation of occupations as set out in our September 2008 report. We base our work on the SOC2000 utilising four levels of aggregation. The 'unit group' (4-digit) level, which is the level most relevant to our work, breaks down the labour market into 353 occupations and is the most detailed occupational breakdown available.
- 3.18 Some official data can be disaggregated to the unit group level. For example, 'welding trades' is a unit group occupation (SOC code 5215) and some national level data are available for this occupation. Nevertheless, in some cases it has been put to us that the SOC categorisation does not capture completely the workforce in particular occupations. Where that is an issue for our consideration, we discuss it in this report.
- 3.19 Many asserted and actual labour shortages occur at the sub-occupational or job title level. Where, in this report, we refer to job titles, we mean those job titles that are more specific in their nature than the SOC coding system allows. National level data are not available at the job title level, meaning bottom-up evidence is of particular importance in these cases.
- 3.20 The Office for National Statistics (ONS) has commissioned an update of the SOC for 2010. Some stakeholders have commented to us that specific jobs where they wish to assert shortage do not fit neatly into the current SOC classification. Examples include transport planning and some engineering jobs. We are monitoring the ONS work and encourage all stakeholders with an interest to engage with ONS in this work.
- 3.21 For the purposes of this report, we are concerned with job titles and occupations. There may be hundreds, or thousands, of people with the same job title or in the same occupation. Importantly, however, specific jobs filled by individuals have to be skilled to National Qualifications Framework (NQF) level 3 or above to qualify for Tier 2 of the PBS. This is equivalent to National Vocational Qualification (NVQ) level 3 or higher. The UKBA provides guidance for employers and employees in assessing the skill level of jobs filled by individual immigrants.

3.2 Is it skilled?

Theory and definitions

3.22 There is no unique, objectively defined measure of skill. Nevertheless, as individual jobs under Tier 2 of the PBS need to be skilled to at least NQF level 3, it follows that the shortage occupation lists should contain only occupations and job titles at this level or above. We assess this by examining factors that could indicate whether an occupation is skilled to the required level.

Indicators

3.23 In all, we have identified five main indicators that we believe are relevant to determining skill: the skill levels defined in the SOC hierarchy; formal qualifications; earnings; on-the-job training or experience required to carry out the job; and the level of innate ability required. The first three of these indicators can be measured using national-level data. In our September 2008 report we set out how an occupation passes as skilled on an indicator if it passes the relevant threshold described below:

- **the skill levels defined in the SOC hierarchy:** an occupation needs to be defined as skill level 3 or 4 in SOC 2000. Level 3 applies to occupations

that normally require skills, experience or knowledge usually associated with a period of post-compulsory education but not at degree level, and level 4 relates to the so-called 'professional' occupations and managerial positions that normally require a degree or equivalent period of relevant work experience;

- **formal qualifications:** 50 per cent or more of the workforce need to be qualified to NQF level 3 or above. This is measured using the LFS covering the eight quarters of 2006 and 2007; and
- **earnings:** median hourly earnings for all employees need to be above £10 per hour. This is measured using the 2007 ASHE.

Thresholds

3.24 To count as skilled in our top-down analysis, an occupation has to pass on two out of three skill indicators. Where top-down evidence is discussed in Chapters 4 to 7 there is a corresponding top-down data box. Under the heading of 'skilled' the data for each indicator are listed. This is shaded in green if the occupation passes the threshold for an indicator and red if it does not. Box 3.1 shows the thresholds for the three indicators of skill.

Box 3.1: Skill indicators and thresholds for skilled occupations

Skilled

SOC skill level classification	3 or 4	Median hourly pay for all employees	≥£10
Percentage of employees with NQF3+	≥50		

Note: In Chapters 4 to 7 the cells will be shaded green if an occupation passes the thresholds listed above and red if it does not. An occupation passes the indicator if it is at least as high as the thresholds above or if it is marked with an asterisk (where we did not wish to rule out an occupation because of less reliable or missing data).

3.25 In our September 2008 report, 192 out of 353 occupations counted as top-down skilled by the above definition, covering 49 per cent of the UK's working-age population in employment. As we do not expect the skill level of occupations to change rapidly over time, we have retained that list of skilled occupations for this review.

Bottom-up evidence

3.26 In considering the bottom-up evidence, we take into account information on earnings and qualifications relating to specific job titles within an occupation. We also take into account two additional factors that we believe indicate skill in an occupation, but which cannot be measured using national-level data:

- **on-the-job training or experience required to carry out the job:** for example, in occupation 5231, motor mechanics, only 40 per cent have formal level 3 or above qualifications, but the remainder may have acquired the requisite skills via on-the-job training; and
- **the level of innate ability required:** this implies a high level of skill even though many in the occupation may not have formal qualifications. For example, within occupation 3414, dancers and choreographers, only 30 per cent have formal qualifications at level 3 or above. Yet there is a limited supply of individuals with the ability to become what most people will regard as a skilled practitioner of this occupation.

Research

3.27 We are currently commissioning a project that will enable us to consider whether we can better define skill at the occupation and job title level through both top-down and bottom-up evidence. The project will look at broadly defining skill, and specifically at indicators and thresholds.

3.3 Is there a shortage?

Theory and definitions

- 3.28 As with skill, there is no universal definition or measure of 'shortage'. However, two main lessons emerge from the UK and overseas literature as discussed in our September 2008 report and York Consulting (2008). First, approaches used in other countries to identify shortage do not rely on a single indicator of shortage. Second, the differences between the approaches suggest that there is no single infallible way of measuring shortage.
- 3.29 For these reasons, we examine a range of indicators in our top-down shortage analysis. It is crucial that this analysis is contextualised by background information and knowledge of the labour market. So we also pay careful attention to the bottom-up evidence on shortage.
- 3.30 To fully understand the concept of demand and supply, and therefore shortage, it is necessary to look at price and wage signals. A lay definition of 'static' shortage is that demand for labour exceeds supply at the current wages and conditions. When the wage is below the equilibrium level, market pressure should increase the wage, helping to raise supply and reduce demand, thus restoring equilibrium.

- 3.31 However, even in a labour market that is moving towards a new equilibrium, signals can be distorted. 'Dynamic' shortage occurs because the factors that influence labour markets change over time, and various factors may limit the speed at which labour markets can adjust, leading to disequilibrium. For instance, wages may be sticky and not move freely up and down with changes in labour demand and supply. This may happen more often in the public sector than in the private sector. Furthermore, it may take time for employees to acquire the skills the market needs, and the availability of state benefits may affect incentives to work.
- 3.32 As well as prices (wages), it is also important to consider quantities (vacancies, employment and unemployment). Low or falling unemployment among people previously employed in, or seeking work in, an occupation may indicate shortage. Rising employment may indicate rising demand, and may exist alongside labour shortage. High vacancy levels, or rising vacancy rates, may also suggest that employers are finding it hard to fill jobs.
- 3.33 However, it is necessary to consider a range of indicators when looking at these sorts of measures of labour shortage. Shortage could exist, for instance, in a situation where we observe rising employment, rising real wages and declining vacancies. A large number of vacancies in an occupation may also simply indicate a high turnover within that occupation. Some vacancies and unemployment will exist even where the labour market is in equilibrium, due to natural friction in the labour market as employers search for workers and employees search for work.
- 3.34 Nevertheless, the higher the ratio of the total number of vacancies to potential supply (or unemployment), the harder firms will find it to fill vacancies. A relatively high vacancy/unemployment ratio within an occupation suggests that employers are having particular difficulty filling vacancies given the supply of workers available. This may indicate a shortage of workers with the skills, experience or characteristics required. Comparing these ratios across occupations also allows the relative levels of shortage to be estimated, thus making allowance for the potential impact of the economic cycle on the whole labour market. Vacancy/unemployment (and vacancy/employment) ratios therefore indicate employer demand relative to potential labour supply and are widely used by economists as a potential indicator of labour shortage.
- 3.35 The above discussion suggests that it should, in principle, be possible to identify labour shortage by looking at factors such as price and wage signals, employment trends and vacancy levels or ratios. An alternative, but potentially complementary, approach is to ask employers directly where they think there are shortages of skills or skilled labour.
- 3.36 Employer-based indicators are derived from surveys that ask employers questions about their businesses. Green *et al.* (1998) argue that although employers have no problem interpreting questions on skill shortages, their assessments are not necessarily consistent or accurate. York Consulting (2008), in research carried out for us, reported that accidental reporting can occur when employers confuse skill shortages in their industry with other types of hard-to-fill vacancies, or with long-term macro-economic fluctuations. Also, these surveys may suffer from deliberate over-reporting of shortages of skilled labour, where an employer believes that it is in their interest to misreport the level of shortage.

3.37 However, despite the potential drawbacks, employer survey evidence has a role to play alongside other indicators in terms of helping us to identify labour shortage. In England, the NESS gathers evidence on both recruitment difficulties and inadequate skills among the existing workforce.

3.38 We commissioned IFF Research (2008) to recode relevant data at the unit group SOC2000 level, which is a more detailed level than in the official published report. The outputs of this research are published on our website (www.ukba.homeoffice.gov.uk/mac) and were used to inform our first recommended shortage occupation lists in September 2008.

3.39 There are separate employer skills surveys for Wales, Scotland and Northern Ireland. It was unfortunately not possible to combine the four surveys for our work, as they are carried out at different times and there are slight differences in the methodology. It was also not possible to disaggregate the data to the same level as the England data due to smaller sample sizes. However, results from the Scottish survey are discussed in Chapter 9.

Indicators

3.40 From the above discussion and examination of the available data, it is possible to identify four basic sets of indicators of shortage:

- **price-based indicators** (e.g. earnings growth);
- **other indicators of imbalance** based on administrative data (e.g. vacancy duration or vacancy/unemployment ratios);
- **volume-based indicators** (e.g. employment or unemployment); and
- **employer-based indicators** (e.g. reports of shortage).

3.41 Under those four broad headings, we use a total of 12 specific indicators of labour shortage in our top-down analysis. These indicators, and details on the data available to measure them, are set out in Table 3.1. The specific data indicators used were identified according to four criteria:

- **validity:** is it measuring the right thing from our point of view?
- **robustness:** specifically the sample size, as a larger sample size will give more accurate estimates for the population;
- **distribution of observations:** for example, if there are likely to be outliers at the upper end of distribution, there are statistical reasons why it might be better to use medians rather than means as a measure of average; and
- **other data limitations:** for example, it is likely to be the case that vacancies for some occupations are unlikely to be advertised through JCP, which may bias these data.

Table 3.1: The 12 indicators of shortage

Indicator	Frequency available	Date/period used	Source used
Employer based indicators			
E1 Skill Shortage Vacancies (SSVs) as a percentage of all vacancies	Bi-annually	2007	NESS
E2 SSVs as a percentage of hard-to-fill vacancies	Bi-annually	2007	NESS
E3 SSVs as a percentage of total employment	Bi-annually	2007	NESS and LFS
Price-based indicators			
P1 Annual percentage change of median hourly pay for all employees	Annually	2007 to 2008	ASHE
P2 Annual percentage change of mean hourly pay for all employees	Annually	2007 to 2008	ASHE
P3 Return to an occupation, given NQF3, with age and region controls	Quarterly	Year to 2008 Q3	LFS
Volume-based indicators			
V1 Annual percentage change in unemployment by sought occupation	Monthly	November 2007 to November 2008	JCP
V2 Annual percentage change in employment estimates	Quarterly	Year to 2007 Q3 – year to 2008 Q3	LFS
V3 Annual percentage change of median total paid hours, for all employees	Annually	2007 to 2008	ASHE
V4 Absolute change in proportion working for employer for less than one year	Quarterly	Year to 2007 Q3 – year to 2008 Q3	LFS
Indicators of imbalance based on administrative data			
I1 Absolute change in median vacancy duration	Monthly	November 2007 to November 2008	JCP
I2 Live unfilled vacancies/unemployment by sought occupation	Monthly	November 2007 to November 2008	JCP

Note: We have used claimant count as our measure of unemployment in the indicators above.

- 3.42 Because the NESS survey only takes place every two years, we re-use the IFF (2008) analysis for this report. However, for the other nine indicators we have incorporated more up-to-date labour market data. The results of this new analysis are provided in later chapters of this report, where we discuss specific occupations.
- 3.43 To improve statistical robustness, we have made two minor changes in this report to the way the shortage indicators developed and used in our September 2008 report have been calculated. For the LFS-based indicators we applied weighting that avoids rounding the weights. For the vacancy rate indicator we have used the number of unfilled vacancies for Great Britain as before: however, this time we divided this by the claimant count for Great Britain rather than for the UK as we did in our September 2008 report. Both changes enhance the level of statistical accuracy in our calculations.

Thresholds

- 3.44 What measure for each of the 12 indicators for a specific occupation can reasonably be said to indicate potential labour shortage? There is no straightforward answer to this question. After detailed consideration (see Chapter 7 of our September 2008 report) we decided our first choice of threshold would be the median plus 50 per cent of the median. That is, median hourly pay would need to rise by 50 per cent above the median increase for an occupation to demonstrate shortage. This is one of the thresholds used by the Canadian Government to identify shortages in their labour market (see Strategic Policy Research Directorate, 2006), albeit with the intention of informing policy makers regarding training investment rather than immigration.
- 3.45 However, for some indicators, the distribution of observations meant that median plus 50 per cent was an inappropriate measure of shortage. For example, in one case no observations would have passed had we used median plus 50 per cent as our indicator. As an alternative, in some cases we use the top quartile as the threshold. Table 3.2 provides further details of which indicators use which thresholds.
- 3.46 We list shortage indicators alongside discussion of relevant occupations and job titles in boxes in this report. Thresholds for each shortage indicator are shown in Table 3.2. In Chapters 4 to 7 the relevant data are highlighted in green if the occupation passes the threshold for an indicator and red if it does not. Therefore, a large number of green indicators signifies potential shortage.
- 3.47 To illustrate the relevance of the thresholds in Table 3.2, some examples for a hypothetical occupation in March 2009 are as follows:
- if annual median pay in a given occupation has risen by 5.1 per cent (i.e. above 4.95 per cent) between 2007 and 2008, the occupation passes as shortage on indicator P1;
 - if unemployment of people seeking work in this occupation has not increased (i.e. it has not risen despite rising unemployment across the labour market as a whole) the occupation passes as shortage on indicator V1; and
 - if Skill Shortage Vacancies (SSVs) account for 0.2 per cent of employment (i.e. below 0.30 per cent), the occupation does not pass as shortage on indicator E3.

Table 3.2: Shortage indicators and thresholds

Shortage	Threshold type	September 2008	March 2009
P1 Annual percentage change of median hourly pay for all employees	Median plus 50 per cent	4.80	4.95
P2 Annual percentage change of mean hourly pay for all employees	Median plus 50 per cent	5.18	5.10
P3 Return to occupation, given NQF3, with age and region controls	Top quartile	1.52	1.43
I1 Absolute change in median vacancy duration	Top quartile	5.70	3.60
I2 Live unfilled vacancies/unemployment by sought occupation	Top quartile	0.71	0.67
V1 Annual percentage change in unemployment by sought occupation	Median plus 50 per cent for September 2008, and 0 for March 2009	-22.05	0.00
V2 Annual percentage change in employment estimates	Top quartile	9.05	9.89
V3 Annual percentage change of median total paid hours, for all employees	Top quartile	0.30	0.80
V4 Absolute change in proportion working for employer for less than one year	Median plus 50 per cent	0.01	0.00
E1 SSVs as a percentage of all vacancies	Median plus 50 per cent	37.84	37.84
E2 SSVs as a percentage of hard-to-fill vacancies	Top quartile	98.20	98.20
E3 SSVs as a percentage of total employment	Median plus 50 per cent	0.30	0.30

Note: In Chapters 4 to 7 the boxes will be shaded green if an occupation passes the thresholds listed above and red if they do not. An occupation passes the indicator if it is at least as high as the thresholds summarised above, apart from for the unemployment indicator, where an occupation passes this indicator if it is at least as low as the threshold. 'x' denotes missing data, or data that are too unreliable to be reported. Table 3.1 describes data used for the March analysis. For more details on the indicators used for the September analysis see Chapter 7 of Migration Advisory Committee (2008b).

3.48 The occupation top-down summaries include both the results presented in the September 2008 report and the data we have analysed for this report. Most of the thresholds have not changed greatly since September 2008 (see Table 3.2). Nevertheless, the indicator that has been most affected is the change in unemployment indicator. The median change in unemployment for occupations in the UK labour market was positive in the analysis for this report and the distribution of this indicator by occupation has changed: almost all of the skilled occupations record an increase in unemployment on the year. This means that even occupations passing the median plus 50 per cent threshold for shortage show small increases in unemployment relative to the rest of the occupations. Increasing unemployment should not signify a shortage and therefore, for this report, only if unemployment is falling in an occupation can this signify shortage.

Bottom-up evidence

3.49 We assess the bottom-up evidence of shortage by examining similar indicators to those used in the top-down analysis. For example, we look for signs that:

- wages are increasing more than average (earning indicators);
- vacancy levels are rising (indicators of imbalance);
- vacancies are taking longer to fill than in most occupations (indicators of imbalance);
- employers recognise that the reason vacancies are hard to fill is due to a shortage of skilled labour (employer-based indicators); and

- employers have need to use coping strategies to deal with shortages, e.g. staff working overtime, over-promoting (indirect indicators).

Research

3.50 We are commissioning two projects to help us understand the shortage criterion. The first is a theoretical review of skill shortages and skill needs. It will include analysis of skill needs as a potential alternative (or complement to) analysis of shortage and potential interdependencies between demand and supply in labour and product markets.

3.51 The second project will be a comprehensive review of our top-down shortage methodology. It will refine the indicators currently used and also review the current methodology and thresholds used to improve it where possible. This will include considering how to make our methodology as responsive as possible to the economic cycle, as fixed decision rules such as median plus 50 per cent may not offer sufficient flexibility in this regard.

Identifying the occupations reviewed in this report

3.52 Some of the occupations discussed in this report are being reviewed directly as a result of our previous shortage analysis. In the top-down analysis that informed our first recommended shortage occupation lists, we identified ten occupations that passed on at least 50 per cent of our shortage indicators, a considerably higher than average pass mark, yet where we received no substantive evidence from stakeholders asserting that there was a shortage of labour that would be sensibly filled by non-EEA immigration. We committed in our September 2008 report to review those occupations. They are listed in Chapter 1 of this report (section 1.2).

3.53 All of these occupations are skilled, as our shortage analysis applied to skilled occupations. In Chapter 6, we review nine of these occupations against our shortage and sensible criteria and consider their inclusion on our recommended shortage occupation list. The tenth occupation, midwives, is covered by our review of healthcare occupations in Chapter 4.

3.4 Is it sensible?

Theory and definitions

- 3.54 The concept of sensible can be interpreted in many different ways, but the definition needs to be consistent with the underlying policy objectives. In some cases, Government objectives or policies may relate to particular sectors or occupations. For example, immigrant labour has in recent years played a key role supporting particular Government priorities in areas such as healthcare. However, we do not assume that immigration, or the use of immigrant labour to sustain wages at below the market rate, is necessarily the best way to meet Government objectives in particular sectors.
- 3.55 In responding to our call for evidence for the September 2008 report, the Government recognised that the concept of sensible is challenging, but indicated that developing the skills of the UK workforce should be a key consideration.
- 3.56 Our approach is to consider the issue of sensible on a case-by-case basis with reference to four broad and inter-related lines of inquiry, which are formulated within an economic framework and based on the relevant Government policy objectives.
- What are **the alternatives to employing immigrants in response to perceived staff shortages**, are these alternatives feasible, and have employers explored them fully? If not, what are the actual or perceived obstacles?
 - How would bringing in immigrants relate to **skills acquisition** of the UK workforce? Are there enough UK resident workers in training/education to fill shortages? Will bringing in immigrants reduce employers' incentives to invest in training and up-skilling of UK workers?
 - How will the employment of immigrants affect **investment, innovation and productivity** growth? Is there a particular case for employing immigrants to support and maintain the UK's international competitiveness in certain sectors?
 - How will our decision affect **the wider UK labour market and economy**? How, if at all, will access to immigrant labour affect employment opportunities and conditions of the UK workforce?
- 3.57 Each of the above lines of inquiry relate to multiple Public Service Agreement (PSA) objectives as set by the Government in HM Treasury (2007). For example, the first and second link closely to PSA2 which aims to improve the skills of the population; the third links to PSA1, to raise the productivity of the economy; and the fourth relates to PSA8, to improve employment opportunity for all.
- 3.58 There are some issues which, although important, are beyond our remit when we consider the question of sensible. First, there are the potentially important implications that immigration has for immigrants and their countries of origin. Second, beyond any labour market and economic effects, our terms of reference do not include the social impacts of immigration. The Migration Impacts Forum was set up to look at the social effects of immigration. In Department for Communities and Local Government (2009) the Government announced that it intends to review the role of the Migration Impacts Forum.

3.59 A question that falls within our remit, but which presents a clear challenge, relates to potential trade-offs between the short and long term. For example, bringing in immigrants to fill shortages may be essential in the short term to ensure the survival of businesses or the provision of crucial services. However, in the long term it may reduce incentives to invest in the training and up-skilling of UK resident workers, and therefore contribute to maintaining or even increasing dependence on immigrant workers in the future. Our approach to such difficult issues has been to make our decisions in a balanced, consistent and transparent manner; and to use our recommendations as a challenge to employers and sector bodies to deliver improved up-skilling of the resident labour force and to seek alternatives to non-EEA immigration.

Indicators

3.60 In practice, the question of sensible is often specific to sectors and/or occupations. We therefore rely heavily on bottom-up evidence. However, there are a limited number of numerical indicators available that might provide context to the bottom-up evidence. These include:

- the percentage of non-EEA immigrants already employed in an occupation; and
- the percentage of the workforce in receipt of training within the last 13 weeks.

3.61 Both these indicators are based on data from the last four quarters of the LFS at the time the analysis was being carried out. For this report we have updated the September 2008 indicators using data from the last quarter of 2007 and the first three quarters of 2008.

3.62 The first of these indicators gives an indication of the reliance on immigrant labour from outside the EEA. An occupation dependent on immigrant labour from outside the EEA may suffer if access is immediately restricted. However, a low share of non-EEA immigrants may also indicate a difficulty in recruiting immigrants that the shortage occupation route may be able to help to solve.

3.63 The second indicator provides some measure of investment in up-skilling. An occupation with a very low share of workers who have recently received training may have scope for addressing staff shortages by more investment in up-skilling of existing staff.

3.64 In addition, some of the top-down indicators of shortage are also indicators of sensible. (These top-down indicators are reported in the shortage section of the top-down evidence summaries, and are listed in Table 3.2.) For example:

- change in earnings provides an indication of whether employers have made efforts to respond to shortages by raising wages. If wages are falling for an occupation where immigrants are being used to fill a shortage of skilled labour, it is possible that immigrants are being used as a cheaper substitute for domestic labour;
- the stock of unemployed workers associated with an occupation gives an indication of the scope for increasing employment of UK resident workers (but it does not capture inactive workers). If a shortage of skilled labour was reported for an occupation in which a considerable number of unemployed people were seeking work, employers could be making inadequate efforts to recruit or train domestic labour; and

- the change in hours worked for full-time employees provides an indication that employers are increasing hours as an alternative response when vacancies cannot be filled, although there are legal limits to the number of hours an employee can work.

Thresholds

- 3.65 We consider two top-down indicators of sensible but do not have explicit thresholds for these indicators. This is because these indicators need, in particular, to be interpreted in a context-specific manner.
- 3.66 The top-down data for sensible appear in the evidence boxes in subsequent chapters of this report, but without green and red indicators. Table 3.3 reports the medians of the indicators for all occupations.

Bottom-up evidence

- 3.67 In terms of sensible, most of the considerations and indicators can only be assessed through bottom-up evidence, gathered through our call for evidence, regional visits and meetings with employers and representative bodies. Table 3.4 describes the key bottom-up indicators or criteria we have considered, and provides examples.
- 3.68 For our September 2008 review, we commissioned the Centre on Migration, Policy and Society (COMPAS) at Oxford University to co-ordinate the production of a series of sector-specific expert reports on the micro-level determinants of employer demand for immigrant labour and the alternatives to immigrant labour. These reports include a separate overview paper (Anderson and Ruhs (2008)) and seven sector papers. These papers are on our website.

Table 3.3: Sensible indicators and medians of indicators

	September 2008	March 2009		September 2008	March 2009
Percentage of workforce born non-EEA	6	7	Percentage of workforce trained in past 13 weeks	26	24

Note: No explicit thresholds are used for the sensible top-down indicators. The medians for all occupations are reported here instead.

Table 3.4: Our key criteria for assessing bottom-up evidence when assessing whether it is sensible to fill shortages with immigration

Key criteria for sensible	What change might indicate sensible?	Bottom-up examples
Alternatives to employing immigrants:		
What feasible alternatives to immigration have been considered? Are there obstacles for employers in pursuing alternatives to migration?		
Recruitment efforts	High or increased spending and investment in recruitment	Spending on advertising, using different channels Using different labour pools, e.g. unemployed, part-time workers
Attractiveness of employment package	Increased incentives for the current workforce to remain in occupation and for new recruits to enter the labour market	Holiday allowances, bonuses, other benefits
Increased working hours	Increased working hours for current workforce	
Capital substitution	Increased investment in technology to make production less labour- or skill-intensive	Installing labour-saving machinery
Changing production methods	Changed production methods to make production less labour- or skill-intensive	Restructuring the production line
Outsourcing or off-shoring	Increased use of contracting in or of overseas sites	Evidence that employers are doing this
Current use of immigrants	High use of immigrants may mean it is difficult to respond to shortage in other ways, but may also mean employers are not doing enough to up-skill UK resident workers	Current use of immigrants
Skills acquisition:		
What efforts have been, or could be, made to train and up-skill the UK resident workforce?		
Training	High or increased investment in training of current and future UK workforce	Employers working with schools/universities New training programmes, Apprenticeships
Training length	A long training period would make it harder to quickly respond to shortage through training	Evidence of length of training required to become fully proficient

Table 3.4: Our key criteria for assessing bottom-up evidence when assessing whether it is sensible to fill shortages with immigration (*continued*)

Key criteria for sensible	What change might indicate sensible?	Bottom-up examples
Availability of training or qualifications	If training for an occupation is not readily available this may increase the need for immigrants, but it may also indicate inadequate efforts by employers to ensure qualifications are provided	Evidence that employers are working with their Sector Skills Council to develop qualifications
Productivity, innovation and international competitiveness: What impacts will access to immigrant labour have on productivity, innovation and international competitiveness of an industry?		
Productivity	Decreased productivity may indicate it is sensible to bring in immigrants. However low productivity could imply scope to substitute labour with capital	Higher wastage Slower production process Reduced quality product Evidence of 'low skills equilibrium' of labour-intensive production
Innovation	Risk of reduced innovation in a sector where immigration is a source of innovation may indicate it is sensible to bring in immigrants	Emerging technologies overseas
Competitiveness	Employment of immigrants may support international competitiveness of certain sectors through their skills and innovation. It would not be sensible to bring in immigrants to maintain competitiveness only through their willingness to accept lower pay	Sector requires highest levels of skills Immigrants bring different skills/innovation
Impacts on wages and employment rates	No adverse impact on wages, employment conditions and/or employment levels	Steady or rising wages and employment conditions
Business failure	Higher numbers of businesses failing may indicate shortages cannot be filled, but may be other causes and it may also be a natural market correction	Closure of businesses Reduced profits
Public service impacts	It may be sensible to bring in immigrants if public services are jeopardised, but in the longer term it would not be sensible for public services to rely on cheap immigrant labour	Reduced quality of public services Insufficient or reduced availability of public services (e.g. increased waiting times)
Other regulatory and economic context	Other reasons outside the control of employers that make it difficult or impossible to pursue alternatives	

Research

3.69 We are currently commissioning research that further enhances our understanding of the concept of sensible:

- an analysis of whether it is sensible to use immigrant labour in selected occupations, from an economy- and employer-wide perspective; this work will examine employers' considerations of the alternatives to employment of immigrant labour, such as upgrading the skills of the domestic workforce and innovation; and
- an analysis of production, technology, skills and migration; this project aims to further understand whether and how production regimes in specific sectors can be altered to offer an alternative to employing immigrants.

3.5 Country and regional issues

The European Economic Area

3.70 The shortage occupation lists set out one route through which employers can access labour from outside the EEA. In principle, it is desirable to assess the potential supply of labour within the whole of the EEA using top-down analysis. In practice, this is difficult. We have commissioned some research to assess the extent to which this can be done, and when that research is complete we will consider whether it is possible to make greater use of data from other EEA countries in our analysis.

3.71 For the time being, for the purposes of this report, we took account of the above issue in our bottom-up analysis. Efforts that employers have made to recruit employees from within the EEA are one of the criteria we have considered in relation to sensible.

Scotland

3.72 By definition, a UK list includes Scotland, meaning that the UK list will apply to Scotland as well as to the rest of the UK. Our work plan also requires us to produce a separate shortage occupation list for Scotland. As the UK list applies to Scotland too, the Scotland list is an additional list to the UK list.

3.73 Because of Scotland's smaller population, data limitations at the UK level tend to be exacerbated at the Scottish level, so bottom-up evidence is crucial to this process. The same skilled, shortage and sensible criteria and the same benchmarks in terms of expected quality of evidence are applied to Scotland as to the UK. However, for the Scotland list, any shortage only needs to relate to Scotland rather than the whole of the UK. Evidence received from stakeholders in Scotland also plays a role in helping us to assess where shortages exist at the UK level.

3.74 We expect stakeholders asserting that an occupation needs to be included on the Scotland list to state what efforts are being made to recruit people from elsewhere in the UK and the reasons why those efforts are not proving successful.

3.75 Issues and evidence we considered in relation to Scotland are discussed in more detail in Chapter 9.

Other UK regions and countries

3.76 The shortage occupation lists under Tier 2 of the PBS apply to the whole of the UK, with a supplementary list for Scotland only. Our work plan did not, therefore, allow us to produce separate shortage occupation lists for UK countries or regions other than Scotland.

- 3.77 Furthermore, although we recognise that some employers face real difficulties in recruiting staff from other parts of the UK, we are not convinced that separate shortage occupation lists for each region and country of the UK are desirable or practicable. Even if regional shortages, however defined, exist and can be identified, it is probably not sensible to fill vacancies with immigrants if there is not a national shortage.
- 3.78 Evidence of labour shortages in particular regions, or for particular employers, may indicate shortages at the broader national level, and therefore we do use evidence on regional or local shortage to inform our work. Such evidence on its own, however, is not generally sufficient for inclusion on the recommended shortage occupation list

unless accompanied by evidence that the shortage within a particular area reflects a wider problem.

3.6 Assessing the occupational evidence

- 3.79 Having summarised our approach to gathering and analysing the evidence above, the next part of this report is focused on considering specific occupations against the framework described above: major occupational groups we have committed to review in Chapter 4; occupations the Government has asked us to review in Chapter 5; occupations that previously exhibited top-down indication of shortage in Chapter 6; and some occupations on our previous shortage occupation list in Chapter 7.

Chapter 4: Major occupational groups we committed to review

4.1 Introduction

- 4.1 This chapter discusses our work on two major occupational groups that we committed to review in our September 2008 report on shortage occupations: healthcare and engineering.
- 4.2 In our September 2008 report in relation to occupations within the health sector we reported that:

While we do not feel we have seen a full picture of shortages across these occupations, we have taken into account the size of the health sector and the limited amount of time available ... to prepare and present evidence to us. We will work with all relevant organisations over the next few months as they try to establish more comprehensive health sector data, and we will review the position of these occupations in six months' time.

- 4.3 We also committed to reviewing various engineering occupations and have since decided to review all engineering occupations by autumn 2009.

4.2 Medical and related occupations

- 4.4 We convened a workshop in November 2008 involving the NHS Workforce Review Team (WRT), the Department of Health (DH) and Skills for Health (SfH). NHS Employers (NHSE) was invited to the meeting but was unable to attend. At the workshop it was agreed that the WRT is well placed to act as co-ordinator for evidence gathering, and will utilise workforce information gathered as part of its annual assessment of workforce priorities carried out on behalf of DH.
- 4.5 NHSE agreed outside the workshop to provide input from the employers' side, and SfH agreed to provide input from the devolved administrations and the independent sector. It was also agreed that the evidence presented to us will take into account our methodology in terms of our skilled, shortage and sensible criteria.
- 4.6 The core WRT data gathering and analysis of healthcare professions for this report was based on the annual WRT assessment of workforce priorities in 2008. Evidence was assessed in line with guidelines agreed with us. It included analysis of the scale of current healthcare training in order to understand whether there are likely to be increases in the availability of newly-qualified staff in a given profession in the short to medium term, thereby alleviating shortages internally.

4.7 For the purposes of this review, consultation with Royal Colleges, other professional bodies and strategic health authorities (SHAs) was deemed to have been undertaken as part of the initial WRT assessment process. For future updates a more explicit approach to consultation with stakeholders will be implemented. The next WRT-led review of healthcare professions is due to be completed by late summer 2009, and thereafter annually, and we will feed this into our future work.

The Workforce Review Team

4.8 The WRT applied our methodology when assessing job titles and occupations; and, for each, gave us a summary indicating its view of whether the occupation passed the skilled, shortage and sensible criteria. Where we had queries over these we went back to the WRT for more information and clarification. Where information was lacking, we did not follow WRT recommendations. We will be working with the WRT to make sure future recommendations are based more consistently on robust evidence.

4.9 The WRT told us that the healthcare employment market is not 'operating freely': NHS wage levels are determined largely according to a national pay scale (recommended by the Review Body on Doctors' and Dentists' Remuneration and the NHS Pay Review Body). Therefore, pay is of limited use as an indicator of shortage. This means that when determining whether there is a shortage of labour in a given skilled healthcare job, the WRT's methodology emphasises quantitative indicators of imbalance: supply forecast modelling (sourced from centralised census and training registration figures); vacancy

surveys; and levels of applications for these vacancies. Where these signal a potential shortage, the following indirect indicators are then used as a supplement: use of agency staff; shifts in skill mix (a proxy for changes in mode of production); workforce age profiling; retirement patterns; and geographical distribution. Employer perceptions of shortage are also considered. In these cases, evidence is qualitative, coming, we understand, from meetings with DH, healthcare providers and key personnel from professional bodies.

4.10 We appreciate that length of training for the majority of healthcare occupations means that it is not possible to make rapid changes to the home-grown workforce to respond to changes in demand. For example, if demand for consultants increases due to more emphasis on preventative care, or if technological advances have meant conditions which were previously untreatable can now be treated, it may not be possible to train home-grown doctors quickly enough.

Skills for Health

4.11 SfH was unable to consult as widely with the devolved administrations and independent providers as we would have liked, but we and the WRT are working with SfH to provide more comprehensive information for our autumn 2009 review.

NHS Employers

4.12 In a parallel process to that run by the WRT, NHSE also gathered and analysed evidence and fed into the final report we received from the WRT.

Report from the WRT to the MAC

- 4.13 SfH, NHSE and the WRT held a meeting in January 2009 to agree a final list to be submitted to the MAC. The report we received from the WRT was, for the most part, comprehensive and tackled issues around skilled, shortage and sensible for each occupation recommended for inclusion on the shortage occupation list. In this way we were able to assess in each case whether our methodology had been followed in coming to an eventual conclusion for this report. Where possible we also considered top-down data before finalising our conclusions.
- 4.14 We are very grateful to the WRT for the substantial amount of work it has undertaken to provide us with its evidence.

European Working Time Directive (WTD)

- 4.15 The WRT told us that the WTD regulations on working hours are coming into force for junior doctors in August 2009, with working weeks becoming no more than 48 hours long. This issue had not been highlighted to us during our previous review.
- 4.16 The WRT initially recommended an extensive list of non-consultant posts to help the NHS reach compliance. However, after further discussion with DH we rejected this. DH told us that the vast majority of the NHS was expected to be compliant by August. However, there were significant concerns that a number of hospital services may not make sufficient progress to support compliance for all doctors in training who are working in services delivering 24-hour, immediate patient care, some supra specialist services and in small, remote and rural units.

- 4.17 The UK Government has applied for a derogation under Article 17(5) of the European WTD. This would permit an average weekly working time of 52 hours for doctors in training, to apply to such services from 1 August 2009.
- 4.18 DH has also asked that these jobs be placed on the shortage occupation list for the short term. The derogation provides the time and the shortage occupation list the means to move towards compliance. Although we were surprised to be confronted with this evidence for the first time in early 2009, we do not wish to put at risk the health of the nation and therefore we believe it is sensible to include certain non-consultant posts on our recommended shortage occupation list for the time being.
- 4.19 The DH told us they expect this to be a short-term measure while those in training work their way through to fill the posts. Indeed, we do not expect any posts put on the list primarily for WTD purposes to have contracts lasting more than three years. This is the length of time the DH has applied for derogation in these areas.
- 4.20 We therefore recommend non-consultant, non-training, medical staff posts in the following specialities be placed on the shortage occupation list:
- anaesthetics;
 - emergency medicine;
 - general surgery;
 - intensive care medicine;
 - obstetrics and gynaecology;
 - paediatrics; and
 - trauma and orthopaedic surgery.

Other evidence received

- 4.21 We also received some direct evidence from the Oxfordshire Care Association and the Belfast Health and Social Care Trust, and we met with the Royal College of Midwives.
- 4.22 The Oxfordshire Care Association told us that many nursing homes were losing nurses to the NHS which was creating shortages. However, we were also told the reverse was often true in some areas (for example in Wales).
- 4.23 The Belfast Health and Social Care Trust told us that they had problems recruiting doctors to training posts in the areas of core medical, paediatrics and psychiatry. They advised us that some doctors will accept a post in Northern Ireland, only to subsequently accept another post nearer to home (often in England). We have not received evidence of shortages in training posts across the wider UK and, therefore, they are not recommended for inclusion on the shortage occupation.
- 4.24 We discussed the information we had on midwives with the Royal College of Midwives and they are considering whether to submit evidence in time for our next review.

Those occupations recommended for inclusion on the shortage occupation list

- 4.25 We now discuss in more detail those other medical occupations that are recommended for inclusion on the shortage occupation list for the UK, plus some that we considered and only include on our list in part, or not at all. We have linked each occupation and job title with the most appropriate SOC code. Unless otherwise stated, all of the occupations and job titles covered below pass our criteria for skilled. So we focus mainly on the evidence in relation to shortage and sensible.
- 4.26 The evidence received from the WRT was detailed and we cannot relate it in full here. To view the full summaries please visit www.wrt.nhs.uk/.

Box 4.1: Medical practitioners

Occupation(s) and SOC code(s): Medical practitioners – 2211

Only the following job titles within this occupation are included on our recommended shortage occupation list:

Consultants within the following specialities: audiological medicine, chemical pathology, clinical neurophysiology, clinical pharmacology and therapeutics, dermatology, genitourinary medicine, haematology, immunology, intensive care medicine, medical microbiology and virology, neurology, nuclear medicine, obstetrics and gynaecology, occupational medicine, paediatric surgery, paediatrics, plastic surgery and renal medicine.

Consultants within the following specialities of psychiatry: child and adolescent psychiatry, forensic psychiatry, general psychiatry, learning disabilities and old age psychiatry.

Also non-consultant, non-training, medical staff posts in the following specialities: anaesthetics, emergency medicine, general surgery, intensive care medicine, obstetrics and gynaecology, paediatrics and trauma and orthopaedic surgery.

Top-down data

2211 Medical practitioners

Skilled	Skilled in top-down analysis				
SOC skill level classification	4		Median hourly pay for all employees	£30.78	
Percentage of employees with NQF3+	93.1				
Shortage	Occupation passes 4 out of 12 valid indicators				
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	-1.6	5.2	V2 Annual percentage change in employment estimates	-5.2	3.7
P2 Annual percentage change of mean hourly pay for all employees	-0.8	5.0	V3 Annual percentage change of median total paid hours	0.0	0.0
P3 Return to occupation, given NQF3, with age and region controls	1.51	1.36	V4 Absolute change in proportion working for employer under 1 year	-0.04	0.04
I1 Absolute change in median vacancy duration	-9.7	23.0	E1 SSVs as a percentage of all vacancies	11	11
I2 Live unfilled vacancies/unemployment by sought occupation	0.31	0.34	E2 SSVs as a percentage of hard-to-fill vacancies	88	88
V1 Annual percentage change in unemployment by sought occupation	-28.2	-24.4	E3 SSVs as a percentage of total employment	0.03	0.03
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	32	27	Percentage of workforce trained in past 13 weeks	64	63

- 4.27 This SOC code covers a wide range of medical job titles and therefore is not highly relevant to any one in particular. It is noteworthy, however, that indicators of shortage have moved from 1 out of 12 in September 2008 to 4 out of 12 now.
- 4.28 The WRT's evidence to us was focused on our methodology of skilled, shortage and sensible. For each of the consultant occupations we are recommending for the shortage occupation list we received evidence relating to each of our criteria and this included information on, for example, headcount numbers, vacancy rates, drivers for increased capacity and levels of trainees.
- 4.29 A full list of consultant posts included on our recommended list is provided in Box 4.1. Some issues in relation to particular consultant roles are discussed below:
- **Audiological medicine:** very small numbers in this position (35 full-time equivalent (FTE) employees), but workload expected to rise and little interest in training positions.
 - **Chemical pathology:** the use of clinical biochemistry is rising rapidly and there is a mismatch between this and a static workforce. Some 40 per cent of consultants are over the age of 55.
 - **Clinical neurophysiology:** relatively small numbers in this position (82 FTEs). Demand for these services is likely to increase as a result of meeting Government waiting time targets. In 2007 the British Society of Clinical Neurophysiology advised that 1 FTE consultant is required per 250,000 population. The WRT forecasts that supply will not meet estimated requirements for many years.
 - **Clinical pharmacology and therapeutics:** 44 per cent of the workforce will reach retirement age in the next ten years. There are also reports of a loss of senior staff to roles in academia and posts in national regulatory bodies. The Information Centre (IC) census survey for 2008 showed that 3.3 per cent of consultant posts had been vacant for more than three months. The delivery of initiatives to recognise early signs of strokes could also increase demand, with more people surviving strokes and going on to live with the after-effects.
 - **Dermatology:** as of January 2008 there were 42 unfilled consultant posts out of a total of around 500.
 - **Genitourinary medicine:** there has been an increase in demand due to rising incidence of sexually-transmitted infections. Consultant numbers over the last ten years have increased by only 36 per cent despite the number of patients attending more than doubling.
 - **Haematology:** as of 2008, 1.8 per cent of consultant posts had been vacant for more than three months. Demand has increased at the rate of around 5 per cent per annum for the past ten years.
 - **Immunology:** a 2006 report from DH on allergy services recognised an unmet need for immunology services. Some 26 per cent of consultants are over the age of 55. The Royal College of Physicians says that more consultants are required to fulfil demand.
 - **Intensive care medicine:** intensive care units are currently undergoing a major review which is likely to result in an increased demand for consultants.

- **Medical microbiology and virology:** demands have increased, including the setting of reduction targets for MRSA bacteraemia. Consultant numbers are projected to rise.
 - **Neurology:** WRT analysis forecasts that there will be growing demand for neurology services that will not be met by supply. Two major drivers of the rising demand are the growing number of stroke patients and Government targets (18-week maximum wait policy).
 - **Nuclear medicine:** very low numbers in this occupation (43 FTEs), 42 per cent of whom are over 50 years of age. There are a number of demand drivers such as meeting Government waiting time targets and the Cancer Reform Strategy.
 - **Obstetrics and gynaecology:** birth rates are increasing, which is likely to increase the demand for obstetrics services. Currently a large number of international medical graduates take up obstetrics and gynaecology posts in the UK. They therefore make up a large proportion of the workforce.
 - **Occupational medicine:** in 2007 the Society of Occupational Medicine reported a persisting shortage of trained physicians in occupational medicine. There is a reported chronic undersupply in the independent sector. Demand is likely to increase due to growing population and a growing emphasis on preventative care. There is also a DH proposal to bring occupational medicine further into the mainstream NHS, and services are likely to be made more widely available.
 - **Paediatricians:** the Royal College of Paediatrics and Child Health estimates that an increase in posts are required. There are also issues around WTD compliance for paediatric consultants.
 - **Paediatric surgery:** there are very small numbers (around 100 FTEs), but there is a decline in the number of general surgeons undertaking supplementary paediatric training, at a time when the demand for paediatric surgeons has increased.
 - **Plastic surgery:** WRT modelling forecasts that requirement for consultants will not be achieved until after 2020. This is based on the estimated requirement of the Royal College of Surgeons in England.
 - **Renal medicine:** WRT analysis forecasts that there will be a growing demand for renal services. Two major drivers are increasing clinical morbidity (for example due to type 2 diabetes leading to increased end stage renal disease rates) and the increasing disease prevalence that results from an ageing population.
 - **Psychiatry:** workforce expansion is required to meet estimated requirements.
- 4.30 Some non-consultant posts in these occupations are also included on our recommended list in order to help reach WTD compliance, as discussed elsewhere.

Box 4.2: Psychologists

Occupation(s) and SOC code(s): Psychologists – 2212

Only the following job title within this occupation is included on our recommended shortage occupation list:

Clinical psychologist.

Top-down data

2212 Psychologists

Skilled	Skilled in top-down analysis				
SOC skill level classification	4		Median hourly pay for all employees	£21.37	
Percentage of employees with NQF3+	99.6				
Shortage	Occupation passes 1 out of 12 valid indicators				
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	8.5	-2.3	V2 Annual percentage change in employment estimates	-5.1	4.9
P2 Annual percentage change of mean hourly pay for all employees	4.7	7.5	V3 Annual percentage change of median total paid hours	-0.1	0.2
P3 Return to occupation, given NQF3, with age and region controls	1.29	1.27	V4 Absolute change in proportion working for employer under 1 year	-0.09	-0.04
I1 Absolute change in median vacancy duration	-0.7	-0.8	E1 SSVs as a percentage of all vacancies	6	6
I2 Live unfilled vacancies/unemployment by sought occupation	0.09	0.10	E2 SSVs as a percentage of hard-to-fill vacancies	22	22
V1 Annual percentage change in unemployment by sought occupation	-22.2	13.0	E3 SSVs as a percentage of total employment	0.11	0.11
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	19	11	Percentage of workforce trained in past 13 weeks	62	60

4.31 We received evidence from the WRT on consultants within psychotherapy and applied psychologists. Top-down evidence for the related occupation is highly relevant to these two job titles. The occupation as a whole shows little sign of shortage, passing on only 1 out of 12 indicators. Furthermore, that single indicator is pay which, as described previously, may be of limited relevance as an indicator of shortage in healthcare occupations. However, the WRT told us there was a shortage in relation to two specific job titles: consultants in psychotherapy and applied psychologists.

4.32 Regarding the first of the above two job titles, the WRT told us that the September 2007 NHS IC census recorded 75 FTE psychotherapy consultants. The age profile of these workers shows that 57 per cent are over 50. The workforce is expected to increase over the next 15 years. This is due to an anticipated increase in demand for treatment of conditions such as obsessive compulsive disorder and schizophrenia.

- 4.33 The NHS IC records that 3 per cent of posts had been vacant for more than three months. The Royal College of Psychiatrists reports that over 80 per cent of trainees sitting either part I or II of the MRCPsych examination were international medical graduates.
- 4.34 However, this is not enough evidence for us to consider recommending consultants in psychotherapy for the shortage occupation list and therefore we leave them off until such a time as we receive more robust evidence.
- 4.35 In relation to applied psychologists, the September 2007 NHS IC census recorded 5,791 FTE clinical psychologists. This includes all types of applied psychologists as well as some psychology assistants and trainees, and possibly counsellors and some psychotherapists.
- 4.36 The WRT told us that the Sainsbury Centre produced a report in 2006 which estimated that the number of clinical psychologists required to deliver the Mental Health National Service Framework was 10,200. There would therefore appear to be room for growth. The IC census three-month vacancy rate for clinical psychologists stood at 1.2 per cent in March 2007 (a fall of 1 percentage point from 2006).
- 4.37 In September 2008 we recommended that the wider group of clinical psychologists be included on the shortage occupation list. Here we are being asked to confine it to applied psychologists only. However, evidence is weak and therefore we recommend keeping the status quo and retaining the wider group of clinical psychologists. However, we will require stronger evidence next time to either retain the occupation or restrict it to a particular job title.

Box 4.3: Pharmacists/pharmacologists

Occupation(s) and SOC code(s): Pharmacists/pharmacologists – 2213

Only the following job title within this occupation is included on our recommended shortage occupation list:

Pharmacists working in the NHS or hospitals.

Top-down data

2213 Pharmacists/pharmacologists

Skilled	Skilled in top-down analysis				
SOC skill level classification	4		Median hourly pay for all employees	£18.01	
Percentage of employees with NQF3+	92.6				
Shortage	Occupation passes 1 out of 12 valid indicators				
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	-1.3	2.3	V2 Annual percentage change in employment estimates	2.2	-10.4
P2 Annual percentage change of mean hourly pay for all employees	-5.1	3.6	V3 Annual percentage change of median total paid hours	0.0	0.0
P3 Return to occupation, given NQF3, with age and region controls	0.92	0.41	V4 Absolute change in proportion working for employer under 1 year	0.03	-0.02
I1 Absolute change in median vacancy duration	-6.6	2.2	E1 SSVs as a percentage of all vacancies	18	18
I2 Live unfilled vacancies/unemployment by sought occupation	0.47	0.36	E2 SSVs as a percentage of hard-to-fill vacancies	100	100
V1 Annual percentage change in unemployment by sought occupation	-15.1	17.9	E3 SSVs as a percentage of total employment	0.09	0.09
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	21	12	Percentage of workforce trained in past 13 weeks	54	50

4.38 A census taken as part of the work of the Pharmacy Workforce Planning and Policy Advisory Group in 2003 showed that there were nearly 32,000 FTE pharmacists in Great Britain. Of these just over 6,200 work in NHS hospitals. The remainder work in the community for private employers. We received evidence from the WRT that vacancy rates for band 6 pharmacist posts in NHS trusts stood at 22 per cent, a high level.

4.39 We also heard that the Government's white paper *Pharmacy in England: building on strengths – delivering the future* (Department of Health, 2008) is concerned with promoting a wider role for pharmacy and this will mean, if implemented, more demand for pharmacists. We understand that the number of training posts is expanding, but with a five-year training period it is difficult to respond to shortages quickly.

4.40 It was put to us that we should keep on the list all pharmacists (including the larger group who work in the community), plus pharmacy technicians. However, our top-down analysis of pharmacists did not suggest shortage (the occupation passed on only 1 out of 12 indicators). Pharmaceutical dispensers (SOC 3217), passed on 4 out of 12 indicators, which again does not strongly indicate overall shortage. Neither did we receive sufficient bottom-up evidence on shortages of pharmacists (beyond those working in hospitals) or pharmaceutical dispensers.

4.41 One reason for the shortage in the NHS may be that the starting salary is, we understand from the WRT, well below that for retail pharmacists. Given that NHS employment is a small fraction of total pharmacist employment, the NHS shortage could be moderated or eliminated by raising the pay of NHS pharmacists, particularly the starting salary. We are content to include NHS and hospital pharmacists on the shortage occupation list for the time being because we recognise existing constraints on increasing public expenditure. But we urge NHSE to address the gap in pay between the private and public sectors.

Box 4.4: Dental practitioners

Occupation(s) and SOC code(s): Dental practitioners – 2215

Only the following job titles within this occupation are included on our recommended shortage occupation list:

Consultants within orthodontics and paediatric dentistry.

Top-down data

2215 Dental practitioners

Skilled		Skilled in top-down analysis			
SOC skill level classification	4	Median hourly pay for all employees	£23.61		
Percentage of employees with NQF3+	91.2				
Shortage		Occupation passes 3 out of 11 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	2.1	1.9	V2 Annual percentage change in employment estimates	0.1	-5.8
P2 Annual percentage change of mean hourly pay for all employees	-6.9	4.8	V3 Annual percentage change of median total paid hours	0.1	0.8
P3 Return to occupation, given NQF3, with age and region controls	x	x	V4 Absolute change in proportion working for employer under 1 year	-0.01	0.00
I1 Absolute change in median vacancy duration	-16.1	-4.1	E1 SSVs as a percentage of all vacancies	0	0
I2 Live unfilled vacancies/unemployment by sought occupation	0.76	1.05	E2 SSVs as a percentage of hard-to-fill vacancies	0	0
V1 Annual percentage change in unemployment by sought occupation	-8.0	-19.2	E3 SSVs as a percentage of total employment	0.00	0.00
Sensible indicators		Sept 08	Mar 09	Sept 08	Mar 09
Percentage of workforce born non-EEA	20	27	Percentage of workforce trained in past 13 weeks	68	63

- 4.42 Top-down data analysis is relevant to these occupations, although the SOC code does cover a wider range of occupations. Three out of 11 shortage indicators pass in this review as compared with 1 out of 11 last time. This is mainly due to counter-cyclical trends in terms of falling unemployment rates and rising vacancy-to-unemployment ratios for dental practitioners. However, on balance, this still does not constitute strong top-down evidence of shortage for this occupation as a whole.
- 4.43 Therefore, we recommend only consultants in particular areas for inclusion on the shortage occupation list, as discussed below: consultants in orthodontics and paediatric dentistry. With regard to the former, provision within the NHS and independent sector is predicted to increase. Some 25 per cent of the workforce is expected to retire in the next five years. Nearly 3 per cent of posts had been vacant for more than three months. With regard to the latter, there are very low numbers in this occupation (26 FTEs); however, the workforce is expected to need to grow over the next 15 years. Some 7.75 per cent of posts had been vacant for more than three months. The WRT reported a marked impact on workload and increased waiting lists.

Box 4.5: Biological scientists and biochemists

Occupation(s) and SOC code(s): Biological scientists and biochemists – 2112

Only the following job titles within this occupation are included on our recommended shortage occupation list:

Cardiac physiologist, clinical neurophysiologist, clinical vascular scientist, HPC (Health Professions Council) registered ophthalmic and vision scientist, respiratory physiologist and sleep physiologist.

Top-down data

2112 Biological scientists and biochemists

Skilled		Skilled in top-down analysis			
SOC skill level classification	4	Median hourly pay for all employees	£16.48		
Percentage of employees with NQF3+	92.2				
Shortage		Occupation passes 4 out of 12 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	3.2	2.6	V2 Annual percentage change in employment estimates	10.6	4.7
P2 Annual percentage change of mean hourly pay for all employees	5.8	0.7	V3 Annual percentage change of median total paid hours	0.0	1.3
P3 Return to occupation, given NQF3, with age and region controls	1.12	0.99	V4 Absolute change in proportion working for employer under 1 year	-0.04	0.02
I1 Absolute change in median vacancy duration	0.6	-2.7	E1 SSVs as a percentage of all vacancies	58	58
I2 Live unfilled vacancies/unemployment by sought occupation	0.09	0.10	E2 SSVs as a percentage of hard-to-fill vacancies	98	98
V1 Annual percentage change in unemployment by sought occupation	-17.8	24.9	E3 SSVs as a percentage of total employment	0.61	0.61
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	12	15	Percentage of workforce trained in past 13 weeks	42	40

4.44 This SOC code passes on 4 out of 12 shortage indicators. However, two of the four shortage indicators are from NESS, which dates back to 2007. This occupation as a whole is not in shortage. Nevertheless, this is not highly relevant to the very specific scientist roles which the bottom-up evidence identifies as being in shortage. The SOC code covers a much wider group of scientists.

4.45 We therefore listened carefully to what the WRT had to say about specific job titles within this occupation. Technological advances were often cited as drivers for increased requirements in the workforce as indeed were Government policy initiatives (for example, the National Stroke Strategy, which is aimed at securing improvements to stroke services).

Box 4.6: Physicists, geologists and meteorologists

Occupation(s) and SOC code(s): Physicists, geologists and meteorologists – 2113

Only the following job titles within this occupation are included on our recommended shortage occupation list:

Nuclear medicine scientists and radiotherapy physicists. Also staff working in diagnostic radiology (including magnetic resonance imaging).

Top-down data

2113 Physicists, geologists and meteorologists

Skilled		Skilled in top-down analysis			
SOC skill level classification	4	Median hourly pay for all employees		£18.16	
Percentage of employees with NQF3+	91.8				
Shortage		Occupation passes 5 out of 11 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	-1.4	5.7	V2 Annual percentage change in employment estimates	-11.6	23.3
P2 Annual percentage change of mean hourly pay for all employees	-0.8	0.3	V3 Annual percentage change of median total paid hours	0.7	0.3
P3 Return to occupation, given NQF3, with age and region controls	0.77	0.99	V4 Absolute change in proportion working for employer under 1 year	0.03	0.06
I1 Absolute change in median vacancy duration	x	x	E1 SSVs as a percentage of all vacancies	42	42
I2 Live unfilled vacancies/unemployment by sought occupation	0.05	0.08	E2 SSVs as a percentage of hard-to-fill vacancies	95	95
V1 Annual percentage change in unemployment by sought occupation	-32.2	13.4	E3 SSVs as a percentage of total employment	1.61	1.61
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	22	12	Percentage of workforce trained in past 13 weeks	42	30

4.46 We received evidence from the WRT on the following job titles: nuclear medicine scientist, radiotherapy physicist, and staff working in diagnostic radiology (including magnetic resonance imaging). Passing 5 out of 11 shortage indicators, the relevant occupation shows above-average signs of potential shortage. However, the top-down data tell us little about such minor subsets of a much larger occupation. The WRT reported that these work areas were forecast to grow. A significant number of

senior staff were approaching retirement age and the attrition rate from clinical scientist training was around 10 per cent. The WRT told us that there were a large number of vacancies, particularly at the higher grades. We include these job titles on our recommended list.

4.47 We included some non-health related job titles within this occupation on our September 2008 shortage occupation list. These also remain on our recommended list for this review.

Box 4.7: Nurses

Occupation(s) and SOC code(s): Nurses – 3211

Only the following job titles within this occupation are included on our recommended shortage occupation list:

Theatre nurse and critical care nurse (nurses working in critical units with a level 2 or level 3 classification).

Operating department practitioner.

Top-down data

3211 Nurses

Skilled		Skilled in top-down analysis			
SOC skill level classification	3	Median hourly pay for all employees	£13.88		
Percentage of employees with NQF3+	91.7				
Shortage		Occupation passes 1 out of 12 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	4.7	4.6	V2 Annual percentage change in employment estimates	0.5	-0.2
P2 Annual percentage change of mean hourly pay for all employees	5.1	4.9	V3 Annual percentage change of median total paid hours	0.0	0.0
P3 Return to occupation, given NQF3, with age and region controls	0.77	0.65	V4 Absolute change in proportion working for employer under 1 year	-0.01	0.00
I1 Absolute change in median vacancy duration	5.3	-4.9	E1 SSVs as a percentage of all vacancies	10	10
I2 Live unfilled vacancies/unemployment by sought occupation	3.00	5.03	E2 SSVs as a percentage of hard-to-fill vacancies	58	58
V1 Annual percentage change in unemployment by sought occupation	-21.1	5.8	E3 SSVs as a percentage of total employment	0.15	0.15
Sensible indicators		Sept 08	Mar 09	Sept 08	Mar 09
Percentage of workforce born non-EEA	19	19	Percentage of workforce trained in past 13 weeks	62	58

4.48 To work in the NHS, nurses must hold a diploma or degree in one of four branches of nursing: adult, child, mental health or learning disabilities. This qualification then leads to registration with the Nursing and Midwifery Council (NMC), enabling them to practise as a nurse. Therefore, the qualified (band 5+) nursing workforce meets our definition for a skilled occupation.

4.49 In order to work as a nurse in the UK, it is essential to be accepted onto the NMC register, and overseas nurses wishing to work in the UK must apply and be accepted to join. Following a successful application, the applicant must undertake the Overseas Nurses Programme, for which there are limited places.

- 4.50 Our top-down analysis of national level data shows that nurses pass on just 1 out of 12 shortage indicators, the same as in September 2008. This is corroborated by the WRT who told us that supply largely meets demand within the overall nursing workforce. Nursing commissions (the total number of training places in Higher Education Institutions) were reduced in 2006–2007, and have since remained at a lower level. International recruitment from outside the EEA has also been reduced since 2004 by 83 per cent. The WRT told us that this is thought to coincide with the more stringent requirements and the higher standard of English language skills now required by the NMC for overseas entry to the UK register.
- 4.51 However, the WRT told us that there are certain areas that remain difficult to recruit to due to the nature of the work and the irregular hours. These include the following specialist roles:
- theatre nurse; and
 - critical care nurse (nurses working in critical units with a level 2 or level 3 classification).
- 4.52 We also understand that nurses at Agenda for Change (AfC) bands 7 and 8 and their independent sector equivalents may be in shortage. However, it is unlikely that these nurses can be successfully recruited from overseas due to issues around comparability of training and appropriate experience. There may also be certain requirements of these posts such as post-registration qualifications (for example, in prescribing drugs).
- 4.53 Overall, recruitment to the nursing profession remains buoyant and vacancy rates have decreased significantly since 2003. There is not strong evidence to support nurses going on the shortage list for the UK. However, we recognise the issue with theatre and critical care nurses and we recommend these for the shortage occupation list.
- 4.54 We also received evidence relating to the job title operating department practitioner (ODP). There is some overlap between this occupation and theatre nurses, hence we list it here under the nurses SOC code.
- 4.55 The WRT told us that there is some evidence of shortages of ODPs: the 2007 Health and Social Care IC vacancy survey showed a 1.6 per cent three-month vacancy rate across England, compared with 2.4 per cent in 2006, with higher rates in London (2.5 per cent compared with 3.5 per cent in 2006). WRT analysis shows that the overall supply of ODPs is broadly in balance with demand when the independent sector workforce is taken into account. However, there are reports that employers have significant difficulty in recruiting experienced ODPs within the NHS.
- 4.56 The usage of ODPs is not uniform across hospital trusts. On the other hand, we do not wish to see operations cancelled due to lack of staff. Furthermore, recruitment of ODPs may help to partially address the shortage of operating theatre nurses. We have therefore decided that they should be added to the recommended shortage occupation list.

Box 4.8: Medical radiographers

Occupation(s) and SOC code(s): Medical radiographers – 3214

Only the following job titles within this occupation are included on our recommended shortage occupation list:

HPC registered diagnostic radiographer, HPC registered therapeutic radiographer and sonographer.

Top-down data

3214 Medical radiographers

Skilled		Skilled in top-down analysis			
SOC skill level classification	3	Median hourly pay for all employees	£17.53		
Percentage of employees with NQF3+	93.6				
Shortage		Occupation passes 4 out of 12 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	0.3	7.8	V2 Annual percentage change in employment estimates	17.8	8.2
P2 Annual percentage change of mean hourly pay for all employees	-3.4	7.0	V3 Annual percentage change of median total paid hours	1.1	0.8
P3 Return to occupation, given NQF3, with age and region controls	1.19	1.39	V4 Absolute change in proportion working for employer under 1 year	0.02	0.04
I1 Absolute change in median vacancy duration	x	-7.6	E1 SSVs as a percentage of all vacancies	0	0
I2 Live unfilled vacancies/unemployment by sought occupation	0.40	0.43	E2 SSVs as a percentage of hard-to-fill vacancies	0	0
V1 Annual percentage change in unemployment by sought occupation	-30.2	-2.3	E3 SSVs as a percentage of total employment	0.00	0.00
Sensible indicators		Sept 08	Mar 09	Sept 08	Mar 09
Percentage of workforce born non-EEA	8	8	Percentage of workforce trained in past 13 weeks	39	51

4.57 The three job titles listed in Box 4.8 are highly relevant to the SOC code and therefore the top-down data are important. The occupation passes on 4 out of 12 shortage indicators which is not a particularly strong indicator of shortage.

4.58 In 2007 the National Radiotherapy Advisory Group reported that there was a general consensus among experts that the projected need for radiotherapy was significantly underestimated 15–20 years ago. The WRT therefore told us that there

was a large gap between current levels of activity and optimal treatment levels. the WRT said the position was set to worsen as cancer incidence increases with the ageing population. There is a high attrition rate among some trainees (50 per cent). Vacancy rates are also reported to be high at over 10 per cent. Our top-down analysis of the occupation as a whole does not corroborate this but it does show unemployment among people seeking employment in the occupation declining.

There are also significant policy drivers that will increase the workforce, for example the extension of the NHS breast screening programme.

4.59 On the above basis we include the job titles HPC registered diagnostic radiographer, HPC registered therapeutic radiographer and sonographer on our recommended list.

Box 4.9: Medical and dental technicians

Occupation(s) and SOC code(s): Medical and dental technicians – 3218

Only the following job titles within this occupation are included on our recommended shortage occupation list:

Nuclear medicine technologists and radiotherapy technologists.

Top-down data

3218 Medical and dental technicians

Skilled	Skilled in top-down analysis				
SOC skill level classification	3	Median hourly pay for all employees	£12.39		
Percentage of employees with NQF3+	63.0				
Shortage	Occupation passes 2 out of 12 valid indicators				
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	8.5	2.1	V2 Annual percentage change in employment estimates	-21.5	4.9
P2 Annual percentage change of mean hourly pay for all employees	-5.0	5.3	V3 Annual percentage change of median total paid hours	1.3	0.0
P3 Return to occupation, given NQF3, with age and region controls	0.96	0.77	V4 Absolute change in proportion working for employer under 1 year	-0.01	0.01
I1 Absolute change in median vacancy duration	-6.7	2.2	E1 SSVs as a percentage of all vacancies	35	35
I2 Live unfilled vacancies/unemployment by sought occupation	0.29	0.33	E2 SSVs as a percentage of hard-to-fill vacancies	92	92
V1 Annual percentage change in unemployment by sought occupation	-10.2	1.9	E3 SSVs as a percentage of total employment	0.17	0.17
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	10	6	Percentage of workforce trained in past 13 weeks	40	39

4.60 The WRT provided evidence on nuclear medicine technologists and radiotherapy technologists. The top-down data are not highly relevant in this case as the SOC code covers a much wider group of occupations. The WRT told us that there is a particular pressure on these roles as they make a significant contribution to the delivery of

cancer reduction targets. The workforce in these two areas needs to grow as a result of new technologies, for example, intensity modulated radiation therapy and proton therapy, and also to support increasingly complex treatment. Therefore, we include nuclear medicine technologists and radiotherapy technologists on our list.

Box 4.10: Speech and language therapists

Occupation(s) and SOC code(s): Speech and language therapists – 3223

Only the following job titles within this occupation are included on our recommended shortage occupation list:

Speech and language therapist (AfC bands 7+ or their independent sector equivalents).

Top-down data

3223 Speech and language therapists

Skilled		Skilled in top-down analysis			
SOC skill level classification	3	Median hourly pay for all employees	£15.12		
Percentage of employees with NQF3+	92.0				
Shortage		Occupation passes 2 out of 12 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	-1.3	1.9	V2 Annual percentage change in employment estimates	15.9	-0.6
P2 Annual percentage change of mean hourly pay for all employees	4.8	-5.9	V3 Annual percentage change of median total paid hours	0.0	5.6
P3 Return to occupation, given NQF3, with age and region controls	0.59	0.82	V4 Absolute change in proportion working for employer under 1 year	-0.03	-0.01
I1 Absolute change in median vacancy duration	99.5	-3.6	E1 SSVs as a percentage of all vacancies	27	27
I2 Live unfilled vacancies/unemployment by sought occupation	0.44	1.00	E2 SSVs as a percentage of hard-to-fill vacancies	60	60
V1 Annual percentage change in unemployment by sought occupation	-31.7	7.7	E3 SSVs as a percentage of total employment	0.16	0.16
Sensible indicators		Sept 08	Mar 09	Sept 08	Mar 09
Percentage of workforce born non-EEA	4	4	Percentage of workforce trained in past 13 weeks	63	45

- 4.61 Top-down data are highly relevant and with only 2 out of 12 indicators suggesting a shortage the evidence is not strong. However, the WRT told us that there is only anecdotal evidence of difficulty recruiting to some specialist roles.
- 4.62 WRT evidence indicates that, as of the summer of 2008, the workforce supply of newly-qualified and middle-grade therapists was approximately equal to demand nationally.
- 4.63 In addition, we were told that the National Stroke Strategy is also likely to lead to the establishment of additional community rehabilitation teams for early supported discharge for people having experienced a stroke. Speech and language therapists will be essential to these teams.
- 4.64 In the light of relevant top-down data which do not indicate a shortage, and weak bottom-up evidence of current shortages, we were minded to remove the occupation from our shortage list. However, we believe better evidence may be available and will therefore review the occupation again later in the year when, unless we receive more convincing evidence of shortage, we expect to recommend the removal of this occupation from the list.

Box 4.11: Therapists not elsewhere classified (n.e.c.)

Occupation(s) and SOC code(s): Therapists n.e.c. – 3229

Only the following job title within this occupation is included on our recommended shortage occupation list:

HPC registered orthoptist.

Top-down data

3229 Therapists n.e.c.

Skilled		Skilled in top-down analysis			
SOC skill level classification	3	Median hourly pay for all employees	£16.27		
Percentage of employees with NQF3+	79.8				
Shortage		Occupation passes 2 out of 12 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	5.6	1.9	V2 Annual percentage change in employment estimates	-10.4	9.9
P2 Annual percentage change of mean hourly pay for all employees	8.8	0.0	V3 Annual percentage change of median total paid hours	1.6	0.8
P3 Return to occupation, given NQF3, with age and region controls	1.01	0.65	V4 Absolute change in proportion working for employer under 1 year	-0.04	-0.01
I1 Absolute change in median vacancy duration	-172.4	28.1	E1 SSVs as a percentage of all vacancies	0	0
I2 Live unfilled vacancies/unemployment by sought occupation	0.17	0.16	E2 SSVs as a percentage of hard-to-fill vacancies	0	0
V1 Annual percentage change in unemployment by sought occupation	-22.0	16.6	E3 SSVs as a percentage of total employment	0.00	0.00
Sensible indicators		Sept 08	Mar 09	Sept 08	Mar 09
Percentage of workforce born non-EEA	6	8	Percentage of workforce trained in past 13 weeks	50	47

4.65 We received evidence on the job title HPC registered orthoptist. An orthoptist is involved in the diagnosis and treatment of sight-related problems, particularly those connected with abnormalities of eye movement and eye position. This is a small subset of a much larger SOC code. Therefore, although the top-down data do not point to shortage, this is not highly relevant.

4.66 We were told by the WRT that the distribution of orthoptists across England was not even. For example, there are higher numbers in the North-west than anywhere else in the UK.

4.67 The NHS IC census for 2008 showed a total of 26 vacancies as of 31 March 2008 (a rate of 2.2 per cent), although of these only seven posts had been vacant for three months or more (0.6 per cent).

4.68 The WRT told us that demand for orthoptists was likely to increase over the next five years. There are a number of drivers for this including a changing model of service delivery for eye care resulting in orthoptic-led glaucoma clinics, and orthoptists are taking on more medical roles in order to free up medical staff for more complex work.

4.69 In the light of weak bottom-up evidence of current shortages, we were minded to remove the occupation from the shortage list. However, as with speech and language therapists, we will await better evidence before possibly removing this occupation from our shortage list in our next review.

Box 4.12: Midwives

Occupation(s) and SOC code(s): Midwives – 3212

This occupation is not included on our recommended shortage occupation list.

Top-down data

3212 Midwives

Skilled	Skilled in top-down analysis				
SOC skill level classification	3		Median hourly pay for all employees	£16.59	
Percentage of employees with NQF3+	96.6				
Shortage	Occupation passes 3 out of 10 valid indicators				
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	7.9	2.1	V2 Annual percentage change in employment estimates	15.2	9.5
P2 Annual percentage change of mean hourly pay for all employees	8.4	3.8	V3 Annual percentage change of median total paid hours	-0.1	0.0
P3 Return to occupation, given NQF3, with age and region controls	x	x	V4 Absolute change in proportion working for employer under 1 year	-0.02	0.02
I1 Absolute change in median vacancy duration	x	x	E1 SSVs as a percentage of all vacancies	17	17
I2 Live unfilled vacancies/unemployment by sought occupation	0.10	0.36	E2 SSVs as a percentage of hard-to-fill vacancies	100	100
V1 Annual percentage change in unemployment by sought occupation	-29.2	-24.3	E3 SSVs as a percentage of total employment	0.05	0.05
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	12	9	Percentage of workforce trained in past 13 weeks	68	65

- 4.70 Midwives pass on three out of ten shortage indicators. In itself this is not a particularly strong sign of shortage.
- 4.71 In February 2008 DH announced a package of measures to recruit extra midwives to the NHS over three years. This increase is to keep pace with the projected increase in birth rate in England and to improve the quality of care given to new mothers. The NHS plans to achieve this increase via the recruitment of an additional 1,000 midwives by 2009, rising to a total of 4,000 recruits by 2012. Additional funding has been set aside for investment in an expanding midwifery workforce and, while many of these additional staff will be new to the profession, a focus has also been placed on a return to practice programme.
- 4.72 The WRT told us that, as a result of the above, there is room for workforce growth within the profession. However, with regional variations in the number of child births per midwife, these extra placements may not need to be uniform across the country. There is, therefore, not necessarily a national shortage.
- 4.73 Turning to whether it is sensible to recruit midwives from outside the EEA, midwives wishing to practise in the UK have to be registered with the NMC. The requirements surrounding this mean that midwives can no longer achieve remote registration to practise in this country. The impact of this is that it is more difficult for overseas midwives to get a job in the UK.
- 4.74 We were also told by the WRT and the Royal College of Midwives that the job done by midwives in the UK is more autonomous than most other countries (except for a few, for example New Zealand and possibly Australia). Midwifery training is therefore very different overseas and international recruitment is not generally a recognised source of supply, so the use of overseas recruitment is not a sensible mechanism for alleviating shortages, such as they are, within the profession. Midwives are not, therefore, recommended for inclusion on the shortage occupation list.

Box 4.13: Occupational therapists

Occupation(s) and SOC code(s): Occupational therapists – 3222

This occupation is not included on our recommended shortage occupation list.

Top-down data

3222 Occupational therapists

Skilled	Skilled in top-down analysis				
SOC skill level classification	3		Median hourly pay for all employees	£15.41	
Percentage of employees with NQF3+	89.9				
Shortage	Occupation passes 5 out of 12 valid indicators				
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	4.0	3.6	V2 Annual percentage change in employment estimates	1.8	-3.1
P2 Annual percentage change of mean hourly pay for all employees	4.0	4.3	V3 Annual percentage change of median total paid hours	0.2	2.5
P3 Return to occupation, given NQF3, with age and region controls	0.74	0.98	V4 Absolute change in proportion working for employer under 1 year	-0.01	0.02
I1 Absolute change in median vacancy duration	1.4	5.9	E1 SSVs as a percentage of all vacancies	0	0
I2 Live unfilled vacancies/unemployment by sought occupation	0.53	0.75	E2 SSVs as a percentage of hard-to-fill vacancies	0	0
V1 Annual percentage change in unemployment by sought occupation	-32.3	-5.2	E3 SSVs as a percentage of total employment	0.00	0.00
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	5	8	Percentage of workforce trained in past 13 weeks	52	62

4.75 This occupation passes on 5 out of 12 shortage indicators, which on the face of it indicates there may be a shortage of skilled labour within this occupation.

4.76 However, WRT modelling forecasts that the supply of occupational therapists is set to rise. This increased supply aligns with the anticipated increase in demand resulting from a number of drivers, including implementation of the National Stroke Strategy. The 2008 NHS IC three-month vacancy survey for England recorded a vacancy rate of 0.6 per cent for occupational therapists, although there is evidence of regional variation. In particular,

London SHA had considerably more vacancies than any other region, recording a vacancy rate of 2.5 per cent. The WRT told us that anecdotal evidence from the College of Occupational Therapists (COT) suggests London SHA has a particular problem with recruiting at bands 6 and 7, although this has yet to be quantified.

4.77 Although regional shortages may exist within the profession, there is no clear evidence base that the shortages are national. Therefore, occupational therapists are not recommended for inclusion on the shortage occupation list.

Others

4.78 The WRT also recommended some other health occupations which do not fall into an immediately recognisable medical SOC code and where, therefore, the top-down data is not highly relevant. However, the bottom-up evidence presented to us was insufficient and, therefore, we do not recommend them for the shortage occupation list on this occasion. The job titles were:

- **Medical equipment engineer (most relevant SOC code 2124 – electronics engineers):** the WRT told us that there is evidence of increased demand due to the expansion of maintenance requirements for medical equipment and due to the development of equipment libraries.
- **Rehabilitation engineer and rehabilitation engineering technologist (most relevant SOC code for both 2129 – engineering professionals):** the WRT told us that advances in assistive technology, functional electrical stimulation and rehabilitation engineering will lead to an increase in demand for these services.

Scotland

4.79 The Scottish Executive confirmed there are no additional shortages in Scotland over and above those identified for the UK. We therefore remove from our recommended Scotland shortage occupation list nurses in care of the elderly units at bands 5 and above, and speech and language therapists. There is more on Scotland in Chapter 9.

Future updates

4.80 We are very grateful for the extensive work that the WRT in particular, and its partner organisations, have carried out in preparing its advice for the MAC. Assuming

we continue to produce recommended shortage occupation lists, we will ask the WRT (with input from NHSE and SfH) to make annual submissions in relation to medical occupations to support our recommendation to the Government in the autumn of each year.

- 4.81 The evidence gathering and analysis process will need to be closely based on our methodology as set out in this and our September 2008 report, and linked to engagement with all stakeholders, including professional bodies, unions, the devolved administrations, Royal Colleges and the non-NHS sectors. This will ensure that all relevant perspectives are captured and aligned into a single submission to us. The core information gathering and analysis process of the WRT group will occur between November and April each year. During this process, consultation will be undertaken with Royal Colleges, other professional bodies and SHAs and agreement reached on the shortage status of each healthcare profession.
- 4.82 Following the evidence gathering process, the WRT, SfH and NHSE will each compile their views on the shortage healthcare occupations and share this evidence with each other and stakeholders prior to an annual workshop. The primary aim of the workshop will be to evaluate each organisation's evidence of shortage. The objective will be to secure a unified view of shortages, where possible, or, where not, a clear exposition of differing perspectives. Healthcare workforce representatives of stakeholders will be invited to ensure that broader perspectives are recognised and understood.
- 4.83 Subsequent to the workshop, a report containing all the evidence from the WRT, SfH and NHSE will be compiled by the WRT and submitted to us for evaluation.

4.3 Engineering occupations

4.84 In compiling the recommended shortage occupation lists published in our September 2008 report, it became apparent to us that engineering was a complex set of differing occupations extending across several sectors with few, if any, defining characteristics. We made various commitments to return to engineering-related occupations in due course:

- With regard to civil engineers, we said that we would place civil engineers on the list for the time being and review the position in the near future.
- With regard to chemical engineers, we said that we looked forward to receiving further identified evidence before reviewing whether this occupation should remain on the lists.
- With regard to aircraft component manufacturing engineers, we said that we would review the steps taken by employers to increase the available stock within this job title.
- With regard to high integrity pipe welders, we said that we look to the relevant Sector Skills Council to ensure that there is a significant flow of trained UK welders coming on stream in the near future.
- With regard to electricity transmission overhead linesworkers, we said that we included this job title only to enable the industry to get over a short-term shortfall in the supply of electricity transmission overhead linesworkers, and that we only expect this job title to remain on the lists until the flow of trainees comes through.

- In relation to physicists, geologists and meteorologists we identified a number of job titles that related to engineering. In relation to those roles we said that we would look to the Sector Skills Councils and employers to produce a co-ordinated strategy to increase the stock of UK-trained employees.

4.85 We held a workshop with representatives of the engineering sector on 27 March 2009. We will continue to work with representative organisations and employers and the relevant Sector Skills Councils over the next few months to review those engineering occupations and job titles which are felt to be in shortage (including electrical and mechanical engineers, which were not included on our September 2008 lists). We intend to deepen and strengthen our knowledge of engineering occupations, and to facilitate a better understanding among stakeholders of SOC codes and the importance of producing quantified evidence if occupations are to be included on the list.

4.86 We received evidence jointly from the Scottish Council for Development and Industry (SCDI) and Oil & Gas UK that there were skills shortages across a number of occupations in the oil and gas sector. The main occupations identified were:

- mechanical engineer;
- maintenance engineer;
- operations engineer;
- subsea engineer;
- electrical engineer;
- telecommunications engineer; and
- instrument engineer.

4.87 As set out above, we intend to review all engineering occupations before our next report in autumn 2009. Nevertheless we did consider the evidence provided to us but found that it did not make a sufficiently convincing case for these occupations to be considered in isolation from other engineering occupations across different sectors. We look forward to working with SCDI and Oil & Gas UK in developing better quality evidence across the whole range of engineering occupations.

5.1 Introduction

- 5.1 This chapter summarises the evidence and our recommendations in relation to those occupations we were asked by the Government specifically to review by March 2009 and provides an update on the occupations we were asked to review for our next report in autumn 2009.
- 5.2 The Government asked us to review the following occupations, which we discuss in turn below:
- social workers;
 - care assistants and home carers;
 - town planners;
 - teachers; and
 - chefs.

5.2 Social workers

Box 5.1: Social workers

Occupation(s) and SOC code(s): Social workers – 2442

Only the following job title within this occupation is included on our recommended shortage occupation list:

Social workers working in children and family services.

Top-down data

2442 Social workers

Skilled		Skilled in top-down analysis			
SOC skill level classification	4	Median hourly pay for all employees	£15.28		
Percentage of employees with NQF3+	84.3				
Shortage		Occupation passes 1 out of 12 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	3.0	2.9	V2 Annual percentage change in employment estimates	-11.3	9.8
P2 Annual percentage change of mean hourly pay for all employees	3.1	2.5	V3 Annual percentage change of median total paid hours	0.0	0.0
P3 Return to occupation, given NQF3, with age and region controls	0.81	0.79	V4 Absolute change in proportion working for employer under 1 year	-0.02	-0.04
I1 Absolute change in median vacancy duration	-0.4	-2.4	E1 SSVs as a percentage of all vacancies	29	29
I2 Live unfilled vacancies/unemployment by sought occupation	1.34	1.08	E2 SSVs as a percentage of hard-to-fill vacancies	80	80
V1 Annual percentage change in unemployment by sought occupation	-15.5	5.1	E3 SSVs as a percentage of total employment	0.27	0.27
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	9	11	Percentage of workforce trained in past 13 weeks	65	61

Stakeholder evidence

The MAC Chairman hosted a workshop for interested parties in December 2008. We received evidence from the Department for Children, Schools and Families (DCSF) and we have met with them to discuss this further. We have also met with the Local Government Association (LGA), the Improvement and Development Agency for Local Government, the Recruitment and Employment Confederation (REC), the Social Care Institute for Excellence, and Hammersmith and Fulham Social Services, and have had discussions with Herefordshire County Council. We have received written evidence from Skills for Care and Development, the British Association of Social Workers (BASW), Unison, Cafcass, REC, the LGA, the Scottish Executive and a joint response from the Association of Directors of Children's Services (ADCS) and the Society of Local Authority Chief Executives (SOLACE).

- 5.3 In our September 2008 report we did not recommend the inclusion of social workers on the shortage occupation list because we did not receive any bottom-up evidence, and the top-down data showed no signs of shortage. The Government subsequently decided to keep social workers on the shortage occupation list, as they were on the previous shortage list under the old work permit system, while asking us to consider new evidence relating to this occupation.
- 5.4 We wrote to, and met with, a variety of stakeholders, including the relevant Government departments and front-line social workers. We also hosted a stakeholder workshop.
- 5.5 The term ‘social worker’ is a protected title and can only be used by a worker who has been accepted onto the social work register. Social workers are responsible for ensuring that vulnerable children and adults receive the protection they need to stay safe, as well as providing access to appropriate services when required. In order to practise in the UK, social workers are required to be registered by the relevant regulatory authority of the country in which they work. These are:
- the General Social Care Council (GSCC) in England;
 - the Care Council for Wales;
 - the Scottish Social Services Council; and
 - the Northern Ireland Social Care Council.
- 5.6 The British Association of Social Workers (BASW) told us that entry to the profession in the UK for immigrant workers is decided on the basis of the equivalence of a worker’s qualification to the UK professional qualification. The GSCC handles all applications for registration as a social worker from people trained outside the UK.
- 5.7 In 2003 the social work degree was introduced in England (2004 for Wales, Northern Ireland and Scotland) and the previous diploma was phased out. The degree combines university-based learning with 200 days in work placements.
- 5.8 While gathering evidence it became apparent to us that the current description of this occupation in the SOC system is out of date. For example, the SOC cites the requirement of having a social work diploma rather than a degree in order to be a social worker. It was put to us that the number of social workers classified under this code may well be higher than the number of social workers registered with the regulatory authorities. Some workers included in the Labour Force Survey (LFS) data are recorded as having an NVQ level 3 qualification or below. As social workers are required to have either a diploma (under the old system) or, more recently, a degree, both at NVQ level 4 or above, this suggests that some workers have been misclassified. This can result in a distorted labour market analysis based on the current SOC code, although we believe that broad trends can still be observed. As a result we still make use of the top-down data, while placing significant weight on evidence received from stakeholders.
- 5.9 The GSCC record that there are 80,108 registered and qualified social workers as of January 2009 and 15,530 registered qualifying social work students. In 2007, the NHS recorded 50,300 social workers working in local authority front-line teams on statutory casework, around half of which worked with children. The remaining numbers include those working in the voluntary and private sectors and non-case holding social workers.

- 5.10 Looking first at skill, this occupation passes all three of our top-down skill indicators and, as we have already discussed, it is necessary to hold a degree to become a social worker.
- 5.11 Turning to shortage, our top-down analysis in September 2008 showed that this occupation passed on just 1 out of 12 shortage indicators, our measure of the vacancy-to-unemployment ratio, and that remains the case now. This does not indicate a shortage in the occupation as a whole.
- 5.12 BASW told us that the number of approved courses and the number of students per course have been increased to try and address shortages in this occupation. This has resulted in a rise in the number of enrolments for social work courses. However, enrolments dropped back slightly in both 2006–2007 and 2007–2008. The influx of new social workers is now broadly in line with the required numbers. Indeed, BASW told us that there is evidence in England and Northern Ireland of over-supply, and that organisations in England are beginning to look at whether there should be a cap on the number of students on courses. There are therefore no shortages of newly trained social workers.
- 5.13 Although there was no evidence of a current shortage across this occupation, we were told of increasing demand for social workers. Skills for Care and Development (SfC&D) told us that the demand has been growing for a number of reasons, including:
- changes in the focus of children's services that emphasise the importance of early assessment of problems and intervention to address them;
 - recognition that effective safeguarding of vulnerable children demands that front-line social workers have both realistic caseloads and experienced supervision; and
 - demographic change which has resulted in an increasing proportion of older people, and, in particular, an increase in those over 80 years of age.
- 5.14 The Local Government Association (LGA) told us that over the next 20 years, the number of people aged 85 or over is predicted to increase by two-thirds, compared with an estimated 10 per cent growth in the overall population. In addition, the number of older people who have a high level of need for services is expected to increase by 54 per cent.
- 5.15 A survey of social workers carried out on behalf of Unison in August and September 2008 found that 67 per cent of workers believed they had an excessive workload and 50 per cent experienced staff shortages in their teams most days or every week. A total of 79 per cent reported that their workload had increased in the last year.
- 5.16 Both vacancy and turnover rates in England in 2006 were almost 10 per cent. The Scottish Executive told us that vacancy levels for social workers in Scotland have remained around 7 to 8 per cent for the last two years.
- 5.17 However, although we found evidence of high vacancy rates, these could be reduced if agency workers were persuaded to take up permanent positions. Many vacancies are being filled by experienced social workers provided via agencies. The LGA told us that agency staff equated to 13 per cent of the total workforce in children's services and 5 per cent in adult services.

'Many local authorities have found it necessary to use expensive agency workers to fill critical vacancies. This represents a significant financial strain on local authority resources.'

ADCS/SOLACE, response to MAC call for evidence

- 5.18 Furthermore, high turnover rates often seem to be a result of workers moving from one authority to another to take advantage of better salaries and not necessarily leaving the profession.
- 5.19 Overall, we were told that increases in demand for social workers across society meant that more social workers were needed. However, this increase in demand does not of itself constitute evidence of a shortage and indeed we believe there is not a general shortage of social workers.
- 5.20 Where there was evidence of shortage in this occupation it fell within the area of social workers dealing with children and families. In 2006, 78 per cent of local authorities reported difficulties in recruiting social workers for children and family services. Sixty per cent reported difficulties in recruiting for adult services. By 2008 these percentages were 64 per cent and 36 per cent respectively. These improved figures, taken from LGA Local Government workforce surveys, indicate that the strategies for addressing shortages are beginning to bear fruit, but that problems still exist particularly in children and family services.
- 5.21 ADCS/SOLACE told us that high numbers of social worker vacancies mean that caseloads and supervision become too stretched to support good practice and limit social worker involvement in early intervention and prevention. Herefordshire

County Council told us that their main shortages were in children's services where turnover was higher due to highly stressful work. Cafcass told us they had a 5.3 per cent vacancy rate for their qualified social work role of Family Court Adviser.

- 5.22 A number of stakeholders told us that the negative media image of social workers in children's services had an impact on public perception, and some felt that this gave rise to a greater level of withdrawals and lower take-up on social work courses.

'The recent coverage of children's social workers in the press has also contributed to difficulties recruiting good-quality practitioners to work in this field.'

ADCS/SOLACE, response to MAC call for evidence

- 5.23 Unison also told us that they believed the current recruitment and retention problems may worsen in the wake of recent negative publicity and the severe pressure of the job.
- 5.24 Overall, we conclude that there is no general shortage within this occupation, but there is evidence of shortages in children and family services, and the flow of new graduates into the profession means that the main shortages are of workers with a number of years' experience as opposed to the newly trained.
- 5.25 Turning to the question of sensible, we asked stakeholders what had been done to: fill vacancies from within the resident labour market; retain staff; and up-skill locally. We found a number of initiatives under way, or planned, to encourage and maintain a higher level of take-up of social work courses, for the numbers of other graduates converting to a social work qualification to be improved and for retention rates to be increased.

5.26 In order to address concerns around the quality of graduate social workers, the Government is working to enhance initial undergraduate and postgraduate training for social workers, including improving the supply and quality of placements, considering the content and quality of training programmes and ensuring that the infrastructure that supports social work training remains fit for purpose. The Department for Children, Schools and Families (DCSF) is also undertaking initiatives, outlined in *Building Brighter Futures: Next Steps for the Workforce* (2008), to promote retention of children's social work staff by creating a more attractive, supported and professional career, as well as improving the quality of training and the skills of social workers working in children and family services.

5.27 Cafcass told us they had tried various recruitment and retention strategies including advertising a wider range of office bases to attract their family workers across a wider geographical area.

5.28 SfC&D told us that there were a number of issues with recruiting from within the EEA. The picture was mixed with regard to the relevance of qualifications. The social work profession was unregulated in eight EEA countries and, particularly in Eastern Europe, the profession was relatively new with fewer developed systems for accreditation. There was also the necessity for workers to have a good level of English. By contrast, other countries such as the USA, Australia and New Zealand had similar social work systems to the UK as well as a shared language. Therefore, it was argued that workers from these countries presented a more attractive option for those looking to recruit.

5.29 BASW told us that they are concerned at what they call the ill-thought-through use of internationally qualified social workers.

They say that some employers have given good support and induction to those workers, but others have not.

'We would hope that any extension of permission for priority recruitment of social workers should be with a requirement to provide proper induction and support for them.'

BASW, response to MAC call for evidence

5.30 It is apparent to us, therefore, that any increase in the number of social workers being recruited must be accompanied by the appropriate induction and support, a conclusion echoed in Lord Laming's recent report *The Protection of Children in England: A Progress Report* (March 2009).

5.31 Local authorities offer various incentives to attract experienced social workers and to retain them. These include 'golden hellos' and lump-sum retention payments. While these can work in attracting new people into the occupation, or in persuading those who have left the occupation to return, they can have a perverse impact by encouraging a high turnover among authorities as workers leave to take advantage of the incentives on offer elsewhere.

5.32 The LGA report *Respect and Protect* (2009) concludes that '*... LGA is now calling for a campaign directed at experienced social workers who have left the profession over the last five to ten years, encouraging them to return to social work management and practice. Some of them have drifted away into allied jobs; some left practice temporarily to have families; others will have recently retired. But all of them have precious skills and experience which vulnerable children need: we must act now to draw them back into the fold.*'

5.33 The Scottish Executive consulted with Scottish stakeholders and told us that it would be sensible to retain the option for employers to employ non-EEA workers to fill shortages. However, there was not sufficient evidence to suggest the situation in Scotland was any different from that in the rest of the UK.

'... the Scottish Government is strongly supportive of the need to up-skill the resident UK workforce, while also valuing the important role which can be played by migrant workers.'

Scottish Executive, response to MAC call for evidence

5.34 Unison and SfC&D both told us that they believe retaining social workers on the shortage occupation list is sensible and the latter argued that it would remain so for at least the next two years.

'Unison strongly believes, therefore, that it continues to be sensible to allow employers the option of filling vacancies with workers from overseas.'

Unison, response to MAC call for evidence

5.35 It is clear to us that there are a number of issues affecting the number of workers attracted to this occupation, including the high level of agency workers, the quality of training, the pressure of the job exacerbated by media attention and the rising demand on services. Indeed Lord Laming refers to some of these in his report (March 2009).

5.36 In conclusion, this is clearly a skilled occupation. On shortage, the evidence received did not comprehensively cover all of the points we asked stakeholders about, including whether funding was available to fill all of the vacancies. Furthermore, there are not widespread shortages across the whole of the occupation, as borne out by our top-down analysis. However, we recognise that there are shortages in children and family services. We consider that for a period of time it is sensible to continue to allow employers to recruit social workers in children and family services from outside the EEA. We note the efforts being made to improve recruitment and retention in this area and do not expect that the need to recruit from outside the EEA will continue beyond the time it takes for those being recruited now to gain knowledge and experience of the job.

5.37 There is no compelling evidence of shortages of social workers within adult services. We recommend that this part of the social work occupation no longer be retained on the shortage list.

5.38 We considered whether to recommend that the list be restricted to only social workers with at least two years' experience, as this reflected the nature of the shortages. However, we were told that many social workers who come from countries such as Australia, New Zealand and Canada are trained to a very high standard and therefore may still be of greater benefit to an employer even if they are quite early in their career. Therefore, we do not limit our recommendation to those with more than two years' experience, although we again draw attention to our comments and those of Lord Laming on the need for improved induction and training.

5.3 Care assistants and home carers

Box 5.2: Care assistants and home carers

Occupation(s) and SOC code(s): Care assistants and home carers – 6115

Only the following job title within this occupation is included on our recommended shortage occupation list:

Skilled senior care worker. Skilled is where there is a regulatory requirement for them to be qualified at NQF level 3 or above, currently only in Scotland and Wales, or where the following criteria are met:

- pay of at least £7.80 per hour; plus
- a relevant NQF level 2+ or equivalent qualification; plus
- at least two years' relevant experience; plus
- supervisory responsibility in the role to which they are being recruited.

Top-down data

The top-down data relating to this SOC code are not relevant as we are only dealing here with the skilled subset.

Stakeholder evidence

We received evidence from SfC&D (who were assisted by DH and DCSF), Unison, the Recruitment and Employment Confederation (REC), the Association of Camphill Communities, L'Arche, Oxfordshire Care Association, the Scottish Executive and a joint response from the National Care Association, the English Community Care Association and the Registered Nursing Home Association. We also received evidence from the Centre on Migration, Policy and Society (COMPAS) who drew from emerging findings for the UK of an international research project to be published later in the year.

5.39 In our September 2008 report we recommended that skilled senior care workers be included on the shortage occupation list. The SOC code 6115 for care assistants and home carers was not, as a whole, skilled according to our top-down analysis. Our definition of skilled in that report was a relevant qualification at

NQF level 3 or above (in relation to Scotland and Wales where this is a requirement for senior care worker posts), or a salary of at least £8.80 per hour. The Government accepted this recommendation, but asked that we take another look at this occupation which led to our adoption of the criteria set out in Box 5.2.

- 5.40 Much of the evidence we received for this review was collated by SfC&D, which is the Sector Skills Council for the social care, children, early years and young people's workforce in the UK. SfC&D is a partnership of six organisations covering all four UK countries. They are:
- Care Council for Wales;
 - Children's Workforce Development Council in England;
 - Northern Ireland Social Care Council;
 - Scottish Social Services Council;
 - Skills for Care (adult social care in England); and
 - General Social Care Council.
- 5.41 In drawing together its evidence, SfC&D consulted with all of its partner organisations, who in turn consulted with relevant stakeholders. DH and DCSF assisted them with this consultation.
- 5.42 Care workers in England and Northern Ireland are not required to be registered, although in Wales and Scotland there is a registration system.
- 5.43 SfC&D told us that in 2006–2007 there were an estimated 13,500 organisations in England providing or organising social care services for adults or older people. This equates to around 35,000 establishments. Most of the services are provided by micro and small enterprises. In addition, as of March 2007 there were a total of 54,151 individuals in England receiving direct payments to fund their own care, with a further estimate of 145,000 older people who fund their own personal care. Many smaller organisations operate in isolation at a very local level which makes information gathering difficult. Overall, the disparate make-up of the care sector makes it difficult to obtain a reliable national picture of the sector and any occupational shortages within it.
- 5.44 SfC&D, together with DH and DCSF, is currently discussing with ONS for how social care occupations are described in the SOC with a view to feeding this into the next revision of the SOC codes in 2010. We have taken account of these discussions in our consideration of the evidence we received.
- 5.45 As with our consideration in our September 2008 report, first we look at whether this occupation is skilled. The joint response from the National Care Association (NCA), English Community Care Association (ECCA) and Registered Nursing Home Association (RNHA) said that they consider that all care workers are skilled. The top-down skill indicators that we examined do not support this, nor did we receive evidence to cause us to think otherwise. We therefore reject this wider definition of skill, and other major stakeholders have told us that they agree with our conclusion.
- 5.46 We do, however, recognise that there are situations when a more senior care worker is required to work consistently at NQF level 3 equivalence and we continue to view this part of the occupation as skilled. A key issue for us is, therefore, how best to identify that proportion of the occupation which is skilled for the purpose of recommending it for inclusion on the shortage occupation list, assuming that it meets our shortage and sensible criteria.

5.47 We have listened to stakeholders who told us that although many senior care workers are working at NQF level 3 standard they do not necessarily have the qualification, as in England and Northern Ireland it is not a requirement. We do, however, feel that if they are providing these key services in an important role they should possess, as the very minimum, a relevant NVQ level 2 or equivalent qualification.

5.48 We were told by SfC&D that senior care workers are defined in the Skills for Care National Minimum Data Set for Social Care (NMDS-SC) in England as having ‘... additional duties of front-line supervision and monitoring of care workers and care assistants... [They] will often be in charge of a shift of workers...’.

5.49 In considering how to define the skilled element of this SOC code we took evidence from various bodies who argued that pay alone was not appropriate due to variations across geographical areas and within different care segments (adult and children for example).

5.50 SfC&D told us that pay also varies between employers, whether local authority, voluntary or private. They said that care workers in the public sector earned more than senior care workers in the private sector in England. They also said that regional variations in pay mean that rates paid in the south are frequently higher than the rates in the north. Unison also made the same point that there were regional pay differences.

‘There is a significant difference in the levels of funding of services to children, adults and older people. This differential creates significant differences in wage structures of each sector. This means that the use of a single wage rate for the sector to define a senior care role is untenable and unfair, particularly for providers of services to older people.’

NCA/ECCA/RNHA, joint response to MAC call for evidence

‘If the MAC decides to recommend using pay to identify skill levels in this occupation, a threshold significantly lower than £8.80 is needed, to avoid creating an artificial floor in pay for senior care workers which would be unaffordable for the majority of employers.’

SfC&D, response to MAC call for evidence

5.51 In considering all the evidence put to us we accept that a single skill threshold related to pay does not always best identify those care workers operating at a senior level. However, we do not completely reject pay as an indicator of skill within this, or any other, occupation.

5.52 Turning to shortage, SfC&D told us the demand for this occupational group of workers has been increasing for a number of reasons. Demographic changes are resulting in an increasing proportion of older people (and in particular those over 80 years of age). Individuals increasingly have more complex needs and there is a policy drive for more personalised delivery of services.

'The "Personalisation Agenda" will result in many more people employing their own carers to give support and care within their own homes. The result of this policy shift will herald a substantial growth in the social care workforce which will be needed to deliver appropriate care in people's own homes.'

NCA/ECCA/RNHA, joint response to MAC call for evidence

- 5.53 We were told by Sfc&D that UK-wide vacancy figures for this occupation were not available due to the fragmented nature of the workforce, but employers were reporting difficulties recruiting and retaining staff.
- 5.54 The Recruitment and Employment Confederation's (REC's) Recruitment Industry Survey showed that the nursing/medical and care sectors have experienced a 29-month period of expansion in demand for staff, and this has continued into the recession. REC surveyed its members and found that 73 per cent thought growth in the sector was not being matched by an increase in the availability of labour, and 80 per cent found it difficult to source the right candidates. Only 13 per cent of REC members felt that those who have been recently made redundant from other sectors would be suitable for the social care profession.
- 5.55 Jobcentre Plus data show that the vacancy-to-unemployment ratio for the period February 2008 to January 2009 is much higher than the ratio for all occupations (1.88 compared with 0.38). Vacancies for care workers in January 2009 had fallen slightly since January 2008, but at a much lower rate than average (-2.1 per cent compared with -35.2 per cent).
- Claimant count for people seeking work in this occupation in January 2009 has increased since January 2008, but less than average (37.9 per cent compared with 54.5 per cent).
- 5.56 Sfc&D told us that data from the National Minimum Data Set for Social Care (NMDS-SC) showed that the vacancy rate for senior care workers was 2.4 per cent in May 2007. The same data showed a turnover rate of 10.9 per cent for senior care workers. Skills for Care reported that the turnover rate as of December 2008 was 10.2 per cent and only one-tenth of this was down to churn within the occupation.
- 5.57 The Scottish Executive told us that they were unable to identify senior care worker positions in their annual local authority census. However, vacancy rates typically range between 7 and 10 per cent across all grades and services in the sector. They told us that the social care sector has grown significantly in Scotland over the last decade.
- 5.58 As with social workers, the evidence received did not comprehensively cover all of the points we asked stakeholders about, including whether funding was available to fill all of the vacancies and whether the recession would provide an opportunity to attract more staff into the sector. For the time being, however, we accept that there is currently a shortage of care workers, including in the most skilled segment, at the prevailing rate of pay in some parts of the sector.
- 5.59 Turning to whether it would be sensible to allow employers to recruit senior care workers from outside the UK, we looked at what efforts had been made to recruit from both within the UK and the wider EEA.

5.60 We received evidence both that workers from within the EEA were unsuitable for filling roles in this occupation in the UK, and that workers from within the EEA were filling some such roles. We were told that one of the barriers to recruitment from within the EEA is the need for workers to have a good understanding of English. SfC&D told us that the deficiency in English language skills was often greater among staff from within the EEA than with staff from outside the EEA. This will obviously be true if the staff from outside the EEA come from English-speaking countries.

5.61 The NCA/ECCA/RNHA told us that staff from within the EEA were now beginning to return to their home countries as the exchange rate becomes less favourable. COMPAS also made this point to us. Evidence suggests that new immigration from the new EU member states is falling, while return flows may be increasing, although there is currently no evidence that the stock of labour is actually falling.

'Evidence suggests that for some employers, migrant labour from outside the EEA are playing a critical role in supporting the sector in its aims to provide quality care for vulnerable people.'

SfC&D, response to MAC call for evidence

5.62 We were told that it was difficult to recruit people locally with the relevant skills to this occupation. COMPAS told us that they had surveyed employers and found that nearly half consider it difficult to recruit UK-born care workers, despite 9 in 10 home care organisations undertaking at least some actions to recruit from the local labour market.

5.63 Despite this, we believe that more could be done to attract workers from within the UK and the wider EEA. We accept, however, that much of the problem is down to low pay, and employers are often unable to pay more because of constraints imposed by local authority funding. We maintain the view that budgets need to be larger, or at least better targeted towards those parts of the sector suffering from labour shortage so that those workers can be paid more.

'... there is clear evidence from the REC Report on Jobs of a growing demand for social care workers and that can not be entirely met by EU/UK labour alone. At the current time it is therefore sensible to help to fill these shortages with labour from outside the EU.'

REC, response to MAC call for evidence

5.64 We have said above that we believe there is a shortage of skilled care workers. In the short term we also accept that it would be sensible to fill some of this shortage using non-EEA immigrant labour. We must, therefore, return to the issue of how we define skilled. As set out above, in our September 2008 report we defined the skilled subset of this occupation as those earning above £8.80 per hour. Some of those who sent us evidence argued that this is too high and that there are regional and sector (for example between adults' and children's services) differences in levels of pay.

5.65 We do not wish to be seen to be institutionalising low pay in the care sector. But we recognise that constraints on public spending will make it difficult for all homes to have sufficient revenue to meet our previous benchmark of £8.80 per hour. We accept that the £8.80 threshold may not provide enough flexibility for some employers. We therefore looked again at this definition.

5.66 There are three main data sources for the pay of care workers. First, there is the employer-based Annual Survey of Hours and Earnings (ASHE). Second, there is the household-based LFS, and third, there is the sector's own NMDS-SC.

5.67 Reported pay is highest in the ASHE and lowest in the NMDS-SC. Previously we based our recommendation for senior care workers on the ASHE. Many in the sector and related trade unions argued that our pay benchmark (£8.80) was too high, because the ASHE was unrepresentative (e.g. because it might under-sample lower-paid part-time workers) even though the data related to April 2007 and we did not up-rate it to reflect inflation. We have listened to the sector. We now use the LFS and, instead of using only a simple pay benchmark to define a senior care worker, we define such a worker as follows:

- pay at least £7.80 per hour; plus
- a relevant NQF level 2+ or equivalent qualification; plus
- at least two years' relevant experience; plus
- supervisory responsibility in the role to which they are being recruited.

5.68 The £7.80 criterion is derived from the mean wage of those with an NQF level 2+ qualification and at least two years' relevant experience for the occupation for the year 2007 Q3 to 2008 Q3, indexed (adjusted upwards) by 3.5 per cent to take account of the growth of economy-wide pay, excluding bonuses, over the year ending January 2009 in the UK. One-fifth of workers in the occupation in the LFS earn £7.80 per hour, have an NQF level 2+ qualification and have two years' or more experience.

5.69 Where there is a regulatory requirement for senior care workers to be qualified at NQF level 3 or above (this is currently the case only in Scotland and Wales) we recommend that they qualify simply by having the relevant qualification and not be subject to the additional criteria mentioned in paragraph 5.67.

5.4 Town planners

5.70 Communities and Local Government (CLG) has informed us that they are content for town planners to be considered in our autumn 2009 review. The department has discussed and agreed this with the Royal Town Planning Institute.

5.5 Teachers

5.71 We wrote to DCSF in December 2008 regarding this review and the department replied that they would be best placed to provide evidence to us after the next statistics on the School Workforce in England are available at the end of April 2009. We have agreed with the Government that this occupation will be included in our autumn 2009 review and discussions are under way with DCSF regarding how they can help us with our evidence-gathering activities.

5.6 Chefs

5.72 The Government asked us to include this occupation in our autumn 2009 review and we have already begun preliminary discussions with representatives from this sector. We are also aware of an ongoing programme of work involving the Sector Skills Council, People 1st and the Government to work towards up-skilling the resident labour market to fill more ethnic chef posts locally. We support this initiative, and will examine the level of progress in advance of our next report.

- 5.73 In the meantime, we are recommending that the pay–skill threshold be adjusted upwards by 3.5 per cent to take account of the growth of economy-wide pay, excluding bonuses, over the year ending January 2009 in the UK, as we have done for senior care workers.
- 5.74 According to the evidence we received for September 2008, the fraction of skilled chefs within the SOC occupation 5434 is around one-third of the total. The proportion qualified to NQF level 3 or above was 24 per cent. On balance, therefore, we assumed that the top 30 per cent were skilled and adopted the 70th percentile as the skilled benchmark for this occupation, taken from the ASHE of April 2007. This gave us a figure of £8.05, rounded to £8.10 last time. The corresponding figure for April 2008 is £8.15. If we up-rate that by 3.5 per cent to reflect earnings growth between 2008 and 2009, that gives a (rounded) figure of £8.45. The pay per hour for a skilled chef on our recommended list therefore increases from £8.10 to £8.45 per hour.

6.1 Introduction

- 6.1 In our analysis of the top-down national-level data in our September 2008 report, we identified ten skilled occupations that passed at least 50 per cent or more of our identified shortage indicators, yet for which we had not received any substantive evidence of shortage from stakeholders. We committed to reviewing those occupations within six months in order to assess whether they are experiencing shortages of skilled labour that might be sensibly addressed through immigration of workers from outside the EEA. Workforce numbers quoted in this chapter are taken from the LFS for October 2007 to September 2008, unless otherwise stated.
- 6.2 This chapter reviews nine of those occupations. The tenth, midwives, is included in the review of medical occupations described in Chapter 4. Of the nine occupations reviewed here, only job titles within two occupations – musicians, and photographers and audio-visual equipment operators – are included on our recommended shortage occupation list.

6.2 Musicians

Box 6.1: Musicians

Occupation(s) and SOC code(s): Musicians – 3415

Only the following job title within this occupation is included on our recommended shortage occupation list:

Orchestral musicians, who meet the standard required by internationally recognised UK orchestras (e.g. London Symphony Orchestra, London Philharmonic Orchestra, Philharmonia Orchestra, Royal Philharmonic Orchestra).

Stakeholder evidence:

We received evidence from the Musicians' Union (MU) and the Association of British Orchestras (ABO).

Top-down data

3415 Musicians

Skilled	Skilled in top-down analysis				
SOC skill level classification	3		Median hourly pay for all employees	£13.95	
Percentage of employees with NQF3+	68.5				
Shortage	Occupation passes 6 out of 11 valid indicators				
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	5.9	7.4	V2 Annual percentage change in employment estimates	9.0	-22.4
P2 Annual percentage change of mean hourly pay for all employees	5.4	5.6	V3 Annual percentage change of median total paid hours	0.9	-2.0
P3 Return to occupation, given NQF3, with age and region controls	1.08	1.27	V4 Absolute change in proportion working for employer under 1 year	0.06	0.04
I1 Absolute change in median vacancy duration	61.2	x	E1 SSVs as a percentage of all vacancies	74	74
I2 Live unfilled vacancies/unemployment by sought occupation	0.04	0.01	E2 SSVs as a percentage of hard-to-fill vacancies	100	100
V1 Annual percentage change in unemployment by sought occupation	-23.8	-9.8	E3 SSVs as a percentage of total employment	0.27	0.27
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	13	11	Percentage of workforce trained in past 13 weeks	8	18

Stakeholder evidence

We received evidence from the Musicians Union (MU) and the Association of British Orchestras (ABO).

- 6.3 Musicians write, arrange, orchestrate, conduct and perform musical compositions. The LFS estimates that there are approximately 26,000 people in the UK whose main job is as a musician. The Musicians' Union (MU) has a membership of over 30,000 and they estimate that approximately 80 per cent of musicians are self-employed. The Association of British Orchestras (ABO) estimates that there are approximately 2,000 orchestral musicians.
- 6.4 Our previous analysis of top-down data on skill concluded that musicians are skilled, with musicians passing all of the three indicators. There are no formal academic entry requirements although many possess degrees or diplomas. Our top-down analysis shows that approximately 68 per cent of musicians are qualified to NQF level 3 or above. We received evidence that orchestral musicians are highly skilled and in most cases will have a degree or equivalent qualification; however, innate ability is extremely important too.
- 6.5 The latest top-down data on shortages show musicians passing 6 out of 11 shortage indicators. We consider that musicians pass the indicators for reasons other than overall shortage in the occupation and we set out below the reasons for this. The bottom-up evidence suggests no overall shortage of musicians but rather a specific shortage of orchestral musicians.
- 6.6 The ASHE data show that both the median and mean hourly wages for musicians have increased significantly more than the average skilled occupation. However, because ASHE is a survey of employers, it does not pick up self-employed musicians and therefore the data need to be treated with caution.
- 6.7 The ASHE data do, however, indicate that the wages of employed musicians are increasing disproportionately. This is indicative of a shortage of musicians in permanent employed positions, which will include orchestral musicians.
- 6.8 The vacancy rate for musicians is low. Very few jobs for musicians are advertised through Jobcentre Plus which means that the reported data for vacancy duration has reliability issues. For instance, in January 2009 there were no vacancies advertised for musicians through Jobcentre Plus at all. It could be that there were no vacancies at this time but we treat the vacancy data with caution.
- 6.9 ABO conducted a survey of their members in January 2009, which included the UK's major orchestras. Eighteen out of 65 orchestras responded. The responses reported 111 vacancies in various different orchestral positions. Many of these vacancies were reported to have been vacant for a considerable period of time and the median time these vacancies were open for was 12 months. This may suggest a particular shortage of orchestral musicians. However, the vacancies reported in this survey are unlikely to have been left unfilled for the whole time reported. Instead, most of the vacancies will be filled with musicians on a temporary contract until an orchestral musician of the desired skill and ability is identified.
- 6.10 The number of unemployed musicians is falling. The MU said that this was not because there was an overall shortage, but because musicians struggling to find work in their preferred occupation will take up other work. The MU told us that in their view there is not a shortage of musicians in the UK (citing 25,000 students beginning music courses in September 2008) and indeed they have concerns that there is

not enough demand to satisfy this supply. The large fall in employment (approximately 22 per cent over a year) and fall in hours worked supports the view that demand is falling. The fall in hours worked also supports this. However, these data come from the ASHE and for reasons set out previously we need to treat these data with caution.

- 6.11 National top-down evidence is that an increasing number of musicians have been with their employer for less than one year. We would expect this to be the case where there was an increase in demand and more new musicians were being taken on. However, the evidence of the fall in employment indicates that this is not the case. This may reflect the existence of only a small number of full-time permanent positions, with the majority of new jobs being run as short-term contracts.
- 6.12 The NESS data, like the ASHE data, do not pick up musicians who are self-employed. They also relate to 2007. Therefore, we again have to be careful when interpreting the indicators that use this data. NESS shows that employers find that the majority of vacancies that exist are due to skill shortages (75 per cent) and all hard-to-fill vacancies are due to skill shortages. This suggests that there may be a shortage for employed musicians in permanent positions, some of which will be orchestral musicians. The indicator that looks at the number of SSVs as a proportion of the number employed suggests no overall shortage for the occupation. However, we treat this indicator in particular with caution as the employment data come from the LFS, which includes self-employed workers while the ASHE does not.

- 6.13 There is a high supply of trained musicians in the UK and this is likely to continue to increase. For example, the Government has invested £332 million in music education, which will result in all children at Key Stage 2 having the opportunity to learn a musical instrument, which is likely to result in more children studying music in the future. The majority of orchestral musicians are recruited from within the EEA: in the past five years, only five non-EEA musicians were recruited. However, the UK's major orchestras require the most talented and skilled musicians across the world to be able to fill their vacancies and compete with other international orchestras. Growing markets for classical music in China and the Middle East make it even more important that they are able to hire the best musicians to be able to compete internationally.
- 6.14 Having taken all the evidence into account, we conclude that it is sensible to include on the recommended shortage occupation list orchestral musicians for the major UK orchestras (for example London Symphony Orchestra, London Philharmonic Orchestra, Philharmonia Orchestra, Royal Philharmonic Orchestra). The MU have informed us that they support this view.

6.3 Photographers and audio-visual equipment operators

Box 6.2: Photographers and audio-visual equipment operators

Occupation(s) and SOC code(s): Photographers and audio-visual equipment operators – 3434

Only the following job titles within these occupations are included on our recommended shortage occupation list:

Roles within visual effects and 2D/3D computer animation for film, television or video games including: animation supervisor, animator, computer graphics supervisor, technical director, VFX supervisor, modeller, rigging supervisor, rigger, matte painter, texture artist, compositing artist, producer, production manager, editor, R&D tools, R&D software, software engineer, system engineer.

Top-down data

3434 Photographers and audio-visual equipment operators

Skilled		Skilled in top-down analysis			
SOC skill level classification	3	Median hourly pay for all employees	£12.15		
Percentage of employees with NQF3+	68.6				
Shortage		Occupation passes 3 out of 12 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	12.4	-2.8	V2 Annual percentage change in employment estimates	9.4	-1.5
P2 Annual percentage change of mean hourly pay for all employees	7.2	1.4	V3 Annual percentage change of median total paid hours	-4.0	0.0
P3 Return to occupation, given NQF3, with age and region controls	1.13	0.81	V4 Absolute change in proportion working for employer under 1 year	0.01	-0.01
I1 Absolute change in median vacancy duration	16.0	-14.2	E1 SSVs as a percentage of all vacancies	63	63
I2 Live unfilled vacancies/unemployment by sought occupation	0.06	0.06	E2 SSVs as a percentage of hard-to-fill vacancies	99	99
V1 Annual percentage change in unemployment by sought occupation	-22.4	17.6	E3 SSVs as a percentage of total employment	2.48	2.48
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	5	6	Percentage of workforce trained in past 13 weeks	16	12

Stakeholder evidence

We received evidence from Skillset, the Sector Skills Council for creative media, which comprises: TV, film, radio, interactive media, animation, computer games, facilities, photo imaging and publishing.

- 6.15 This occupation includes roles that assist with the operation of still, cine and television cameras and other equipment to record and project sound and vision for entertainment, commercial and industrial purposes. The LFS estimates the workforce in the occupation to be approximately 56,000. We were told that the SOC is not well aligned with roles within the creative media industry. Skillset covers most, but not all, roles within SOC occupation 3434.
- 6.16 The occupation is skilled. It was identified as skilled in our top-down analysis, passing all three indicators, and Skillset's 2008 creative media workforce survey found that 85 per cent of the creative media workforce possess graduate or postgraduate level qualifications.
- 6.17 While the occupation passed 9 out of 12 shortage indicators in the analysis for our September 2008 report, it only passes 3 indicators using the most recent data. Skillset's employment census (2006) shows that creative media occupations are characterised by greater use of freelancing and short-term contracts than other occupations. In addition, we were told that demand tends to be more volatile compared with other industries. Both of these factors mean that the occupation is perhaps more vulnerable to short-term cycles and fluctuations.
- 6.18 Skillset argued that there was no evidence of shortages in the occupation as a whole. On the basis of their view, and in light of the top-down evidence, we do not include this occupation in its entirety on our recommended shortage list, as there is not sufficient evidence that it is in shortage.
- 6.19 However, Skillset provided evidence of shortages for a specific subset of this occupation: those employed within visual effects roles in computer animation. This encompasses technical and creative roles in 2D and 3D computer animation for film, television and video games. According to a UK Screen Association survey conducted in 2008, the UK workforce in these roles numbers approximately 4,000. Globally, the sector is small and specialised with major centres in the USA, Australia and New Zealand. The UK is the largest centre for visual effects in Europe with four main studios based in London.
- 6.20 Skillset's 2008 creative media workforce survey found that 92 per cent of the visual effects workforce possess graduate or postgraduate level qualifications. A total of 86 per cent of the workforce possess graduate or postgraduate qualifications in relevant media subjects, indicating a high degree of specialisation. The evidence strongly supports our own analysis in suggesting that the occupation is skilled for the purposes of Tier 2 of the PBS.
- 6.21 Skillset's research programme identified shortages in the visual effects sector. It has experienced substantial growth, and consequently there is a global shortage of suitably skilled individuals, which is affecting the UK alongside other countries. Skillset provided evidence that the global market for these roles is strong and, to remain competitive, UK firms need to draw on non-EEA labour. In India, for example, the government commissioned a review of future worker requirements for the gaming and visual effects sector and plan to establish a national centre of excellence for animation, gaming and visual effects.

'Given the rise in the UK's levels of film production and the increasingly competitive market for talent, it means that companies have no option but to source candidates internationally or get left behind. The process of recruitment would be eased considerably if the specialist technical roles could be specified on the skills occupation shortage list.'

Skillset, response to MAC call for evidence

- 6.22 In the UK, growth in visual effects has been strong. In 2004, turnover and employment in visual effects were both over four times that seen in 1997. A UK Screen Facilities survey showed that employment growth in the UK was considerable between 2006 and 2007 with 25 per cent growth in employees, but levelled off in 2008 with no growth recorded. Employment growth has, in part, been met by increasing use of non-UK nationals.
- 6.23 Analysis of applications to one of the leading firms showed the ratio of applicants to the number of vacancies filled is very low. In 2007, an average of two applications was received for every vacancy filled. Between 2003 and 2007, where numbers of applicants were known (around 60 per cent of all vacancies filled), there were only 76 UK applicants for 83 positions, and not all of these applicants would necessarily possess the right skills for the roles.
- 6.24 In terms of sensible, Skillset provided good evidence of recruitment efforts within the UK and EEA and efforts to develop and up-skill the UK workforce.
- 6.25 Recruitment in the visual effects sector tends to be proactive, with employers competing for talented visual effects artists through a number of industry animation festivals, events and conferences, a key objective of which is for employers to attract applicants. There are seven main

festivals in Europe, four of which are in the UK. Evidence from the UK Screen Association survey shows that while 28 per cent of the visual effects workforce are not UK nationals, nearly two-thirds of these are EEA nationals. This corroborates what we were told about firms' efforts to recruit through European animation festivals.

'Animation festivals and other similar industry events provide UK employers with a good opportunity to spot and woo new talent... Typically, companies would send at least one recruitment specialist who would act as an ambassador for their facility... Attending such events is costly to companies both in terms of resource and travel expenses etc. Fortunately there are a number of events in the UK and Europe but this is insufficient to meet demand with companies forced to travel further afield (most notably to SIGGRAPH in the USA) to compete for top visual effects artists.'

Skillset, response to MAC call for evidence

- 6.26 Skillset told us that 'without exception companies have developed both informal and formal training practices to encourage the growth and development of new talent'. Efforts to develop new talent and up-skill the existing workforce include graduate and postgraduate placements, links with academic institutions (to develop course syllabuses), on-the-job training and use of specialist technical training. We received details of the in-house training provided by the main studios in the sector, which is considerable because of the need to keep abreast of the latest technology and software. Work experience at both school and university level is offered by firms. Notably, one initiative by Escape Studios fully funded 18 weeks of training and four weeks of placements for 12 new entrants to the visual effects sector. Skillset report that companies have engaged in their

course accreditation programme, and have developed links with UK institutions and centres of excellence within Europe, notably in France and Germany.

6.27 We conclude that there is a shortage of skilled labour within visual effects, which cannot be currently met solely from within the EEA. These jobs are highly specialised and operate in a global market. Restricting

access to the global pool may adversely affect the UK's current position as a centre of excellence for visual effects. Therefore, we recommend that specified jobs within visual effects be included on the shortage occupation list.

6.4 Computer engineering, installation and maintenance

Box 6.3: Computer engineering, installation and maintenance

Occupation(s) and SOC code(s): Computer engineering, installation and maintenance – 5245

This occupation is not included on our recommended shortage occupation list

Top-down data

5245 Computer engineering, installation and maintenance

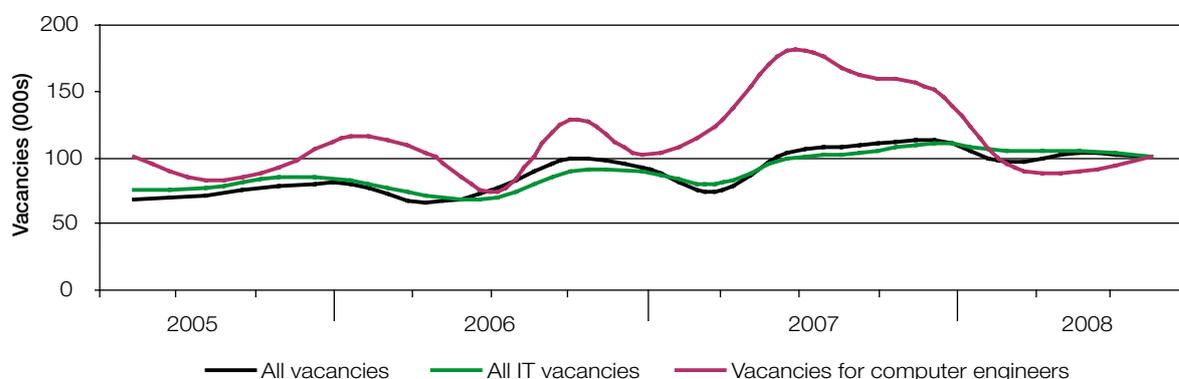
Skilled		Skilled in top-down analysis			
SOC skill level classification	3	Median hourly pay for all employees	£12.93		
Percentage of employees with NQF3+	58.3				
Shortage		Occupation passes 3 out of 12 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	5.0	0.0	V2 Annual percentage change in employment estimates	-2.7	6.4
P2 Annual percentage change of mean hourly pay for all employees	5.4	0.2	V3 Annual percentage change of median total paid hours	0.0	1.2
P3 Return to occupation, given NQF3, with age and region controls	0.88	0.89	V4 Absolute change in proportion working for employer under 1 year	0.02	-0.01
I1 Absolute change in median vacancy duration	13.5	-0.7	E1 SSVs as a percentage of all vacancies	24	24
I2 Live unfilled vacancies/unemployment by sought occupation	0.13	0.09	E2 SSVs as a percentage of hard-to-fill vacancies	100	100
V1 Annual percentage change in unemployment by sought occupation	-19.0	9.8	E3 SSVs as a percentage of total employment	0.39	0.39
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	7	14	Percentage of workforce trained in past 13 weeks	32	30

Stakeholder evidence

We received evidence from e-skills UK, the Sector Skills Council for information technology and telecoms. e-skills UK consulted with members of the ITCE sector advisory panel on their assessment.

- 6.28 Computer engineers install, maintain and repair personal computers, mainframe and other computer hardware. The LFS estimates the workforce in the occupation to be approximately 43,000.
- 6.29 The occupation was identified as skilled in our top-down analysis, passing all three skill indicators. However, e-skills UK told us that: 'computer engineering positions are often thought of as entry level IT jobs, requiring a lower level of academic attainment/skill than that needed for other IT positions'. This suggests that the occupation is at the lower end of the skills distribution within the IT industry, but we believe it still meets the minimum criteria for being skilled for Tier 2 of the PBS.
- 6.30 In looking at shortage across this occupation we found that, while it passed 6 out of 12 shortage indicators in the analysis for our September 2008 report, it only passed 3 out of 12 using the most recent data. A closer examination of the evidence confirms that there is no longer strong evidence of a shortage in this occupation, as discussed below.
- 6.31 The relevant top-down indicators point to an increase in the size of the workforce across this occupation, a fact confirmed by evidence presented to us by e-skills UK. Rising employment can be an indicator of shortage, but also an indicator that vacancies are being filled. In addition, we observed an increase (albeit a smaller one than observed for other occupations) in Jobseeker's Allowance claimants seeking work in this occupation.
- 6.32 Data provided by e-skills UK show that the number of vacancies has declined substantially from a peak in mid-2007 (Figure 6.1). Looking at the most recent data, e-skills UK note that between the third and fourth quarter of 2008 notified Jobcentre Plus vacancies fell by a further 13 per cent to 700 positions. Because of this drop, the skill shortage vacancy indicators from the 2007 NESS should be treated with caution: two of the three indicators showing shortage in our latest analysis come from this source.

Figure 6.1: Notified vacancies for computer engineers, 2005 to 2008



Note: figures describe absolute change in the number of notified vacancies per quarter, indexed to 2005 Q1.
Source: e-skills UK analysis of Jobcentre Plus vacancies notified in NOMIS

- 6.33 The fall in the ratio of vacancies to claimant count in our top-down analysis suggests there is no shortage in this occupation. The levelling of wage growth indicators in the top-down analysis is also consistent with this view of the market for computer engineers.
- 6.34 To summarise, the evidence submitted by e-skills UK shows a drop in demand in this occupation over the past year and an increase in supply, suggesting that the market has met any excess demand that we observed when we ran our figures last year. This corroborates the observed changes in relevant indicators in our top-down analysis.
- 6.35 Additionally, e-skills UK notes that the lower levels of attainment and skill required by those within this occupation mean that it is comparatively easier for employers to recruit and train up new workers to carry out tasks that fall to those in this occupation.
- 6.36 Taking account of the fact that there was no strong evidence of a shortage within this occupation and that the relevant Sector Skills Council does not believe that it is a shortage occupation, we do not recommend that it be placed on the shortage occupation list.

'In the current climate, considering the absence of any contrary evidence from the [ITCE sector advisory] Panel and the overt decline in demand for computer engineers/ IT staff as a whole, it would be difficult to find justification for including this particular occupation on the shortage list at this moment in time.'

e-Skills UK, response to MAC call for evidence

6.5 Dispensing opticians

Box 6.4: Dispensing opticians

Occupation(s) and SOC code(s): Dispensing opticians – 3216

This occupation is not included on our recommended shortage occupation list

Top-down data

3216 Dispensing opticians

Skilled	Skilled in top-down analysis				
SOC skill level classification	3		Median hourly pay for all employees	£10.38	
Percentage of employees with NQF3+	57.28*				
Shortage	Occupation passes 5 out of 9 valid indicators				
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	5.2	6.5	V2 Annual percentage change in employment estimates	-44.8	44.2
P2 Annual percentage change of mean hourly pay for all employees	9.8	7.5	V3 Annual percentage change of median total paid hours	-1.4	0.5
P3 Return to occupation, given NQF3, with age and region controls	1.61	0.95	V4 Absolute change in proportion working for employer under 1 year	-0.2	0.02
I1 Absolute change in median vacancy duration	17.0	-26.4	E1 SSVs as a percentage of all vacancies	x	x
I2 Live unfilled vacancies/unemployment by sought occupation	1.75	1.40	E2 SSVs as a percentage of hard-to-fill vacancies	x	x
V1 Annual percentage change in unemployment by sought occupation	-21.1	11.4	E3 SSVs as a percentage of total employment	x	x
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	5	0	Percentage of workforce trained in past 13 weeks	51	56

Stakeholder evidence

We received evidence from the Association of British Dispensing Opticians, Specsavers and another large chain of opticians who wished to remain anonymous.

- 6.37 Dispensing opticians supply and fit spectacles and other optical aids according to prescription. They are skilled, by our definition. They are registered and regulated by the General Optical Council (GOC).
- 6.38 The Association of British Dispensing Opticians (ABDO) represents just over 5,300 registered dispensing opticians (approximately 93 per cent of registrants), spread between 7,500 optical practices in the UK. It is not mandatory for every

practice to have a dispensing optician since some optometrists conduct their own dispensing or supervise unqualified assistants. This was confirmed by a large high street chain of opticians which reported that only one-third of their practices had a dispensing optician. ABDO told us that the number of trained dispensing opticians is growing, with the number on the register increasing by approximately 100 per year.

- 6.39 In terms of shortage, the occupation passed five out of an available nine shortage indicators when we looked at the occupation in our September 2008 report and this result was replicated when we used more recent data for this report. *Prima facie*, then, there is evidence of a shortage within this occupation.
- 6.40 ABDO told us that there is an increasing trend for practices to have a dispensing optician and that there were shortages in some regions. However, a large chain of opticians told us they had only two current vacancies for dispensing opticians and neither of these were long-term vacancies. This particular chain also reported receiving a number of calls from dispensing opticians looking for vacancies and did not feel that they could say that there was a shortage.
- 6.41 This chain has a student sponsorship programme for dispensing opticians which did not recruit in 2008 due to a sufficiency of existing recruits to fill expected placements. They found a decreasing need for dispensing opticians, as trained senior optical advisers did a similar job, with the more complicated cases being dealt with by optometrists. Specsavers also told us that they are not aware of a current or pending shortage.
- 6.42 Turning to whether it is sensible to allow employers to recruit from outside the EEA, ABDO said that it was important that people working in this occupation could communicate effectively in English and this limited the scope for recruitment to those with well-developed English language skills. We were told that historically a small number of recruits had come to the UK from countries such as Australia, New Zealand and South Africa, mainly to gain experience. These countries have training systems and competences similar to the UK and therefore little additional training is needed to bring people up to the standards required by the GOC. The GOC has put in place mechanisms for assessing potential registrants from around the world.
- 6.43 Specsavers told us that in the unlikely event that shortages in this occupation occurred, there could be an expansion of existing training programmes.
- 6.44 In conclusion, although we found the top-down evidence pointed towards shortage, this is not supported by the bottom-up evidence. As such, we do not recommend this occupation be included on the shortage occupation list.

'There has been an expansion in the number of training positions leading to qualification and registration for dispensing opticians in recent years and we believe that this adequately meets current and future work requirements.'

Specsavers, response to MAC call for evidence

6.6 Hairdressing and beauty salon managers

Box 6.5: Hairdressing and beauty salon managers

Occupation(s) and SOC code(s): Hairdressing and beauty salon managers and proprietors – 1233

This occupation is not included on our recommended shortage occupation list

Top-down data

1233 Hairdressing and beauty salon managers and proprietors

Skilled	Skilled in top-down analysis				
SOC skill level classification	3		Median hourly pay for all employees	*	
Percentage of employees with NQF3+	48.68*				
Shortage	Occupation passes 3 out of 10 valid indicators				
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	x	x	V2 Annual percentage change in employment estimates	-12.9	-8.4
P2 Annual percentage change of mean hourly pay for all employees	x	x	V3 Annual percentage change of median total paid hours	4.4	-0.2
P3 Return to occupation, given NQF3, with age and region controls	0.85	-0.59	V4 Absolute change in proportion working for employer under 1 year	-0.1	-0.02
I1 Absolute change in median vacancy duration	-6.8	-21.2	E1 SSVs as a percentage of all vacancies	60	60
I2 Live unfilled vacancies/unemployment by sought occupation	0.32	0.23	E2 SSVs as a percentage of hard-to-fill vacancies	100	100
V1 Annual percentage change in unemployment by sought occupation	-31.0	45.8	E3 SSVs as a percentage of total employment	0.84	0.84
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	5	7	Percentage of workforce trained in past 13 weeks	19	12

Stakeholder evidence

We received evidence from the Hairdressing and Beauty Industry Authority (Habia).

- 6.45 Hairdressing and beauty salon managers and proprietors organise, direct and co-ordinate the activities and resources of hairdressing salons, health clubs, beauty treatments and similar establishments. Proprietors are self-employed and are therefore not subject to Tier 2 of the PBS. We therefore restrict our consideration to managers of these establishments. The LFS estimates the workforce in this occupation to be approximately 21,000. Our analysis of the top-down data on skill
- concluded that hairdressing and beauty salon managers and proprietors are skilled, but this was based on limited data.
- 6.46 Employees in this occupation are classified in the SOC at skill level 3. The data collated from the LFS for 2004 to 2007 indicate that only approximately 49 per cent of those employed are qualified to NQF level 3+, just below our skilled threshold of 50 per cent. On the other hand, Habia, the standard-setting body for the hairdressing, spa and

- beauty industry, argued that, based on the content of qualifications developed from the Small Firms Enterprise Development Initiative and Management Standard Centre national occupational standards, the skills needed to manage a salon or a group of salons are at skill level 4. The ASHE does not report reliable earnings data for this occupation.
- 6.47 Both our top-down analysis of shortage and the evidence we received from Habia suggest that while shortages in the occupation were apparent a year or so ago, slowing growth, particularly in the current economic climate, means that shortages have reduced since then. Our September 2008 top-down analysis indicated that the occupation was in shortage, with five out of ten indicators meeting the relevant criteria. However, our latest analysis of top-down shortage indicators shows only three of ten meet the criteria. All three indicators are from NESS, which dates back to 2007.
- 6.48 The number of Jobseeker's Allowance claimants under this occupation has increased considerably, while the number actually in work is falling, suggesting a fall in labour demand. This is supported to some extent by the small fall in average hours observed, which moves the indicator out of shortage.
- 6.49 Habia explained that the sector experienced a peak in 2005. They told us that growth in gross turnover (including inflation) has declined: growth in consumer spending in the sector fell from 5.7 per cent in 2004–2005 to 2.5 per cent in 2005–2006 and 1.2 per cent in 2006–2007.¹ One of the reasons for this is that clients are having their hair cut less often: average time between appointments for clients has increased from six weeks to eight–ten weeks.
- 6.50 Taken together, the evidence suggests that what may have constituted shortage a year or so ago is less acute, and does not meet our criteria for shortage.
- 6.51 Furthermore, we received evidence from Habia that it would not be sensible for immigrant labour from outside the EEA to be used to fill vacancies that still exist in this sector. Efforts are being made to up-skill the non-migrant workforce. In 2003, there was only one sector-related degree (in spa management) available in the UK. However, there are now over 50 sector-related degrees listed by the Universities and Colleges Admission Service (UCAS), mostly with management in the degree title. In 2009 the Diploma in Hair and Beauty Studies was launched, leading to full entitlement to pupils to access this by 2013. The advanced diploma of mainly management-related topics has been designed to address management skill gaps in the sector. Graduates from all these programmes will be increasingly available for employment in management roles in salons in the UK. We would not wish to undermine this concerted attempt to up-skill the UK workforce.
- 6.52 In the light of the evidence we received, and our review of the data, we conclude that this occupation should not be recommended for inclusion on the shortage occupation list.

¹ *Consumer Trends*, ONS, 2006

6.7 Metal machining setters and setter-operators

Box 6.6: Metal machining setters and setter-operators

Occupation(s) and SOC code(s): Metal machining setters and setter-operators – 5221

This occupation is not included on our recommended shortage occupation list

Top-down data

5221 Metal machining setters and setter-operators

Skilled		Skilled in top-down analysis			
SOC skill level classification	3	Median hourly pay for all employees		£10.56	
Percentage of employees with NQF3+	27.6				
Shortage		Occupation passes 4 out of 12 valid indicators			
Indicators:	Sept 08	Mar 09	Indicators (continued):	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	1.9	7.8	V2 Annual percentage change in employment estimates	-0.3	-10.2
P2 Annual percentage change of mean hourly pay for all employees	3.3	4.4	V3 Annual percentage change of median total paid hours	3.5	0.3
P3 Return to occupation, given NQF3, with age and region controls	0.90	0.78	V4 Absolute change in proportion working for employer under 1 year	0.07	-0.04
I1 Absolute change in median vacancy duration	-1.7	0.7	E1 SSVs as a percentage of all vacancies	68	68
I2 Live unfilled vacancies/unemployment by sought occupation	1.74	2.01	E2 SSVs as a percentage of hard-to-fill vacancies	80	80
V1 Annual percentage change in unemployment by sought occupation	-24.2	42.0	E3 SSVs as a percentage of total employment	0.67	0.67
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	6	5	Percentage of workforce trained in past 13 weeks	12	13

Stakeholder evidence

We received evidence from Semta, the Sector Skills Council for science, engineering and manufacturing technologies.

6.53 Metal machining setters and setter-operators operate machines to drill, bore, grind, cut, and mill, or otherwise shape, metal workpieces.

6.54 The LFS estimates the workforce in this occupation to be approximately 60,500. Our analysis of top-down data concluded that metal machining setters and setter-operators is a skilled occupation, as it passes on two out of three indicators, although only 28 per cent of employees

are qualified to NQF level 3+. Semta told us that the job titles in this group are numerous and that there are doubts as to whether all of these are skilled trades.

6.55 This occupation passes 4 out of 12 shortage indicators. Our top-down analysis of shortage suggests that while shortages in the occupation may have been apparent a year or so ago, there is less evidence of a current shortage. Pay is increasing, but the difference between growth in the median

and mean is marked, so we treat these indicators with some caution. The number of vacancies is high in relation to the number of Jobseeker's Allowance claimants seeking work in the occupation. However, the number of Jobseeker's Allowance claimants has increased considerably year on year, while the size of the workforce has fallen.

6.56 Semta told us that there have been recurring reports from the sector of

skill shortages in the role of computer numerical controlled (CNC) engineers. However, Semta was unable to provide us with quantitative information to back this up, neither were they able to provide information on current stocks and flows in this occupation.

6.57 On the basis of the evidence presented, we do not consider that there is a labour shortage in this occupation.

6.8 Moulders, core makers and die casters

Box 6.7: Moulders, core makers and die casters

Occupation(s) and SOC code(s): Moulders, core makers and die casters – 5212

This occupation is not included on our recommended shortage occupation list

Top-down data:

5212 Moulders, core makers and die casters

Skilled		Skilled in top-down analysis			
SOC skill level classification	3	Median hourly pay for all employees	£11.07		
Percentage of employees with NQF3+	18.7				
Shortage		Occupation passes 6 out of 12 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	12.2	-5.1	V2 Annual percentage change in employment estimates	53.2	130.6
P2 Annual percentage change of mean hourly pay for all employees	12.0	-6.9	V3 Annual percentage change of median total paid hours	3.3	-3.2
P3 Return to occupation, given NQF3, with age and region controls	x	0.71	V4 Absolute change in proportion working for employer under 1 year	-0.03	0.04
I1 Absolute change in median vacancy duration	21.0	18.8	E1 SSVs as a percentage of all vacancies	99	99
I2 Live unfilled vacancies/unemployment by sought occupation	0.39	0.48	E2 SSVs as a percentage of hard-to-fill vacancies	99	99
V1 Annual percentage change in unemployment by sought occupation	-35.1	36.9	E3 SSVs as a percentage of total employment	1.04	1.04
Sensible indicators		Sept 08	Mar 09	Sept 08	Mar 09
Percentage of workforce born non-EEA	15	11	Percentage of workforce trained in past 13 weeks	15	15

Stakeholder evidence

We received evidence from Semta.

- 6.58 Moulders, core makers and die casters make sand, loam and plaster moulds and cores for casting metal, and pour or inject molten metal into dies by hand or machine. The LFS estimates the workforce in this occupation to be approximately 6,600.
- 6.59 Our analysis of top-down data on skill concluded that moulders, core makers and die casters are skilled, on the basis of the SOC and earnings, although only 19 per cent of those employed are qualified to NQF level 3 or above.
- 6.60 After passing on 9 out of 11 indicators of shortage in September 2008, this occupation now passes 6 out of 12 valid indicators, which is still a high number, although three of the six indicators are from NESS, which relates to 2007. The workforce is particularly small for this SOC unit group which may affect the reliability of some of the indicators, because of larger sampling errors. The figures therefore need to be treated with some caution. Nevertheless, the indicators suggest increased demand with the workforce growing and the number of new hires also increasing. Vacancy durations have risen, and a high incidence of skill shortage vacancies has been identified by employers. In contrast to this picture of increased demand, however, average pay is falling and the number of Jobseeker's Allowance claimants is increasing year on year.
- 6.61 Semta has in place an assessment of current and future skill needs for this sector, but we did not receive bottom-up evidence in support of either shortage or sensible for this review.
- 6.62 We require a combination of good top-down and bottom-up evidence to include an occupation on our recommended shortage occupation list, and therefore do not recommend moulders, core makers and die casters for inclusion.

6.9 Steel erectors

Box 6.8 Steel erectors

Occupation(s) and SOC code(s): Steel erectors – 5311

This occupation is not included on our recommended shortage occupation list

Top-down data

5311 Steel erectors

Skilled		Skilled in top-down analysis			
SOC skill level classification	3	Median hourly pay for all employees		£10.23	
Percentage of employees with NQF3+	21.5				
Shortage		Occupation passes 5 out of 12 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	7.2	3.5	V2 Annual percentage change in employment estimates	-1.3	6.2
P2 Annual percentage change of mean hourly pay for all employees	8.2	5.4	V3 Annual percentage change of median total paid hours	7.1	1.8
P3 Return to occupation, given NQF3, with age and region controls	0.77	1.09	V4 Absolute change in proportion working for employer under 1 year	0.01	0.03
I1 Absolute change in median vacancy duration	-18.3	-18.4	E1 SSVs as a percentage of all vacancies	61	61
I2 Live unfilled vacancies/unemployment by sought occupation	0.68	0.39	E2 SSVs as a percentage of hard-to-fill vacancies	83	83
V1 Annual percentage change in unemployment by sought occupation	-9.4	100.0	E3 SSVs as a percentage of total employment	1.26	1.26
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	3	0	Percentage of workforce trained in past 13 weeks	13	14

Stakeholder evidence

We received evidence from Semta and Construction Skills, the Sector Skills Council for construction.

- 6.63 Steel erectors fit and erect structural metal framework for buildings and other structures. This occupation passes our skilled threshold, passing on two out of three indicators.
- 6.64 Our September 2008 report showed that this occupation passed on 6 out of 12 shortage indicators. The occupation now passes on 5 out of 12, possibly suggesting a slight easing. Our top-down analysis shows that the rate of pay increases has

slowed, with a median pay increase in 2007 of 7.2 per cent falling to 3.5 per cent in 2008. Unemployment is rising, also suggesting an easing of the situation.

- 6.65 Bottom-up evidence, in part, seems to corroborate the above. Semta told us that a MetSkills (part of the Semta group) survey emphasises that the greatest shortages in constructional steelwork are in welding and plating rather than steel erecting.

- 6.66 The Construction Skills Network, which reports on the numbers of new industry recruits needed to satisfy growth, forecasts that employment in steel erecting and structural steelwork (which includes steel erectors as well as three other related occupations) will stand at around 28,330 in 2009. This is forecast to increase to 29,070 by 2013. The increase will require an annual average demand of some 900 additional workers in order to meet demand and replace those leaving the workforce. The Network says that this calculation takes the economic downturn into account.
- 6.67 Construction Skills estimates that approximately 700 people are currently studying for an NVQ in steel fixing and this will convert into just over 200 steel fixers per annum, after taking into account drop-outs and switches to other related occupations. Construction Skills therefore predicts a medium-term shortage of home-grown steel erectors.
- 6.68 In the short-term, Construction Skills told us that the Construction Confederation State of Trade survey for the third quarter of 2008 indicated a general easing in recruitment difficulties: fewer than one-fifth of surveyed building contractors reported difficulties in recruiting skilled trades. This contrasts with one year ago when 78 per cent of firms found difficulties recruiting.
- 6.69 In addition, Construction Skills provided us with evidence of difficulties in recruiting specific trades, particularly steel benders/fixers. However, the problems were relatively small compared with a year ago: 19 per cent of employers found some difficulty in employing steel benders/fixers, with 2 per cent finding it very difficult.
- 6.70 On balance, the evidence suggests a potential shortage in steel erectors in the medium term. Short-term shortages are apparent, but not as severe as last year. Construction Skills feels that the impact of any short-term shortages is debatable and likely to be short run and localised in nature. However, any current shortage would become much more apparent if public non-residential infrastructure programmes were brought forward quickly, possibly as part of a fiscal stimulus package.

'The extent to which shortages are currently impacting on industry activity is debatable, given the slowing demand. Experience would suggest that shortages are almost undoubtedly short-run and localised in nature...'

Construction Skills, response to MAC call for evidence

- 6.71 The evidence is that shortages on the whole are appearing to ease, and in these circumstances we do not conclude that it is sensible to recommend this occupation for inclusion on the shortage occupation list.

6.10 Welding trades

Box 6.9: Welding trades

Occupation(s) and SOC code(s): Welding trades – 5215

Only the following job title within this occupation is included on our recommended shortage occupation list:

High integrity pipe welders

Top-down data

5215 Welding trades

Skilled		Skilled in top-down analysis			
SOC skill level classification	3	Median hourly pay for all employees	£10.21		
Percentage of employees with NQF3+	28.0				
Shortage		Occupation passes 3 out of 12 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	8.9	4.1	V2 Annual percentage change in employment estimates	11.0	-5.4
P2 Annual percentage change of mean hourly pay for all employees	9.7	1.9	V3 Annual percentage change of median total paid hours	2.4	-1.7
P3 Return to occupation, given NQF3, with age and region controls	0.86	0.81	V4 Absolute change in proportion working for employer under 1 year	0.05	-0.03
I1 Absolute change in median vacancy duration	0.5	-3.3	E1 SSVs as a percentage of all vacancies	44	44
I2 Live unfilled vacancies/unemployment by sought occupation	0.80	0.70	E2 SSVs as a percentage of hard-to-fill vacancies	82	82
V1 Annual percentage change in unemployment by sought occupation	-14.4	68.4	E3 SSVs as a percentage of total employment	0.92	0.92
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	3	2	Percentage of workforce trained in past 13 weeks	15	20

Stakeholder evidence

We received evidence from Semta, TWI (formerly the Welding Institute) and Construction Skills.

6.72 The workforce in this occupation is approximately 81,000. Our analysis of top-down data on skill concluded that welding is a skilled occupation, on the basis of SOC classification and average earnings.

6.73 This occupation passed on 8 of the 12 shortage indicators in our September 2008 report, but currently only passes three. The number of Jobseeker's Allowance

claimants who have worked in this occupation has risen considerably year on year, but the number of vacancies remains high in relation to the number of claimants. Many other indicators have moved from shortage to non-shortage. For instance, average pay increases in the region of 9 to 10 per cent were recorded between 2006 and 2007. Pay still increased the following

year, although the rate of change is not sufficient to indicate shortage. Demand has fallen off slightly, with falls in the size of the workforce, hours worked and proportion of new hires.

is more appropriate for them to fall under welding trades. We are reclassifying this occupation in this report and will fully review the job title again in the autumn.

- 6.74 We received evidence that a survey carried out in October 2008 by TWI found that the number of approved welders currently in regular employment in each company ranged from 11 up to 185, and that, during the summer shutdown period (when a lot of work takes place), up to 500 welders may be employed. We were told that a significant proportion of the workforce is nearing retirement age and that 71 per cent of companies were encountering difficulty in recruiting, with Petrochem, Powergen and LNG storage contractors in particular seeing shortfalls of up to 100 welders during the summer shutdown periods. However, TWI told us that the recession may temporarily change the situation as expected redundancies create a surplus.
- 6.75 In terms of sensible, we received evidence that the sector is making efforts to up-skill the workforce by putting in place Apprenticeships or other formal training. Semta has in place an assessment of current and future skills needs for this sector.
- 6.76 Overall, the evidence we received was not of sufficient depth for us to conclude that this occupation as a whole should be included on our recommended shortage occupation lists.
- 6.77 In our September 2008 report we considered the job title high integrity pipe welders. They are included on the current shortage occupation list under pipe fitters (SOC 5216). The Engineering Construction Industry Board told us that high integrity pipe welders are welders in an advanced and highly specialised area of work and it

Chapter 7: Occupations on our September 2008 list

7.1 Introduction

7.1 This chapter reports on some occupations that were included on our September 2008 recommended lists and that we have looked at again, either on the basis of the rapidly changing economic circumstances, or new evidence submitted to us.

7.2 Construction-related occupations

7.2 In light of the deteriorating UK labour market over recent months, we have been closely monitoring the labour market situation for those construction occupations included on our recommended shortage occupation lists in September 2008.

7.3 In relation to the job title of project managers for property development and construction and the occupation of quantity surveyors, the Jobcentre Plus data indicate that the unemployment count has risen rapidly relative to other occupations and vacancies have fallen. We take higher than average increases in unemployment and higher than average falls in vacancies to be strong indicators that an occupation may no longer be experiencing a shortage.

7.4 The job title project managers for property development and construction falls within the overall SOC code for managers in construction (SOC code 1122). Jobcentre Plus data for this SOC code indicate that between January 2008 and January 2009

the number of unfilled vacancies across this SOC code fell by almost 80 per cent, from 721 in January 2008 to 153 in January 2009. Over the same period the number within this SOC code who registered as new unemployment benefit claimants rose by almost 500 per cent, from 835 to 4,795.

7.5 For quantity surveyors (SOC code 2433), the number of unfilled vacancies fell by 75 per cent, from 263 in January 2008 to 64 in January 2009, while over the same period the number of new unemployment benefit claimants rose by almost 500 per cent, from 130 to 730.

7.6 We consider it important that the shortage occupation list is responsive to the changing economic context. We therefore recommend the suspension of these two occupations from the shortage occupation list prior to us carrying out a full review of them in our next update in autumn 2009. We have consulted with the Royal Institute of Chartered Surveyors (RICS), which made the previous submission for both occupations to be included on the list, about whether to do this. The RICS agrees with our course of action.

7.3 Dancers and choreographers

Box 7.1: Dancers and choreographers

Occupation(s) and SOC code(s): Dancers and choreographers – 3414

Only the following job title within this occupation is included on our recommended shortage occupation list:

Contemporary dancers who meet the standard required by internationally recognised UK contemporary dance companies (e.g. Shobana Jeyasingh Dance Company, Scottish Dance Theatre, and Rambert Dance Company).

Top-down data

3414 Dancers and choreographers

Skilled		Skilled in top-down analysis			
SOC skill level classification	3	Median hourly pay for all employees	*		
Percentage of employees with NQF3+	36.0				
Shortage		Occupation passes 3 out of 10 valid indicators			
Indicators	Sept 08	Mar 09	Indicators (continued)	Sept 08	Mar 09
P1 Annual percentage change of median hourly pay for all employees	x	x	V2 Annual percentage change in employment estimates	62.0	30.1
P2 Annual percentage change of mean hourly pay for all employees	10.3	-5.5	V3 Annual percentage change of median total paid hours	5.1	1.8
P3 Return to occupation, given NQF3, with age and region controls	x	x	V4 Absolute change in proportion working for employer under 1 year	0.13	-0.24
I1 Absolute change in median vacancy duration	0.3	-78.2	E1 SSVs as a percentage of all vacancies	0	0
I2 Live unfilled vacancies/unemployment by sought occupation	1.01	0.87	E2 SSVs as a percentage of hard-to-fill vacancies	0	0
V1 Annual percentage change in unemployment by sought occupation	-14.2	4.8	E3 SSVs as a percentage of total employment	0.00	0.00
Sensible indicators	Sept 08	Mar 09		Sept 08	Mar 09
Percentage of workforce born non-EEA	31	20	Percentage of workforce trained in past 13 weeks	41	19

Stakeholder evidence

We received evidence from Dance UK, the Independent Theatre Council (ITC), the National Campaign for the Arts (NCA), the Society of London Theatre (SOLT), the Theatrical Management Association (TMA), Arts Council England, the Department for Culture, Media and Sport, Judith Mackrell (Dance critic, the *Guardian*) and Equity.

7.7 Employees in this occupation are classified in SOC at skill level 3. The data collated from the Labour Force Survey 2004–2007 indicate that only 36 per cent of those employed are qualified to NQF level 3+.

Our September 2008 report assessed the qualifications indicators for this occupation as passing the required threshold for skill, and the earnings measure was invalid, meaning we regard this as a skilled occupation.

7.8 Tier 5 of the PBS is intended, among other uses, for use by performing arts companies to bring performers into the UK. However, contemporary dance companies do engage dancers on contracts that exceed 12 months and therefore they need to be able to access Tier 2.

7.9 We previously included skilled ballet dancers, a subset of SOC 3414 dancers and choreographers, on our recommended shortage occupation list. Stakeholders put it to us that we needed to extend this subset to include contemporary dancers, and we have considered that evidence for this review.

7.10 Contemporary dance is a generic term to encompass forms of dance which have developed during the twentieth century as a progression away from ballet. It is marked by choreographers who have created their own vocabulary of movement as a reaction to the classical ballet technique.

7.11 We received evidence that, although most contemporary dancers will be able to show that they have a qualification that is at least the equivalent of NVQ level 3+ or even a Bachelor's or Master's degree, there is no minimum qualification to be a contemporary dancer. It will always be innate ability that is the critical factor in securing employment.

7.12 Contemporary dancers train in a variety of ways: some begin with classical ballet then acquire contemporary technique through formal training, professional experience or both; others train solely as contemporary dancers. Like ballet dancers, they may start to train in childhood, followed by three or four years of vocational training later in life. Overall, we are satisfied that our definition of this as a skilled occupation is supported by the bottom-up evidence on contemporary dancers.

'Whilst we have a growing diverse workforce in this country, the training and development of British-born artists is often benefited by the opportunity to work alongside skilled experts from more developed dance contexts.'

Arts Council England, response to MAC call for evidence

7.13 Looking at the shortage criteria, the top-down evidence did not indicate a national shortage across this occupation. The size of the contemporary dance workforce is very small, however, so this could affect the reliability of some of the indicators. Employment has risen rapidly, suggesting growing demand. At the same time, the number in receipt of Jobseeker's Allowance and looking for employment in this occupation has increased, but only by a small amount in comparison with other occupations. Growing demand and limited supply are further indicated by the low number of Jobseeker's Allowance claimants per advertised vacancy. So there are some indicators of a potential shortage, albeit limited in number.

7.14 However, indicators from the National Employers' Skills Survey (NESS) suggest no skill shortage vacancies at all. Although those data are from 2007, we do not consider this credible, in the light of the other evidence we received. This may be a function of reliability issues for this SOC unit group in the survey.

7.15 We received evidence that there is a worldwide shortage of contemporary dancers with the combination of ability, training and skill required to meet the standards of the leading dance companies. This is likely to continue with too few top-quality dancers to fill the best companies. Additionally, this is often compounded by innovative choreographers requiring a set of skills unique to their own choreography.

'Dance has become an international art form; and it is a measure of the standing of our major companies – both contemporary and classical – that many of the world's top performers desire to work in the UK.'

Judith Mackrell (dance critic, the *Guardian*), response to MAC call for evidence

- 7.16 In terms of pay, we received evidence that the industry minimum in this sector is £364 a week, but we were told that raising salaries would be unlikely to increase the pool of dancers available. We were presented with evidence that the low level of pay is rarely something that prevents skilled dancers from applying to work with the leading UK contemporary dance companies because to do so will advance a dancer's profile and career. Contemporary dance companies habitually recruit internationally and audition hundreds of applicants for each vacancy. The large number of applicants does not, of course, point to there being a shortage but it is the scarcity of international class performers that creates a specific shortage at the peak of the occupation.
- 7.17 In terms of our sensible criteria, restricting recruitment to the EEA sets a limit on the pool of talent that can be accessed by contemporary dance companies. The very top companies need to be able to recruit the top dancers from around the world in order to maintain their high standards. In this regard, dance companies are different from many other employers.
- 7.18 We were also told that some choreographers' very distinctive styles of work suit only a few dancers and therefore the wider the catchment area for recruitment, the more likely it will be that they identify those best suited to this work. Additionally, we were informed that some

choreographers use techniques that are not taught, or are only just beginning to be taught, in the EEA.

'In order for our contemporary dance organisations to continue to maintain their world-class reputation it is essential that they have access to the widest possible field of dancers to recruit from.'

Department for Culture, Media and Sport, response to MAC call for evidence

- 7.19 We did see evidence that vocational dance schools and colleges in the UK liaise formally with the contemporary dance companies and choreographers to ensure that the schools and colleges work to reflect the needs of those companies. Contact is maintained through industry bodies such as Dance UK and the Council for Dance Education and Training (CDET), and many vocational dance schools and colleges employ choreographers and leading dancers from the top contemporary dance companies to teach.
- 7.20 Arts Council England told us that the UK's training base through universities and conservatories does not always supply enough world-class performers to feed the growing workforce the dance field needs. However, Arts Council England believes that this will be helped by recent investment in Centres for Advanced Training, through the Department for Children, Schools and Families, for training dancers aged 11–18, which will in time begin to see a different level of student entering specialist training schools. We support this initiative and believe that all possible efforts should be made to maximise the supply of appropriately skilled dancers from within the UK.

7.21 We have carefully considered the available evidence in relation to this occupation. We find that there are similarities in the arguments presented to us for this job title and those relating to classical ballet dancers that were considered in our September 2008 report. We recognise the desirability of allowing the top contemporary dance companies to recruit internationally the very top talent which may not always be available from within the EEA.

7.22 On balance, we recommend including on the shortage list, in addition to skilled ballet dancers, contemporary dancers who meet the standard required by internationally recognised UK contemporary dance companies (e.g. Shobana Jeyasingh Dance Company, Candoco Dance Company, Scottish Dance Theatre, Henri Oguike Dance Company, Phoenix Dance Theatre, Diversions (National Dance Company of Wales) and Rambert Dance Company).

7.23 We saw from the sector that there is no formal definition for what an internationally recognised UK contemporary dance company is. However, we were told that such a company would be one that: has performed at or has been invited to perform at venues of the calibre of Sadler's Wells, either in the UK or overseas; attracts dancers and/or choreographers and other artists from all over the world; and may have been reviewed in the British national press. We were also told that an internationally recognised contemporary dance company is one that would be endorsed as being internationally recognised by a UK industry body such as the Arts Councils (of Scotland, Wales and/or England) and may have been nominated for or has won one of the following awards:

a Critics' Circle National Dance Award, a Laurence Olivier Award or a South Bank Show Award, or a similar award given in another country.

7.4 Sheep shearers

7.24 Skilled sheep shearers (a job title within fishing and agriculture-related occupations n.e.c. SOC 9119) were included on our recommended shortage occupation list in September 2008. Our definition of skilled in relation to this job title stated: 'The individual must hold the British Wool Marketing Board bronze medal (or equivalent) or above and there must be documentary evidence that the individual has worked at this level for three years for the job to be skilled.' The National Association of Agricultural Contractors presented us with a convincing argument that this definition was too restrictive and would create problems for bringing in shearers for the 2009 season. We therefore have agreed with the UKBA that the three-year element be dropped, thus leaving 'The individual must hold the British Wool Marketing Board bronze medal (or equivalent) or above' as the relevant criterion for skilled in our new recommended shortage occupation list.

7.5 Autumn 2009 review

7.25 It is our intent to review in our autumn report all the occupations included in our original September 2008 report and not already reviewed in this report, reflecting the substantial change in the macro-economic landscape since then. The occupations we will be reviewing are listed in Chapter 10.

Chapter 8: Results

8.1 Introduction

8.1 Here we draw together the reviews of individual occupations covered in Chapters 4–7 to provide the recommended shortage occupation list for the UK under Tier 2 of the PBS.

8.2 The UK shortage occupation list

8.2 Before providing the full recommended shortage occupation list we outline the key changes compared with the current list. First, we recommend that the following **additions** be made to the Government's UK shortage occupation list:

- skilled orchestral musicians (a job title within SOC code 3415 musicians);
- various roles within visual effects and 2D/3D computer animation for film, television or video games (within SOC code 3434 photographers and audio-visual equipment operators); and
- skilled contemporary dancers (within SOC code 3414 dancers and choreographers).

8.3 Second, we recommend that the following **amendments** be made to the shortage occupation list:

- all social workers (SOC code 2442 social worker) to be removed with the exception of the job title 'social workers working in children's and family services';

- a revised list of medical and health-related occupations to be included as set out in Chapter 4;
- the criteria by which care assistants and home carers (SOC code 6115) are declared skilled to be changed as set out in Chapter 5;
- the criteria by which chefs (SOC code 5434) are declared skilled to be changed as set out in Chapter 5;
- the criteria by which sheep shearers (a job title within fishing and agriculture-related occupations n.e.c. SOC code 9119) are declared skilled to be changed to 'The individual must hold the British Wool Marketing Board bronze medal (or equivalent) or above'; and
- the job title high integrity pipe welders is reclassified under SOC code 5216, as discussed in Chapter 6, but remains on the list.

8.4 Third, we recommend that the following occupations and job titles are **suspended** from the shortage occupation list prior to a full review in autumn 2009:

- quantity surveyors (SOC code 2433); and
- project manager for property development and construction (a job title within the managers in construction SOC code 1122).

8.5 Incomplete data mean that it is difficult to produce a precise figure, but we estimate that jobs and occupations on our revised list employ approximately 530,000 people in the UK, accounting for approximately 2 per cent of total employment in the UK. This estimate relates to the number of people (immigrants and non-immigrants) currently working in these occupations

and job titles. It does not indicate potential flows of immigrants into job titles and occupations on the list, nor the number of vacancies currently available.

8.6 Our updated recommended shortage occupation list for the UK is set out in Table 8.1. The Government will announce in due course whether or not it accepts our recommendations.

Table 8.1: Recommended UK shortage occupation list for Tier 2 of the Points Based System, March 2009

Related occupation title and SOC code (see notes 1 and 2)	Job titles included on the shortage occupation list	Other information: skill levels and review timescales (see note 3)
Civil engineers (2121)	ALL jobs within this occupation including the following: public health engineer, rail engineer, drainage engineer, structural engineer, water engineer, geotechnical engineer, geotechnical design engineer, geotechnical specialist, tunnelling engineer, marine engineer, mining engineer, mining geotechnical engineer, petroleum engineer	Review over the next six months
Physicists, geologists and meteorologists (2113)	ONLY the following job titles within these occupations: geologist, geological engineer, hydrogeologist, geophysical specialist, geological adviser, geological analyst, geological associate, geophysicist, geoscientist, geosupport engineer, contaminated land engineer, geoenvironmental engineer, reservoir panel engineer, rock mechanics engineer, soil mechanics engineer, geomechanics engineer, landfill engineer, contaminated land specialist, geoenvironmentalist, nuclear medicine scientist and radiotherapy physicist. Also staff working in diagnostic radiology (including magnetic resonance imaging)	Review over the next six months
Chemical engineers (2125)	ALL jobs within this occupation including the following: chemical engineer, petrophysicist	Review over the next six months

Table 8.1: Recommended UK shortage occupation list for Tier 2 of the Points Based System, March 2009 (continued)

<p>Medical practitioners (2211)</p>	<p>ONLY the following job titles within these occupations: consultants within the following specialities: audiological medicine, chemical pathology, clinical neurophysiology, clinical pharmacology and therapeutics, dermatology, genitourinary medicine, haematology, immunology, intensive care medicine, medical microbiology and virology, neurology, nuclear medicine, obstetrics and gynaecology, occupational medicine, paediatric surgery, paediatrics, plastic surgery and renal medicine</p> <p>Consultants within the following specialities of psychiatry: child and adolescent psychiatry, forensic psychiatry, general psychiatry, learning disabilities and old age psychiatry</p> <p>Also non-consultant, non-training, medical staff posts in the following specialities: anaesthetics, emergency medicine, general surgery, intensive care medicine, obstetrics and gynaecology, paediatrics, and trauma and orthopaedic surgery</p>	<p>Review over the next six months</p>
<p>Dental practitioners (2215)</p>	<p>ONLY the following job titles within these occupations: consultants within orthodontics and paediatric dentistry</p>	<p>Review over the next six months</p>
<p>Veterinarians (2216)</p>	<p>ONLY the following job title within this occupation: veterinary surgeon</p>	<p>Must be registered as a member of the Royal College of Veterinary Surgeons (RCVS) to work in the UK</p> <p>Review over the next six months</p>

Table 8.1: Recommended UK shortage occupation list for Tier 2 of the Points Based System, March 2009 (*continued*)

<p>Biological scientists and biochemists (2112); Psychologists (2212); Pharmacists/ pharmacologists (2213), Medical radiographers (3214); Medical and dental technicians (3218); Speech and language therapists (3223); Therapists n.e.c. (3229)</p>	<p>ONLY the following job titles within these occupations: cardiac physiologist, clinical neurophysiologist, clinical vascular scientist, HPC-registered ophthalmic and vision scientist, respiratory physiologist and sleep physiologist (within 2112); clinical psychologist (within 2212); pharmacist working in the NHS or hospitals (within 2213); HPC-registered diagnostic radiographer, HPC-registered therapeutic radiographer and sonographer (within 3214); nuclear medicine technologist and radiotherapy technologist (within 3218); speech and language therapist (AfC bands 7+ or their independent sector equivalents) (within 3223); HPC-registered orthoptist (within 3229)</p>	<p>Review over the next six months</p>
<p>Secondary education teaching professionals (2314)</p>	<p>ONLY the following job title within this occupation: secondary education teacher within the subjects of maths or science</p>	<p>Review over the next six months</p>
<p>Social workers (2442)</p>	<p>ONLY the following job title within this occupation: social worker working in children's and family services</p>	
<p>Nurses (3211)</p>	<p>ONLY the following job titles within this occupation: theatre nurse, critical care nurse (nurses working in critical units with a level 2 or level 3 classification) and operating department practitioner</p>	<p>Review over the next six months</p>
<p>Engineering technicians (3113)</p>	<p>ONLY the following job title within this occupation: aircraft component manufacturing engineer</p>	<p>Review over the next six months</p>

Table 8.1: Recommended UK shortage occupation list for Tier 2 of the Points Based System, March 2009 (continued)

Dancers and choreographers (3414)	<p>ONLY the following job titles within this occupation: skilled classical ballet dancer, and skilled contemporary dancer</p>	<p>For this job to be skilled, classical ballet dancers must meet the standard required by internationally recognised UK ballet companies (e.g. Birmingham Royal Ballet, The Royal Ballet and Scottish Ballet)</p> <p>Skilled contemporary dancers must meet the standard required by internationally recognised UK contemporary dance companies (e.g. Shobana Jeyasingh Dance Company, Scottish Dance Theatre and Rambert Dance Company). For operational purposes the type of factors to be taken into account may include whether the company has performed at or has been invited to perform at venues of the calibre of Sadler's Wells, either in the UK or overseas; attracts dancers and/ or choreographers and other artists from all over the world; is endorsed as being internationally recognised by a UK industry body such as the Arts Councils (of Scotland, Wales and/or England)</p>
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Table 8.1: Recommended UK shortage occupation list for Tier 2 of the Points Based System, March 2009 (continued)

Musicians (3415)	ONLY the following job title within this occupation: skilled orchestral musician	For this job, the skilled orchestral musician must meet the standard required by internationally recognised companies (e.g. London Symphony Orchestra, London Philharmonic Orchestra, Philharmonia Orchestra and Royal Philharmonic Orchestra)
Photographers and audio-visual equipment operators (3434)	ONLY the following job titles within these occupations: roles within visual effects and 2D/3D computer animation for film, television or video games: animation supervisor, animator, computer graphics supervisor, technical director, CG supervisor, modeller, rigging supervisor, rigger, matte painter, texture artist, compositing artist, producer, production manager, editor, R&D tools, R&D software, software engineer, system engineer	
Ship and hovercraft officers (3513)	ALL jobs within this occupation	Must hold a certificate of equivalent competency from the Marine and Coastguard Organisation indicating qualification to a level equivalent to Officer of the Watch certification or above to work in the UK Review over the next six months
Welding trades (5215)	ONLY the following job title within this occupation: high integrity pipe welder	Three or more years' documented evidence of related on-the-job experience Review over the next six months

Table 8.1: Recommended UK shortage occupation list for Tier 2 of the Points Based System, March 2009 (continued)

Line repairers and cable jointers (5243)	ONLY the following job title within these occupations: electricity transmission overhead lineworker	Review over the next six months
Chefs, cooks (5434)	ONLY the following job title within this occupation: skilled chef	<p>'Skilled' requires that the individual is earning at least £8.45 per hour after deductions for accommodation, meals etc</p> <p>Review over the next six months</p>
Care assistants and home carers (6115)	ONLY the following job title within this occupation: skilled senior care worker	<p>'Skilled' requires that the individual is earning at least £7.80 per hour after deductions for accommodation and meals etc, and has a relevant NQF level 2 qualification, two years' relevant experience, and will have supervisory responsibilities</p> <p>OR there is a requirement for senior care workers to be qualified at NQF level 3 or above (currently only the case in Scotland and Wales)</p>

Table 8.1: Recommended UK shortage occupation list for Tier 2 of the Points Based System, March 2009 (*continued*)

<p>Animal care occupations n.e.c. (6139)</p>	<p>ONLY the following job title within these occupations: skilled work rider</p>	<p>‘Skilled’ requires documentary evidence that the individual has three or more years of paid experience in this job, at level equivalent to NQF level 3. See Migration Advisory Committee (2008b) for further details of job responsibilities. Must also be registered by the British Horseracing Authority</p> <p>Review over the next six months</p>
<p>Fishing and agriculture-related occupations n.e.c. (9119)</p>	<p>ONLY the following job title within these occupations: skilled sheep shearer</p>	<p>Individual must hold British Wool Marketing Board bronze medal (or equivalent) or above</p> <p>Review over the next six months</p>

Notes

(1) n.e.c. stands for ‘not elsewhere classified’.

(2) For official job descriptions relating to 4-digit occupations in SOC 2000, see www.statistics.gov.uk/methods_quality/ns_sec/downloads/SOC2000_Vol1_V5.pdf.

(3) Timings are indicative. We may review any occupation at any time.

Chapter 9: Scotland

9.1 Introduction

9.1 In addition to producing a shortage occupation list to cover the whole of the UK, the Government also asked that we produce a separate list covering Scotland. The Government identified the need for Scotland to have a separate list to address the specific changing demographic profile and declining population within that country. This chapter provides an overview of Scotland's economy, followed by a detailed discussion of the occupations for which we have received evidence. Section 9.5 presents the updated recommended shortage occupation list for Scotland.

9.2 Economy and labour market update

9.2 Our September 2008 report (Migration Advisory Committee, 2008b) identified and analysed available data on the labour market in Scotland and its associated demographics. We have updated that data and also looked at some recent changes specific to Scotland.

Macro-economic overview

9.3 GDP growth in Scotland tends to be lower than for the UK as a whole, but follows the same pattern of growth (Scottish Executive, 2008). Recent statistics show that GDP for Scotland rose by 1.4 per cent over the year to the third quarter of 2008, and fell by 0.8 per cent in the third quarter of 2008 (Scottish Executive, 2009), suggesting that Scotland's economy is in recession alongside that of the UK.

9.4 Scotland is entering its first ever services sector-led recession with its weakest economic performance since the early 1980s, according to the Ernst & Young Scottish ITEM Club annual forecast. However, the Scottish ITEM Club predicts that Scotland will suffer a less pronounced contraction in 2009 than the rest of the UK. It also expects Scotland to outstrip UK growth in 2010, before falling back in 2011.

Demography

9.5 As of mid-2006, official estimates put Scotland's population at around 5.1 million people (Government Actuary's Department (GAD), 2008). The population of Scotland fell by 1.6 per cent between 1981 and 2005. However, official projections estimate that Scotland's population has now increased slightly to approximately 5.2 million in 2008. Scotland's population is also projected to continue to rise in coming years, but much less rapidly than in the UK as a whole (GAD, 2008).

9.6 The working-age population as a proportion of the total population in Scotland is very similar to that in the UK as a whole. But in Scotland, the working-age population is also projected to rise less rapidly than in the UK, including among the 15–29 age group (GAD, 2008).

Labour market

9.7 Table 9.1 shows that the employment rate for the working-age population in Scotland for the fourth quarter of 2008 was 75.4 per cent, higher than 74.1 per cent for the UK. The unemployment rate for the working-age population was 5.3 per cent, significantly

below the UK rate of 6.5 per cent (Office for National Statistics, 2009a). Compared with a year earlier, the employment rate has fallen by 1.2 percentage points and the level of employment has dropped. Over the same period the unemployment rate has risen by 0.3 percentage points and the number of unemployed has risen.

**Table 9.1: Working-age employment and unemployment in Scotland
October–December 2006 to October–December 2008**

	Employed (000s)	Unemployed (000s)	Employment rate (%)	Unemployment rate (%)
Oct–Dec 2006	2,434	134	76.2	5.2
Oct–Dec 2007	2,455	128	76.6	5.0
Jan–Mar 2008	2,456	122	76.5	4.7
April–Jun 2008	2,457	111	76.5	4.3
July–Sep 2008	2,451	124	76.3	4.8
Oct–Dec 2008	2,424	136	75.4	5.3

Note: The levels and rates are for the working-age population.
Source: Labour Force Survey

9.8 Claimant count unemployment in Scotland increased by approximately 47 per cent over the year to January 2009, compared with an increase of 55 per cent in the UK. The stock of Jobcentre Plus vacancies fell in Scotland over the year to January 2009 by approximately 46 per cent, compared with a fall of approximately 35 per cent in Great Britain (Nomis, 2009).

9.9 In 2008 the median hourly wage in Scotland (£10.38) was slightly below the UK level (£10.61) (Annual Survey of Hours and Earnings (ASHE)).

9.10 In 2008 Futureskills Scotland carried out the biennial skills survey of Scottish employers. Around 6,300 employers responded to this survey. Although the effects of the economic downturn were not yet at their most severe at the time of the fieldwork, the results of the analysis indicate

that the downturn may have influenced employers' responses. The most frequently cited challenge for the next 12 months was 'cash flow' and the second most frequently cited challenge was the 'downturn in the economic climate'. However, 'attracting appropriately skilled staff' was cited by a similar proportion of employers as in previous surveys.

9.11 Table 9.2 shows the different vacancy rates by 1-digit SOC occupation groups. At the 1-digit SOC level, the highest proportions of vacancies, hard-to-fill vacancies and skill shortage vacancies were all in associate professional and technical occupations. In terms of our recommended UK list, this includes some medical and engineering occupations, dancers and choreographers, musicians, photographers and audio-visual equipment operators and ship and hovercraft officers.

Table 9.2: Vacancy employee rates by occupation

	Number of employees (000s)	Vacancies as a percentage of employment	Hard-to-fill vacancies as a percentage of employment	Skill shortage vacancies as a percentage of employment
Managers and senior officials	264	1.5	0.9	0.2
Professional occupations	366	2.0	1.1	0.4
Associate professional and technical occupations	207	6.5	3.6	2.4
Administrative and secretarial occupations	310	2.9	1.0	0.7
Skilled trades occupations	205	3.6	2.2	0.8
Personal service occupations	173	3.9	1.5	0.7
Sales and customer service occupations	260	2.8	1.4	0.7
Process, plant and machine operatives	189	2.5	1.8	0.4
Elementary occupations	241	3.5	1.3	0.5
Total	2,217	3.1	1.6	0.7

Notes: The percentages have been rounded to 1 decimal place.
Occupation is grouped using 1-digit SOC classifications.
Employee estimates do not include self-employed.
Source: Futureskills Scotland Scottish Employer Survey (2009)

- 9.12 Around one in five workplaces had a vacancy at the time of the survey. There were 69,800 vacancies, equivalent to 3.1 per cent of employees. There were 16,400 skill shortage vacancies, equivalent to less than 1 per cent of employment. They were more common among smaller workplaces. The survey found that where skill shortages occur, applicants most often lack 'softer' core skills such as customer handling, planning and organising, and problem-solving. However, the survey also found that many skill shortages are also caused by applicants' lack of technical and practical skills (Futureskills Scotland, 2009).
- 9.13 The Scottish Employer Skills Survey is approximately one-tenth of the size of NESS and so reliable results cannot be obtained at an occupational level higher than 1-digit SOC. This highlights the point that at a sub-UK level of disaggregation bottom-up evidence becomes even more important to our analysis.
- 9.14 In summary, Scotland's economy is experiencing a recession and the prospects for the economy in the short term are gloomy. Like the UK as a whole, GDP growth, vacancies and employment rates are all falling and unemployment rates are rising. There is still some evidence of skill shortage, but this accounts for a small proportion of total vacancies and total employment.

9.3 Engagement by the MAC with Scotland

9.15 We wrote to the Scottish Executive in December 2008 seeking input into our review of the occupations identified in this report. Following further discussions with the relevant departments, we received a response from the Scottish Executive, which consulted with, among others, the Convention of Scottish Local Authorities, the Association of Directors of Social Work in Scotland, Scottish Care, Scottish Care at Home and UNISON. We also had contact with Oil & Gas UK and the Scottish Council for Development and Industry (SCDI) about occupations within the oil and gas sector predominantly, though not exclusively, based in Scotland.

9.4 Discussion of occupations

Care assistants and home carers (SOC code 6115)

9.16 As identified in our September 2008 report, there are a number of posts for care workers in Scotland that require post-holders to have level 3 qualifications and which therefore meet our skilled criteria.

9.17 The Scottish Executive told us that, although it is difficult to identify senior care worker positions from their annual local authority census, the vacancy rates for all grades and services within the social care sector typically range between 7 and 10 per cent. They say it is reasonable to assume that these same levels will be reflected at senior care worker levels.

9.18 Scottish Care and Scottish Care at Home told us that, in 2007, those posts requiring a level 3 qualification, such as manager, supervisor and practitioner, are regarded as hard-to-fill vacancies by employers. In 2007, 48 per cent, 56 per cent and 71 per cent of employers reported

vacancies for these respective roles (Scottish Care, 2008).

9.19 Within the independent sector, the Scottish Care at Home Workforce Survey (Scottish Care at Home, 2008) reported that 30 per cent of manager and 28 per cent of supervisor vacancies are regarded as hard to fill.

9.20 Scottish Care and Scottish Care at Home pointed out to us that the Skills for Care and Development Sector Skills Agreement (Skills for Care and Development, 2008) and the Range and Capacity Review Report (Scottish Executive, 2004) identified the following increases in staffing by 2017, equivalent to a further 27,000 full-time jobs:

- residential care: 37 per cent;
- day care: 32 per cent; and
- domiciliary care: 32 per cent.

9.21 Both organisations recognised that these predictive figures were subject to change. They also recognised that the present economic climate could lead to an increase in the pool of potential care sector workers, but stated that there would be a lag between these new workers' recruitment and completion of their training and gaining experience. In addition, the return of many EEA nationals to their home countries would place further pressure on the recruitment of skilled staff. They told us that current funding challenges, particularly in the private sector, are not facilitating the level of throughput of care workers qualified to registrable level with the Scottish Social Services Council.

9.22 We consider the figure of 27,000 new jobs within the care sector in Scotland to be speculative and also note the lengthy timescale involved. We consider that there should be ample time for organisations to recruit and train new staff to fill such future needs, although the care industry will be

subject to budgetary constraints similar to those it faces across the UK, as discussed in Chapter 5. In addition, this figure does not identify the proportion of these jobs which are skilled.

- 9.23 Scottish Care and Scottish Care at Home also state that the salary level of £8.80 per hour that we identified in our September 2008 report as a proxy for identifying skilled care workers is beyond what would normally be paid to a skilled care worker, particularly in the private sector.
- 9.24 Scottish Care told us that 7 per cent of the total care home workforce in Scotland are working with a work permit. Across the independent sector the Scottish Care at Home Workforce Survey (2008) reported that 2 per cent of the home care workforce are working with a work permit.
- 9.25 Having looked at the evidence made available to us regarding social care occupations in Scotland, we do not consider that there is sufficient evidence of a uniquely Scottish perspective on social care occupations such as to cause us to consider this occupation in Scotland in isolation from the rest of the UK. However, we do define a skilled worker in this occupation differently depending on whether they work in Scotland (or Wales) or elsewhere in the UK. We look at this occupation in more detail in Chapter 5.

Social workers

- 9.26 The Scottish Executive told us that they could provide only limited information about social workers measured against the range of indicators identified in our September 2008 report, primarily in relation to the staffing levels and vacancies in local authority social services departments in Scotland and not relating to factors such as pay levels. Information in relation to the voluntary and private sectors is more limited.
- 9.27 As discussed in Chapter 5, social worker is a skilled occupation. The Scottish Executive told us that vacancy rates for social workers have remained at around 7–8 per cent for the previous two or three years. This may be due, in part, to high turnover but the Scottish Executive told us they had no information that this was the case.
- 9.28 In relation to the supply of new staff, we were told that although there were figures which indicate that there is a good supply of new social workers, this has not resulted in vacancy rates dropping beneath these levels. However, we were not supplied with the figures relating to the supply of new social workers.
- 9.29 The Scottish Executive concluded by saying that they, and the organisations they contacted, consider that social workers should remain on the shortage occupation lists.
- 9.30 As with care workers, we did not see evidence that seemed unique to Scotland so we have considered social workers as a UK-wide occupation in Chapter 4.

Engineering occupations within the oil and gas sector

- 9.31 We also received joint evidence from Oil & Gas UK and SCDI regarding engineering occupations within the oil and gas sector. These are mainly, but not exclusively, based in Scotland.
- 9.32 As we explain in Chapter 4 of this report, we have considered the material put to us but do not consider that there is sufficient reason for us to review these occupations in isolation from our wider review of all engineering occupations to be carried out by autumn 2009.

9.5 The Scotland shortage occupation list

9.33 Those occupations on the current Scotland shortage list that are within the health sector are included in our review of that sector as outlined in Chapter 4 of this report.

9.34 However, speech and language therapists (SOC code 3223) are now included within the health occupations for the whole of the UK on the recommended shortage occupation lists (see Chapter 4) and there is no longer any need for a separate Scotland entry. We did not receive evidence to the effect that nurses at band 5 and above in care of the elderly units in Scotland should be retained on the shortage occupation lists. They have therefore been removed.

9.35 There is only one non-medical job title on the current Scotland shortage occupation list. It has not been reviewed this time round but will be considered in our autumn 2009 report. Therefore, the recommended Scotland shortage occupation list retains manual filleters of frozen fish and machine trained operatives and quality controllers in the fish processing industry in Scotland (within SOC code 8111 food, drink and tobacco process operatives). In order to qualify as skilled within this job title, individuals must have three or more years' paid experience in this job.

9.6 Next steps

9.36 We are looking to enhance and encourage stakeholder engagement across Scotland and hope to carry out activities over the coming months around this, including hosting a stakeholder forum specifically focused on Scotland.

9.37 Please get in touch with us if you wish to raise issues with a specifically Scottish focus.

Chapter 10: **Conclusions and next steps**

10.1 Updating and reviewing the lists: next steps

10.1 We plan to complete the review of all the occupations on the current shortage occupation list within the next six months. Given the fast-changing labour market conditions in the current economic circumstances, we have decided to review all of the occupations and job titles on the list in either this report or the next one in autumn 2009. We still plan to fully review the whole labour market every two years and to carry out a partial review every six months.

10.2 The list of job titles and occupations we plan to review in the next six months is as follows:

- all engineering-related occupations
- all health-related occupations
- project managers for property development and construction (within SOC 1122)
- veterinarians (2216)
- secondary education teaching professionals (2314)
- town planners (2432)
- quantity surveyors (2433)
- ballet dancers (within 3414)
- engineering technicians (3113)
- ship and hovercraft officers (3513)

- transport planners (within 4134)
- high integrity pipe welders (within 5215)
- electricity transmission overhead linesworker (within 5243)
- meat boners and trimmers (within 5431)
- skilled chefs (within 5434)
- skilled worker riders (within 6139)
- manual filleters of frozen fish and machine trained operatives and quality controllers in the fish production industry (within 8111)
- skilled sheep shearers (within 9119).

10.3 In addition, we may recommend inclusion or removal of any occupation from the list at any time if we believe there is a robust case for doing this. We will maintain a list of occupations that we are actively reviewing and publish it on our website:
www.ukba.homeoffice.gov.uk/mac.

10.2 Stakeholder input

10.4 We are grateful to the stakeholders that have contributed to the evidence base for this partial review. We acknowledge that some stakeholders have made a particular effort to improve the quality of the evidence that they submit to us according to our desired format. We particularly appreciate the initiative made in the health sector to produce a joint submission based on concerted efforts by several stakeholders.

10.5 Stakeholder input is essential to inform our advice to the Government. We will continue to hold periodic meetings of our Stakeholder Panel and Forum, to visit employers and other stakeholders, and to hold other events.

10.6 We may issue further formal calls for evidence in the future. However, evidence may be submitted to us at any time. Our contact details are provided on the inside front cover of this report. Future written evidence submitted should meet our criteria set out below.

10.7 If you are submitting evidence, please could you:

- provide details of your name, address, contact details and (where applicable) the organisations you are representing; and
- provide full and specific evidence to support any claims, but also an easily digestible summary.

10.8 If you are submitting evidence that a job title or occupation should be considered for inclusion on (or non-inclusion on or removal from) the shortage occupations lists for the UK or Scotland, please could you also:

- specify which specific occupations¹ and job titles,² according to the Standard Occupational Classification 2000 (SOC2000) at the 4-digit level your evidence relates to. If you believe that the area of skilled shortage does not neatly fit into the SOC2000, please also state what you believe the closest match within the SOC2000 to be; and

- set out explicitly how the occupation or the job title satisfies each of our criteria in relation to 'skilled', 'shortage' and 'sensible' as described in detail in our September 2008 report.

10.9 We have produced a more detailed guide for stakeholders on how to submit evidence to us in relation to our recommended shortage occupation lists, and this can be found on our website.

10.3 Current and future research

10.10 We are currently commissioning research projects, as outlined in Chapter 3, to improve our current understanding and methodology used under the three Ss: skilled, shortage, sensible. We will draw on the findings and results of these projects as they progress, although a complete review of our top-down methodology to identify shortages in skilled occupations is unlikely to take place until our planned complete review in autumn 2010. Some of our projects are being taken forward jointly with the UK Commission for Employment and Skills.

10.11 Under the 'skilled' heading we are commissioning two projects. The first one aims at looking in more detail at how skills might be defined and measured at the occupational level and whether any improvement can be made to our methodology for identifying skilled occupations and jobs.

10.12 A second project is looking at the data required and available on EEA labour supply and demand and whether they can be incorporated in our labour market

¹ For a list and description of occupations at the 1- to 4-digit level, see Office for National Statistics (ONS) (2000a).

² For a complete list of job titles, see ONS (2000b).

- analysis of shortage. At present our top-down shortage methodology focuses only on labour supply and demand in the UK labour market. However, free movement of labour within the EU means that there is potential labour supply in other EEA countries, and the principle of community preference suggests that appropriately skilled EEA workers should be given access to jobs in the UK over non-EEA nationals.
- 10.13 Under the 'shortage' heading we are commissioning two projects. The first is a theoretical review of skill shortages and skill needs. This project will include analysis of skill needs as a potential alternative (or complement) to analysis of shortage and potential interdependencies between demand and supply in labour and product markets.
- 10.14 The second project will be a comprehensive review of the entire top-down methodology used to identify shortages in skilled occupations. It will consider whether we need to refine the indicators currently used, potential shortage thresholds for our analysis, and whether and how to weight the indicators selected.
- 10.15 We are also commissioning research that further enhances our understanding of the concept of 'sensible'. We are commissioning an employers' survey. It will examine the current use of immigrant labour in selected occupations, and the consideration given by employers to the alternatives to employing immigrants, such as upgrading the skills of the domestic workforce.
- 10.16 A second project will examine whether and how production regimes in specific sectors can be altered to offer an alternative to employing immigrants.
- 10.17 We are also planning to carry out some analysis of trends in migrant labour in the UK, to see how use of migrant labour in occupations and sectors has evolved over time.
- #### 10.4 Monitoring and evaluation
- 10.18 We will use the most up-to-date labour market data available to assess the impact that the shortage occupation list is having on migration flows and, as discussed in Chapter 1 of this report, we think it is crucial that high-quality PBS management information is made available for this and other purposes. It is also our intention to use up-to-date data to identify changing needs in the UK labour market so that the shortage occupation lists are responsive to changing economic circumstances. By autumn 2009 we will have reviewed all the occupations and job titles in the lists we originally proposed in September 2008 and we will continue to closely monitor developments in the labour market between now and then.
- #### 10.5 Other MAC work
- 10.19 Since our September 2008 report we have produced two other reports to the Government. In December 2008 we published our advice to the Government on the likely labour market impacts of relaxing the restrictions governing labour market access for Bulgarian and Romanian nationals (MAC 2008c). Our advice was fully accepted by the Government.

10.20 In February 2009 the Government asked us to consider the labour market impact of relaxing transitional measures currently in place for A8 nationals.³ We submitted our report in March (MAC 2009).

10.21 The Government has also asked us to review specific aspects of the PBS. Specifically, we have been asked to advise on the following three questions:

- Is there an economic case for restricting Tier 2 of the PBS to shortage occupations only?
- What is the MAC's assessment of the economic contribution made by the dependants of the PBS migrants and their role in the labour market?
- What further changes to the criteria for Tier 1 of the PBS should there be in 2010/11, given the changing economic circumstances?

10.22 The Government has asked for advice on the first two questions by the end of July 2009 and on the third question by the end of October 2009.

10.23 We are planning to issue a formal call for evidence in relation to all three of these questions in late April 2009. Please visit our website for up-to-date information and if you wish to submit evidence on these questions.

³ A8 countries are: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia.

A.1 List of organisations that submitted evidence

Arts Council England
 Association of British Dispensing Opticians
 Association of British Orchestras
 Association of Directors of Children's Services Ltd
 and the Society of Local Authority Chief
 Executives (joint submission)
 Automotive Skills
 British Association of Social Workers
 Camphill UK
 Children and Family Court Advisory and Support
 Service
 Construction Skills
 Dance UK, the Independent Theatre Council,
 the National Campaign for the Arts, the
 Society of London Theatre, and the Theatrical
 Management Association (joint submission)
 Department for Children, Schools and Families
 Department for Culture, Media and Sport
 Equity
 e-skills UK
 Habia
 Herefordshire Council
 L'Arche
 Local Government Association
 Mackrell, Judith (dance critic, the *Guardian*)
 Musicians' Union
 National Care Association, the Registered Nursing
 Home Association and the English Community
 Care Association (joint submission)
 NHS Workforce Review Team, NHS Employers
 and Skills for Health (joint submission)
 Oxfordshire Care Association
 Recruitment and Employment Confederation
 Royal College of Ophthalmologists

Royal Institution of Chartered Surveyors
 Scottish Government – Children, Young People
 and Social Care Directorate
 Semta
 Skills for Care and Development
 Skillset
 Specsavers Optical Superstores Ltd
 TWI Ltd
 Unison

A.2 List of organisations met with

Association of Directors of Children's Services
 British Association of Social Workers
 Dance UK
 Department for Business, Enterprise and
 Regulatory Reform
 Department for Children, Schools and Families
 Department of Health
 Improvement and Development Agency for
 Local Government
 Independent Theatre Council
 Local Government Association
 London Borough of Camden
 London Borough of Hammersmith and Fulham
 (Children's Social Services)
 Musicians' Union
 National Campaign for the Arts
 National Care Association
 NHS Employers
 NHS Workforce Review Team
 Rambert Dance Company
 Recruitment and Employment Confederation
 Royal College of Midwives
 Scottish Government
 Skills for Care and Development
 Skills for Health
 Skillset

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Social Care Institute for Excellence
UK Home Carers Association
Unison

A.3 List of Stakeholder Forum attendees (30 January 2009)

Academy of Oriental Cuisine	Skills for Health
Aeropeople Limited	Skillset
Asset Skills	Unison
Association for Consultancy and Engineering	West Midlands Strategic Migration Partnership
Bangladesh Caterers Association	
Birmingham Chamber of Commerce	
British Chambers of Commerce	
British Hospitality Association	
Cogent	
Construction Skills	
Creative and Cultural Skills	
Engineering Construction Industry Training Board	
Engineering Council UK	
English Community Care Association	
e-skills UK	
Ethnic Minority Citizens Forum	
Financial Services Skills Council	
Futureskills Scotland	
General Teaching Council for England	
Home Builders Federation	
Immigration Advisory Service	
Immigration Law Practitioners' Association	
Improve Ltd	
Independent Healthcare Advisory Service	
Institute for Employment Studies	
Institution of Civil Engineers	
IPPR	
Lantra	
Lifelong Learning UK	
London First	
Low Pay Commission	
Marshall Aerospace	
National Care Association	
National Union of Teachers	
Professional Contractors Group	
Recruitment and Employment Confederation	
Registered Nursing Home Association	
School Improvement Service	
Semta	
Skills for Care and Development	

Abbreviations

A2	The two European countries, Romania and Bulgaria, that joined the European Union on 1 January 2007	FTE	full-time equivalent
A8	The eight Eastern European countries that joined the European Union in 2004	GAD	Government Actuary's Department
ABDO	Association of British Dispensing Opticians	GDP	gross domestic product
ABO	Association of British Orchestras	GOC	General Optical Council
ADCS	Association of Directors of Children's Services	GSCC	General Social Care Council
AfC	Agenda for Change	Habia	Hairdressing and Beauty Industry Authority
ASHE	Annual Survey of Hours and Earnings	HPC	Health Professions Council
BASW	British Association of Social Workers	IC	Information Centre
Cafcass	Children and Family Court Advisory and Support Service	ILO	International Labour Organisation
CBI	Confederation of British Industry	IMF	International Monetary Fund
CDET	Council for Dance, Education and Training	IT	information technology
CLG	Communities and Local Government	ITC	Independent Theatre Council
CNC	computer numerical controlled	ITCE	Information and Communication Technology and Electronics
COMPAS	Centre on Migration, Policy and Society	JCP	Jobcentre Plus
COT	College of Occupational Therapists	LFS	Labour Force Survey
DCSF	Department for Children, Schools and Families	LGA	Local Government Association
DH	Department of Health	MAC	Migration Advisory Committee
EEA	European Economic Area	MU	Musicians' Union
EU	European Union	n.e.c.	not elsewhere classified
EU15	Number of EU member countries before the accession of ten candidate countries on 1 May 2004. Comprised of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom	NESS	National Employers Skills Survey
		NHS	National Health Service
		NHSE	National Health Service Employers
		NIESR	National Institute for Economic and Social Research
		NMC	Nursing and Midwifery Council
		NMDS-SC	National Minimum Data Set for Social Care
		NQF	National Qualifications Framework
		NVQ	National Vocational Qualification
		ODP	operating department practitioner
		OECD	Organisation for Economic Co-operation and Development
		ONS	Office for National Statistics
		PBS	Points Based System
		PSA	Public Service Agreement

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RCVS	Royal College of Veterinary Surgeons
REC	Recruitment and Employment Confederation
RPI	Retail Price Index
SCDI	Scottish Council for Development and Industry
SfC&D	Skills for Care and Development
SFEDI	Small Firms Enterprise Development Initiative
SfH	Skills for Health
SHA	strategic health authority
SIGGRAPH	Special Interest Group on Graphics and Interactive Techniques
SOC	Standard Occupational Classification
SOLACE	Society of Local Authority Chief Executives
SSV	skill shortage vacancy
TMA	Theatrical Management Association
TWI	The Welding Institute
UCAS	Universities and Colleges Admission Service
UK	United Kingdom
UKBA	United Kingdom Border Agency
V/U	vacancy/unemployment ratio
WRT	Workforce Review Team
WTD	Working Time Directive

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