Research report

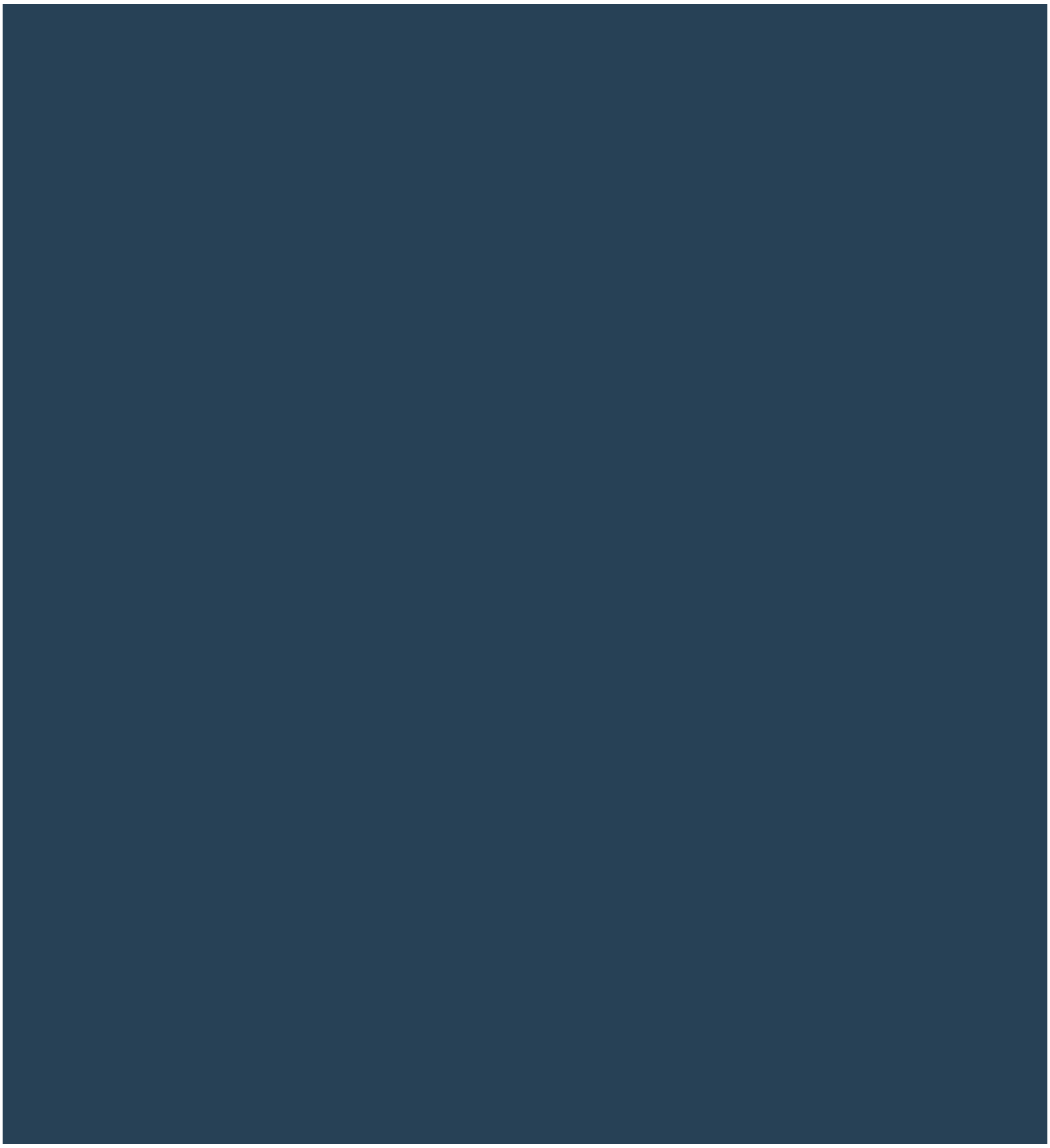
Learning from the future

Scenarios for post-16 learning

learning &skills research centre

This report uses scenario techniques to describe and examine a range of alternative futures for the learning and skills sector in 20 years' time. Against a background of increasing globalisation, technological change, the continuing risk of social exclusion for some and changing social attitudes, it highlights key choices around different levels of public investment and different degrees of regulation of the labour market. The authors assess the implications of these choices for the structure and content of post-16 learning, and pose a series of questions for policy-makers.

The Tomorrow Project



The Learning and Skills Research Centre

The LSRC is an independent centre for strategic research to inform long-term policy development and to improve practice in post-16 learning. Based at LSDA, the Centre identifies key priorities, commissions major studies and ensures that research findings clearly and usefully inform practitioners, policy-makers and the research community. In recent years the government has supported the development of evidence-informed policy and the use of research to improve practice. The DfES has established a National Education Research Forum and is looking to other sectors, such as health, to see how research can achieve a stronger impact on policy and practice. A number of major research centres have been established by the DfES that focus on all phases of education. The LSRC is the first centre supported by the DfES to focus solely on post-16 learning.

The Tomorrow Project

The Tomorrow Project was launched in 1996 to encourage people and organisations to think insightfully about the future. Its focus is on the future of people in Britain over the next two decades. Twenty years is far enough out to be distanced from the present, but not so far as to enter a world of fantasy.

The project has 11 themes centring on people's everyday lives – work; retirement; consumerism; government; learning; well-being and healthcare; equality, exclusion and diversity; the countryside, cities and suburbs; families and relationships; faith and values; policing and crime.

The project holds consultations on these themes, works with organisations on strategic planning, publishes the results of its research and holds networking events for members of the Tomorrow Network.

Twenty-one companies, charitable organisations, government departments and agencies currently provide support for the project. They comprise: Abbey National; Boots; BUPA; the Carnegie UK Trust; CMS; the Chartered Institute of Personnel and Development; the Countryside Agency; the Department for Education and Skills (DfES); the Department for the Environment, Food and Rural Affairs (DEFRA); the Department for Work and Pensions (DWP); the Department of Trade and Industry (DTI); the Financial Services Authority; the Financial Services Research Forum; Hewitt, Bacon and Woodrow; the Joseph Rowntree Foundation; the Learning and Skills Development Agency (LSDA); the Office of the Deputy Prime Minister (ODPM); Scottish Enterprise; Scottish Equitable; Unilever; and the YMCA.

Further details can be obtained from www.tomorrowproject.net

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Purpose and approach

Learning from the future is about the future of the learning and skills sector, and is the culmination of work undertaken by the Tomorrow Project in conjunction with the Learning and Skills Development Agency (LSDA). It takes a long-term view of the forms and structures of the learning and skills sector in England and Wales.

Using the Tomorrow Project's established methodology, the report is structured around four questions.

1 Where are we now?

2 What will influence the future?

3 What are the possible outcomes (scenarios)?

4 So what?

These questions were discussed by experts in a series of consultations held between May 2002 and March 2003, which have informed our report.

Where are we now?

Against a background of changes in the global economy, recent measures to improve the quality and extent of vocational education have concentrated on the following issues.

- **Equipping workers for the knowledge economy** – a strong emphasis on knowledge-based skills, but possibly at the expense of vital traditional ones.
- **Widening participation** – more young people staying in education, but a decline in traditional apprenticeships; an expansion of general education, but at the expense of vocational learning; and institutional reform around the Learning and Skills Council (LSC).
- **Raising standards** – with many initiatives to strengthen primary and secondary schools in order to lay foundations for post-16 learning, and a strong focus on key skills. Despite all this, Britain's long tail of underachievement persists.
- **Social exclusion** – with a public policy focus on employment as a route to inclusion within a flexible labour market paradigm, income redistribution through tax credits and equipping people with skills for the knowledge economy. But is the raising of skills the best driver for a successful, productive economy? Or do we have a deficiency of demand for skills rather than an inadequate supply?

Future challenges

The learning and skills sector will face immense challenges over the next 20 years, as follows.

- **Responding to the evolution of the global economy**, in which: consumers (including consumers of education) will be more demanding and experience-oriented; further outsourcing and more fluid patterns of work will force employers to re-evaluate how they deliver training; shortages of key workers may encourage employers to provide training and make jobs attractive for those on the edge of the labour market, especially older people; and both employers and employees will be likely to favour continuity of employment, with the result that employers – rather than individuals – will take responsibility for much of people's training.
- **Delivering skills that will support higher value-added activities**. These skills will certainly include a range of 'knowledge' skills, but there will also be a continuing need for 'old economy', interpersonal and life skills.
- **Finding the right balance between a growing role in feeding higher education and the expansion of lifelong vocational learning**. Will the bulk of vocational training be left to employers, with the FE sector absorbed into higher education? Or will the FE sector integrate vocational and academic learning? Or will the FE sector be freed up to help those with the fewest educational qualifications?
- **Making progress in integrating the different parts of the sector**. Growing student and employer demand for integration, a greater emphasis on flows rather than places, developments in higher education that favour more integrated regional approaches to post-16 learning and competition from the private sector may all encourage integration. But substantial barriers will mean that integration occurs gradually.
- **Embracing new methods of teaching and learning**. Technology, consumer expectations, staff shortages, the urgent needs of disaffected learners and private sector competition will all bring changes in how people learn and are taught. Some of these changes could be radical.
- **Promoting social inclusion**, which will require shifting the substantial number of people in low-productivity, low-paid jobs (or without jobs at all) into higher value-added employment.

Scenarios

We present four scenarios for the sector in 20 years' time. They focus on the organisation of the sector and are driven by:

- the need to raise skills so that business can compete in the international market
- persistent market failure at the bottom end of the labour market
- continuing high levels of social exclusion.

The scenarios are built around two forms of government intervention – labour market regulation and increased public investment – and are structured round four themes mentioned earlier in our report:

- skills
- priorities – the focus of the sector
- integration
- participation.

Steady as she goes

In our first scenario, government sees through recent structural reforms of the sector, and takes the view that market forces should be allowed to drive further developments. It is 'more of the same', with less regulation and/or public investment than the other scenarios.

This scenario is driven by the persistence of the 'flexible labour market' paradigm, which discourages government from intervening more strongly in the labour market to bring about change. The paradigm is underpinned by continued US dominance of the global economy, by fears that more regulation would deter investment, by a suspicion that more investment would be wasteful and by middle-class aversion to paying higher taxes.

Change tack

There is a stronger focus on regulation in this scenario, but little increase in public investment. Government uses regulation to achieve a massive expansion of apprenticeships for school-leavers.

This scenario is driven by a sense that *Steady as she goes* is inadequate. Britain's long tail of low value-added jobs threatens living standards in the country as a whole. A shortage of skills in the 'old economy' threatens the growth of the 'knowledge economy', while the structural shrinkage of tax revenues means that the economy cannot support the government spending which the public demands. Market forces are too weak on their own to bring a shift to higher value-added employment at the bottom end of the labour market.

Improving skills is seen as the key to solving these problems. Government continues to argue that many employers will not invest because they lack workers skilled enough to make efficient use of the investment. Even without new investment, a more highly skilled workforce would make better use of the capital that already exists. A larger pool of better-qualified labour would attract inward investment. Government intervention to raise skills is more likely to be effective than measures to raise business productivity, which have not been very successful in the past.

At the heart of this scenario is a huge expansion of apprenticeships.

Change course

This scenario moves on to higher government investment. Although it may be easier politically, conceptually it is more radical than the first two scenarios. It represents a U-turn – away from skills supply to a concentration on skills demand. It builds on current government efforts to stimulate innovation and raise productivity, but makes this much more fundamental to skills policy.

It is brought about by a sense that the 'underbelly' of the UK economy is failing and that we cannot tolerate that failure for long. As Britain enters the second decade of the 21st century, concerns mount that too many jobs cannot support the living standards people expect. Evidence accumulates that you cannot work mainly at the labour supply end. To boost skills, without a corresponding increase in the demand for skills, wastes resources and is not enough on its own to bring about a substantial increase in productivity.

Correcting regional imbalances within England becomes an urgent priority for government. The economy of London and the South East continues to overheat, causing severe skill shortages. To fill the gaps, immigration rises to levels that ring political alarm bells, while the best-qualified labour drains away from the poorer regions. Pressures on housing and transport in the South East become intolerable, while the northern regions are left behind. A policy consensus emerges that stronger regional economies are vital to ease the strain. Policy-makers search for an employer-led regional strategy that will avoid the shortcomings of regional policies in the past.

The broad thrust of *Steady as she goes* is repeated in this scenario – further, but piecemeal, government intervention on the labour supply side. There is no big expansion of apprenticeships. Instead, central to *Change course* are government subsidies, channelled through Regional Development Agencies (RDAs), to encourage employers to raise productivity, move into higher value-added activities and employ better-paid labour. The RDAs champion local businesses in the City.

All aboard!

This scenario is the most radical, involving both high levels of public investment (as in *Change course*) and a high degree of government regulation.

What is new in this scenario – and represents a further expression of 'high regulation' – is a sharp increase in the minimum wage. The aim is to force employers into higher-pay, higher value-added activities. To ease the transition, the extra employment costs of the higher minimum wage are offset roughly by cuts in employers' National Insurance contributions. Government pays for the cuts by equivalent reductions in the Working Tax and Child Credits.

Of all the scenarios, this is the least likely, but might it come about through growing alarm, as in *Change tack*, that the economy is failing to sustain acceptable living standards for a large proportion of the population? Again, as in the previous scenario, might it be driven by a persistent flow of evidence that Britain's low-productivity, low-pay paradigm will only shift if the demand by employers for skills changes, and that intervention is required more at the demand than the supply end?

A further driver could be mounting disenchantment with means-tested tax credits (effectively a wage subsidy for people in work) because they are demeaning, too complicated to claim and have a perverse effect on incentives. Yet how could credits be reduced for households on lower pay, without extending poverty to a politically unacceptable number of people? Concerns about high levels of immigration might also play a part: boosting home-grown skills could reduce Britain's reliance on imported labour.

This scenario might have a stronger appeal if the UK joined the euro and drew closer to the rest of Europe, reducing the influence of the US 'free market' model on British policy-makers. Although global competition, and perhaps enlargement of the European Union (EU), will draw Europe's social market economies in a US direction, the long tradition of a more active state in Germany and elsewhere will continue to influence EU legislation. By the second decade of the 21st century, the transitional costs of the euro and – to some extent – enlargement may have been met, and growth in the euro zone could accelerate. UK policy-makers may then be more willing to learn lessons from continental Europe. Might a more interventionist state crawl up the agenda?

Implications

Section 5 summarises the report under the headings 'skills', 'priorities', 'integration' and 'participation', and raises policy questions in each case.

Section 1 Introduction

Background

This report is the outcome of a project on the future of post-16 learning, undertaken by the Tomorrow Project in conjunction with the LSDA.

The aim of the project was to take a 20-year view of the forms and structure of the learning and skills sector in England and Wales, including its relationship to the rest of schooling and higher education. The sector comprises:

- adult and community learning
- work-based learning for young people
- further education (FE) colleges and sixth-form colleges
- schools' sixth forms.

Process

The project adopted the Tomorrow Project's methodology of addressing, sequentially, four questions about the topic under consideration.

1. Where are we now?
2. What will influence the future?
3. What are the possible outcomes (scenarios)?
4. So what?

It did this in seven stages.

1. A first consultation on the *status quo* and drivers of change (ie questions 1 and 2), held in May 2002.
2. Analysis of material emerging from stage 1.
3. A second consultation, held over two half-days in November/ December 2002, to review the conclusions of stage 1 and develop scenarios.
4. Further research and drafting of the report – a continuing process for the remainder of the project.
5. A third consultation on the implications of the four proposed scenarios, held in February 2003.
6. A final consultation, involving LSDA staff and selected others, to consider the draft report, in March 2003.
7. Finalisation of the report and publication.

A list of those who attended the consultations is provided in the Appendix.

Section 2 Where are we now?

For over a century, there have been concerns about the quality and extent of vocational education[1] in the UK (DfES 2003a). Successive attempts have been made to improve its quality and raise its standing in society. Most of these changes have been piecemeal and have had, at best, limited success. In the 1970s and 1980s, a long tradition of apprenticeship training was allowed to go into decline.

Parts of the UK economy have been extremely efficient and have supported large numbers of highly skilled, well-paid jobs. But for more than 100 years, large sections have been associated with low productivity, low skills and low pay. This has been combined with an emphasis in education on academic excellence, rather than on what is appropriate for the individual: more government resources have been devoted to educating an elite to degree level than to helping the great majority of people develop their potential.

The result has been a culture of low expectations (both of learning and of work), a lack of confidence in learning, the existence of relatively few role models who have blazed trails to success, and weak labour market signals, with employers tending not to value formal qualifications. The majority of youngsters have traditionally seen a job, rather than college, as the pathway to adulthood, which has reinforced a mindset that education is something you leave behind.

For years, challenging this culture and what gives rise to it, has been seen as vital to improving the competitiveness of UK business and raising living standards, especially of people on lower incomes. Recently, this historic challenge has been faced in the context of rapid and profound structural changes to the economy.

1 We continue to use the terms ‘academic’ and ‘vocational’ because they are widely understood, although the government favours replacing these terms with ‘general’ or ‘specialist’ education, to avoid reinforcing the widespread perception that vocational qualifications are inferior to academic provision.

Changes in the global economy

Since the 1970s, the global economy has been structurally transformed, as it has moved from a 'standardised' to a 'customised' economy.

The 'standardised economy' (sometimes known as 'Fordist') was characterised by the following features.

- The use of tariffs, subsidies and restrictions on capital flows to protect domestic markets. Domestic producers secured economies of scale within protected markets.
- The output of an ever-expanding range of standardised products at affordable prices, in which economies of scale were achieved through producing larger and larger quantities of goods. Mass consumption spread across Europe from the 1950s.
- The dominance of what are now seen as traditional industries such as coal, steel and manufacturing.
- The concentration of production in large organisations and units. Manufacturing, administrative and other functions were vertically integrated, with numerous layers of management.
- The use of mass-production techniques. Whether in the foundry, on the assembly line or among rows of clerical staff, these techniques included the requirement for workers to perform routine tasks in which human interactions played a secondary role. People often had a strong community at work, but interpersonal relationships represented a background to the job, not an essential component of the task.
- A large core of workers, who expected to stay with their employer for a long time. Around the core was a periphery of temporary workers.

This 'standardised' world has been giving way to a 'customised', post-Fordist economy, whose features are as follows.

- Greater economic, political, cultural and social interconnectedness between nations. This is bringing down tariff barriers and other restrictions on trade and capital flows. Economies of scale are being obtained in the global marketplace rather than just within national borders. Firms have consolidated into large global corporations. Calculating sales on a value-added basis, the United Nations Conference on Trade and Development (UNCTAD) 'conclude that the value-added activities of the 100 largest transnational corporations (TNCs) have grown faster than those of countries in recent years, accounting for 4.3% of world GDP in 2000, compared with 3.5% in 1990, and that 29 of the world's largest economic entities are TNCs, compared with 24 in 1990.' (House of Lords 2002).

- The exploitation of technology to customise products, the viability of which depends on economies of scale or new forms of critical mass such as strategic alliances. Companies may collaborate to combine different products in bundles that are tailored to individuals or small groups of customers. Knowledge is seen as vital to the process of customisation (eg Gilmore and Pine 1997).
- The expansion of services in the advanced world, and the outsourcing of low value-added activities to developing countries. Originally this outsourcing occurred in manufacturing, but increasingly it also includes back-office activities within services.[2] Advanced economies have moved into higher value-added, often knowledge-based activities, for which high-skilled labour is needed. In Britain, the broad measures of skills required by jobs showed an upward change between 1986 and 2001 (Felstead, Gallie and Green 2002).
- The disaggregation of some large businesses into smaller companies and the decentralisation of other organisations. Vertical integration is giving way to horizontal networks, with fewer layers of management and a greater self-management of work by individuals. The number of small firms increased by 50% during the last 20 years (Fuller 2003). Fuller notes that: 'The pattern of division of labour as specialisation is likely to continue in a landscape of high connectivity. If one is isolated, one has to do everything oneself. In landscapes of extreme connectivity, high levels of specialisation are possible.'
- The growing importance of human interactions in many jobs within flexible and specialised production processes. This is introducing a new element of labour intensity into the workplace, which helps to explain why technology has not caused the permanent reduction in employment that some commentators feared (eg Rifkin 1995). Technology makes possible more complex tasks, which are often beyond the skills of any one person, so that teamwork and collaboration become vital (Moynagh and Worsley 2001; this point is discussed more fully on page 17).
- Reliance on a smaller core of permanent staff, surrounded by a larger periphery of temporary (including self-employed) workers, though this pattern may be changing.[3]

Although elements of the standardised and customised economies exist alongside each other, the customised economy has continued to expand.

Against this background, four particular developments have affected the learning and skills sector.

2 And some front-office activities too; for example, airlines which jointly provide ticketing services. Britannia, BT, BUPA, Churchill Insurance, HSBC and Prudential are just some of the companies that have recently started operating call centres in India, or plan to do so. The quick start-up of call centres is causing supply problems in India, where middle management is reported to be thin on the ground. This may slow the pace of change in future.

3 For example, the proportion of the workforce working in fixed-term, temporary or casual jobs increased in the early 1990s from just under 6% to nearly 8% of the workforce. From 1997, it declined to 7% in 2001 (Robinson 2001).

The 'knowledge economy'

First, despite recognising that 'the best education is far more than the acquisition of knowledge, skills and qualifications' (DfES 2002), ministerial statements have emphasised the needs of the knowledge economy. 'Knowledge and skills are now the key drivers of education and change. Economic performance depends increasingly on talent and creativity. And in this new economy, it is education and skills which shape … opportunities and rewards.' (DfEE 2000) Education for the knowledge economy has become a more sharply articulated strategic goal.

Yet the 'old economy' remains immensely important. A high demand for skills outside the knowledge economy persists – in personal services (eg hairdressing) and the construction industry, for example. Might an emphasis on creativity, ingenuity and knowledge capital, all associated with the knowledge economy, downplay our continuing need for more traditional skills?

A recent government consultation document on post-16 learning addresses the needs of 'a successful high-skills economy' rather than specifically the knowledge economy, although the foreword still refers to the knowledge economy (DfES 2002). Might this herald a subtle change of emphasis? Yet even so, a focus on the 'high skills economy' would still risk undervaluing intermediate and lower skills. It could perpetuate an elitist approach, devaluing those with lower skills and undermining their confidence.

Widening participation

Participation in post-16 learning has increased substantially, driven by the need for a more highly skilled workforce so that Britain can enlarge its output of higher value-added products.

The proportion of 16 year olds remaining in full-time education in England and Wales leapt from just over 40% in 1979/80 to 70% in 1993, but then reached a plateau (Wolf 2002). The percentage of young school-leavers (ages 19–21) entering higher education rose dramatically too – from around 14% in the late 1980s to over 30% in the early 1990s. Of those under 30, 43% have now experienced higher education (figures provided by the LSDA).

Government is determined to increase participation further, especially of those from poorer backgrounds. For example, it has introduced a means-tested Education Maintenance Allowance (EMA) for 16–19 year olds who stay on at school or college. Its aim is that by 2010, 90% of all 22 year olds will have participated in a full-time programme fitting them for entry into higher education or skilled employment.

Before the 1970s, the bulk of the population left school at 16 and entered the labour force as fast as possible. By their early or mid-20s, depending on the level of unemployment, most people had settled into a long-term job. Today, the normal pathway is to leave school later, and in many cases, to enter higher education. Often, young people have not found their niche in the labour market until their late 20s or early 30s.

As more people have stayed at school and gone to university, traditional apprenticeships have declined. They have been replaced by a variety of educational pathways, including AS and A-levels, Advanced GNVQs (now relabelled ‘vocational A-levels’), Intermediate GNVQs (now being reborn as ‘vocational GCSEs’) and work-based Modern Apprenticeships. Many students with poor GCSE results have seen Intermediate GNVQs as stepping stones to Advanced GNVQs and then, ideally, to university.

Recently, a key priority has been to hit the government’s target of 50% of 18–30 year olds entering higher education by 2010. Funding and policy has focused on this, inevitably affecting the orientation of schools and colleges.[4] General education has triumphed at the expense of vocational learning. Most academically able students are expected to do A-levels and continue to university. Some of those on the GNVQ route aspire to the same destination.

4 For example, excluding money for research, funding per full-time equivalent student in higher education is about 20% higher than in further education (Piatt and Robinson 2001).

As the numbers remaining in education have increased, the vocational route is becoming an option not for the many (as with traditional apprenticeships), but for the academically less able. It can appear second best. The pool of labour from which to draw specialist skills is shrinking. What will be the implications for the country’s ability to meet the large demand for non-academic skills in engineering, construction and other sectors?

Against this background, the reorganisation of the learning and skills sector could prove extremely significant. The LSC, with its local LSCs, has replaced the Further Education Funding Council (FEFC) and the Training and Enterprise Councils (TECs), while Sector Skills Councils (SSCs) are being introduced to boost sector-wide training.

Public funds for sixth-form and FE sector colleges, as well as for adult learning outside higher education, are now all channelled through the LSCs. The aim is to bring greater coherence to the sector, so that individuals have a wider choice of learning pathways. Not least is the desire to blur the distinction between academic and vocational learning. Individuals will be able to mix and match traditional and vocational A-levels, for example. To take this further, the government has asked the new Working Group for 14–19 Reform to explore the possibility of a new, unified, Baccalaureate-style framework of qualifications, possibly built around existing qualifications and recognising achievements outside the formal curriculum (DfES 2003a).

Despite these and other initiatives, vocational learning has yet to take off. Less than 5% of 16–21 year olds not in full-time education are in Modern Apprenticeships at any one time.[5]

5 The Cassels Report (2001) gave participation as 23%. But this was a figure for the probability of someone in a given year cohort being on a Modern Apprenticeship at some stage from the age of 16 to 22. This figure does not imply that around one out of four young people will be on a Modern Apprenticeship at any one time. The proportion of 16–22 year olds on a Modern Apprenticeship at any one time is 4.4%. We are grateful to Tim Oates, Head of Research at the Qualifications and Curriculum Authority (QCA), for pointing this out.

Raising standards

There has been a continuing drive to raise standards, first in primary and now in secondary schools, so as to lay foundations for further learning and higher skills. Over the past 15 years, this drive has included, for example:

- the more frequent testing of children and the introduction of league tables
- Office for Standards in Education (OFSTED) inspections
- the introduction of literacy and numeracy hours
- a variety of measures to raise the standards of underperforming schools, such as encouraging successful head teachers to oversee less successful schools nearby, in addition to their existing school, and pass on best practice.

At post-16 level, reforms have included:

- the introduction of AS levels, intended to broaden the A-level curriculum
- the introduction of a new learning and skills sector, incorporating FE colleges, training providers, adult community providers, school sixth forms and sixth-form colleges
- the development of Centres of Vocational Excellence (CoVEs) within the FE sector
- the introduction of institutional targets across the sector
- the development of online learning by various providers, including Learndirect.

As part of the drive to push up standards, key skills – core skills that are needed for a variety of tasks – have been a focus of attention. Six key skills have been defined: Application of Number, Communication, Information Technology, Improving Own Learning and Performance, Problem Solving, and Working with Others. All are recommended, but at present, only the first three can be assessed and certified.

Since the 1980s, key skills have had a prominent place in specialist training schemes such as GNVQs and Modern Apprenticeships. They were to be a major ingredient in the education and training of all 16–19 year olds, but government has recently backed away from this for the more academic students. Key skills remain a strong feature of Modern Apprenticeships, but are unpopular among trainees and with many employers and teachers. So far, the promotion of key skills has failed to achieve the hopes held out for them.

These reforms have had mixed results. Primary school standards have gone up, though in recent years they have levelled off, while secondary schools have yet to show much improvement. Some schools have sought to boost their league table results by not entering pupils for examinations if the candidate would pull the average down. Practitioners have reported that the near obsession with results has reinforced the disenchantment with learning of some pupils, who feel that the main track for them is outside education.

Despite efforts to widen participation and raise standards, in 1998, 30% of the UK's 19–21 year olds lacked NVQ Level 2 qualifications, compared to less than 20% in France and Germany. A quarter of 16–18 year olds were not in education or training at the end of 2000. These low educational attainments are strongly linked with a poor socio-economic background. Currently, in the UK, less than a fifth of people under 21 from the lower socio-economic groups go to university, compared to over 70% from the highest groups (DfES 2002). Shortening this long tail of underachievement remains a policy priority.

Social exclusion

Since 1997, promoting social inclusion has been a central thrust of government policy. The government sees employment for those able to work as the route to inclusion. Numerous measures have been designed to help people into work – not least the national minimum wage (to make low-paid work more profitable for individuals), the New Deal, help with childcare costs for the unemployed and low-paid, and efforts to increase individuals' 'employability' by reducing educational disadvantage.

These and other initiatives have been undertaken within a paradigm that seeks to combine labour market flexibility with income redistribution, largely through tax credits. Government intends that measures to tackle social exclusion – along with equipping workers for the knowledge economy, widening participation and structural reform – will help to shorten Britain's long tail of low-productivity, low-paid jobs. This would raise the living standards of both those at the bottom end and the more affluent, who would have to pay less to alleviate the harmful effects of low incomes. Improving the skills of people on low incomes will, it is hoped, enable a more highly skilled workforce to be employed in better-paying jobs.

This raises the chicken-and-egg question of whether higher skills will lead to higher-paid jobs, or whether raising productivity first is necessary to create the demand for higher skills. It may be that a graduate in traditionally non-graduate employment can develop that job so that it adds more value; that a better-skilled workforce would encourage employers to adapt faster, innovate more and move upmarket in their product strategies (creating more skilled, higher-paid jobs); or that a larger number of better-educated people will create the conditions in which everyone is more productive.

On the other hand, if you are overqualified for the job, your motivation will suffer (Rose 1999), your skills will decline because they are not being used and there will be a lower return on the cost of your education. The resources invested in your learning might have been better invested elsewhere, so that the productive capacity of the economy as a whole suffers.

The 2001 Employers' Skills Survey (DfES 2001) found that there was an approximate balance between the supply of Level 4 qualifications and above in the workforce and employers' utilisation of these qualifications across the economy. There were 6.4m people qualified to the equivalent of NVQ Level 3 in the workforce, but only 4m jobs that demanded this level of qualification. There were a further 5.3m people qualified at Level 2, but only 3.9m jobs that required a highest qualification at this level.

While only 2.9m economically active people aged 20 to 60 possessed no qualifications, 6.5m jobs existed for which no qualification would have been required. 'This aggregate imbalance suggests that previously reported deficiencies in Britain (by comparison with other countries) in the use of intermediate-level qualifications may be deficiencies of demand as well as of supply.' (Felstead, Gallie and Green 2002) Or may it be a deficiency of demand *rather than* supply?

A review of the evidence available suggests that boosting the supply of skills alone is unlikely to transform organisational strategy. Firms which produce low value-added products with low-skilled and low-paid labour will be unlikely to shift to a higher value-added, higher-skilled, higher-pay approach merely because the supply of skills has increased. Other government interventions, made through different forms of business support, may be necessary. But these interventions are likely to be more costly. They may need to be highly targeted to avoid spreading support too thinly to be effective (Keep, Mayhew and Corney 2002).

Might an integrated approach be necessary, combining measures to encourage higher value-added production on the one hand, with initiatives to improve skills on the other? The government appears to be moving in this direction, placing the improvement of skills in the context of other measures to raise productivity, such as innovation, enterprise, competition and investment (DfES 2003b).

Section 3

Future challenges

In the light of these developments, what challenges are likely to face the learning and skills sector over the next 20 years? We look at how the sector will need to:

- respond to the evolution of the global economy
- increase the supply of high value-added skills
- find a balance between supporting vocational and academic skills
- secure closer integration between different parts of the sector
- embrace new methods of learning
- encourage social inclusion.

What factors will influence how the sector responds to each of these challenges?

The global economy

Another transition in global capitalism comparable to the emergence of the 'customised economy' is unlikely over the next two decades. However, towards the end of the period, vastly improved electronic communications and other recent technologies may well make possible a more radical transformation of society than is taking place now. A further sea change in the nature of global capitalism could therefore well be looming around 2020.

In the intervening period, the customised economy will continue to evolve, with major implications for the learning and skills sector. The possible developments, which we unpack, are summarised in Table 1.

Table 1
Directions of change in the globall economy

The standardised economy	The customised economy	Possible developments
Economics of scale within national economies	Economies of scale within the global economy	Intense competition, managed by consolidation
Standardised production – mass consumption	Flexible specialisation – mass customisation	'It must fit me' values – managing choice
Manufacturing	Services	Experiences
Organisations are vertically integrated	Horizontal networks spread	More radical outsourcing, dispersed employment
Human interactions are secondary at work	Human interactions are more important	Skills shortages intensify
Large labour market core, smaller periphery	Core shrinks, periphery grows	Labour market core grows as supply tightens

Global competition

As the world becomes more closely connected, especially with advances in information and communication technologies (ICT), global competition will intensify and continue to squeeze profits. As they have always done, many companies will respond by seeking to merge or collaborate, so as to dominate the market and push up prices. Larger corporations and alliances will emerge, as in the food industry.[6] Yet at the same time, plenty of minnows will find gaps in the market. Small firms, exploiting niche opportunities, will exist side by side with larger, less agile ones. The mixture of consolidation and new players will help global capital remain both profitable and dynamic, albeit unstable.

6 Some of these dynamics are well described in RIIA (1996), much of whose analysis still remains pertinent.

International qualifications?

In this competitive world, standards of best practice will shoot across the globe as organisations use better communications to keep up with advances in their sector. One company will pioneer a new technique, only to find it copied on the other side of the world several months later. The pressure to keep learning will be immense. UK employers have become more proactive in training in recent years, and this may intensify (see pages 38–39 for fuller discussion of this issue). Indeed, the idea that individuals will take more responsibility for their own training could prove a myth because employers, faced by the constant need to adopt best practice, will do it for them. Many employers will see training as part of their brand, as they seek to attract and retain talented individuals.

In due course, globalisation of techniques may be taken a stage further as companies working in different countries press for the harmonisation of formal qualifications and standards. The UK's continental European partners will increasingly challenge today's variations in licence to practise, which obstruct labour mobility in the EU (is a doctor from Poland able to practise in Britain, for example?). Despite the huge difficulties, harmonisation of qualifications is already on the EU's agenda and is likely to make headway – slowly.[7] Will large companies be offering internationally standardised qualifications by 2020? Might there also be a growing conflict between the objectives, in relation to qualifications, of global corporations and the objectives of national governments?

7 For example, in 2002, the DfES consulted on a proposal for a directive of the European Parliament and of the Council on the recognition of professional qualifications.

8 For example, screening for a wider range of diseases will become possible as the NHS National Screening Committee develops its work (Wanless 2001).

More older workers?

During the 20th century, rising prosperity was associated with better health and longer life expectancy, and there is no reason to think that this link will be broken in the years ahead. Economic growth, made by possible by the consolidation of companies and new entrants into the market, will translate into better health partly through advances in medical knowledge.

Our better-connected world will encourage international collaboration in research, as with the human genome project, while pharmaceutical companies will use their global reach to secure economies of scale in R&D. Greater prosperity will help to pay for the new drugs and medical technologies that this research will make possible, bringing about health improvements in the UK.[8]

Table 2
Expectation of remaining years of life at selected ages by gender

Data represents three years' averages, centred on the year shown. 2021 data comes from the 1998-based national population projections.

Source: Government Actuary's Department

		1997	2021	% increase
Males at age	20	55.5	59.1	6.5
	40	36.4	40.0	9.9
	60	18.8	22.0	17.0
	80	6.7	8.3	23.9
Females at age	20	60.3	63.1	4.6
	40	40.8	43.5	6.6
	60	22.6	25.1	11.1
	80	8.5	9.9	16.5

Huge strides have been made in reducing childhood disease and mortality. The greatest health gains in the advanced world are now being seen at older ages, as the projections in Table 2 illustrate. Older people will tend to be healthier than they used to be, while new cosmetics and drugs will help them look and feel younger. This will delay still further the onset of middle and old age – 'I'm not middle-aged. I still feel young.'

Fitter 50 and 60 year olds will be likely to work for longer, spurred by longer life expectancy, the need to save for a longer period to enjoy the quality of retirement they have come to expect and by skill shortages (discussed on page 17).[9] Over the past 40 years, the influx of women into the workplace has fundamentally transformed the workforce, with huge social ramifications. In the next 40 years, will the larger number of older people at work be of similar importance? The training needs of older workers will certainly assume greater significance.

9 The sharp trend of the 1980s to earlier retirement was reversed during the 1990s. From 1993 to 2001, the employment rate for men over 50 crawled up by 6.1%. See Brooks, Regan and Robinson (2002).

The choice explosion

The current shift to mass customisation still has a long way to go. However, as more people find a mortgage to fit their exact needs, buy coffee at Starbucks to suit their taste, book non-urgent hospital appointments at a time of their convenience (if government promises are realised) and buy a continually expanding range of products geared to their circumstances, almost the whole of life will become customised. Expectations will be transformed: more and more people will expect life to fit them exactly. We have entered the 'it must fit me' world.

This will influence the delivery of learning. Increasingly, learners will expect courses to be tailored to their particular needs – to be available when it suits them, in a way they can easily access and in an appropriate learning style. As more of the cost of learning is transferred to the individual or the employer, those who foot the bill will be less tolerant of teachers who, for example, understand the theory of differentiation but do not practise it.

In the 'it must fit me' world, options will proliferate, creating a surfeit of choice and consequent anxiety among individuals about whether they have made the right choices. The demand will grow for 'choice managers' who will help people to choose, such as the emerging breed of shopping advisers. Being able to trust your choice managers will be vital – 'Do they have my interests at heart, or are they just serving the interests of their organisation?'

Choice management will provide a new role for organisations. Government services that do not tell people what to do, but help them to choose between the options – such as career or learning opportunities – will have the best chance of gaining public support. So, too, will voluntary organisations that help individuals to manage their everyday choices – whether as parents, debtors or consumers interested in the environment.

Enabling individuals to steer through the complexities of everyday life will become a new basis for institutional legitimacy. People will remain suspicious of agencies that are authoritarian, but they will welcome support from sources that are authoritative.

Will much adult learning centre on the management of choice, such as how to choose your pension provider, your child's school or an interior design for your bedroom? If so, television programmes, magazine articles, the internet and other media will become even more important as learning vehicles.

Or will the options so proliferate that people will not have time to consider them all? Individuals may become less reflective about their choices, as they rush from one decision to another, and follow almost without thought the suggestion of a celebrity or friend. Instead of learning how to choose, they will rely on someone else's choice. Or, squeezed by time, will individuals contract out some choices to friends, celebrities or experts, while they learn about other choices that are more important to them?

Much learning may occur informally as young people and adults seek to manage the multiplication of choice. As the quantity of learning material explodes, not least on-line, individuals will need signposting and advice to find what is most appropriate for them.

The experience economy

The shift from manufacturing to services is being followed by a shift to the 'experience economy' (eg Pine and Gilmore 1999). As people become more prosperous, they will seek fulfilment through a proliferation of experiences. More and more products will be wrapped up as experiences – from theme restaurants to education.

Certain airlines, for example, see their business as selling not journeys, but a particular experience of travel. Shopping has been transformed into an experience. Increasingly, consumers will not pay for information, which will be ubiquitous on-line, but they will pay for the experience of getting information. Some NHS wards are appointing 'experience managers'.

Just as the industrial revolution did not eliminate agriculture's contribution to the economy, so the experience economy will not make manufacturing obsolete in advanced societies. Experiences will increasingly provide a new context in which manufacturing and services are marketed, and will create new employment opportunities as manufacturing and some services continue to be automated.

In future it may become standard for hairdressers, for instance, to learn more than conventional skills: they may be taught design and other expertise to create salons with a distinctive customer experience. Council staff may need training in how to contribute to the particular experience their town or city is seeking to offer to visitors and residents.

As the customer experience takes centre stage, expectations of the workplace will increase. More employers will attract staff by treating them as customers. They will promise a high-quality experience – such as an attractive office, good working relationships, a family-friendly approach and the chance to progress by acquiring skills. Training providers may find that individuals are as much interested in the learning experience as in the qualification itself.

Eventually, the chase for experiences may produce diminishing returns – experiences could become less and less satisfying. Might the demand for meanings that last escalate instead, spawning a new range of consumer products – such as a 3-month opportunity to serve less-developed communities abroad, with preparatory training first? Evening classes and other learning that help people find something ultimate could have a growing appeal.

Networks

Improvements in ICT will pulsate through the 'network society' (eg Castells 1996), enabling e-communications to be piped through the equivalent of the Channel Tunnel rather than today's sucking straw. Outsourcing will be taken to more radical extremes.

Propelled by competition and the need to raise efficiency, many organisations will continue to spin off back-office, front-office and manufacturing processes to an outsourced network – sometimes abroad, but also at home. Enormous amounts of capital will be freed up for well-known companies to devote to brand development, customer satisfaction, supply network management and other industry leadership processes. Suppliers will focus on their core competencies and secure economies of scale.[10]

10 For example, some 62% of UK organisations in the Pricewaterhouse-Coopers HR 2000 European Benchmarking survey were outsourcing some elements of HR (Pricewaterhouse-Coopers 2000/01). More generally, see Means and Schneider (2000).

Experts at PricewaterhouseCoopers, for example, have speculated that eventually some car manufacturers will outsource their factories, as well as accounting and other functions. Motor companies would be freed up to concentrate on brand management – understanding customer needs, product design, and marketing and distribution, all of which add high value (Means and Schneider 2000).

Despite union opposition, the public sector is likely to follow suit. Already, the government wants to give NHS hospitals greater independence, increase private sector provision and, in a few cases, allow surgeons to own and run specialist surgeries. Will the health service one day become a brand-managing body, commissioning services, kitemarking them and managing the NHS brand?

Further outsourcing will disaggregate organisations, breaking them into smaller units, and this will favour the growth of small businesses. Using advanced communications, entrepreneurs will be able quickly to assemble a team of financial, legal, design, marketing and other experts to seize a new market opportunity. The team may be gathered from around the world and function almost entirely in virtual space. Examples of this exist now, and the phenomenon will spread.

However, large organisations will not disappear. Competitive pressures will force some companies to merge, as we have seen (page 12), but with a narrower focus than in the past. Supply chains will be so tightly managed, with so much more communication between the different companies, that each chain will increasingly feel like one organisation. In the outsourced world, we shall see:

- the continued existence of large organisations, but more focused in their operations
- a growing number of small and medium-sized enterprises (SMEs)
- more people working either on their own or in micro-companies of two or three people
- possibly more large-scale suppliers of contract labour, such as Manpower, as organisations outsource their recruitment functions.

In response, training that is specific to the needs of *the organisation*, such as certain aspects of management development, will continue to be provided in-house. Some training will be specific to *the supply chain*, as now. Ford motor dealers, for example, with a commercial interest in common, will continue to undertake some training on a 'Ford' basis. Certain training will remain specific to *the sector*, like that provided by the Construction Industry Training Board, where companies can undertake training on a shared basis without harming the competition between them. Provision will depend on employers collaborating, possibly with government support. Finally, much training will continue to be provided at a *local level* to meet local needs.

Radical developments in outsourcing will not change these basic categories, but they will stir the pot so that employers have to reappraise how their training is provided. More specialist training companies may emerge, based on former training and development units in larger organisations. Companies that specialise in supply chain management, such as IBM, may commission generic training for the whole chain. Some recruitment agencies may broker training for companies of all sizes. Just as outsourcing will challenge many established ways of working, so (along with cost pressures) will it force employers to ask whether training can be provided more effectively.

At the same time, as the network society matures, more and more people will rely on ICT to work from home for some of the time and as they travel.[11] Employment will become more dispersed and mobile. New forms of learning delivery will fit this more fluid world. Courses may be broken into tiny units, for example, each small enough to be studied on a short train journey or while you wait for your next appointment. New training providers, specialising in new methods, will enter the market.

11 For example, Virgin is introducing new trains with laptop facilities. The number of people in the UK regularly working from home using a computer and telephone leapt by 65% between 1998 and 2002 to 2.2m (Labour Market Trends 2002).

Skill shortages

The demand for key workers will intensify, particularly in London and the South East. It will be driven largely by economic growth, but also by the reliance on human interactions in the workplace, including jobs with a customer focus: as already noted (page 5), the growing importance of human interaction will limit the labour savings gained from automation. Many of these key workers will be skilled; but in economic hot spots, some will also be less skilled, such as health service ancillary workers.

The growing demand for key workers will present quite a challenge. A skills famine already exists in several sectors – from healthcare to construction – and could get worse if more workers quit at today's normal retirement age, and fewer young people enter the workforce: low birth rates are reducing the number of young adults in the population, while young people are staying in formal education for longer.

At the same time, however, jobs requiring intermediate skills will be under threat – from outsourcing overseas and from technology. Slicing these intermediate jobs could ease labour shortages elsewhere in the economy. Someone in a call centre might be willing to become a care worker. But would they retrain as a bricklayer?

In response to tighter labour markets, employers may do as follows.

- Package jobs to make them more attractive to older workers, a growing number of whom will retire later.
- Rely on immigrants and temporary workers from abroad. In the late 1990s, net immigration to the UK was running at twice the rate earlier in the decade, and at higher levels than any time since the 1950s. The rate has accelerated further, to over 180,000 a year. Using conservative assumptions, the pressure group MigrationWatchUK (2002) predicts that, with no change in policy, the UK will experience a net inflow of 2m people from outside the EU per decade for the indefinite future, significantly higher than in recent years.[12] This could itself be an underestimate. It takes no account of EU enlargement, which will free up movement from lower-paid Eastern Europe.
- More actively recruit and train unemployed people and others on the edge of the labour market – for example, by using technology to make jobs more friendly for out-of-work people with disabilities.
- Train more proactively – witness the NHS 'university' – to equip lower-paid and / or temporary workers for better-paid jobs.
- Hang on to skilled workers, which will increase permanent employment.
- Raise productivity; for example, by substituting more expensive labour with capital and increasing the productivity of workers who remain.

12 The respected Oxford demographer David Coleman is one of the people behind MigrationWatchUK. For further information, see www.migrationwatchuk.org

The nature of the labour market

What happens to skills will affect the nature of the labour market. The distinction is sometimes made between the 'core' and the 'periphery' of the labour market. In the core, people have relatively secure jobs. The 'periphery' comprises temporary, often contract, workers and the unemployed. Many jobs in the periphery tend to be low-paid, with workers often holding more than one job at the same time.

It seems that the shift to the customised economy in the 1980s and early 1990s enlarged the periphery of the UK labour force (Byrne 2001). More people moving between unemployment and temporary, low-paid jobs created widespread insecurity, which reduced the power of the trade unions. It created a 'flexible' labour market that helped employers to adapt more quickly to developments in the global economy. It suppressed wages at the lower end, which reduced fixed costs and freed resources for investment in new technology higher up the earnings chain.

However, the global economy has begun to impose a new set of requirements, and these will become more pressing. To compete in higher value-added markets, companies will need to upgrade skills at a time when the demand for many skills is high. Employers may increasingly hang on to skilled staff, even when the demand for their products slackens. They could seek to retain tacit and company-specific knowledge to prevent it seeping out to competitors. They may recruit and train people from the edge of the labour market, as we have just seen. Under intense cost pressure, they may encourage continuity of employment to save the expense of recruiting and training new staff.

Individuals may welcome secure employment to allow them to pay off student loans, then to service their mortgages and finally to save for retirement. Stability of employment will reduce risk in a risk-averse world. It will maximise the social benefits of work, such as the sense of belonging and the development of friendships. More flexible hours, holidays and leave arrangements (including chunks of unpaid leave) may allow individuals to combine security of employment with greater flexibility. Multi-tasking may give rise to portfolio working within, rather than between, organisations, as is often the case now. The core of both the labour market and of employers' workforces may grow while their peripheries shrink.

It has been widely predicted that the labour market will become more flexible as workers stay for shorter periods with any one employer. But job tenure figures do not bear this out. In 1992, when the UK was just coming out of recession, the average time that a worker spent in a specific job was 74.3 months. By 2000, the figure had actually risen to 87.7 months (Taylor 2001a). Might the labour market be less flexible and individualistic than some have supposed? If so, will this make it more likely that employers, rather than individuals, will take responsibility for lifelong learning, once initial qualifications have been obtained?

As the core of the labour market expands, we shall continue to see a shift from collective bargaining to the protection of individual rights at work. Only an estimated third of Britain's employees now have their pay and conditions determined through collective bargaining agreements, against as many as 70% in 1984 (Taylor 2001b). This erosion of trade union influence as the customised economy has arrived is unlikely to be reversed. There are only an estimated 5000 full-time trade union officials, too few to organise effectively the huge number of small workplaces that now exist (Taylor 2001b).

Yet as many workplaces have become 'union-free zones', more rights at work have become legally enforceable. The EU's social market agenda has encouraged legislation to regulate working time, for example; guarantee equal rights for part-time, sub-contracted and temporary workers; and protect the rights of migrant workers, women, people with disabilities and parents. Legislation on age discrimination is in the pipeline. In addition, health and safety legislation has been extended and the m wage has been introduced.

Particularly under pressure from the EU, we can expect Britain's workplaces to become more regulated in future. As has happened in recent years, this increase in regulation will expand the demand for vocational training – to enable workers to comply with the regulations and demonstrate competence ('licence to practise').

The need for high value-added skills

In adapting to developments in the global economy, the priority for the learning and skills sector will be to help the economy move into high value-added activities that can sustain high living standards. Strong international competition will make this a particular challenge.

The threat to intermediate jobs

Recently, many UK companies have been outsourcing their operations to lower-paid countries overseas. Much of manufacturing has gone abroad, and is being followed by back-office and front-office activities in the service sector – such as call centres, many of which are being relocated to India where the labour force is well educated and cheaper than in Britain. Further improvements in telecommunications will accelerate the trend. There is anecdotal evidence that in manufacturing, R&D is beginning to follow production in going offshore.

Will the UK labour force become polarised between relatively high-paid, high value-added workers and those in low-paid, low value-added jobs (such as those in hotels and restaurants), which serve more affluent people and are shielded from global competition? In particular, what will happen to the intermediate workers who would have worked in the jobs that have been transferred abroad? Will they trade down to lower-paid work, depressing wages at the bottom end and so widening the gap between low and high earnings? Or will they acquire the skills to trade upward, easing the pressure on higher earnings and preventing the gap between rich and poor from widening?

If these intermediate workers fail to move upmarket, it may become difficult to sustain the living standards that they have come to expect. A lengthening tail of low value-added jobs could undermine the state's tax-raising capacity. This would make it difficult to sustain transfer payments to those on low incomes and to meet public expectations of higher standards in government services.

Table 3 presents trends over the past 15 years that are quite encouraging. Degree-level jobs have increased substantially faster than all other categories of work, while jobs requiring low-level qualifications or no qualifications have declined markedly. Will these trends be maintained?

Table 3
Trends in qualifications used at work, 1986–2001

Note: 'qualifications used' is based on data for qualifications required for the job, combined with estimates of the usefulness of qualifications once in the post.

Source: Felstead, Gallie and Green (2002)

Qualifications (%)	1986	1997	2001
Level 4 or above	16.2	18.7	22.7
Degree	7.5	10.6	13.4
Non-degree	8.7	8.1	9.2
Level 3	15.6	15.8	18.0
Level 2	15.3	18.8	16.0
Level 1	12.5	13.1	12.2
None	40.4	33.6	31.1

'New economy' skills

Table 4 shows recent and projected employment trends by occupation. It reminds us that change has been relatively gradual, and that this is likely to remain the case despite the faster pace of technological advance. As the balance of occupations continues to change, workers will need certain types of skill if they are to be equipped for higher value-added jobs.

Table 4
UK employment trends by occupation 1971–99, and projection for 2010

Source: The changing pattern of demand for skills (Skillsbase 2003).

At www.skillsbase.gov.uk/narrative/narrative.asp?Sect=3

	1971	1981	1991	1999	2010
Total employment (millions)	24.4	24.5	26	27.5	29.7
Occupations (%) of total employment					
Managers and senior officials	11	10	13	13	13
Professionals	7	8	9	11	13
Associate professional and technical	9	9	11	12	14
Administrative, clerical and secretarial	14	16	16	15	14
Skilled trades	19	17	15	14	12
Personal service	3	4	5	6	8
Sales and customer service	5	6	6	7	7
Process, plant and machine operatives	14	12	10	9	8
Elementary occupations	17	18	15	14	12

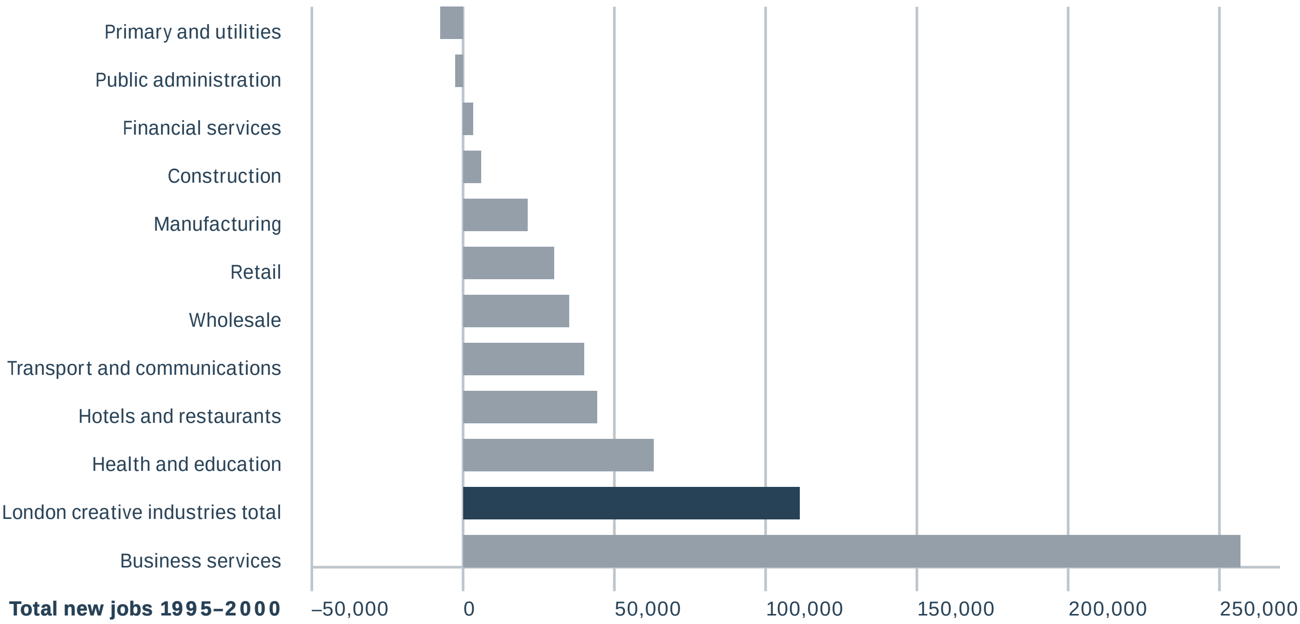
First, we shall need more people with a variety of ‘knowledge’ skills. The sort of jobs that require these skills are as follows.

- Existing occupations which have knowledge as their core component; for example, in education and the professions. Openings for professionals are expected to grow by approaching 30% (867,000) in the current decade (Institute for Employment Research 2000).
- Traditional jobs that will have a stronger knowledge component, such as nurses who are required to have a greater understanding of pharmacology.
- New jobs involving the management and dissemination of knowledge, such as website designers, desktop publishers, and a variety of ‘knowledge managers’ who will help individuals manage the explosion of information. Figure 1 shows how jobs in ‘creative’ industries have become vital for London’s economy.

Figure 1
London’s job growth, 1995–2000

■ London creative industries total
■ London other industries

Source: Cambridge Econometrices and GLA estimates based on ONS, Annual Business Enquiry and Labour Force Survey Data



‘Old economy’ skills

Second, as we suggested in the Section 2, growth of the so-called ‘new economy’ does not mean that skills in the ‘old economy’ will become less important. The shift from manufacturing to services, reflected in Table 3E, is sometimes equated with the demise of the old economy. Certainly a number of old industries, such as mining and shipbuilding, have declined, and in some cases have almost disappeared.

But a considerable number of ‘old economy jobs’ still remain – for example, in construction, which will be under pressure to meet the large demand for new homes projected over the next 20 years.[13] Millions of jobs will continue to exist in office, hotel and hospital cleaning; in security; in packaging and delivery; in operating supermarket checkouts; in driving lorries and taxis; in restaurants, cafes and bars; and in personal services such as hairdressing.

13 The number of households is expected to grow by almost a fifth (4.3m) between 1996 and 2021 (Bate, Best and Holmans 2000). Higher levels of net immigration since 2000 are likely to push the figure still higher.

Table 5
Changes in occupational structure of employment: percentage of civil employment by sector, 1950–98

Source: Wolf (2002)

%	1950	1971	1998
Agriculture	5.5	3.1	1.7
Industry	48.9	43.8	26.6
Services	45.6	53.1	71.7

Many of these jobs will be relatively unskilled, but a considerable number will require intermediate, and sometimes advanced, skills. Filling these jobs will be important for the health of the new economy. A media company needs to courier packages, have its post delivered, employ security personnel, have its offices cleaned, and have quality restaurants and other amenities nearby to attract high-calibre staff. 'Old economy' jobs will be the soil in which the 'new economy' can flourish.

Relationship skills

Third, many more jobs will require high levels of emotional intelligence – the ability to respond helpfully to your own and other people's feelings, which is about more than just communication. The expansion of customer-focused jobs in which human interaction is central, including a growing number of caring jobs, will be partly responsible.

BT's Futurist, Ian Pearson (2000), maintains that electronic intelligence will continue to increase, taking over many of the functions currently performed by knowledge workers.

Only jobs where people are an essential component of the service, such as caring and personal services, are really safe … The obvious result of this long-term trend is a shift of value in jobs away from knowledge or skill, towards caring roles where workers are valued because they are people and their output is basically human interaction. Differentiators are then personality, warmth etc, rather than efficiency. We may call this the care economy. It is interesting indeed that many such jobs today are valued much less than the intellectual professions. Nevertheless, intellect seems easier for computers to learn than supposedly more simple human interaction skills.

Emotional intelligence will also be vital for many jobs that do not involve customer contact. Often, in the past, workplace relationships were secondary to the job. Tasks were intensely physical or mechanical: they required little interaction with people. Friendships were formed at work, but they were a background to the job. They helped to relieve the monotony and impersonal nature of what had to be done. Notices would appear: 'Less talk, more work!'

Pin that up today and it would look anachronistic. That is because there has been a revolution in the content of many jobs. A study by the London School of Economics (Green *et al*. 1998) examined a wide range of occupations up and down the skills ladder. In nearly every case, it was reported that between 1992 and 1997, the time spent interacting with people had increased. The interpersonal aspect of work is becoming more important.

Technology is automating routine tasks and making possible more complex ones. These more complicated tasks are often beyond the skills of any one person, which is why we hear so much today about collaboration, teamwork, joint ventures and inter-personal skills. Individuals have to work with others to accomplish what technology makes possible, and this trend will persist.

Interpersonal skills will be in high demand because they will be critical for an organisation's success. They will include diction, personal presentation and negotiating skills, together with self-awareness, empathy and the ability to regulate one's own feelings. Even now, employers are investing in coaching, mentoring and a variety of training courses to improve 'relationship' skills, and this expenditure is likely to increase as employers extend risk management to human resources – 'How can we cut the risk of absenteeism and turnover?'

There will be growing pressure on schools and colleges to develop collaborative forms of learning so as to develop the teamwork skills of people entering the labour market. Will 'communication' be broadened to 'interpersonal' skills, and eventually even be made part of the core curriculum?

Sustainable life skills

Over and above these work-related skills will be a continuing need for 'life skills' – anything from baking bread, growing your own vegetables, restoring a piece of furniture, parenting children to chairing meetings and organising events. These are skills that provide personal satisfaction and independence, and can empower individuals to add value to their communities. They can be seen as part of 'citizenship', as supporting the family, or as a means of building social capital and strengthening the voluntary sector. Life skills may have a growing 'market', especially among retired people with more time to invest in them.

As the welfare state moves towards greater self-support, with individuals taking more responsibility for their own pensions, for example, life skills – such as debt management and the avoidance of mis-selling – will be of growing importance. 'Liquid lives', involving more fluid life transitions and constant change at work, will require individuals to cope with new family arrangements and new job demands. There will be a growing demand for mentoring, coaching and parenting courses, for instance.

Community development is likely to remain a policy priority across the political spectrum, and this too may give impetus to helping people acquire life skills. Policy-makers may also want to encourage these skills among educationally disadvantaged people to increase their self-confidence and strengthen their position in the labour market.

The focus of the sector

Faced with the demand for these categories of skill, a key issue will be where the learning and skills sector focuses its activities. Will the sector concentrate on getting more people into higher education, in the belief that advanced 'knowledge' skills are essential if the workforce is to be equipped for higher value-added employment? Or will it focus equally on less academic, vocational skills?

A bigger role in feeding higher education

The government plans that by 2010 at least half of 18–30 year olds will have benefited from higher education, against England's current 43%. This will increase the role of the learning and skills sector in the supply chain to higher education, with school sixth forms and FE sector colleges continuing to supply the bulk of undergraduates. It is intended that the expansion will come mainly through 2-year work-focused foundation degrees, often delivered by FE colleges (DfES 2003d).

The long term pressures for HE expansion will continue, possibly to well beyond 50% of under-30s.

- Measures to increase 16–19 year olds' participation in education will enlarge the pool of those equipped to go to university. In continental Europe, 'the expansion lines for general secondary and higher education run parallel: a doubling between 1980 and 1995 in the numbers completing a *baccalaureate* programme for example is followed by a near doubling over the exact timescale in the numbers of university students' (Wolf 2002). In 1994, 40% of young people in the UK had obtained a Level 3 qualification by the age of 21, roughly what is needed for university. By spring 2001, the figure was 55%. Coupled with greater flexibility in entry requirements, more people with Level 3 qualifications should facilitate a further expansion of higher education (Piatt and Robinson 2001).

- Expansion of higher education will generate momentum for further growth, because as more people go to university, higher education will become vital to get a good job. When higher education was for the relative few, employers could assume that there would be plenty of people with average ability among those without a degree. But as the pool of degree-holders expands, employers will assume that the pool now contains averagely able people. They will not look at a non-graduate, except for low-paid jobs. The cost of not going to university will rise. Almost everyone will want a degree because almost everyone else has got one. The number of British jobs requiring a degree doubled from just over 2m in 1986 to 4.2m in 2001. The number of people with degrees also doubled – from slightly more than 2.3m to almost 4.8m (Felstead, Gallie and Green 2002).

- Similar pressures will force higher education to expand around the world. In the US, which has traditionally led the way in expanding higher education, some two-thirds of school-leavers go to college or university or its equivalent (Wolf 2002). The UK will seek to follow suit, lest it become unattractive to global capital. Even now, 45% of Korean young people enter tertiary education, just 1% behind the UK (DfES 2003d). Currently, the major growth in British higher education is in adult part-time provision.
- Academic research has found that increases in higher education are positively and significantly related to *per capita* income growth. Higher education is also likely to benefit growth indirectly by stimulating more effective use of resources, the adoption of technology and more physical capital investment. It is predicted that 80% of new jobs (1.5m) between 1999 and 2010 will be in occupations that normally recruit people with some kind of HE qualification,[14] but this will depend on Britain continuing to move into higher value-added activities. A continuing link between higher education and income growth will strengthen the case for the further expansion of higher education.
- Increasingly, students will be expected to pay for higher education, partly so that British universities will have the funds to compete more strongly on the world stage. As students pay more for their degrees, the cost to government of university expansion will be eased.

14 Many of these jobs will require qualifications at foundation rather than honours degree level (DfES 2003d).

It is not unlikely that by 2020, two-thirds of those under 30 – the current US rate – will go into higher education. This will strengthen academic learning for school-leavers at the expense of vocational, less academic studies. Will graduates, having spent 2 or 3 years getting a degree, disdain traditional vocations in construction and other sectors? Or will vocational training (NVQs) for graduates expand, delivered through the learning and skills sector? There is some anecdotal evidence of graduates training to be plumbers. Will there be a growing demand for vocational foundation degrees (ie qualifications at Level 3/4)?

A particular concern is that the expansion of higher education will solidify a two-tier labour market. A growing number of intermediate jobs will be 'reserved' for graduates because employers will see degrees as a proxy for a certain level of skill and employment aptitude. Employees who might have expected to work themselves up into a supervisor's position, for example, may no longer be able to do so. Ladders to promotion will be pulled away as younger graduates are given preference. Will a significant number of middle-aged and older workers be trapped in lower-skilled, lower-paid jobs?

A bigger role in lifelong learning

At the same time, the demand will grow for vocational skills acquired throughout individuals' working lives. Despite recent improvements in school standards, the need to boost adult literacy and numeracy will remain, but in addition, vocational learning throughout the workforce will receive greater attention.

- As technology advance accelerates and best practice hurtles across the world, the skill needs of people in jobs will change even more rapidly than they do today. Frequent on-the-job learning will affect a larger number of people.
- Assuming the trend continues, increased regulation, particularly in health and safety, will put a premium on formal qualifications as evidence that workers can meet the regulatory requirements. 'Licence to practise' will become essential in almost every field, stimulating training to secure the necessary qualifications.
- More people will retire later as a result of longer life expectancy, insufficient savings to retire at current ages and the demand for skills. The learning needs of older workers will become a priority.
- We have noted how skill shortages could reinforce pressure from the social inclusion agenda to make jobs more friendly for people with disabilities, the unemployed who have stopped looking for work, the active unemployed, and also for part-time workers so that they work full-time. Training will play a key role. So, too, will equipping workers for higher-skilled jobs.
- High levels of immigration seem likely, due to UK skill shortages, higher wages in Britain than in countries of origin, the existence of ethnic communities already here (so that new arrivals have an ethnic 'home' to come to) and the expansion of education in developing countries, increasing the pool of overseas people qualified to do skilled jobs in Britain. This could boost the demand for English classes and for courses that convert individuals' home qualifications into ones recognised in the UK.

All these drivers will increase the call for vocational learning. Learning for pleasure and personal fulfilment will also expand, but will be dwarfed by job-related training.

Vocational or higher education?

The need to expand both higher education and vocational learning will create opportunities for all sorts of innovative hybrids. Some young people are already spending gap years before university acquiring bricklaying and other skills, so as to boost their earnings from work during university. Others are getting their degrees and then acquiring vocational qualifications in traditional trades. Will new, integrated packages be developed – 'Start your vocational training before university, then work as an apprentice at weekends and during the holidays while you get your degree, and spend one more year qualifying as a graduate electrician when you have finished?'

These hybrids aside, what balance will be struck between lifelong, vocational and higher education? One possibility is that HE expansion will so drive the learning and skills sector that few government resources will be left for vocational training. C Further education colleges – first equipping students for higher education, then providing foundation degrees (which the government is eager to encourage) and finally, perhaps, supplying ever more components of an honours degree – may gradually be absorbed into the university supply chain.[15] Their vocational role may wither away. Vocational training could be left to employers, who may rely more heavily on the private sector. The limited public funds available for the learning and skills sector could be ploughed into new forms of job-specific learning, such as Learndirect.

15 The Secretary of State's grant letter to the LSC of 10 December 2001 stated that a key priority for the LSC was to develop appropriate progression routes into higher education, contributing to the target of 50% of 18–30 year olds entering higher education by 2010. The Secretary of State's grant letter of 5 December 2002 also mentions the 50% target for progression to higher education.

Alternatively, as students foot a larger share of the costs of higher education, some public funds may be re-channelled toward vocational learning. Further education colleges would be supported in their vocational objectives, alongside their role in higher education, in the hope of providing greater integration between vocational and higher education. Pointers in this direction include the development of Centres of Vocational Excellence (CoVEs) within further education, and the recent 14–19 White Paper's (DfES 2003a) drive to strengthen vocational learning.

A third possibility is that the trend for individuals or employers to pay at least part of the cost of college-provided vocational courses will be taken further, so that eventually, adult consumers of learning pay almost the entire cost of both higher and further education. Public sector resources could be freed up for educationally disadvantaged teenagers and adults.

Integrating the sector

The relationship between vocational and higher education raises the question of what progress will be made towards integrating the sector. Post-16 learning has long been fragmented, with sixth forms concentrating on equipping pupils for higher education, universities weighted towards the academic and theoretical, colleges mixing academic and vocational courses, training boards providing qualifications for a sector, private sector providers offering a variety of vocational courses and employers supplying on-the-job training.

The recent introduction of the new learning and skills sector represents an attempt to bring a more helpful coherence to some of these elements, but there is still a long way to go. For example, Scotland, Wales and Northern Ireland are all developing official credit frameworks, spanning 14–19 adult education and higher education: in England, a Working Group for 14–19 Reform is to explore the practicality of a state-sponsored framework, but there is no commitment yet to its introduction (DfES 2002). Integration will be a key challenge for the future.

Drivers towards integration

Several drivers could encourage integration.

The demand for change

First, there could be growing student and employer demand for integration, supported by the policy community. The current fragmentation has severe disadvantages.

- The sharp division between academic and vocational pathways enshrines and perpetuates an academic elitism. Teenagers are invited to choose between the two, with an assumption that the academic is better. As higher education expands, more people of average, or even below average, academic ability will pursue a degree, leaving jobs requiring traditional vocational skills to the less able. Yet many of these vocational jobs are highly skilled. Employers could demand measures that integrate academic and vocational learning – more degrees with a stronger vocational element, for example – as a way of encouraging able young people to choose the vocational option.
- At present, the number of graduates and of jobs requiring degrees are roughly in balance (Felstead, Gallie and Green 2002). If the shift to higher value-added employment in Britain falters, the expansion of higher education could well produce more graduates than there are graduate jobs. But these graduates would not be qualified for vocational jobs and so, at least initially, they would be forced into relatively low-skilled, low-paid work, producing considerable frustration. At the same time, as we have seen, the demand for vocational skills is likely to grow. Many of these skills will be well paid: in 2003, a plumber in London can earn more than a management consultant. Alongside employer demand, learners may press for more courses that integrate vocational and higher education.
- The current split between university study and paid work is often wasteful. Individuals climb to the top of the academic ladder, only to slide down the employment snake to jobs that – initially – require few of their academic skills. It can take several years to climb to a job where one's degree training is of value. This wastes skills and produces frustration. There may be a growing demand for degree courses that are integrated with paid work, enabling individuals to climb the academic and employment ladders at roughly the same pace. A whole variety of work/study combinations may be possible, from 3 days on the job and 2 days' study per week, to employment with periods of time out to take the next unit in your degree. These combinations could be especially popular if they enabled students to pay their way through university and avoid substantial debt at the end.

- It is well known that many young people need to try different things before they discover what they are good at, and what career they wish to pursue. The present system is too fragmented to allow this, despite the greater flexibility introduced by the new AS levels and A-levels. For example, the Credit Accumulation and Transfer System (CATS) between universities is still at a rudimentary stage.[16] Even within a university, students cannot transfer between courses nearly as easily as in many other countries, let alone between university degree and FE specialist options. These rigidities are wasteful when individuals get stuck on pathways not best suited to their talents. A latent demand almost certainly exists now for greater flexibility, and this will grow.[17]
- The state provision of post-16 learning will face long-term funding pressures – from other priorities within the education budget (eg pre-school years), from other government departments (eg health, transport or defence) and from demands to curb or reverse tax increases. The cost of post-16 learning will gradually be shifted to individuals and employers, the consumers of education, as is already beginning to happen. These consumers will become increasingly demanding. They may be less tolerant of the inflexibilities produced by the current fragmented arrangements, and will be well placed to drive change. The piper will call the tune.

From places to flows

Traditionally, people have gone to a *place* to study – to school, college, university or a training centre. In future, individuals will mix-and-match where they study. You might do part of a course online at home, study when you travel, go to classes at the local FE college, and upgrade your qualification to an honours degree through a university. Learning will be less bound to one place. The focus will be on *flows* of learning: how to progress through one phase of study to the next.

What will drive this?

- The demand for flexibility, as we have just seen. This will be reinforced by the growing importance of lifelong learning. Rapid change in the workplace; an even greater need than now for recognised qualifications as licences to practise; the need for more workers in their 50s and 60s to upgrade their skills as they stay longer in the workforce; and the possibility, as people retire later, that a longer working life will encourage individuals to change career more often will all give impetus to learning later in life. Many of these learners will have established lifestyles, with family and other commitments. They will want learning that is flexible enough to be built round these commitments – that can be undertaken locally, for example. As more transport congestion lengthens journey times, there could be a particular demand for courses that can be undertaken on the move.

16 CATS is a system of credits that can be easily transferred from one course to another so that students can be confident that each piece of learning will contribute to a qualification. Many universities are reluctant to accept other universities' assessment of progress, which is one reason for the slow development of CATS.

17 Wales is moving towards a single credit framework for post-16 qualifications. All existing qualifications from GCSEs to PhDs will be brought within one system.

- The expansion of consumer opportunities for those who can afford it will reinforce this. More leisure and other options will encourage individuals to maximise their opportunities as they try to fit in a wider range of activities. The time squeeze will tighten, strengthening the sampling approach to leisure that is becoming a feature of consumer behaviour. 'I'll do this for a short period and then something else, because the more I can cram in, the more worthwhile life will be.'[18] Increasingly, learning will have a higher cost in terms of other opportunities foregone, and so will be judged more critically. Individuals will be impatient with learning things just in case they need them: many will want to learn only what they need, when they need it. They will value bite-sized chunks of learning, taken as required, which over time can be aggregated into a recognised qualification.

- Advances in ICT, particularly the advent of broadband, will make online communication faster and more user friendly. In the late 1990s, the cost of computer power used to halve every 18 months; now it is closer to a year. Palm-held computers, integrating mobile telephony, Internet access and today's laptop capacity will be ubiquitous by 2020. Students will be able to take their learning with them – on the bus, at home and in the library. They will be able to study anywhere, at any time, which may encourage learning to be broken into small, bite-sized chunks. Technology will not remove the need for class work, as we shall see (pages 33–34), but it will enable learning to be delivered more flexibly. Online training material will proliferate, and will be easily downloaded. Will bite-sized learning discourage study for whole qualifications – 'Let me learn what I need, rather than do all this other work which gets me a qualification but doesn't help my job'? Or is the demand for qualifications becoming so deeply entrenched that the demand will grow for full courses broken into tiny units?

Changes in higher education

Developments in higher education may favour more integrated regional approaches to post-16 learning. A group of 'super' universities will probably emerge, based perhaps on the merger of some existing universities (as in Manchester), global partnerships and the development of global reputations. They will compete in the expanding world marketplace for students, have strong research reputations and tend to recruit the academically most able.

Other universities will tend to have a greater regional focus, and may find that their market grows through the general expansion of higher education and as students bear a larger proportion of the costs. More students may prefer to study nearer home to avoid the extra costs of independent living.

18 In the late 1990s, for instance, more than twice as many people had access to a bicycle as they did 20 years earlier. Yet those bicycles covered only a third of the distance. Rather than cycling reaching its full potential, it had become just one of many leisure pursuits to choose from (Future Foundation 1998).

These regional universities are likely to develop stronger links with FE colleges. Even now, the government is encouraging foundation degrees, which can be taken through the FE sector. Some universities are collaborating with colleges to offer locally parts – or even the whole – of some degrees. In due course, the distinction between FE colleges and regional universities may wither away, as students study part of a degree in their local college and part in one of their regional universities. This could build bridges between general and specialist learning.

Developments in Wales may point the way forward. The Welsh Assembly has established a new National Council for Education and Training for Wales (NCETW) to work in conjunction with the Higher Education Funding Council for Wales (HEFCW) under the joint brand name, Education and Learning Wales (ELWa). The two councils are to operate flexibly across their respective sectors in the planning, funding and delivery of post-16 learning. Might England follow suit, laying down stepping stones to the eventual merger of the LSC and the Higher Education Funding Council for England (HEFCE)?[19]

19 The DfES report *14–19: extending opportunities* (2002) can be seen as a tentative first step.

Competition from the private sector

If the state sector is slow to respond to these market, technological and structural opportunities, it will face mounting competition from elsewhere. As the world market for education develops, a growing number of students may choose to study abroad, where courses are more flexible, putting pressure on UK institutions to safeguard their home market. Degrees from Harvard and other leading universities overseas may be studied on a distance learning basis, with tutorial support online, and be combined with permanent jobs. To recruit ‘the brightest and best’, employers may give staff time off to take these courses, enabling individuals to move up the career and academic ladders at the same pace.

Educational software companies will continue to develop GCSE and A-level support packages, initially for use by middle-class families, and then by schools and colleges. Eventually, companies like Microsoft may develop entire A-level and vocational courses that can be used at home or by employers, with online support. ‘Don’t bother with school or college,’ they may advertise, ‘get a job and study part-time, courtesy of…’. Employers seeking to plug skill gaps may fund these courses, perhaps even paying for face-to-face support (based on public libraries?) in competition with the public sector.

Barriers to change

These drivers to integrate post-16 learning will, however, come up against substantial barriers, as follows.

- The current policy of decentralisation from Whitehall, encouraging diversity of education provision, getting individuals to fund their own learning, and labour market deregulation leaves government with fewer levers to promote change from the centre. The statutory independence of the universities, for example, will be accompanied by greater financial independence as students pay a larger proportion of fees. Colleges may have some measure of extra independence, too, as students and employers are required to contribute more to the cost of courses in the FE sector.
- Inertia within the system will work against change from the bottom up. Old habits die hard. Surveys report high levels of student satisfaction with the current provision (LSC 2002), which will tend to weaken the demand for something new.
- Institutions will face change from many directions – for example, from recent and perhaps further changes in the A-level curriculum, from other government initiatives to raise standards and broaden provision, from the impact of ICT and teacher/lecturer shortages on classroom practice, and for new courses in response to developments in the economy. Will these other demands swamp the cause of integration?
- Turf wars will make it harder to join the sector up. In the name of academic standards, universities will continue to resist the drift of degree teaching to colleges. The development of CATS, let alone the blurring of boundaries between vocational and academic qualifications, will continue to be bedevilled by the very real difficulties of deciding how far one part of a course is equivalent to another. Employers may continue to disdain the academic, making it more difficult to integrate academic and vocational learning, as German apprenticeships do, for example.
- Of particular significance, wages paid to young people in the UK have been allowed to rise to 90% of the adult rate. This contrasts with Germany's more regulated market, where young people are paid at 60% for the whole of their 3–4 years' apprenticeship. Employers find that this lower rate makes the apprenticeship economically viable. They pay more than the young people are economically worth to them in the early years, but recoup the cost later in the apprenticeship when the young person's productivity exceeds the youth rate of pay. Higher rates in Britain discourage employers from actively promoting Modern Apprenticeships, which offer one way of integrating study and work.
- More generally, employers find that work placements consume precious time in supervision, and so many are disinclined to be involved. As the number of young people entering higher education rises, employers may be increasingly reluctant to take part in specialist training because of concern about the quality of trainees. The more who go into higher education, it will be assumed, the poorer the general ability of those who take the purely vocational route. Employers may think 'they are not worth our time'.

So there will be a strong impetus for more integration in the sector, but also substantial barriers. Integration is likely to proceed – but slowly.

New methods of learning

Within whatever structures develop for post-16 education and training, what will be students' experience of learning? In particular, will radically new pedagogies emerge? Five drivers of change will be important.

Technology

First, of course, will be the opportunities created by ICT. The next decade will be a time of experimentation, as educators try different ways of using ICT to enhance the learning experience. Already a number of schools and colleges are blazing a trail.

Technology will be most unlikely to do away with the classroom. Young people enjoy the social experience of school and college – 'Meet your teacher and make new friends' was a telling sales pitch by the Open University in 1999. The educational benefits of group learning are immense: students can learn from one another, support each other, be motivated, make links with other learning material, and develop verbal communication and other interpersonal skills. If the need to develop emotional intelligence becomes deeply embedded in the curriculum, partly in response to the greater importance of interpersonal relationships at work, class contact will be even more important.

Yet ICT has the potential to create opportunities that would put classroom learning into a very different context.

- *It will aid collaborative learning*. Instead of students doing assignments on their own, they will be able to collaborate online when they get home (as is already happening now)
- *Learning will be more self-paced*. Using a computer-based programme, for example, students can work through a series of mathematics problems at their own pace, receiving feedback as they go.
- *New forms of assessment may be possible*. Instead of formal tests at a particular time, continuing assessment may be built into the core structure of curriculum material. Learners would have to complete tasks successfully at each stage before progressing to the next one. Online tests could be supervised regularly in class to avoid cheating. Computerised records could keep track of what stage each student had reached and the scores they had obtained. Might this hasten the demise of GCSEs, and would SATs become a thing of the past? Students would have ongoing records of achievement instead, and at the click of a mouse, schools and colleges could provide annual reports of the number of students at each stage.
- *Different learning styles may be more easily catered for*. For visual learners, broadband could make available a greater richness of visual material, including virtual reality. Audio learners could take advantage of online audio effects. A computer mouse has recently gone on sale in the US that gives the physical sensation of touching certain items on the screen – perhaps adaptable for those who learn best by feeling things.

- *'Edutainment' could make routine learning more fun*. This is computer-based learning wrapped up as entertainment. Competitive game elements, for example, could make learning more attractive to young men.
- *Online support from centralised call centres could be available* to learners when they study at home.

Many of these and other possibilities are being tried now. But how far they will be developed, and how radically they will change the pedagogy depends on certain factors:

- *Teachers' and lecturers' willingness to embrace technology*. Over the years, they have proved remarkably adaptable to change. They have taken on board a vast number of changes in a relatively short time. Moreover, the emerging generation of sixth-form and college staff is ICT literate. Many skills that would be required of teachers by an ICT-led pedagogy are already part of best practice, such as facilitation, group work and differential learning. The real dangers are that teachers and lecturers will not be involved in the process of change, so that they will feel that change is being imposed on them; and that they will not receive adequate support and training to embrace changes as they occur.
- *Sufficient resources being available to innovate*. Developing quality online courseware is a very different skill to facilitating classroom learning. How many teachers and lecturers will have the skills, as well as the time, for both? Will government make available sufficient additional funds for extra staff to be employed to develop courseware? Or will it rely on commercial suppliers to innovate? In the latter case, investment will be forthcoming only if there is an adequate market. How long will it take for investors to be confident that a market exists – and for how many courses? An ICT-based pedagogy is potentially expensive, not least in terms of technical support. Will it be possible to make substantial savings elsewhere?
- *Securing economies of scale*. Developing course material, updating it and providing online support is potentially costly, and may require economies of scale. This could demand the standardisation of courses in the post-16 sector, so that there are enough learners to warrant the cost of developing the software. Course content would be standardised so that its delivery could be customised (rather like modern motor manufacture). This, in turn, will require considerable collaboration across the sector. How easy will institutions find it to cooperate? Will specialist courses be too job-specific to secure economies of scale?

In the long term, might the need for economies of scale encourage international collaboration in the development of vocational and academic courses? If so, the US is further ahead in developing ICT-based learning than other countries, which could provoke fears that the post-16 sector will be increasingly dominated by US values and practice. Will the EU react by seeking to harmonise learning across the continent, so that the benefits of scale are obtained without relying on the US? UK practice may increasingly have to take account of what happens in the rest of Europe.

Consumer values

The second driver will be consumer values. Learners will continue to be steeped in the consumer culture, but that culture itself is undergoing rapid change. Over the next 20 years, we shall live with the effects of two particular developments.

- *The shift from mass consumption to mass customisation*, in which economies of scale and new forms of critical mass are enabling products to be tailored to the individual or to small groups of customers. We have noted how this is encouraging consumers to expect that goods and services will fit them exactly. In the ‘it must fit me’ world, individuals will expect learning to fit them exactly, too.
- *A highly visual and ‘immersive’ consumer culture*, which will become even more pervasive and sophisticated as the new media develops. New generations of mobile phones will have a larger visual capacity, and virtual reality will be more widespread. Book culture used to promote sequential thinking: you started at the beginning of the book and worked logically through to the end, paragraph by paragraph. Even more than in recent years, the 21st century’s visual culture will foster intuitive rather than rational modes of thought, impressions rather than logic, thinking in parallel rather than in sequence, pictures rather than paragraphs. Especially for the academically less able, traditional learning will seem even more alien than it does now.

Staff shortages

A third driver of change will be a shortage of teachers and lecturers. Teaching is the biggest recruiter of graduates in the UK. Based on the number of graduates in the late 1990s, schools and colleges would need to recruit a massive 12% of the graduate population a year to maintain numbers. The Teacher Training Agency (TTA) has attempted to recruit onto PGCE courses a fifth of all geography and music graduates, over a third of mathematics graduates, 43% of all linguists and 48% of theology graduates (Horne 2002).

Finding enough professional staff will get increasingly difficult, for the following reasons.

- School sixth forms and colleges will face intense competition for graduates from higher education itself, under-16 schooling, a growing service sector and small businesses, which are recruiting graduates on an unprecedented scale. Although the expansion of higher education will enlarge the pool of graduates, skill shortages throughout the economy could create many opportunities for students leaving university. The learning and skills sector may struggle to compete for graduate teachers and lecturers unless their relative pay and conditions are improved.
- A large number of teachers who joined the profession in the 1960s and 1970s will retire in the next 10 years, placing a heavy demand on the entire education system.

- Retaining teachers may become more difficult. Half of newly qualified school-teachers will leave the profession within five years, and are increasingly unlikely to return. As teaching shortages bite and rapid changes in practice become necessary to cope, morale may suffer, encouraging more teachers to leave. Employers and commercial providers are likely to expand their training provision (discussed later on pages 38–39), creating new openings for teachers and lecturers. FE sector colleges and sixth forms may increasingly feel the pinch.
- Education will continue to expand in other advanced societies, making extensive recruitment from them difficult. Will large-scale recruitment from lower-paid developing countries be acceptable? Recruiting from abroad may not be much of an answer.

Staff shortages will intensify the search for new methods that allow larger learner–teacher ratios. Greater reliance on more and better-trained classroom assistants has been proposed. We could end up with teachers and lecturers responsible for many more learners, but with much of the work delegated to assistants. Yet with skill shortages likely to be common up and down the skills ladder, particularly in economic hot spots, will there be enough assistants to go round? There will be a growing demand for pre-school staff, staff for after-school clubs and a variety of health and caring jobs, not to mention employment opportunities in other sectors.

Almost certainly, pressure will mount to raise the productivity of both professional and assistant staff by developing new methods of learning, with much greater reliance on ICT. We are likely to see throughout the education system:

- more self-directed learning
- more collaborative learning online
- more experiments with online support using the equivalent of call centres, leading to less class contact for a number of courses
- new forms of continuous online assessment, with automated record keeping
- the further development of peer-led group work in class, with teachers and their assistants acting as troubleshooters, but in larger classes.

Re-engaging disaffected learners

In addition to technology, consumer values and staff shortages, changes in the learning experience will be driven by the continuing need to overcome the poor experience that many people have had of school. ‘One in four 16–18 year olds had dropped out of education and training by the end of 2000, significantly above the OECD European averages.’ (DfES 2003a) Many of these will have dropped into the kind of social circumstances that make re-engagement with learning very difficult. Other young people and adults are reluctant to learn because they left school believing they had failed. Labour Force Survey results indicate that 71% of people with no qualifications and 58% with Level 1 qualifications say *nothing* would encourage them to learn.[20]

20 Quoted in LSC 2003b.

The pursuit of academic excellence for much of Britain's educational history created an elitist approach to learning. The school system was dominated by the needs of the universities. O-levels and A-levels did not identify appropriate learning paths for the individual, but streamed off a minority of most able students who were destined for university. Excellence was more important than fitness for purpose.

Thus academic learning was always more prestigious than vocational learning. Largely this reflected class differences: the wealthier middle classes were far more likely to go into higher education than working-class people. A medical course was not classified as vocational, though a course to equip you as a technical assistant was. Vocational courses were distinctly second class. Many people were left feeling that they had failed or were second class as far as learning was concerned. These feelings are still being generated, especially among the 20% or so who get the lowest grades at GCSE.

It will take years to overcome the lack of confidence in learning that now affects swathes of the adult population. Already important, this challenge is likely to grow because of the need:

- to overcome skill shortages
- to equip older workers to stay longer in employment as more people retire later
- to upgrade the skills of the unemployed and low paid for a host of reasons, including the cost to the state of supporting families on low incomes.

This is most likely to lead to new forms of learning which embody the message 'learning is not like school'. Learning will look more like leisure. 'Edutainment' will feature more strongly. Skills courses will be located in pubs, libraries, leisure centres and workplaces rather than in schools and colleges. Learning World in the Gateshead shopping centre, for example, allows off-duty nurses who have just finished their shopping to study in the afternoon. A key issue, as ever, will be the availability of sufficient resources, mainly from government, to pioneer new approaches.

At the same time, training is likely to become more employer-led, so that trainees can see that they are being equipped with skills for jobs that actually exist. A study of 40 US welfare-to-work programmes found that the most effective initiatives were those in which training was specifically designed to meet employers' needs. Companies were only prepared to embrace welfare-to-work recipients if it was in their interest to do so. In return, recipients received training that led to 'proper' jobs (Pinto-Duschinsky 2001).

Some of these US successes may well be emulated in Britain: employers are unlikely to be willing to take responsibility for initial general or vocational education, but many would be likely to cooperate in providing employment and job-specific training for people with initial qualifications.

Private sector competition

A final driver of change will be competition from the private sector, through the development of curriculum material, the delivery of learning (through independent school sixth forms and Cisco academies, for instance) and the delivery of learning to employees in the workplace.

Employer-based continuing education and training (CET) has expanded in recent years. Between 1986 and 1992, the proportion of employees reporting that they had received job-related training in the previous 3 years jumped from a third to more than a half. In this respect, Britain was an international leader. The 1996 International Adult Literacy Skills Survey (cited by O'Connell 1999) showed that in the year preceding the study, 56% of British employees aged 25 to 64 had received CET, the second highest of the 11 countries surveyed (behind Sweden at 60%). Employers are acquiring expertise in CET that could form the basis of further expansion.

It is possible that the private sector will prove more innovative than the public sector because intense competitive pressures will force it to come up with more efficient methods of training. It also has a stronger customer focus. Business, with its customer orientation, may find it easier than the state sector to treat learners as customers and may respond more rapidly to their needs.

The private sector may also be better resourced, with employers investing heavily in training to secure essential skills. A growing number of large employers, and perhaps some consortia of small ones, will develop their own learning academies, such as the British Aerospace Virtual University, and these could become centres of innovation. Private schools may be quicker to expect each sixth former to have a laptop or palm-held computer than the state sector, and pioneer new pedagogies as a result. Will state sixth forms and colleges be left behind?

Might the private sector even become better equipped to help socially excluded people? Skill shortages, as we have noted, could encourage employers to redesign jobs and develop training packages for people with disabilities, for example; for those who have recently been made redundant; and possibly for individuals who have stopped looking for work. Companies like Cisco will continue to develop ICT-based learning, almost certainly using innovative approaches, and this may successfully engage disaffected learners.

It is conceivable that private (as well as voluntary sector) providers could be more successful than the public sector in encouraging socially excluded and low-paid people to engage with learning. If this were the case, public funds for this purpose might increasingly be pumped through the private sector.

The upshot of all these pressures – technology, consumer expectations, staff shortages, the urgent needs of disaffected learners and private sector competition – is that learning and teaching methods will be gradually transformed. They will be more computer-based, with greater autonomy for individual learners. Educators will be more customer-focused. Professional staff will be responsible for a larger number of learners, aided by better-qualified assistants. Disaffected learners will be wooed by more attractive learning experiences and by demonstrable links between learning and better jobs. Private sector providers will put pressure on the state to raise its game.

Social inclusion

Longitudinal data in the UK is painting 'a picture of a society in which a large minority of individuals experience poverty at least once in a number of years. While for many this is a one-off event, many who escape do not move far from poverty, and among those who are poor, there is a group who experience repeated and persistent poverty' (Burgess and Propper 2002). Better learning and teaching methods will help to engage disaffected learners, who tend to be persistently poor because of their low skills. But better education is unlikely to be enough on its own.

Britain's large pool of low value-added, low-paid jobs, in and out of which poor people flow, has proved very difficult to convert into a larger pool of better-paid, higher value-added employment. Almost certainly this is because the problem does not lie exclusively – or even mainly – with the willingness of people to learn.

It stems largely from the ability of many companies to operate profitably within a 'low-skills equilibrium'. The overriding concern for a business is whether its product market strategy allows it to make adequate profits. Britain's notoriously long tail of low-paid jobs has created a sizeable market of people with modest disposable incomes, who are not in a position to buy expensive, high-quality goods and services. Companies can make a profit by serving this market, supplying low-cost, low-quality and (sometimes) high-volume products with employees who require minimum skills (Keep and Mayhew 1999).

A recent DfES paper (2003c) noted that: 'The existence of low skill equilibrium has already been argued in several Government publications (for example HM Treasury 2002, Performance and Innovation Unit 2001) … it is extremely difficult to test the existence of a low skilled equilibrium empirically. However, we believe that this theory provides the best explanation about why, despite the clear returns to skills and training described above, low skills strategies persist across some sectors and regions of the UK economy.'

Employers adopting these low-skill strategies are quite distinct from companies that face low-cost overseas competition within the global economy. The latter have to move upmarket to survive. But with a safe domestic market in many cases, the former have little incentive to move into higher value-added product markets, which would require more sophisticated techniques and higher skills. They are inclined to view more than rudimentary training as a waste of time because the skill requirements of the job are so limited. Asking low-skill employers to take the lead in training is not helpful because they have no incentive to train for higher-skilled jobs, and no expertise in doing so.

This influences the attitudes of trainees on schemes like the New Deal. Youngsters are quick to see the difference between the training and the tasks that they will be required to do (DfES 2003c). Moreover, as general living standards rise, the low-paid jobs available to the unemployed often seem unattractive. The pay is unable to sustain the standard of living that many people are coming to expect – 'Why bother, if that's all I'll get?'

Many of these jobs fail to provide families with an income that society finds acceptable. A series of means-tested benefits, such as the Working Tax Credit and the Child Tax Credit, has been devised to keep low-income families out of poverty. But because these benefits are gradually withdrawn as incomes rise, the incentive to take a job or to work longer hours is reduced – 'There's not much point in training, I'll hardly be any better off.' The incentives to train, for both employers and individuals, can be weak. Already, there is anecdotal evidence that people are responding in this way to recently introduced tax credits.

This may well be reinforced, as we have seen, by the continued outsourcing abroad of manufacturing and service sector operations. Unless new employment is created in higher value-added activities, intermediate workers who would have done the jobs that have been transferred overseas may trade down to lower-paid work. This would depress wages at the bottom end, increasing the number of households that rely on transfer payments such as the Working Tax and Child Tax Credits.

Critical, therefore, will be how far the market generates high value-added employment that will lift these intermediate workers into higher-paid jobs. Is Britain sufficiently attractive to investors for market forces to create enough high-paid jobs to shorten the long tail of low-productivity employment? Past experience has not been encouraging. In 1991, the CBI noted the wide performance gap between the best and the worst of British manufacturing. Too few UK companies were world class (CBI 1991). The UK has not been very good at attracting high-quality business in large numbers.

What response is made to this will have major ramifications for the learning and skills sector. The current approach may persist, with some modifications. New initiatives might be taken to raise school standards and to engage disaffected learners (such as encouraging more 14–16 year olds to be employed part-time and study part-time). One of the hopes would be that a more highly skilled workforce would prove attractive to investors. At the same time, tax incentives and other supply-side measures to boost R&D would be designed, as now, to encourage higher value-added business strategies. All this would be done within the current free market paradigm, with its emphasis on labour market flexibility.

It is possible that this approach will be successful enough for the UK to muddle through, as it has in the past. On the other hand, it may prove inadequate. The vicious circle of low productivity, low pay, low incomes, a market for low value-added products, low value-added business strategies leading to low productivity may be underpinned by inadequate investment in high value-added activities. A lengthening tail of low value-added jobs could undermine the state's tax-raising capacity, making it harder to pay the current level of transfer payments and meet expectations of rising standards in public services. A crisis could emerge that would undermine the credibility of the free market paradigm. Might the demand grow for a more active state, which would intervene more strongly in the market?

Summary

The learning and skills sector will face immense challenges over the next 20 years – not least, it will have to:

- respond to the evolution of the global economy, in which consumers (including consumers of education) will be more demanding and experience-oriented; further outsourcing and more fluid patterns of work will force employers to re-evaluate how they deliver training; shortages of key workers will encourage employers to provide training and make jobs attractive for those on the edge of the labour market, especially older people; and both employers and employees will be likely to favour continuity of employment, with the result that employers – rather than individuals – will take responsibility for much of people's training
- deliver skills that will support higher value-added activities. These skills will certainly include a range of 'knowledge' skills, but there will also be a continuing need for 'old economy', interpersonal and life skills
- find the right balance between a growing role in feeding higher education and the expansion of lifelong specialist learning. Will specialist training be left to employers, with the FE sector absorbed into higher education? Or will the FE sector integrate specialist and general learning? Or will the FE sector be freed up to help those with fewest educational qualifications?

- make progress in integrating the different parts of the sector. Growing student and employer demand for integration, a greater emphasis on flows rather than places, developments in higher education that favour more integrated regional approaches to post-16 learning and competition from the private sector may all encourage integration. But substantial barriers will mean that integration occurs gradually
- embrace new methods of teaching and learning. Technology, consumer expectations, staff shortages, the urgent needs of disaffected learners and private sector competition will provide the impetus for this
- play a part in shifting the substantial number of people in low-productivity, low-paid jobs (or without jobs at all) into higher value-added employment.

In the light of all these challenges, what might the sector look like in 20 years' time? To answer this we present four scenarios. Scenarios are not designed to predict the future: their aim is to describe possible futures, as a way of conceptualising emerging trends and exploring some of the alternatives that could lie ahead.

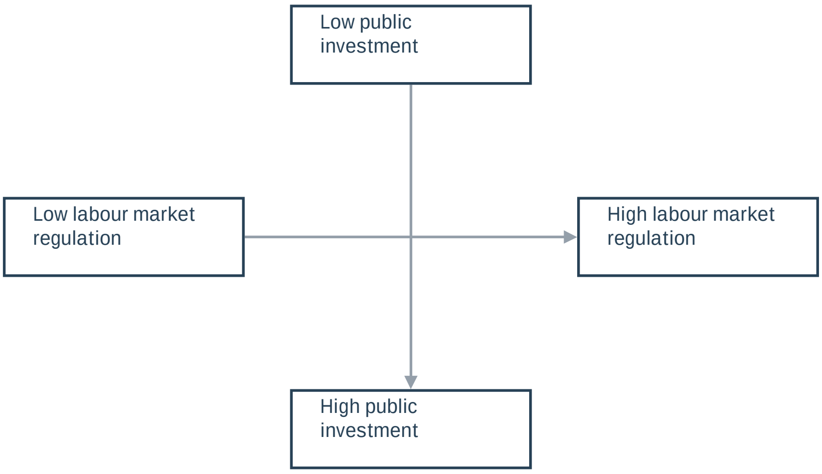
Drivers and assumptions

The scenarios focus on the organisation of the sector. This has been a major pre-occupation in recent years, and is likely to remain so. Distilling from the previous analysis, the scenarios are driven by the following factors.

- The need to raise skills so that business can compete in the international market. In each of the scenarios, the world economy remains highly competitive, lower-cost Asian and Eastern European producers continue to force out low value-added suppliers in the UK, and British firms in the global market move up the value-added chain. Governments boost the supply of high-order skills to ensure that enough are available to stimulate productivity as better-educated workers find more efficient ways of doing their jobs; and to expand demand within the UK for cultural goods, from learning holidays to museums, which make Britain more attractive to investors.
- Persistent market failure at the bottom end of the labour market. Given their product markets, many employers sheltered from the world economy continue to make perfectly adequate profits by combining low productivity with low pay. As now, society refuses to tolerate the meagre incomes that result and offers additional means-tested support, which dampens the recipients' motivation to train for better jobs. The long tail of low pay remains a burden on taxes, making it harder to fund improvements in public services and other government objectives. Shortening the tail remains a policy priority. A stronger role for market forces will not achieve this – nor has it in the past – precisely because the market is failing. Greater reliance on market forces would soon be abandoned as a failure, if it were tried.
- Continuing high levels of social exclusion, due to underachievement at school, more economic restructuring and mismatches between the location of new jobs and where unemployed people live. Governments are forced to address this either on equity grounds or for pragmatic motives, such as cutting crime.

The scenarios are built around two forms of government intervention. The first is labour market regulation, such as extending 'licence to practise': health and safety regulations, for example, have spurred a great deal of training in recent years. The second is increased public investment – in colleges and training providers, Learndirect and other initiatives. These two dimensions form a grid (Figure 2), on which our four scenarios are placed.

Figure 2
Investment / regulation grid for scenarios



Each scenario addresses four themes vital for the future organisation of the sector, which were discussed in Section 3.

- *Skills* – either increasing the supply through more employer-based training (as in the first two scenarios), or raising employer demand for higher skills (as in the second two).
- *Priorities* – the balance between equipping students for higher education and providing non-university vocational training.
- *Integration* – the implications of each scenario for the integration and flexibility of learning pathways.
- *Participation* – the extent to which each scenario increases and widens participation.

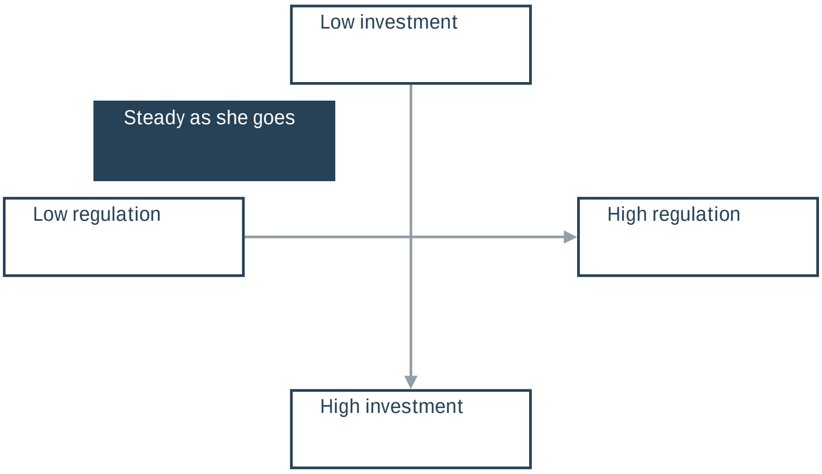
All four scenarios assume that as the global economy evolves, the sector will seek, in particular:

- to respond to demographic changes, including more older workers and possibly high levels of immigration
- to overcome shortages of key workers
- to respond to a more customised world, which will influence the expectations of learners
- to embrace new technologies, which will affect pedagogies.

The sector will adapt to these challenges whatever the scenario, although – as we shall indicate – certain scenarios could reduce the resources available to older workers.

Steady as she goes

Figure 3
Steady as she goes



In our first scenario (Figure 3), government sees through recent structural reforms of the sector, and takes the view that market forces should be allowed to drive further developments. Improving skills is set in the context of other measures to boost productivity and investment. *Steady as she goes* represents 'more of the same', with less regulation and/or public investment than the other scenarios.

The scenario is driven by the persistence of the 'flexible labour market' paradigm, which discourages government from intervening more strongly in the labour market to bring about change. The paradigm is underpinned by continued US dominance of the global economy, by fears that more regulation would deter investment, by a suspicion that more investment would be wasteful and by middle-class aversion to paying higher taxes.

Skills

Government continues to rely on employers to provide short-term, vocational training as they need it. As in 2003, longer-term academic and vocational education is provided by sixth forms, FE sector colleges and HE institutions, sometimes in partnership with employers. There is some further expansion of apprenticeships for school-leavers, while some adult apprenticeships are also developed for the growing pool of graduates.[21]

Statutory time off for training and development is introduced, with employers being compensated through tax credits.[22] Independent Learning Accounts (ILAs) are re-introduced, with tight controls. They prove especially popular among some older workers who, faced with later retirement, want to retrain for a new career.

21 The LSC is currently piloting adult apprenticeships.

22 The 2002 Budget confirmed the go-ahead for Employer Training Pilots to test this concept, and provided funds for it.

Priorities

Degree-level education continues to expand, by 2020 absorbing some two-thirds of 18–30 year olds. Students pay a growing proportion of the costs, mostly through loans that are repaid after graduation.[23] The government contributes a flat rate of £1000 a year by 2020.[24] Higher education institutions charge differential fees, which vary according to the cost of, and demand for, the course.

23 As government is proposing in 2003.

24 At 2003 prices.

With so many more people taking degrees, school sixth forms and FE sector colleges focus more heavily on equipping people for higher education, and providing some degree-level courses themselves. But their provision of vocational learning also grows. Further education colleges, in collaboration with employers, offer graduates an expanding range of vocational qualifications in traditional trades. A steady increase in the number of people working into their late 60s has begun to change the expectations of workers entering middle age. With a longer period of employment ahead, more people are thinking of switching careers, which is increasing the demand for vocational learning in this age group.

It is a twin-track sector, expanding its provision of both academic and vocational education. To pay for this, current proposals are carried through so that, in the case of vocational courses at Level 3 and above, students or their employers pay most of the training costs.

Integration

Integration of post-16 learning proceeds gradually, with a slow bridging of the FE/HE divide in particular. Higher education splits between a small number of ‘super’ universities with a global focus, and the remainder, which increasingly have a regional outlook and draw closer to local clients and the RDAs. Regional universities form more partnerships with FE colleges, enabling students to take part of their degrees closer to home.

The HEFCE eventually merges with the LSC, so that universities are included within a single funding stream for all publicly funded post-16 learning. By 2020, most regional universities offer at least some vocational courses at sub-degree level, alongside vocational and academic degrees; while FE colleges, as a matter of course, offer foundation and other degrees validated through one or more of their regional universities.

Progress toward credit accumulation and transfer remains painfully slow within both sectors, dashing the hopes of those who advocate an integrated CATS for higher education and further education. Academics continue to claim that a well-designed course, with an accumulation of knowledge and understanding, requires a coherent pathway through it. Arguments like this win the day – do they reflect institutional parochialism and inertia? Maximising flexibility for students still seems a long way off in 2020.

Likewise, steps towards integration have faltered in other areas. There have been some imaginative attempts to link work, specialist training and general education. Some students work part-time and study A-levels part-time, for example. Some start apprenticeships during their gap year before university, work (and train) for their employer during university holidays and complete their apprenticeships after graduating, but they are very much the exception. Most employers find the arrangements unattractive – they do not like the breaks in employment, they fear that their investment in training will be wasted if trainees do not complete their apprenticeships, and they are sceptical about the ‘relevance’ of university degrees.

Participation

Extending participation to the least qualified remains a challenge. Changes in pedagogy, both in schools and post-16 learning, have led to more self-paced learning and more ‘edutainment’, but have not widened participation, as some hoped. Learning may be more fun, but plenty of other activities are even greater fun. The changes have been slow, and so by the early 2020s, their full effects have yet to be seen.

More important is that many underachievers have learning difficulties or disabilities, which schools are inadequately resourced to meet. Underachieving school-leavers continue to feel that learning is not for them, and find it hard to engage with adult training schemes. The rewards from training and low-paid work, compared with housing benefit and other forms of income support, do not provide sufficient incentives to train. The revamped ILAs appeal mainly to those who would have trained anyway.

Government continues to concentrate on raising school standards and on improving the standards of childcare in the pre-school years. Policy-makers see early intervention and a high level of general education, particularly in literacy, numeracy and ICT skills, as the best contribution that government can make to reducing educational disadvantage. There is not much left in the budget to equip people with disabilities and others on the edge of the labour market for work.

A viable scenario?

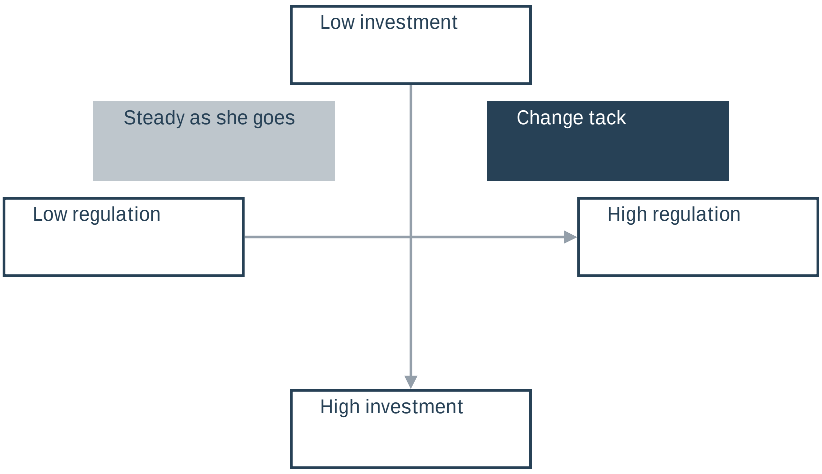
This scenario could enable the UK to muddle through, as it has in the past. On the other hand, might it become untenable?

- The expansion of higher education could produce considerably more graduates than there are graduate jobs, just at the time when students are being expected to pay substantially more for university education. Student disillusionment would spread, with government concern about the political fallout. Doubts might arise as to whether the sector could sort the problem out without greater government intervention.

- The international competitiveness of British business may become a source of greater concern. The persistent flight of UK jobs abroad could swell the number of people seeking low-paid jobs catering for the domestic market, leaving insufficient high-quality jobs to sustain the nation's living standards. Inadequate tax revenues would be one sign of this: there would not be enough high earners to pay the tax required. Government could find itself under pressure to be more proactive in the learning and skills sector to shorten the lengthening tail of low value-added, low-paid jobs.
- In particular, business might demand more government intervention because graduates are not adequately prepared for the workplace, employers in some parts of the country cannot get the skills they need, and diversity policies are hard to implement when older workers do not have enough opportunities to retrain and acquire new skills. 'Sorting out' the learning and skills sector might be seen as vital to secure adequate investment.
- Institutional inertia brings change in the sector at a snail's pace. Integration progresses too slowly. Despite the continued expansion of universities, participation by lower socio-economic groups remains low compared to that of higher status groups. There could be mounting clamour that the sector is too important to be left to its own devices.

Change tack

Figure 4
Change tack



There is a stronger focus on regulation in this scenario (Figure 4), but little increase in public investment. Government uses regulation to achieve a massive expansion of apprenticeships for school-leavers.

This scenario is driven by a sense that *Steady as she goes* is inadequate. Britain's long tail of low value-added jobs threatens living standards in the country as a whole. A shortage of skills in the 'old economy' threatens the growth of the 'knowledge economy', while the shrinkage of tax revenues is found to be structurally based: the economy cannot support the taxes that need to be raised. Market forces are too weak on their own to bring a shift to higher value-added employment at the bottom end of the labour market.

Improving skills is seen as the key to solving these problems. Government continues to argue that many employers will not invest in new equipment because they lack workers skilled enough to make efficient use of the investment. Even without new investment, a more highly skilled workforce would make better use of the capital that already exists. A larger pool of better-qualified labour would attract inward investment. Government intervention to raise skills is more likely to be effective than measures to raise business productivity, which have not been very successful in the past.

Skills

At the heart of this scenario is a huge expansion of apprenticeships. Regulation extends 'licence to practise' so that nearly all school-leavers not entering higher education undertake a recognised vocational qualification. As in Germany, even waiters and supermarket shelf-stackers are required to have a qualification (for example, at NVQ Level 2), entailing a substantial amount of on- and off-the-job training.

To secure employer support, government fixes apprenticeship rates of pay at 60% of the minimum adult rate, to make apprenticeships economically viable for employers. Government also pays for off-the-job training, including the daily pay. The cost of this is met from savings elsewhere in the education budget and in other budgets – for example, after 2008, spending on schools rises at a slower rate than growth of the economy as a whole.

This extension of 'licence to practise' is presented as a lengthening of formal education, analogous to raising the school-leaving age. 'Do we want our teenagers entering adulthood with inadequate skills?' the argument runs. Effectively, all those under 21 are taken out of the labour market. Post-16 learning has three compulsory tiers: from A-levels to elite, global universities; from A-levels to regional universities, with a stronger vocational focus; vocational A-levels and/or apprenticeships.

Current pilot schemes in which 14 and 15 year olds at risk of school exclusion undertake a mixture of academic study and on-the-job specialist training prove reasonably successful, and become a permanent feature of schooling for some young people. Employers in the building industry and other sectors cooperate partly for reasons of social concern, but also to augment their supply of skills. The young people are regarded as still being in full-time education.

This helps ministers to justify the notion that compulsory apprenticeships for school-leavers who do not go to university should be seen as equivalent to raising the school-leaving age, rather than as an intervention in the labour market. ‘We’re just extending to post-16s what is starting to happen at school,’ ministers claim.

Employers buy the argument. This particular extension of regulation is seen as compatible with the ‘flexible labour market’ paradigm. It also overcomes the traditional employer fear of ‘freeriding’: if one employer invests in training, will others poach the trainees once they have qualified? Universal training means that if one employer poaches from you, you can at least poach from someone else.

Priorities

The growth of higher education continues, with school sixth forms and FE sector colleges very much part of the university supply chain, as in *Steady as she goes*. At the same time, the sector becomes heavily preoccupied with all the off-the-job training required by the expansion of apprenticeships. The sector concentrates its limited resources on young people, paying less attention to older adults than in the previous scenario. Independent Learning Accounts (ILAs), which proved popular with older workers in *Steady as she goes*, are scrapped after a few years to help to pay for the extra apprenticeship training.

Integration

The HE/FE divide steadily narrows, as before; but what also happens is that apprenticeships become stepping stones to university, and this starts to integrate work and higher education. Employers begin to offer ‘sandwich apprenticeships’ – 1 year before university, work experience during university, and 1 year after university – as a way of securing the most able school leavers. They also develop partnerships with regional universities so that students can study and work part-time, while they take their degree over a 4-year or 5-year period.

School-leavers like these options as a means to pay their way through university. Government welcomes these developments too: it recognises that young people need a variety of options if they are to find an academic or vocational pathway that suits them. Gradually, more flexibility is built into the early stages of apprenticeships, so that trainees can try different possibilities before settling on one route. The boundaries between academic and specialist learning become fuzzy. More academic degrees include vocational units.

Participation

Training young people with few qualifications remains a challenge, for much the same reasons as in *Steady as she goes* – new pedagogies have not been as helpful as was hoped; resources to meet the needs of students with learning difficulties or disabilities in schools have not matched the demand; and many low achievers at school lack the confidence to engage in further learning.

Government had hoped that the expansion of apprenticeships would provide much of the answer, but youth wages at 60% of the adult rate prove too low to persuade many young people to overcome their lack of confidence and give apprenticeships a try. Just as some 10% of young people drop out of school, a similar percentage avoids apprenticeships. These teenagers disappear into the black economy, turn to crime or end up sleeping rough.

A viable scenario?

This scenario could do much to boost the supply of skills, but it would also face a number of difficulties.

- The UK tradition allows many young people who are not in education to switch jobs frequently, as they test the labour market in search of occupations that match their skills and temperament. Apprenticeships, by contrast, require a person to be committed to a 4-year programme of on- and off-the-job training. Securing that commitment in a universal scheme, with apprenticeship pay rates set at 60% of the minimum adult rate, could be a tall order.[25] Employers, as now, might prove reluctant to get involved because supervising trainees takes time, and the quality of trainees would fall as higher education expands: 'All those who are any good are going to university'.[26] As we have seen, probably quite a few young people would refuse to take part, and disappear into the criminal and black economies.[27]
- The cost of off-the-job training, including the daily rate, for all the extra apprentices is substantial. Meeting these costs from savings elsewhere in the education budget (or from other budgets) could be difficult. Requiring apprentices to repay some of the costs of their training once they had qualified (in a similar way to graduates) might be part of the answer, but it would reduce the financial benefits of training and the incentive to take part. The black and criminal economies could look more attractive by comparison.
- A rapid expansion of vocational training would require a substantial number of additional staff within the sector and/or sharp rises in the sector's productivity. This might not be easy to achieve. Many employers do not know how to train apprentices, while the low pay of FE lecturers could take a long time to rectify and make recruitment difficult.
- Requiring higher qualifications for low-skilled jobs would almost certainly give rise to accusations that people are being overtrained, which is a waste of resources. Might the time and money have been spent in better ways?

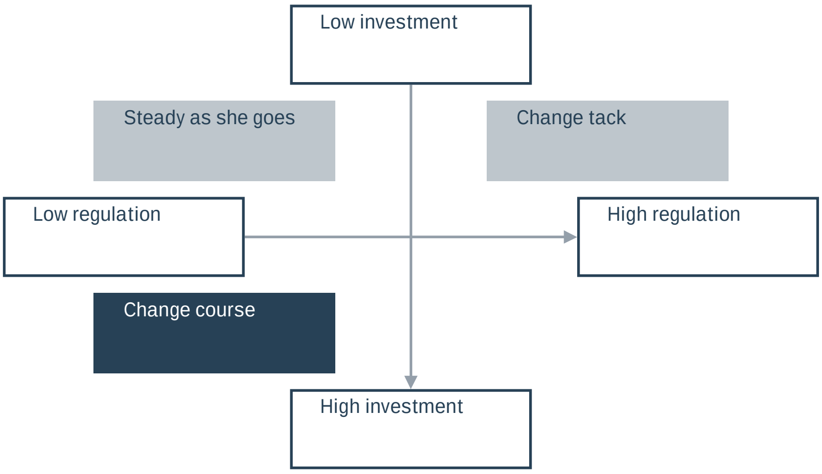
25 Though might it fit with the pattern of younger people staying at home for longer, which we are beginning to see in higher education?

26 Individual employers account for only one in six sponsors of Modern Apprenticeships (Ryan and Unwin 2001).

27 In 2003, about 9% of 16–18 year olds are not in education, employment and training. The proportion could rise substantially under this scenario.

Change course

Figure 5
Change course



This scenario (Figure 5) moves on to government subsidy and advocacy designed to raise the demand for higher-level skills. Although it may be easier politically, conceptually it is more radical than the first two scenarios. It represents a U-turn – away from skills supply to a concentration on skills demand. It builds on current government efforts to stimulate innovation and raise productivity, but makes this much more fundamental to skills policy.

It is brought about by a sense that the ‘underbelly’ of the UK economy is failing and that we cannot tolerate that failure for long. As Britain enters the second decade of the 21st century, there are mounting concerns that too many jobs cannot support the living standards that people expect. Evidence accumulates that you cannot work mainly at the labour supply end. To boost skills, without a corresponding increase in the demand for skills, wastes resources and is not enough on its own to bring about a substantial increase in productivity.

Correcting regional imbalances within England becomes an urgent priority for government. The economy of London and the South East continues to overheat, causing severe skill shortages. To fill the gaps, immigration rises to levels that ring political alarm bells, and the best-qualified labour drains away from the poorer regions. Pressures on housing and transport become intolerable, while the northern regions are left behind. A policy consensus emerges that stronger regional economies are vital to ease the strain. Policy-makers search for an employer-led regional strategy that will avoid the shortcomings of regional policies in the past.

Skills

The broad thrust of *Steady as she goes* is repeated in this scenario – further, but piecemeal, government intervention on the labour supply side. There is no big expansion of apprenticeships. Instead, central to *Change course* is stronger intervention by government to encourage employers to raise productivity, move into higher value-added activities and employ better-paid labour.[28]

28 *Higher education: easing the burden* (BRTF 2002) strongly criticises the lack of coordination between business support and skills at a regional level.

Government substantially increases pump-priming funds to support employers' market research and R&D. The idea is that market research will drive R&D, which will lever in private investment. This will drive higher value-added production, which will increase the demand for high-skilled, high-paid labour. Employers will train their employees, it is expected, in response to these new product market strategies.

Much of the extra money from central government is channelled through the RDAs and becomes a fundamental component of their regional strategies. Individual employers – or groups of employers – receiving this support are required to work with their LSC to ensure that appropriate vocational training is in place, so that the necessary skills become available. Government also supports R&D and market research undertaken on a sector basis, again on condition that parallel steps are taken to secure the supply of appropriate skills. The cost is met by re-channelling existing public support for business and by savings on other government budgets. Some of the subsidies for FE colleges are redirected to business.

To fund the opportunities opened up by business research, RDAs become champions of their regions within the City. They approach venture capitalists and other sources of private investment: 'We can vouch for this company or for this joint venture. We've supported their R&D over several years, we know the management's track record, they are working well with the LSC to secure adequate skills and it's not worth our while to sell you a dud, because we shall be approaching you again on behalf of other businesses in the region.' Government expects sector bodies receiving pump-priming funds to do the same.

Priorities

Higher education continues to expand, as in previous scenarios, but government seeks to channel more of this growth into business-related activities. It steers research funds more strongly in this direction, and limits its financial support for undergraduates to courses with a strong vocational component. Graduates on non-vocational courses eventually have to pay the full cost. The learning and skills sector strengthens its role in the supply chain for higher education, but with a stronger vocational edge. Work experience and specialist skills become more important at A-level to help students get onto vocational degree courses.

The sector's new focus, however, is on supporting employer-led initiatives to move into higher value-added activities. It starts to develop graduate vocational courses to meet employers' expected skill needs. Learning and Skills Councils and RDAs draw closer together and eventually merge, with LSCs becoming local offices for their regional agency. Funds are channelled to individual employers or groups of employers to spend on business research, to pump-prime investment and to train workers for the skills required. Even more than today, learning providers are forced to respond to employer demand.

Particular attention is paid by LSCs/RDAs and their sector counterparts to the training of managers, and of individuals running small and medium-sized businesses. They run courses on how to access the public funds becoming available, how to explore the opportunities for higher value-added production and how to prepare a business case to secure financial support. They encourage the formation of learning networks, in which business people from non-competing firms meet regularly to consult with each other on business problems and opportunities.

Integration

Policy-makers hope that the sector will integrate around demand by employers for higher skills. They hope that employers will force learning providers to offer more fluid routes through training, so that individuals can mix-and-match specialist and general learning more easily, and undertake short chunks of learning that can be aggregated into a qualification over time.

Employers are very much in the driving seat. What they want, they get. And what they want is not 'just in case' learning – long courses containing skills that you might possibly need. They demand 'just in time' learning – short bursts of training, as and when you need it. Why take students out of the labour market while they study for a degree, for example? Why not integrate work and learning more closely, so that both can inform each other and students can receive an income that pays for their studies?

Employers drive learning that is closely integrated to work. Their demand for bite-sized training leads to the accreditation of small units, which can be provided by a variety of suppliers and be brought together into a single qualification. A single CATS umbrella begins to emerge for the whole sector. Coherence for the sector gains ground, but with the loss of some coherence for individual courses.

Participation

The other major ingredient of the scenario is more government investment in people who are excluded from work. Again, the extra resources are secured from savings in other budgets – some cuts in tax credits for people in work, for instance.

The increased spending is used to intensify the support available to people on the edge of the labour market. More one-to-one mentoring is provided. A mentor, for example, may provide supervision in the new job to an individual who has been out of work for some time, gradually withdrawing as the employee acquires the skills and the discipline to sustain their employment.

At the same time, support is provided over a longer period. People who are helped into low-paid jobs are promised financial support for training into higher-paid work, if they perform satisfactorily in their existing job. These training ladders into better-paid jobs are built around employers' actual demands, and are managed by employers themselves. They complement other measures to help employers seize higher value-added opportunities, requiring more skills.

These initiatives are costly and require new institutional arrangements. They are first piloted, and then rolled out gradually as funds allow.

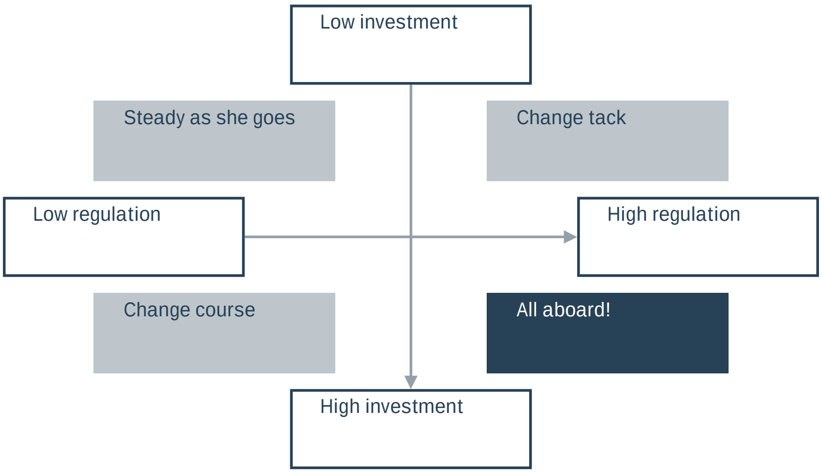
A viable scenario?

Change course could be promising, because it would seek to tackle the root cause of low skills and low pay – the lack of demand for higher skills. However, like the other scenarios, it would face considerable difficulty.

- Could government make available enough pump-priming money to have a real impact? Even though it would take many years, securing a step change in employer behaviour could well require more financial support and more management training than government could provide.
- Could the RDAs and their partners be adequately resourced to undertake their new roles? This would not just be a matter of providing extra staff: training and other staff would need a high level of competence. Would the staff be drawn from companies that depended on them to raise productivity in the first place?
- Would the necessary degree of employer, RDA and learning provider co-operation be forthcoming? Securing effective cooperation at the labour supply end has often proved difficult enough. Coordinating this with strategies to boost business research and draw in private capital could prove a Herculean task.
- Integrating a plethora of learning units within a standardised CATS framework is a mammoth task, taking many years.

All aboard!

Figure 6
All aboard!



This scenario (Figure 6) is the most radical, involving a high degree of government intervention and high levels of public investment. It is more unlikely than the other scenarios. But might it come about through growing alarm, as in *Change tack*, that the British economy is failing to sustain acceptable living standards for a large proportion of the population? Again, as in the previous scenario, might it be driven by a persistent flow of evidence that Britain's low-productivity, low-pay paradigm will only shift if the demand by employers for skills changes, and that intervention is required more at the demand than the supply end?

A further driver could be mounting disenchantment with means-tested tax credits (effectively a wage subsidy for people in work) because they are demeaning, too complicated to claim and have a perverse effect on incentives. Yet how could credits be reduced for households on lower pay, without extending poverty to a politically unacceptable number of people? Concerns about high levels of immigration might also play a part. Boosting home-grown skills could become an urgent priority to reduce Britain's reliance on imported labour.

The scenario might have a stronger appeal if the UK joined the euro and drew closer to the rest of Europe, reducing the influence of the US 'free market' model on British policy-makers. Although global competition (and perhaps EU enlargement) will draw Europe's social market economies in a US direction, the long tradition of a more active state in Germany and elsewhere will continue to influence EU legislation. By the second decade of the 21st century, the transitional costs of the euro and – to some extent – enlargement may have been met, and growth in the euro zone could accelerate. UK policy-makers may then be more willing to learn lessons from continental Europe. Might a more interventionist state crawl up the agenda?

Skills

All aboard! embraces *Change course's* strategy of pump-priming employers' market research and R&D. Again, RDAs and sector bodies have a lead role in making available government funds, ensuring that employers combine new product market strategies with appropriate skills training, and championing investment opportunities in the City. This is one aspect of the 'high investment' dimension of the scenario.

'High regulation' comes through the massive expansion of apprenticeships, as in *Change tack*. Government extends 'licence to practise' to a wide range of low-skill and other jobs, requiring them to be undertaken by people with recognised qualifications. Apprenticeships, involving on- and off-the-job training, are the means by which non-university school-leavers acquire the necessary qualifications.

What is new in this scenario, and is a further expression of 'high regulation', is a sharp increase in the minimum wage. The aim is to force employers into higher pay, higher value-added activities. To ease the transition, the extra employment costs of the higher minimum wage are offset roughly by cuts in employers' National Insurance contributions. Government pays for the cuts by equivalent reductions in the Working Tax and Child Credits.

Policy-makers argue that these credits are effectively a wage subsidy, and it makes more sense for the subsidy to be paid direct to employers. Government then announces that the subsidy will be wound down over a period of, perhaps, five years, during which time employers' National Insurance contributions will steadily rise. This gives employers time to adjust.

Tight competition in product markets prevents employers from passing on the higher minimum wage in higher prices. 'Regionalising' the higher minimum wage also dampens its inflationary effects. RDAs become responsible for setting the minimum wage in their regions, using criteria determined nationally. They have the option of varying the minimum wage between sub-regions, if they wish. The idea is to tie the minimum wage more closely to variations in local labour markets.

Raising the minimum wage, expanding apprenticeships and stimulating business research all complement each other. The higher minimum wage makes it easier to set apprenticeship rates at 60% of the adult rate. The 60% rate becomes more attractive to young people, and offers them a stronger incentive to train. The hope is that fewer young people will drop out of the labour market than in *Change tack*.

At the same time, more people on apprenticeships means a larger pool of labour on rates below the minimum wage. This offers a way for sectors like hotel and catering, which are hit particularly hard by the higher minimum wage, to ease their cost pressures: they can recruit younger workers, and train them in generic skills that will equip them for a wide range of jobs.

Government support for business research and advocacy in the City helps employers to find new markets and new methods, so that they can adjust to the raised m wage. The demand for higher skills, especially at the bottom end of the labour market, rises sharply, and this stimulates more training in response.

Priorities

The sector has an increased role in the HE supply chain, as in the other scenarios. It also expands to meet the enlarged demand for apprenticeship training, the upgrading of skills at the bottom end of the labour market, and management training in how to exploit the new opportunities. The sector becomes extremely busy!

Integration

The demands on the sector are so great that learning providers are forced to collaborate and develop more flexible approaches. The HE/FE divide narrows. For example, apprenticeships become stepping stones to university, as in *Change tack*, with employers offering 'sandwich apprenticeships' – 1 year before university, work experience during university and 1 year after university – to secure the most able school leavers. The boundaries between academic and specialist learning blur.

So, too, do the boundaries between work and education. As employers move towards higher-productivity, higher-pay methods of production, they demand better skills. But many of these skills require higher levels of competence in numeracy, literacy, ICT and interpersonal skills. This boosts the demand for general, as well as vocational, learning – not just among low-achieving school leavers, but also among many older workers. Further education colleges and others increasingly provide this training within the workplace. It is not uncommon to see bricklayers learning mathematics on a building site, as well as the skills of their trade.

As in *Change course*, employers demand 'just in time' learning, which encourages small chunks of training within a CATS umbrella.

Participation

This scenario is characterised by 'high investment' (as well as 'high regulation') because it includes more government investment, not only in business support, but also in people excluded from the workforce, on the lines of *Change course*. This again complements other elements of the scenario. It helps to ensure that increasing the minimum wage does not widen the skills gap between those in work who are being pulled up the skills ladder, and those out of work who are scrambling to step onto it. The unemployed are given more robust ladders into work. The ongoing support for them after they have started work enables them to improve their skills as employers adopt more sophisticated ways of doing things.

A viable scenario?

This scenario is *All aboard!* in the sense of incorporating many of the elements in the other scenarios, but also in helping more people to jump on the train to higher-paid employment. It is nothing if not ambitious, and for that reason, seems a long way from today's realities. Yet in many ways, it is just the radical extension of what is happening now. It further develops the New Deal. The minimum wage is already in place. Government is introducing supply-side measures to raise productivity. Government also wants to expand apprenticeships, and 'licence to practise' – particularly related to health and safety – has led to substantial amounts of training.

Yet radically extending all these policy directions at the same time would be a huge challenge, for the following reasons.

- There would be considerable opposition, especially from employers who, despite the 'sweeteners', would strongly resist a sharp rise in the minimum wage. They might point to the economic stagnation in Germany, following the rise in real wages in former East Germany after reunification.
- Getting the different policy strands to interlock at a local level would require a high degree of cooperation between the different actors, and high levels of management competence. Is it realistic?
- The amount of government spending needed would be considerable. Could it be met from other budgets, or funded in other ways – from the phasing out of the employers' wage subsidy, perhaps, as the reduction in employers' National Insurance contributions is gradually reversed?
- Every time you change the benefit system, there are winners and losers. Reducing Working Tax and Child Credits to fund a rise in the minimum wage would benefit workers with the lowest earnings, but would cut the incomes of people earning more. Raising the minimum wage would narrow pay differentials at the bottom end, benefiting some people, but perhaps causing resentment among others. Would more people feel they had lost than gained?

Section 5

Implications

We have considered the future of the learning and skills sector by asking the following questions.

- *Where are we now?* We looked at the emergence of the customised economy, the attention that government has recently paid to the 'knowledge economy', initiatives to increase participation in post-16 learning, the drive to raise standards, and measures to promote social inclusion through learning and skills.
- *What will influence the future?* We examined drivers that will shape the sector's response to the major challenges it will face over the next 20 years – the evolution of the global economy, the need for higher value-added jobs and skills, keeping a balance between vocational and academic skills, securing closer integration between different parts of the sector, embracing new methods of learning and encouraging social inclusion.
- *What alternative futures exist?* The previous section suggested four scenarios, built around two forms of government intervention – labour market regulation and increased public investment. Each scenario addressed four themes – raising skills, the balance between academic and vocational skills, integration of post-16 learning and widening participation.

In this section, we tackle the all-important 'So what?' question. What are the implications of our work for the four themes covered in our scenarios – raising skills, the priorities of the sector, integration and participation? We address this by summarising the report under these headings, and posing some of the policy questions that arise.

Skills

Our report has highlighted the need to expand the number of high value-added jobs, requiring higher skills and paying higher wages than much of today's employment. This will be especially important because many intermediate jobs will be under threat from automation and cheaper labour overseas. If workers who would have done those jobs trade down to lower-paid occupations, they will exert downward pressure on pay at the lower end. An increase in low-paid jobs would erode the government's tax base and expand the market for low value-added products, which would reinforce the low skills equilibrium.

A high value-added economy will require not only an increase in 'knowledge' skills (which will include skills in creating attractive experiences): it will also require an adequate supply of 'old economy' skills, from chefs to electricians. Investment in so-called 'new economy' activities will be deterred if these traditional skills are not available. Interpersonal and a variety of 'life' skills, which are often ignored, will also be essential.

We have suggested broadly two ways in which the supply of skills could be increased. One would be through the continuation of the current, predominantly market-oriented approach. Employers have stepped up their job-related training in recent years, and it is likely that they – rather than the individual – will continue to take responsibility for this training, as the need arises. The death of 'jobs for life' has been announced prematurely, which means that many workers are likely to stay with the same employer for a considerable time – and to be trained by that employer. The HE and learning and skills sectors would be responsible for laying down a foundation of long-term academic and vocational education, on which employers could build.

Alternatively, a sharp expansion of apprenticeships could be brought about through the extension of 'licence to practise'. At the same time, apprenticeship wages might be set at, say, 60% of the adult minimum wage, significantly lower than today. Employers would be encouraged to take on more apprentices because of the lower pay. This approach would require a significant extension of government intervention in the labour market, which might be justified if the market was failing to generate the skills the country needed.

But is the supply of skills the main problem? This is a key question raised in our report. It may well be that expanding not the supply, but the demand for higher skills is the key issue. Again, the report suggests two ways in which this could be done. The first would be for government to spend more on pump-priming private sector R&D, including market research, through the RDAs, which might also become advocates in the City for SMEs in search of capital.

Alternatively, or perhaps in addition, a sharp rise in the national minimum wage might encourage low value-added employers to shift into higher value-added modes of production. This might require a switch from tax credits for those in work to a temporary employment subsidy, possibly via short-term cuts in employers' National Insurance contributions, to give time for employers to adapt.

These policy options raise a number of questions.

1. What sort of skills will we need in the future? Are we paying enough attention to 'old economy', interpersonal and 'life' skills?
2. Are current policies likely to prove adequate – both in shifting the economy to a higher skills paradigm and in providing the required supply of skills?
3. Is a huge expansion of apprenticeships, through regulations that require young people to take a recognised qualification, both plausible and desirable? What damaging effects might result?
4. Should more attention be devoted to the demand for skills rather than the supply?
5. If so, would more pump-priming investment in R&D raise the demand for skills and hence for learning? Might this be financed by a corresponding reduction in public funds for education and training – and would this trade-off be acceptable?
6. Do RDAs have the capacity to play a central role in stimulating the demand by employers for higher skills? Could sufficiently close cooperation between RDAs, learning providers and employers be envisaged?
7. What part, if any, should a higher minimum wage play in a skills strategy?

Priorities

The continued expansion of higher education, possibly to two-thirds of 18–30 year olds by 2020, is almost certain. This could be at the expense of vocational training, if funds are siphoned from the learning and skills sector to pay for the enlarged undergraduate population. But a squeeze on vocational learning is by no means inevitable. A divide may open up between 'super' universities, competing in the global market, and regional universities with a strong local orientation. The latter could further develop a vocational focus as they seek to attract students and serve employers in their region.

The demand may grow for vocational foundation degrees, often provided by FE colleges; for postgraduate vocational qualifications in traditional trades; and for innovative hybrids – spend a pre-university 'gap' year starting an NVQ, do the work experience and earn an income while at university, and complete it subsequently. Much will depend on what qualifications are valued in the job market, and on whether employers and training providers are creative in developing new models.

There may be a clash of priorities between younger people who need to be equipped for the labour market, and older workers needing to upgrade their skills or retrain so as to stay in the labour market for longer. Will government concentrate its education spending on younger adults, leaving employers to bear the costs of training older workers (or to share the costs with individuals)?

Again, a number of policy questions arise.

1. Would a further expansion of higher education produce too many over-skilled graduates, or will the concentration on expanding foundation degrees increase the supply of skills at a level that the economy demands?
2. Will recent and future expansions of higher education create a two-tier economy, in which certain jobs are 'reserved' for graduates, removing ladders to promotion at the bottom end? As younger graduates take these jobs, will middle-aged and older workers, who might have filled these vacancies, find themselves trapped in low-skilled, low-paid jobs? Are there measures that would counter this?
3. How can the expansion of higher education be funded without jeopardising resources for vocational learning?
4. What practical steps can be taken to blur the distinction between vocational and academic learning? Would this help to widen participation and enrich learning, or would it risk a further drift to 'high status' academic learning for which there was no economic demand?
5. What balance should be struck between the needs of younger adults and older workers?

Integration

Plenty of opportunities will exist for post-16 learning to become more integrated. For example, regional universities may partner local employers to offer degree courses that enable students to work and study part-time over 4 to 5 years, providing greater integration between academic studies and the workplace. They may also offer more vocational degrees and sub-degrees, while FE colleges will continue to take on more degree work, especially, perhaps, at foundation level. Might the academic/vocational distinction become more fuzzy as a result? The HEFCE is likely to merge eventually with the LSC.

Self-paced ICT-based learning, combined with face-to-face support, could gradually encourage the unitisation of courses into small chunks. These may be more easily mixed-and-matched with units from very different disciplines to widen students' options and increase flexibility, giving an impetus to the development of CATS. Advances in ICT could enable academic learning to be provided more easily on the job.

Will market signals be strong enough to drive these changes? If students have to pay more of the cost of their HE and FE courses, learning providers will have to take student preferences more fully into account. Students may seek learning pathways that can be combined with employment, so that they can earn an income while they study and keep their loans to a minimum. More radical outsourcing may force employers to review their training arrangements, creating opportunities for new providers using new methods.

How rapidly change occurs will, however, also depend on the extent to which government allows and encourages the sector to experiment and innovate. Will decentralisation be taken further?

Some of the policy questions that arise are as follows.

1 Can we leave it to the market to bring greater integration to post-16 learning? If not, what policy levers should government pull to promote further integration? Will it be left with sufficient levers if it continues to encourage decentralisation?

2 How can course coherence be combined with greater freedom to pick-and-mix units from different disciplines and from different providers?

3 Is a standardised credit framework a key tool for effecting integration? Given the development of a framework in Wales, under what circumstances might one develop in England?

4 Do you agree that the HEFCE will eventually merge with the LSC? How helpful would this be?

Participation

Many people with unpleasant learning experiences at school will remain in the workforce. Enthusiasts hope that ICT-based pedagogies will make learning so much more fun that these negative experiences can be overcome. But appeals based on 'learning is not like school' will have only a limited impact if enhanced qualifications are not actually needed for the jobs that low-skilled workers are doing. As the 2001 Employers' Skills Survey (DfES 2001) found, at the lower end of the market, many people have higher skills than are demanded by their jobs. In particular, the number of jobs requiring no qualifications greatly exceeds the number of people without a qualification (see page 10).

Might this situation change if skill shortages forced employers at the bottom end not only to recruit from the margins of the labour force, but to adopt more capital-intensive methods of production, requiring a higher level of skills? Or is it more likely that employers will find alternative ways of easing labour shortages, such as relying on workers from abroad and hanging on to older workers who will postpone retirement?

Many of those excluded from the workforce have poor access to jobs because they live in areas of high unemployment, or they have a variety of personal and educational disadvantages. Mentoring and other approaches have proved effective in helping them into jobs, but are often expensive. Will sufficient financial resources be available to make a sizeable impact on exclusion; and if so, will there be enough professionals with the aptitude and motivation to work effectively with these client groups?

Policy questions are as follows.

1. In what ways can learning be made more attractive to those with negative experiences of school?
2. Will growth of the UK economy, combined with increased competition from low-paid labour overseas, be enough on its own substantially to increase the demand for higher-skilled, higher-paid workers at the bottom end of the labour market? If not, are there policy interventions that would do the trick?
3. Are there realistic ways that the government's education budget could be more heavily focused on the people with fewest qualifications?
4. If spending on the least well qualified was further increased, are there enough professionals with the motivation and aptitude to work effectively with them? If not, how could the supply of such professionals be increased? Or are there more efficient ways of working with excluded people?

Appendix

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