Report prepared for the Learning and Skills Council by

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Acknowledgements

Many people have contributed to *Skills in England 2003*. The Steering Group comprised:

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At CE, text writing, data gathering and processing were undertaken by Simon Hallam, Sasha Thomas and Harriet Livesey, and editing was undertaken by Richard Lewney. Other assistance was provided by Katerina Homenidou, who was the main CE contributor to the Employment Projections study carried out for the SSDA from which many of the data estimates used in the LSC report were obtained.

The authors of the report remain solely responsible for the content of the report (including any remaining errors) and the opinions expressed.
Foreword from the Chief Executive

I am very pleased to introduce Skills in England 2003, the third annual national skills assessment produced by the Learning and Skills Council (LSC).

Skills in England 2003 synthesises and draws on the latest available evidence on the demand for, and supply of, skills in England. It forms a critical evidence base for those engaged in planning, funding or delivering education and training provision.

This year the suite of reports provides even greater detail at sectoral and local LSC levels, and explores the recent important changes to government policy and their implications for the learning and skills agenda.

This year’s document makes extensive use of two new, influential pieces of research: the National Employer Skills Survey of over 72,000 employers provides unparalleled insight into the skills needs and training behaviour of employers, whilst the Working Futures study offers new understanding about the shape of work and jobs in the future.

The LSC is committed to working with partners to improve the knowledge and evidence base on skills issues. The collaboration shown in the production of this document, the National Employer Skills Survey and the Working Futures study graphically demonstrates how valuable partnership working can be.

Finally, I would like to take this opportunity to urge all who have a role to play in England’s skills agenda to read and use the information and evidence presented here to help create the world-class skills base that is required in an increasingly competitive global economy.

Mark Haysom Chief Executive, LSC
Preface

Skills in England 2003 is presented in four volumes this year. Volume 1 provides key messages and an overview of the research findings in the other three volumes. Volume 2 is the main research report. This year, as well as containing the same core of information as in previous years – separate chapters on skills supply, skills demand, mismatches between demand and supply, and future skill needs – it also contains other chapters that look at issues which are particularly topical this year. To this end, a chapter is contained on the latest developments in policy given the publication of several important policy documents since last year’s Skills in England report. Given the emphasis in policy on stimulating the demand for skills, a chapter is presented on the links between investments in skills and training and organisational performance.

It is important to recognise that the benefits of economic growth and investments in training and skills do not affect everyone equally. There are groups in society that fail to obtain advantage from training and skills development and to illustrate this a chapter on social exclusion and equality of opportunity has been included this year. An important element of combating social exclusion has been the use of labour market programmes such as New Deal. Labour market programmes often contain a large element devoted to training of one kind or another and have been an important tool of labour market policy in many European countries. Arguably there is much more emphasis on active labour market policy in Britain today than hitherto with programmes such as New Deal, so a chapter has been devoted to this aspect of skills development.

Finally Volumes 3 and 4 provide evidence related to industrial sector and regional/local trends respectively.

Terence Hogarth
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Key Messages from Skills in England 2003

Key Messages sets out the main findings and broad policy implications from the Learning and Skills Council (LSC) assessment of Skills in England 2003. As in the previous year’s report, the fundamental core message is that skills matter: for individuals, organisations and society more generally. As long as labour productivity levels in the UK trail behind those of its main competitors, the message that skills matter bears repetition.

But if the ultimate aim is to improve national economic performance, increase equality of opportunity, and combat social exclusion, then the vocational education and training (VET) system cannot achieve this alone. An important supplementary message to the one that skills matter is that skills are not the only solution. The VET system cannot fully compensate for disadvantages and deficiencies that stem from other features of society and the economy.

Sticking with the important statement – skills matter – what are the key messages, questions and policy signals that this gives rise to? These are listed below.

- Employers’ demands for skills are changing dramatically, often resulting in significant imbalances at sectoral and local levels.

- The intensity of skill demand is increasing, relating to both formal qualifications and key and generic skill requirements.

- Can skills supply keep pace with skill demand? Skills supply is improving but skill mismatches that potentially damage economic performance are evident.

- Employment forecasts indicate that the overall demand for skills will continue to increase. But meeting replacement demands will be a major challenge for many declining sectors and occupations.

- In policy, greater importance is now attached to raising the demand for skills from employers although the main policy levers remain those of increasing skill supply.

- Consistent with the above message is that skills can improve organisational performance. There is much evidence that demonstrates a link between investment in skills and improvements in business performance.

- Creating greater equality of opportunity and combating social exclusion are dependent upon access to vocational education and training.

- Great value is attached to active labour market policy as a means of improving labour supply, raising skill levels, and improving the employability of the most disadvantaged in society.

- Many skill issues have important local and sector dimensions which require continued research and monitoring.

Each of these issues is considered in more detail in this summary report.
Introduction

1.1 *Key Messages from Skills in England 2003* provides an overview and synthesis of evidence on the demand for and supply of skills in England. It is targeted at policy makers and others with responsibilities for education and training programmes. This includes both those within the LSC itself, as well as many other agencies of Government. It also has important messages for education and training providers, employers, and individuals making career choices. It represents the first of four volumes.

1.2 In addition to this summary volume, a full assessment is presented in three separate volumes: *Volume 2* provides a national overview of the key issues and challenges facing those charged with delivering skills; *Volume 3* provides a summary of the more detailed sectoral evidence; and *Volume 4* provides regional and local evidence.

1.3 Together, the four volumes provide an important framework and evidence base for national, sectoral, regional and local agencies that require an insight into the state of skills in England. They provide a statistical foundation for those involved in the planning of education and training provision. They also provide a valuable resource for both employers and individuals, which can be used to create a stronger and more informed demand for skills acquisition.

1.4 Since last year’s assessment there have been several important developments in relation to both policy and data available. The publication of *21st Century Skills: Realising our Potential – the Skills Strategy White Paper* – has challenged the current institutional arrangements for the delivery of VET. The availability of 2001 Census of Population data provides a level of detailed data denied to previous assessments. Similarly, the *National Employers Skills Survey 2003* (NESS 2003) and the joint Sector Skills Development Agency (SSDA) and LSC occupational projections, produced as part of the *Working Futures* project, provide the richest sources of data yet on skills supply, demand, and mismatch.

Skills matter...

1.5 Perhaps the first issue to address is whether England has, for want of a better expression, a skills problem. This review demonstrates that skill levels across England are increasing; both overall employment and the skill intensity of jobs show year-on-year growth. This is indeed a positive message that should not be lost sight of in the commentary that follows. But there are problems too. The Treasury has pointed to the relatively low levels of labour productivity in Britain compared to its major competitors and there is strong prima facie evidence that skill levels account for a large part of this difference. Problems persist too in the large pool of people without formal qualifications and poor basic skills development who consequently exhibit low levels of employability and relative deprivation. For these reasons, among others, the clear message is: *skills matter.*
1.6 Last year’s Skills in England also started with the statement: **skills matter** and went on to say: “This message has failed to get through to a significant number of participants in the labour market, including some employers as well as many individual workers”. This statement remains true today. Without doubt, skills are of critical importance to economic performance at individual, organisational, and societal levels.

1.7 From an international perspective, the evidence indicates that the UK’s main competitors achieve higher levels of labour productivity and possess VET systems generating levels of attainment in advance of those in this country. There is broad consensus that a strong VET system is positively and necessarily related to strong labour productivity performance. While advances in skills supply have been made over recent years, a key message must be that more needs be done before the UK reaches the productivity levels of its main competitors. While England improves its supply of skills, other countries are doing likewise.

1.8 For the individual, there are clear benefits to investing in the development of their skills base, though the investment is not without risks. But overall, the higher earnings that accrue from obtaining formal qualifications reveal a positive rate of return. Those graduating from higher education obtain a substantial wage premium, especially those with degrees in maths and computing, whose relatively high earnings have survived the burst of the dot-com bubble. The benefits are not just higher wages when in work, but also a greater probability of being in and staying in work. That education and skills pay is a strong message for individuals (see Chapter 5 in Volume 2 for supporting evidence).

1.9 For the individual organisation or firm, the evidence reveals that investment in workforce development is repaid with higher levels of organisational performance. While the relationship is undoubtedly a complex one, subject to many caveats and qualifications, the finding that investment in workforce development improves organisational performance remains a robust and valid one. The evidence also shows that it aids business survival.

1.10 Finally, the benefits of education and training should not be valued solely for their current or projected future monetary value. Education’s greatest value, and by implication that of training too, is in expanding the mind to allow a greater appreciation of science and the arts. It is in this way that advances in human knowledge are achieved for humankind as a whole.

**...but skills are not the only solution**

1.11 While it is an undisputed fact that skills matter, simply improving their supply does not offer a quick fix. Understandably, much emphasis has been placed on the capacity of a more highly educated and skilled workforce to raise the performance of the economy, increase equality of opportunity, and combat social exclusion. But it should be borne in mind that VET cannot achieve this alone; nor can it fully compensate for disadvantages and deficiencies that stem from other features of society and the economy. This is recognised in the Government’s policy, that stresses the need for multifaceted
approaches to be adopted to multifaceted problems. But if the message that skills matter is to be reiterated, it also needs to be emphasised that skills are not the only solution.

**Employers’ demands for skills are changing dramatically**

1.12 Understanding the demand for skills requires an understanding of the changing patterns of demand for labour. During the 1990s, total employment grew substantially; employment increased by 2.4 million between 1992 and 2002. In part, the overall increase reflects the recovery from the recession of the early 1990s but, even so, it represents an exceptional period of growth for many parts of the country.

1.13 In common with most other developed economies, the UK has seen dramatic changes in the sectoral structure of employment over the last few decades (see Figure 1). Many traditional areas of employment have witnessed dramatic job losses. This has had a direct impact on the demand for many skills. Large falls in employment have taken place in the primary and utilities sector. Agriculture and mining have borne the brunt of these changes although, more recently, the utilities have also seen sharp job losses, especially following privatisation. The decline in employment has been greater still in manufacturing. A combination of pressures from international competition and the continuing process of specialisation and sub-contracting has resulted in severe contraction for many parts of the manufacturing sector.
Figure 1: Changes in employment by industry, England 1982–1992 and 1992–2002

Source: IER/CE estimates, based on Wilson et al. (2003).
1.14 These job losses have been more than offset by growth in other areas. A significant part of the growth has resulted from a process of specialisation in manufacturing. Many functions previously undertaken within manufacturing companies are now carried out by specialist service companies. These functions include research, design and development, as well as finance, marketing, cleaning, security, and catering. Rising real incomes have also resulted in people spending more of their income on leisure and entertainment, as well as on health care and education. This has been helped by technological developments, especially in the areas of information technology, communications, and transport, which have resulted in many new products and services, as well as revolutionising many production processes. As a consequence there have been increases in employment in business services, distribution and transport, and non-market services, including health and education.

1.15 Sectoral change has implications for occupational change (see Figure 2). The main changes in occupational structure over the last 20 years have been the increase in the share and number of people employed in managerial, professional, and service occupations, and the decline in the share and number employed in lower-level manual and non-manual occupations.
Figure 2: Occupational change by Standard Occupational Classification sub-major group, England 1992–2002

Source: IER/CE estimates, based on Wilson et al. (2003).
The intensity of skill demand is increasing

1.16 Alongside the dramatic changes in the demand for skills has been an increase in the level of skill demanded by employers. One of the most striking features of occupational change over the past 10 years has been a growth in the numbers employed in so-called higher-level occupations. The employment share of managerial, professional, and associate professional occupations has increased substantially from a third to more than 40 per cent over the last decade, an increase representing more than 2.5 million jobs. In contrast, the share of skilled trades, and process, plant and machine operative jobs fell from around a quarter to just under a fifth, with the loss of more than half a million jobs. In fact, the decline in manual jobs (both skilled and unskilled) is another striking feature of the occupational change over the past 10 years, although some job losses have also occurred for less skilled non-manual staff in administrative, secretarial, and related occupations.

1.17 Changes in occupational structure can be explained, at least in part, by the major sectoral shifts that have taken place, but it is also important to recognise that there are significant changes occurring within sectors. While these changes often have common features, such as the increasing emphasis on professional and managerial skills, there are also important issues that are specific to the sectors.

1.18 Alongside the growth in employment has been the growth in qualifications held by the workforce (see Figure 3). The proportions in employment holding intermediate- and lower-level qualifications have also risen in recent years, although not as rapidly as for higher-level qualifications. This reflects the fact that many of those acquiring intermediate-level qualifications go on to obtain even higher-level qualifications. By 1993, about three-quarters of the employed workforce had formal qualifications of some kind. This had risen to around 90 per cent by 2003, and now almost 50 per cent of the employed workforce is qualified to at least NVQ level 3. But 11 per cent of the workforce still has no formal qualifications and, despite the fall in this proportion in recent times, over 30 per cent of those in employment are qualified below NVQ level 2.
Can skills supply keep pace with demand?

1.19 Before looking at the evidence of the extent to which skill mismatches are evident in the economy, there is a need to summarise changes in the skills supply. All of the evidence points to the proportion of individuals with qualifications increasing, as well as employer engagement in the supply of training.

1.20 Improvement in skills supply is, undoubtedly, a positive achievement. But much of the debate relating to skills is about how skills in England compare with the rest of the world. International comparisons of attainment suggest that the UK is now above the OECD average, in relation to the proportion of the workforce qualified to NVQ level 4+. The UK now has one of the highest rates of university graduation in the OECD (see Figure 4). Despite this improvement, participation in post-compulsory full-time education by young people remains relatively low compared with some countries. In particular, problems still remain at intermediate levels.
1.21 Young people are now participating in education and training in greater numbers than ever before, and with greater success. But there have been criticisms regarding the actual qualifications achieved – both academic and vocational – and there is an on-going debate regarding the standards being reached, especially in comparison with the UK’s main competitors.

1.22 Using qualification as a proxy measure of skill, Figure 5 shows the scale of improvement in skills supply over the past 10 years. The most striking feature is the fall in the percentage without qualifications. There is a cohort effect here, with older people being more likely to possess no qualifications. The other key finding is the growth in the number of people educated to NVQ level 4 or equivalent. There has also been a large increase in the proportion with NVQ level 5 qualifications, which has more than doubled in just the last decade, although these still only represent just over five per cent of the economically active population in England.

1.23 Qualification is not the only measure of improvement in skills supply. It is also possible to look at the volume of training undertaken in the economy. Employers here play an important role in the supply of skills, training and development. In 2002, 90 per cent of employers with five or more employees provided either on-the-job or off-the-job training to their employees over the previous 12 months. More than 60 per cent provided off-the-job training to at least some of their employees. Overall, three in ten employees had received some off-the-job-training in the previous year. This proportion appears to have been increasing steadily: from 23 per cent in 1999, 27 per cent in 2000, 28 per cent in 2001, and 31 per cent in 2002.

1.24 Given that the vast majority of employers provide training, the key questions relate to the quality or effectiveness of the training provided, the duration of training, and who receives it. But little is known about its quality.
1.25 The issue of skills supply is also important in relation to equal opportunities and social exclusion. It is important to say that all of the available evidence points to educational opportunities being distributed unequally and that failure within the compulsory education system can have severe repercussions for participation and progression in employment and receipt of further training and development. There remains a substantial number of pupils who leave school each year without any qualifications. All the evidence indicates that it will be this group that is most susceptible to unemployment and social exclusion.

**Skill mismatches are still in evidence**

1.26 The evidence above indicates that both the supply of skills is increasing but also the demand for them from employers. It is important to assess the extent to which mismatches are occurring, since this will provide pointers for the future investment in skills. This assessment can be made with reference to where current mismatches occur. There are a number of indicators to consider:

i earnings differentials – skills which are in short-supply are likely to attract a wage premium;

ii unemployment and vacancy statistics; and

iii survey evidence of external recruitment problems and internal skill gaps.

1.27 Wages are one way in which the labour market adjusts to relative scarcity or abundance of skills. Changing patterns of occupational wage differentials therefore provide an insight into where further investment in education and training is justified. The occupation groups that have experienced the fastest rate of growth of relative earnings are *corporate managers, health professionals, science and technology professionals, teaching and research and business/public service professionals*. In the area of *associate professional* occupations, the rise in relative earnings has been less spectacular, but appears to be continuing.

1.28 Many of the occupations listed above require a degree for entry. Evidence on the rates of return to graduation reveals that there is still a wage premium attached to obtaining a degree. The rate of return to obtaining a degree might be falling as more people enter university, but the evidence reveals that the wage premiums enjoyed by graduates remain substantial. As noted above, the wage premium enjoyed by graduates in maths and computing subjects is particularly high.

1.29 NESS 2003 provides further evidence data about the extent of the mismatch between skill supply and demand. The survey distinguishes between employers’ *external skill problems* (*i.e.* recruitment problems in the external labour market) and their *internal skill problems* (*i.e.* the extent of skill gaps as a consequence of their staff not being fully proficient).
1.30 With respect to external skill problems, vacancies are classified as **hard-to-fill vacancies** (HtFVs) where described as such by employers. Where HtFVs are skill related they are referred to as **skill shortage vacancies (SSVs)** – i.e., HtFVs that arise because of a shortage of applicants with the required experience, qualifications, or skills. The extent of recruitment problems faced by employers is shown in Table 1. There were approximately 679,000 vacancies at the time of NESS 2003, of which nearly 40 per cent were proving hard-to-fill, and 20 per cent were classified as SSVs.

1.31 Skill mismatches appear to be persistent and stable. Between 2001 and 2003, the extent of either recruitment problems or skill gaps has proved relatively constant.

**Table 1: NESS headline findings**

<table>
<thead>
<tr>
<th>Vacancies and recruitment problems</th>
<th>NESS 2003</th>
<th>ESS 2001</th>
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<tbody>
<tr>
<td>% of establishments with vacancies</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>% of establishments with HtFVs</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>% of establishments with SSVs</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Number of vacancies (000s)</td>
<td>679</td>
<td>766</td>
</tr>
<tr>
<td>Number of HtFVs (000s)</td>
<td>271</td>
<td>358</td>
</tr>
<tr>
<td>Number of SSVs (000s)</td>
<td>135</td>
<td>159</td>
</tr>
<tr>
<td>Vacancies as % employment</td>
<td>3.1</td>
<td>3.7</td>
</tr>
<tr>
<td>HtFVs as a % employment</td>
<td>1.2</td>
<td>1.7</td>
</tr>
<tr>
<td>HtFVs as a % vacancies</td>
<td>39.9</td>
<td>47</td>
</tr>
<tr>
<td>SSVs as a % of employment</td>
<td>0.6</td>
<td>0.8</td>
</tr>
<tr>
<td>SSVs as a % of vacancies</td>
<td>19.9</td>
<td>21</td>
</tr>
<tr>
<td>SSVs as a % of vacancies</td>
<td>20</td>
<td>21</td>
</tr>
</tbody>
</table>

**Skill gaps***

| % of establishments with skill gaps | 22 | 23 |
| Number of skill gaps (millions)     | 2.4 | 1.9 |
| Skill gaps as a % of employment     | 11 | 9 |

*Base: All establishments/employment  
*Source: NESS 2003 (IFF/IER)  
*Note*: Comparisons between 2001 and 2003 for skill gaps are best interpreted as indicative due to the difference in the way they are measured between 2001 and 2003.
1.32 A key issue is to identify the underlying skill needs giving rise to recruitment problems and the sectors of the economy where they are occurring. In relation to both HtFVs and SSVs, a difficulty in finding applicants with the required technical and practical skills was one of the main skill-based reasons leading to a recruitment problem. But it is also apparent that softer, more generic skills also gave rise to recruitment problems. Both communication and customer handling skills were reported as being difficult to find in relation to a relatively high percentage of recruitment problems.

1.33 Skilled trades occupations stand out as having the highest share of all recruitment problems (15 per cent of HtFVs and 18 per cent of SSVs). But it is also important to gauge the extent to which recruitment problems are disproportionately high or low relative to the distribution of employment. Looked at in this way recruitment problems were disproportionately high in skilled trades, personal service, process and assembly occupations and among associate professionals.

1.34 **Skill gaps** are defined as occurring when employers regard some of their staff as not being fully proficient to meet the requirements of their job roles. What is required of employees in their job roles is partly dependent on what the business is attempting to do, and two establishments with workers with identical skill levels may interpret whether they have skill gaps differently. For example, a company with a commitment to grow and develop new markets may be more demanding of its staff than one that is content with its current position. Nevertheless, the measure of skill gaps gives an indication of the extent to which employees possess the skills required by their current employer.

1.35 At an overall level, just over one-fifth of employers (22 per cent) reported skill gaps within their workforce. In total, 2.4 million employees were described by their employers as not being fully proficient in their current job roles, equivalent to 11 per cent of total employment in England. The volume of skill gaps, therefore, far exceeds that of recruitment problems.

1.36 The key skill areas in which employees were thought to lack full proficiency were mainly generic ones, i.e. communication, customer handling, team working, and problem solving. That said, technical and practical skills were lacking from just over two in five of the employees with skills gaps that were followed up.

1.37 Two occupational categories accounted for a larger share of skill gaps than employment:

- sales and customer service occupations (19 per cent of all skill gaps versus 16 per cent of total employment; and
- elementary occupations (16 per cent of all skill gaps versus 14 per cent of total employment).

These two occupations also accounted for the largest absolute number of skill gaps relative to other occupations.
1.38 How should the data on skill mismatches be interpreted? Over time, the extent of recruitment problems appears to be stable, showing that they are persistent at a given level of economic activity. But persistence gives little indication of their importance. The evidence suggests that skill mismatches give rise to direct effects such as losing business, delays in developing new products and services, and failing to provide the level of service required. There are also indirect effects to consider. Where companies are engaging in a process of change – often related to improving their product market position – the evidence points to operational problems arising as a consequence of the difficulties in recruiting staff or because existing staff are not sufficiently skilled. This suggests that in the more dynamic sectors of the economy, recruitment problems and skill gaps have a substantial impact on organisational performance. If, as a variety of policy documents desire, employers were to increase their demand for skilled labour as part of a process of increasing the value-added they generate, the evidence suggests that excess demand for skills would hamper this shift in today’s labour market.

**Meeting replacement demands will be a major challenge**

1.39 Given the foregoing comments on the supply of, and demand for, skills and the ensuing level of mismatch, what does the future hold in store? Although no one possesses a crystal ball that can reveal the precise pattern of future skill needs, various mechanisms have been developed which enable some idea of the future to be obtained. There is now a new set of employment projections available to 2012, which has been commissioned by the Sector Skills Development Agency (SSDA), LSC, and other bodies. The *Working Futures* projections present the most detailed and comprehensive picture of changing employment patterns ever produced in the UK. The main focus is on what employers’ requirements are likely to be and how these are influenced by changes in the economy and the labour market.

1.40 The projections suggest that further employment growth is in prospect. In particular, the long-term rate of employment growth is expected to be maintained at just under 0.5 per cent *per annum*. Between 2002 and 2012, almost 1.3 million additional jobs are projected for England as a whole. Just under three-quarters of the additional jobs are projected to be taken by women and most will be part-time in nature.

1.41 Changes in the industrial composition of employment are a key driver of the changing pattern of demand for skills. Significant changes are expected to take place over the next few years. Employment in the primary and manufacturing sectors is expected to continue its downward trend. This is offset by growth in many parts of the service sector, especially in business and miscellaneous services. Some growth is also expected in non-marketed services and distribution, transport etc. Manufacturing employment is expected to decline more rapidly, while growth in services is expected to decelerate compared to trends observed in the past 10 years.
1.42 The occupational structure of employment is projected to continue to change in favour of managerial, professional, associate professional and technical, and personal service occupations. In many cases these jobs will require high-level formal qualifications. But some of the most rapid growth is anticipated for caring personal services, and customer service occupations, which are not quite so demanding of skills. Other areas of rapid growth are for culture, media and sports occupations, business and public service professionals (and associate professionals), teaching, research and science/technology professionals (and associate professionals), and corporate managers.

1.43 Job losses are anticipated amongst administrative, clerical and secretarial, skilled metal and electrical trades, process, plant and machine operatives and elementary occupations, especially those which are clerical and service related.

1.44 The projected net change in employment (expansion demand) tells only a part of the story. It is crucial to recognise that there will be many job openings, and important education and training requirements, for many occupations where employment levels are expected to fall. These arise because of the need to 'replace' the existing skills that will be 'lost' as a result of retirements and other aspects of the normal process of labour turnover. The scale of replacement demand is projected to substantially outstrip the scale of expansion demand (by a factor of almost ten to one) (see Figure 6). This varies across occupations and sectors, but even where substantial job losses are projected; the replacement demand elements are usually more than sufficient to offset this. It is essential, therefore, for employers, education and training providers, and public agencies to recognise the different characteristics and requirements of these two different components of future skill needs.
Figure 6: Replacement demand by occupation 2012


Note: These estimates do not allow for any losses due to occupational or geographical mobility.
1.45 Some occupations are projected to experience rapid growth in both expansion and replacement demand elements. Employers recruiting these occupational groups will face stiff competition and may need to work with providers, as well as engaging themselves in training and recruitment activities, in order to ensure that their needs are met.

1.46 It will be in those areas where employment is expected to decline that employers will face the greatest challenge. Where employers are laying off workers, meeting replacement demands for those organisations which are continuing in operation can be difficult. The fact that these types of jobs are in decline can discourage new entrants, as well as those displaced from other companies, from taking up such jobs. Meeting such needs can be especially challenging from the point of view of both employers and education and training providers.

1.47 Changes in the occupational structure are likely to drive up the demand for formal qualifications. The occupations projected to grow fastest are those with high proportions of qualified people typically employed. Those occupations expected to decline tend to have low shares of qualified people. Surveys of employers suggest that they anticipate the main problems in the future will be in terms of various key and generic skills including communication, customer handling, team working and management skills. IT skills are also critical.

1.48 Overall, the evidence suggests that the scale and nature of expected future skill needs will be a great challenge for Government and public agencies, as well as for individuals and employers. Major structural change is projected to continue, with further decline in manufacturing and primary sector employment, offset by expansion of employment in the service sector. Further changes in the occupational structure of employment are expected. These changes will require new skills and qualifications from the workforce. Related changes will continue to favour jobs typically undertaken by women working part time.

Policy developments

1.49 The discussion so far has considered changes in the supply of, and the demand for, skills, as well as current and expected future mismatches. In many respects, the supply of skills is driven very much by Government policy, but it is increasingly the demand side that policy wants to influence more directly. During 2003, the much anticipated Skills Strategy White Paper (21st Century Skills – Realising our Potential) was published. It was evident from this document – and others – that policy is now much more demand-oriented than hitherto.

1.50 There are several dimensions of skill policy to consider.

- First there is the broad national agenda set by Government, as spelled out in the Skills Strategy.

- Second, there are the detailed elements of policy to consider. The next section on skills and organisational performance considers the problems
faced in trying to stimulate employer demand for skills, especially where they operate in low value-added markets.

- Third, there is the social dimension to consider and the role of skills in meeting the wider policy goal of combating social exclusion.
- Finally, there is active labour market policy to consider, which increasingly has implications for skills supply.

1.51 Current skills policy stresses the primacy of employers in deciding what skills they need in their workforce and for individuals to decide upon the form and level of skills to which they aspire. Individuals are expected to take responsibility for reviewing their skills and initiating action to keep their skills up to date. They are expected to co-operate with their employer in job-specific training and should expect to bear the costs of transferable learning that improves their employability. Employers are expected to plan and deliver the skills necessary for their business and to collaborate with one another.

1.52 The emphasis on choice and individual responsibility has implications for both the Government and training providers. Government should provide the infrastructure of information, advice, and guidance to help people to make informed choices. Government should ensure that there are equitable opportunities for people to access learning and contribute towards the costs of learning according to economic priority or economic need. Training providers should be responsive to informed demand for learning in terms of time, mode, pace and place of learning.

1.53 This vision of a free and competitive market for learning provides only minimum scope for compulsion or statutory requirement. While a voluntary approach might be the preferred option, recent policy statements have acknowledged that complete *laissez faire* in the market for learning is inefficient and ineffective. The inefficiency arises from the inability of individuals and employers to recognise the benefits of learning and skills, or their inability to convert any latent demand into a real demand in the market for a variety of reasons. Recent skills policy has thus placed much greater emphasis than previously on measures to encourage and support the demand side of the market for skills. The *Skills Strategy White Paper* is perhaps the first real recognition by Government that there is a need to provide a system that is better coordinated and more efficient.

1.54 Increasing the demand for skills, whilst a laudable goal, is difficult to achieve. First, for greater demand for skills to translate into productivity improvements requires skills in the workplace to be deployed effectively. This raises questions about effective organisational design and so forth. Second, and perhaps more fundamentally, stimulating demand for skills in the first place is difficult to achieve, since there are so few policy levers that Government and its agencies can pull to achieve this end. Government is much more able to dictate supply than demand.
Skills and organisational performance

1.55 To illustrate the difficulty of stimulating employer demand for skills, one need only consider the evidence relating to skills and organisational performance. If employers are to invest further in skills, then a convincing argument for doing so needs to be made. Employers will be looking, either over the short- or long-term, for some positive impact on the bottom line from investing in workforce development. From this policy perspective, it is reassuring that the evidence linking skills to organisational performance is clear. On balance, firms with more skilled workers have higher productivity, which enables them to pay higher wages (see Chapter 7, Volume 2 for supporting evidence). But the evidence also reveals that employers can operate in low value-added segments of the market and achieve respectable profitability, with concomitant lack of investment in workforce development.

1.56 The way in which skills have an impact on organisations are manifold. In the first instance, if employers do not have the skills required to produce products or services, this will result in lost orders or delays, or will result in the hiring of relatively expensive agency workers if they are available. But a shortage of skills will also have more indirect or latent effects, such as a failure to innovate and capture new markets. The empirical evidence shows that higher level skills are intimately related to a wide variety of creative activities, including research and development and innovation. For example, a highly skilled/highly competent workforce is:

i better able to free time from the immediate demands of the business for incremental innovation;

ii required for the successful assimilation of externally produced technologies;

iii more capable of setting up and sustaining new ventures; and

iv linked to informal and formal research and development and other forms of creativity.

1.57 Improvements to skills will be low down on the agenda in a – hypothetical – economy or organisation that is stagnant or in decline, where product lines are ageing, and where competitive forces (often from cheaper foreign sources) tend to make a cost-reducing product market strategy the most profitable route. Cost-reduction that occurs through minimising the skills necessary in the production of goods and services reinforces a downward spiral, as incomes are restricted and, thereby, the demand for higher specification and higher-quality products. The interaction of these factors can lock the economy into a vicious cycle of relative decline.

1.58 If a (hypothetical) economy is to break out from such a cycle, an increasing proportion of firms need to create and take advantage of technological, market and organisational opportunities that offer the possibility of new (high value-added) products and services. This requires a combination of informal and formal creative activities, such as research and development, as well as high levels of skills. The empirical evidence is clear that skills play a central role in reducing the risks of creative and innovative activities, making them an
1.59 Even the highest employee skills cannot play an effective role without equivalently high management skills and competencies. A wide range of evidence points to the importance of higher management education and skills in:

i. increasing strategic awareness;

ii. giving greater access to sources of finance among small firms;

iii. reducing the risks associated with following an up-market product strategy; hence

iv. increasing the probability of adopting an up-market strategy; and

v. improving the likelihood of business survival.

1.60 The policy solutions appear complex – while it is clear that action is still required to raise skill levels in the UK, it is becoming evident that this is not sufficient in itself. The evidence demonstrates that the likelihood of increasing the demand for higher skill levels is extremely limited in an organisation (or economy) that is stagnant or in decline and characterised by too low a level of creativity and innovation. As a consequence, action is not only required to increase the supply of higher level skills, but also in order to make the individual organisation (or economy) more dynamic and, thereby, stimulate the demand for higher skill levels.

Equal opportunities, social exclusion and skills

1.61 Thus far the discussion has outlined a number of broadly favourable labour market outcomes: employment is increasing and the skill intensity of jobs is growing. But some groups in society have not shared in these benefits as much as others.

1.62 Central to all policy across the western world is equality of opportunity. In the UK, this is enshrined in statute. Classic studies from the 1960s demonstrated the extent to which equality of opportunity was denied to certain groups in society; principally women and people from minority ethnic groups. Gender and racial discrimination are now prohibited and disabled people are now also guaranteed equality of opportunity. But equality of opportunity, where it is applied fully, does not necessarily guarantee equality of outcome. Indeed, recent years have seen rising levels of inequality as certain sections of society have failed to benefit from the fruits of strong economic growth.

1.63 In social policy there is clearly a tension between the need to guarantee equality of opportunity, inculcating a sense of responsibility in the individual for their own economic well-being, and ensuring that the gap between the ‘haves’ and ‘have-nots’ does not reach the level where civil society begins to fragment. It is readily apparent that active labour market policy and education and training interventions have a strong, possibly leading, role to play in fostering equality of opportunity and in ameliorating the consequences where it has not been delivered or has produced unequal outcomes.
1.64 Development of the debate about equality of opportunity and inequality has focused on social exclusion; a short-hand expression used to describe the combination of the often mutually reinforcing disadvantages an individual or household may endure; unemployment, poor skills, low incomes, poor housing, high crime, ill health, and family breakdown. Worryingly, these disadvantages can be passed on over the generations; the unwelcome inheritance.

1.65 Given that the emphasis of this report is on skills and training and thereby about employment, and given that a central plank of Government policy is to increase the numbers in work, it is useful to look at the extent to which people are not in work (non-employment). The evidence reveals that six sub-groups are at high risk of non-employment:

- men and women without partners (especially lone parents);
- disabled people;
- those with low qualifications and skills;
- those in their 50s;
- those living in areas of weak labour demand; and
- members of certain minority ethnic groups.

1.66 Lack of skills, qualifications and work experience, and associated long periods of unemployment and worklessness are related to poverty, poor health, and social isolation. This is a particular problem for those groups identified above who face most difficulty in the labour market.

1.67 The social determinants of progression through the labour market begin early in life. The failure of the education system to develop some young people can have dire consequences for their adult life as the following facts indicate.

- Many pupils still leave school each year without any formal qualifications or basic skills. Educational attainment is a predictor of adult outcomes in work and earnings, and probably has effects on other aspects of social inclusion such as health.
- Those who have experienced educational failure are least likely to engage in post-school learning. Analyses of trends in learning show that there are persistent variations in participation in learning among different groups.
- Participation reduces with the level of prior educational attainment; in 2002 less than a third of adults with no qualifications reported some learning, compared with 94 per cent of those with NVQ level 4 or level 5 qualifications.

1.68 In conclusion, the evidence indicates that individuals who leave school with low levels of (formal) educational attainment and poor basic skills are at a higher risk of experiencing social exclusion as adults. Identifying cause and effect in relation to education, training, and social exclusion is difficult. It must be recognised that education alone cannot reduce social exclusion, but it does...
have a significant role to play in helping break people out of a vicious cycle of relative deprivation.

Skills and active labour market policy

1.69 Active labour market policy (ALMP) is a primary means of tackling social exclusion. During much of the latter part of the 20th century, a lack of skills was seen as the major barrier preventing many unemployed people from gaining employment. Consequently, training has been seen as the main means of helping unemployed people obtain work. At the same time, this was seen as helping address skill shortages in the economy. This approach has given way to one that sees the top priority of public employment services as being the placement of unemployed people in jobs, with training being of secondary importance. At the same time, the emphasis in skills policy has shifted away from considering the unemployed as a pool of labour capable of being re-skilled to meet skill shortages to placing a greater emphasis on the need to address the skill deficiencies of the existing and future workforces if productivity and competitiveness are to be improved.

1.70 Despite the shift in the emphasis of ALMP in the UK, training in one form or another remains an important ingredient of programmes for non-employed people. The reason training remains important is that non-employed people are often less capable than others, for a variety of reasons, in addressing those skill deficiencies themselves. The role of the state, acting through agencies such as Jobcentre Plus, is to provide support to non-employed people to help them overcome the problems that prevent them from helping themselves to obtain the skills and competencies they need.

1.71 ALMP covers a wide range of activities that contribute to training activity in England, much of it focused upon the unemployed. Programmes such as New Deal (ND) – ND for Young People, ND for 25 year olds and over, ND for Lone Parents – work-based learning for adults, and the various elements under the umbrella of work-based learning for young people (such as Modern Apprenticeships), contribute substantially to the volume of training being undertaken. The form of such training varies enormously from short job-related training through to full-time educational courses lasting for a year or more, from basic skills and basic employability training to specific vocational skills and licences. Each year, literally hundreds of thousands of people will benefit from such training. It is easy to overlook the scale and importance of such training both to the individual and to the nation as a whole.

1.72 While the importance of training in ALMP should be recognised, there are issues that need to be addressed. There is a tension between placing a person in a job immediately (a ‘job first’ approach) and allowing them to continue in training that might improve their long-term employability. A job first approach has a number of potential consequences for training: the failure to complete training or to obtain qualifications for skills acquired may mean that unemployed people do not fully realise or could even lose the benefits of any training received. On the other hand, there are benefits to being in work to be considered.
Key regional issues

1.73 Thus far the discussion has been about England generally. But there is a need to recognise that issues relating to skills vary regionally and by industrial sector. The following sections consider the regional and sectoral dimensions.

1.74 The shift in employment from primary and manufacturing sectors to service sectors often causes polarisation between those with and without skills. Jobs within manufacturing are changing and often require more flexibility and multi-skilled workers. The importance of manufacturing remains above average for the northern areas of England, but the sector continues to decline, leaving these regions vulnerable to skill shortages. The importance of the service sector continues to grow, resulting in all regions of England increasing the range of skills required from the workforce.

1.75 The change in the structure of the economy is reflected in the number of HtFVs and SSVs. This is because the skills base changes at a slower rate than the demands of employers. HtFVs and SSVs are therefore expected to be most common in regions of England experiencing structural change. The local LSC areas of the North West, Yorkshire and The Humber, and the East Midlands (where employment was traditionally based in mining and agriculture) report a high number of SSVs. The South West reports a large number of HtFVs, reflecting a number of factors, including regional house prices above the national average but wages below the average, making it hard to attract skilled employees to the region. Employers in London report the lowest number of HtFVs and SSVs in England. This reflects the above-average wages offered in the region, attracting a large supply of labour to the region.

1.76 The skills shortages reported by employers in the northern regions of England are reflected by the qualification levels of the working age population in these regions. The West Midlands and the North East have the highest percentages of working age populations with no qualifications. While many of these regions are successful in attracting students to their universities, they find it difficult to persuade them to stay permanently as wages are below the national average. This results in a skills drain away from the region.

1.77 Unemployment is high in London, the West Midlands, the North West and the North East. High unemployment in London reflects the over-supply of labour in the region and the global slowdown in financial and business services, contributing to job losses in the city. High unemployment in the northern parts of England is due to the structural change of employment and weak labour demand. The decline in manufacturing has left the workforce in these regions unqualified to enter the areas of employment that are experiencing growth. Retraining the skills of the labour force will be key in improving both unemployment and productivity in these regions.
Key sectoral issues

1.78 Over the past decade, the structure of the UK economy has shifted further away from traditional manufacturing and primary industries towards services. Although total employment in England grew by around one per cent per annum between 1992 and 2002, the vast majority of energy and manufacturing industries have seen employment decline over the past decade, while the vast majority of services have seen employment grow, particularly business services, public services, and personal services. Employment in public services and retailing has increased steadily over the past decade, reflecting both increased spending and the relatively labour-intensive nature of these industries. Employment in agriculture has contracted significantly, and employment in utilities has fallen dramatically. The changing structure of the economy has resulted in changes in the levels and types of skills demanded, and is reflected in:

- an increase in demand for managers and senior officials (particularly in consumer services, business services, and public services);
- an increase in demand for professional, associate professional and technical occupations;
- an increase in employment in personal services (above all in healthcare and related services, and to a lesser extent, in leisure and travel services);
- a modest rise in demand for customer service and sales staff;
- a decline in demand for some skilled trades, most notably metals and electrical trades, as well as process, plant, and machine operatives within manufacturing; and
- a decline in demand for unskilled workers in elementary occupations, particularly in administrative and service positions.

Conclusions

1.79 In summary, the evidence indicates that skills supply is improving and that the demand for skills from employers is increasing. Given the policy aim of improving the demand for skills from employers, this is an encouraging sign. Where the evidence is much less positive is in indicating that these developments have not had much of an impact on the relative international competitiveness of the UK economy. Policy might be pushing VET in the right direction, but it might not be doing it quickly enough relative to the UK’s main competitors.

1.80 Last year’s Skills in England drew attention to concerns about quality; the quality of the training interventions made by employers and the quality of qualifications that account for much of the expansion in further and higher education. The main problem is that there are so few measures of quality. Another way of looking at it is whether the VET system (including the activities of employers) is providing the skills the economy requires. Evidence from NESS 2003 reveals that recruitment problems and skill gaps are relatively stable over time but where they exist they can have a damaging impact upon organisational performance.
1.81 With the supply of skills increasing at a rapid pace and employers’ demands for recruits to have certain qualifications or skills, there is the attendant risk that certain sections of society get left behind. *Skills in England 2003* gives prominence to equality of opportunity and social exclusion. It is apparent that those individuals who fail to acquire qualifications and/or encounter problems in acquiring basic skills, are likely to face problems in entering and progressing through the labour market. A range of social and active labour market policies are directed at assisting those at risk of becoming socially excluded, and these have had some success. But the overwhelming message is that the failure to succeed at the most basic educational level now carries severe penalties in the labour market.

1.82 *Skills in England 2003* points to current improvements and future challenges. For the time being the long-standing problems stemming from inadequate vocational preparation – first voiced at the end of the 1800s – are still in evidence, but policy is beginning to address the problem even if it is still feeling its way forward within a voluntarist, market-oriented system.

1.83 For example, there are acknowledged weaknesses in the compulsory education system, such as the number of pupils who leave school each year without any formal qualifications and with poor basic skills development. Often the causes of this are deep rooted, stemming in part from family poverty and relative deprivation. Whilst education and training have a role to play in combating social exclusion, they need to be regarded in the wider social context of the problems that give rise to, and perpetuate, relative deprivation and poverty. Access to education and training is important, but providing practical and sustained access to those most disadvantaged in society can prove complicated.

1.84 Similarly, national economic performance is not wholly determined by the skills and abilities of the workforce. There is a need to look at a whole range of issues – such as innovation and entrepreneurship – alongside skills. The VET system is part of a much larger system and its ultimate success is dependent upon other elements of the system working effectively.
Notes